

# MAURITIUS

## NATIONAL EXPORT STRATEGY

### AGRO-PROCESSING

### SECTOR

2017-2021



Republic of Mauritius



International  
Trade  
Centre

This National Export Strategy (NES) is an official document of the Government of Mauritius. The NES was developed on the basis of the process, methodology and technical assistance of the International Trade Centre (ITC) within the framework of its Trade Development Strategy programme.

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## ACRONYMS

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|          |                                                       |          |                                                                                       |
|----------|-------------------------------------------------------|----------|---------------------------------------------------------------------------------------|
| AMB      | Agricultural Marketing Board                          | MEXA     | Mauritius Export Association                                                          |
| AMM      | Association of Mauritian Manufacturers                | MICCP    | Ministry of Industry, Commerce and Consumer Protection                                |
| APMIS    | Agricultural Production and Market Information System | MoBEC    | Ministry of Business, Enterprise and Cooperatives                                     |
| B2B      | Business-to-business                                  | MoE      | Ministry of Education and Human Resources, Tertiary Education and Scientific Research |
| BOI      | Board of Investment                                   | MoFARIIT | Ministry of Foreign Affairs, Regional Integration and International Trade             |
| CAGR     | Compound annual growth rate                           | MoFED    | Ministry of Finance and Economic Development                                          |
| COMESA   | Common Market for Eastern and Southern Africa         | MRA      | Mutual Recognition Arrangement                                                        |
| EM       | Enterprise Mauritius                                  | MSB      | Mauritius Standards Bureau                                                            |
| EU       | European Union                                        | NES      | National Export Strategy                                                              |
| FAREI    | Food and Agriculture Research and Extension Institute | PoA      | Plan of Action                                                                        |
| FDI      | Foreign direct investment                             | R&D      | Research and development                                                              |
| GAP      | Good Agricultural Practices                           | ROO      | Rules of Origin                                                                       |
| GDP      | Gross domestic product                                | SADC     | Southern African Development Community                                                |
| HACCP    | Hazard Analysis and Critical Control Points           | SEZ      | Special Economic Zone                                                                 |
| HRDC     | Human Resources Development Council                   | SME      | Small and medium-sized enterprise                                                     |
| HS       | Harmonized System                                     | SMEDA    | Small and Medium Enterprises Development Authority                                    |
| ILAC     | International Laboratory Accreditation Cooperation    | SPS      | Sanitary and phytosanitary                                                            |
| ITC      | International Trade Centre                            | TISI     | Trade and investment support institution                                              |
| MAIFS    | Ministry of Agro Industry and Food Security           | TSN      | Trade support network                                                                 |
| MAURITAS | Mauritius Accreditation Service                       | VAT      | Value added tax                                                                       |
| MCA      | Mauritius Chamber of Agriculture                      |          |                                                                                       |
| MCCI     | Mauritius Chamber of Commerce and Industry            |          |                                                                                       |

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# EXECUTIVE SUMMARY

The goal of the Mauritius Agro-Processing Strategy is to set the sector on the course of strategic development by addressing constraints in a comprehensive manner and defining concrete opportunities that can be realized through the specific steps detailed in its Plan of Action (PoA). The Agro-Processing Strategy is an integral part of the NES of Mauritius.

The strategy for the next five years will initially aim to improve the production capacity and the productivity of the non-sugar food crop sector and identify new varieties and characteristics of fruits and vegetables which are suitable for processing while developing the capacity of the sector, especially in the field of quality management at all levels of agricultural practices. The next step will then be to look into specific ways to increase value addition and diversify the offering of Mauritian processed products with a view to strengthening the sector's exports and achieving greater market development.

The PoA responds to this vision by setting three strategic objectives to support its implementation:

1. Improve the production and productivity of raw materials suitable for processing
2. Improve the sector's capacity and provide an enabling regulatory environment
3. Foster the sector's integration and achieve greater market development.

**The global trade of the fruit and vegetable processing industry's products has expanded rapidly in recent decades**, stimulated by several factors: changes in food consumption patterns brought about by urbanization, increase in per capita income levels (notably in developing countries) and consumer preferences. Western countries, and Europe in particular, are the largest importers of these products in a market characterized by a low concentration of suppliers. Supported by strong demand for processed food products in developing economies, the global fruit and vegetable processing industry is expected to grow at an accelerated pace over the next five years.

**Over the years, with the liberalization of the local economy and the sharp increase in gross domestic product (GDP) per capita, Mauritius has become increasingly dependent on food imports for domestic consumption.** Although close to 100% self-sufficiency in fresh

vegetables and tropical fruits has been achieved following an import substitution strategy, the domestic agro-processing industry is not quite meeting national demand in either quantity or quality and is currently relying on imports for more than 70% of its food requirements.

**However, the Mauritian fruit and vegetable processing industry has not taken off.** While efforts have been made to diversify the agricultural sector, the quantity – and the quality – of fresh food products currently produced have only marginally progressed and are insufficient to support the development of a strong, competitive and sustainable agro-processing industry. The lack of economies of scale and the low productivity observed in food crops have also contributed to the high cost of domestically sourced raw materials. In addition, the industry suffers from a clear lack of structure and organization and has not yet managed to attract the significant investments it needs to develop.

**The agro-processing industry has reported poor trade performances over the years.** Export data indicate that little progress has been made, with very low levels of exports registered over the past decade and no clear upward trend. The value of Mauritian exports of these products is extremely limited, reaching only about MUR 15 million in 2014 according to national statistics, with exports mainly concentrated in Europe – France in particular – and Indian Ocean countries and territories. Importantly, the industry has adopted an inward-looking approach, focusing on achieving a higher level of self-sufficiency rather than increasing exports.

Against this backdrop, **the first step towards a more competitive agro-processing sector in Mauritius is to improve the production capacity and the productivity of the non-sugar food crop sector.** The Strategy consequently aims, initially, at improving the production of raw materials, i.e. fresh fruits and vegetables, through enhancing farming techniques, improving farm mechanization and fostering the adoption of modern technologies. Identifying and developing new varieties and characteristics of fruits and vegetables which are suitable for processing will also be crucial.

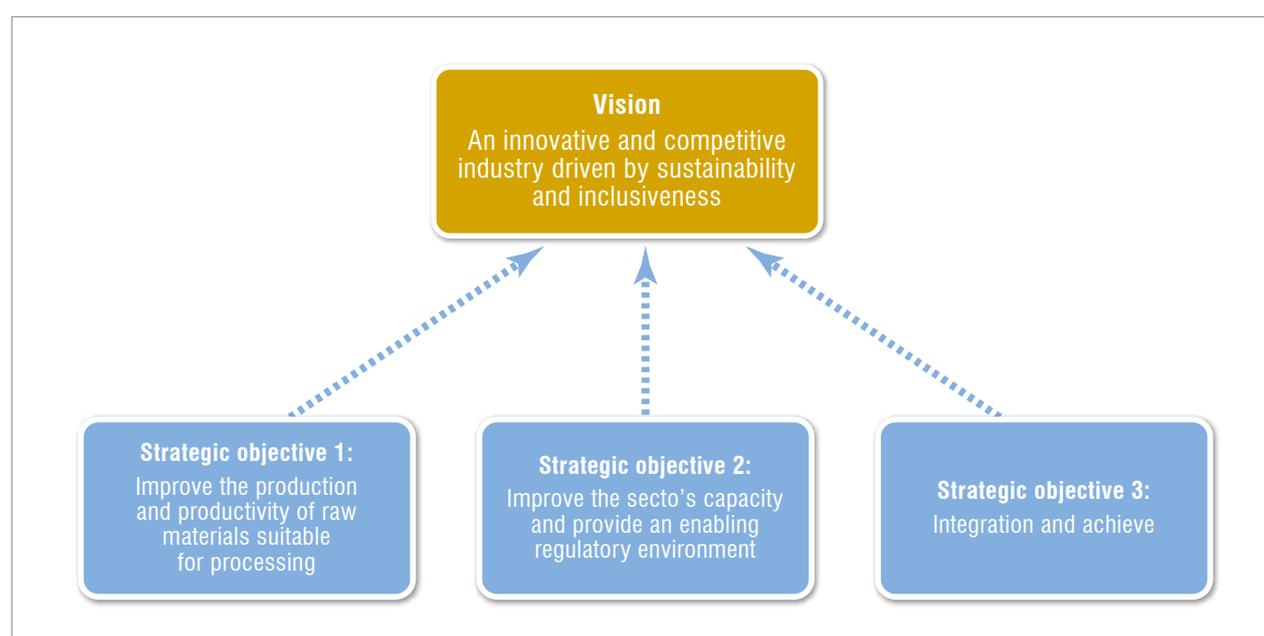
In line with rising customer demands and the increasingly stringent norms regulating food and agricultural trade, **the notion of quality at all levels of agricultural practices will also play an essential role in this Strategy.** Upgrading the National Quality Infrastructure is a prerequisite for the development of the agro-processing industry and, most

importantly, for the expansion of its export opportunities. Developing the capacity of the sector will also be emphasized, especially by promoting agricultural value addition and by improving the reach and the effectiveness of research activities.

The Strategy also aims to **provide the industry with a structured domestic market with improved marketing conditions, as well as achieving a higher level of integration among the various supply chain actors.** The sector will also benefit from enhanced inter-institutional collaboration and the elaboration of a common strategy and agenda. Efforts will also be made to achieve greater market penetration, particularly in the fields of export promotion and market intelligence.

**This Strategy was the result of extensive consultations with public and private sector stakeholders,** leading to invaluable cooperation among sector operators. Key private sector stakeholders and leading institutions facilitated an exhaustive analysis of the sector. Market-led strategic orientations, prioritized by stakeholders and embedded into a detailed implementation plan, provide a clear road map that can be leveraged to address constraints to trade and maximize value addition. In addition, the inclusive approach ensured that all stakeholders were committed to the process. The Strategy provides Mauritius with a detailed PoA to achieve growth in the sector within the next five-year period and is articulated around a **unifying vision** and three **strategic objectives**.

Figure 1: *The strategic scope*



# GLOBAL CONTEXT

## Definition

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According to the Food and Agriculture Organization of the United Nations, food preparation and processing can be defined as 'any change that is made to a food to alter its eating quality or shelf life'. The Organization further indicates that the term 'food processing' is broader than preparing and cooking foods as it involves 'applying scientific and technological principles to preserve foods by slowing down or stopping the natural processes of decay'. The present Strategy focuses on fruit and vegetable processing in Mauritius.

## Historical perspective

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The fruit and vegetable processing industry started developing during the European industrialization of the nineteenth century as a way to extend the shelf life of fruits and vegetables, enabling them to be transported more easily and consumed year-round. The demand for processed food has grown substantially as the global population has become more urbanized – with less access to fresh fruits and vegetables – and wealthier, therefore demanding more food, more diverse types of food and higher-quality food.<sup>1</sup>

## Global production

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The global fruit and vegetable processing industry includes all businesses that alter fresh fruit or vegetables to create a higher, valued added food product for human consumption. Operators in this industry process fresh fruit and vegetables into canned, bottled, preserved, frozen, dried or otherwise processed or preserved food products for human consumption. The industry also blends salt, sugar, preservatives and other ingredients with fruits and vegetables to make consumer food products.<sup>2</sup>

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1. IBISWorld (2016). *IBISWorld Industry Report, Global Fruit & Vegetables Processing*, p. 9.

2. *Ibid.*, p. 2.

The primary products of this industry include:

- Canned dry beans
- Canned fruit and vegetables
- Canned tomato-based sauces
- Dehydrated or evaporated fruit (except sun-dried)
- Dried soup mix and bouillon
- Frozen fruit and vegetables
- Fruit and vegetable salads
- Fruit pulp, puree, spreads and jams
- Pickles, chutneys and relishes
- Juices, pre-cut vegetables and ready-made salads

Because the size and level of technological complexity of fruit and vegetable processing establishments varies greatly, it is difficult to capture global production accurately. According to a study conducted by IBISWorld, a global business intelligence leader, operators in Europe and Asia are expected to produce over 70% of global exports of processed fruit and vegetable in 2016.

## Demand determinants

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Food processing industries have grown rapidly internationally, stimulated by several factors. Chief among which is the growing world population: from an estimated 7 billion today, the United Nations predicts that the world population will reach 9 billion by 2050, with food security thus taking on unprecedented importance. Demand for processed fruit and vegetable products tends to increase in line with growth in the world population as these products are considered staple food products throughout much of the world and are becoming increasingly popular with the increase of the global urban population.

Another important factor pushing the international demand for processed food is the progressive changes in food consumption patterns, particularly lifestyle changes brought about by urbanization. Urban populations, which are located further away from farming communities, consume much higher quantities of processed foods (including processed fruits and vegetables) than rural

populations do. As a result, growth in the global urban population increases demand for industry products.<sup>3</sup>

Also driving the global demand for processed fruits and vegetables is the global growth in per capita income. As incomes grow, consumers demand larger quantities of more diverse and higher-quality food. This explains the growing demand from emerging and developing markets, as higher income usually translates into an increase in the consumption of processed fruits and vegetable relative to less expensive, locally-sourced food.<sup>4</sup>

Finally, consumer preferences significantly affect industry demand. The growing health consciousness of consumers has driven demand for processed fruits and vegetables from Asia, the European Union (EU) and the United States of America.

### International trade

Driven by these changes in food consumption patterns and boosted by the demand determinants mentioned above, the global trade of processed food has expanded rapidly in recent decades. Despite a contraction of 7.5% reported in 2015 compared to 2014, due to large supplies and a strong United States dollar that are keeping international food prices under downward pressure, according to the International Monetary Fund, exports of processed food classified under the Harmonized System (HS) 20 code (see box 2) have generally expanded rapidly over the past decade, growing at a sustainable compound annual growth rate (CAGR) of 5.3%. As illustrated in figure 2, the exported value almost tripled over the period 2001–2015 to reach US\$ 57.5 billion in 2015.

3. *Ibid.*, p 13.

4. *Ibid.*



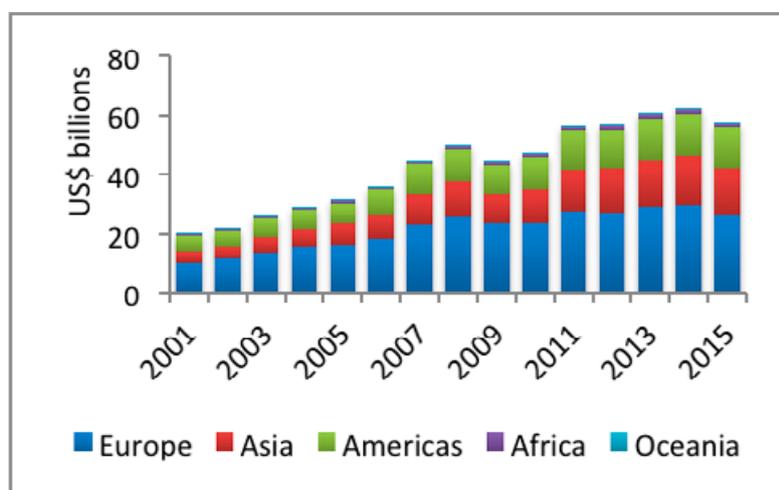
Although European exporters still largely dominate the global market with a 45% share of world exports in 2015, their influence is declining due to the emergence of Asian suppliers, notably from China.

In a market characterized by a low concentration of suppliers (the top 10 exporters accounted for 64.5% of the world's exports in 2015), Chinese exporters dominate international trade, with a market share of 12.9% in 2015, or US\$ 7.4 billion worth of commodities exported. Other major exporters include the United States (9.4%) and five EU28 Member States: The Netherlands, Belgium, Italy, Spain and Germany together accounting for almost 31% of world exports in 2015 (table 1).

### Box 1: Tariff nomenclature used to classify processed food

Because the food processing industry covers many different products classified under different HS codes, it is difficult to capture accurately the global trends for all processed products, especially when targeting fruit and vegetable processing. After a careful analysis of the commodities currently produced in Mauritius, including those that could potentially be produced, the main tariff nomenclature used for the trade analysis is the following: HS 20 ('vegetable, fruit, nut, etc. food preparations'). Other key products classed under heading HS 21 ('miscellaneous edible preparations') have also been considered, namely 'food preparations', and 'sauces, mixed condiments and mixed seasonings'.

Figure 2: Global exports of 'vegetable, fruit, nut, etc. food preparations' (HS 20), 2001–2015 (US\$ billions)



Source: ITC calculations based on United Nations Comtrade statistics.

Table 1: Top 10 exporters of HS 20 products ('vegetable, fruit, nut, etc. food preparations') in 2015

| Exporters     | Exported value in 2015 (US\$ millions) | Share (%) | 5-year CAGR (%) | 10-year CAGR (%) |
|---------------|----------------------------------------|-----------|-----------------|------------------|
| World         | 57 479                                 | -         | 0.2             | 5.3              |
| China         | 7 390                                  | 12.9      | 1.4             | 7.7              |
| United States | 5 423                                  | 9.4       | 5.3             | 8.0              |
| Netherlands   | 4 995                                  | 8.7       | -0.9            | 6.0              |
| Belgium       | 3 506                                  | 6.1       | -2.6            | 4.1              |
| Italy         | 3 485                                  | 6.1       | -1.7            | 4.1              |
| Spain         | 2 992                                  | 5.2       | 0.1             | 3.9              |
| Germany       | 2 783                                  | 4.8       | -0.6            | 2.2              |
| Thailand      | 2 192                                  | 3.8       | 1.0             | 5.8              |
| Turkey        | 2 188                                  | 3.8       | 7.2             | 7.7              |
| Brazil        | 2 150                                  | 3.7       | -5.2            | 3.0              |

Source: ITC calculations based on United Nations Comtrade statistics.

The global market size for 'vegetable, fruit, nut, etc. food preparations' (HS 20) stood at US\$ 55.3 billion in 2015, reflecting a solid annual growth rate of 4.9% over the past decade. However, the world import bill reached a five-year low in 2015, as illustrated by the zero CAGR reported between 2011 and 2015.

With imported values of US\$ 14.8 billion and US\$ 14.3 billion respectively, fruit and vegetable juices and preserved fruits largely dominated the international trade of processed fruits and vegetables in 2015. Together these commodities attracted more than half of world

HS 20 product imports (table 2). The United States, the Netherlands, Germany, Belgium and France rank among the largest importers of fruit and vegetable juices, while the United States, Germany, Canada and France are the largest importers of preserved fruits.

Solid import growth has also been observed in food preparations and sauce products, classified under HS 21 ('miscellaneous edible preparations'), imports being dominated by the United States, the United Kingdom of Great Britain and Northern Ireland, Canada, France and Germany.

Table 2: Top imported HS 20 products ('vegetable, fruit, nut, etc. food preparations') in 2015

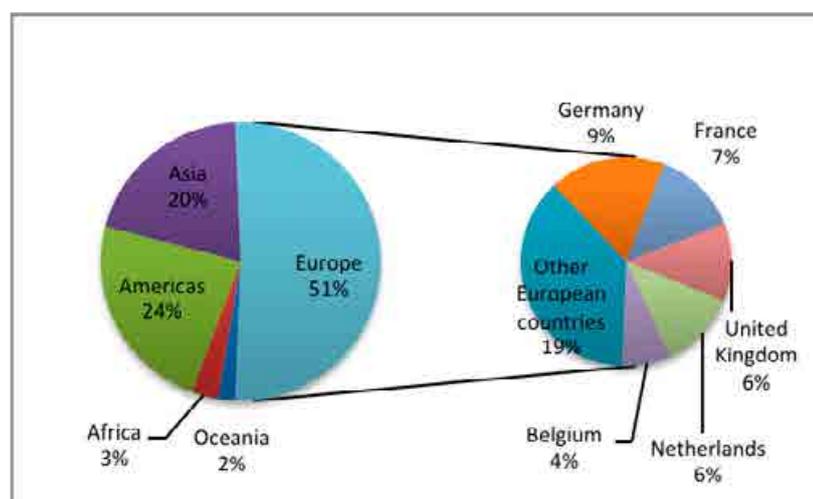
| Product label                                                        | Imported value in 2015 (US\$ millions) | Share (%) | 5-year CAGR (%) | 10-year CAGR (%) |
|----------------------------------------------------------------------|----------------------------------------|-----------|-----------------|------------------|
| Total                                                                | 55 351                                 | –         | 0.0             | 4.9              |
| Fruit and vegetable juices, unfermented                              | 14 838                                 | 26.8      | -4.1            | 3.0              |
| Preserved fruits n.e.s.                                              | 14 334                                 | 25.9      | 4.0             | 6.8              |
| Prepared or preserved vegetables n.e.s. (excl. frozen)               | 9 094                                  | 16.4      | -0.7            | 3.7              |
| Prepared or preserved vegetables n.e.s. (incl. frozen)               | 6 952                                  | 12.6      | 1.7             | 6.6              |
| Tomatoes prepared or preserved                                       | 4 336                                  | 7.8       | 1.5             | 6.8              |
| Jams, fruit jellies & marmalades                                     | 2 593                                  | 4.7       | 2.9             | 7.2              |
| Cucumbers, gherkins and onions preserved by vinegar                  | 1 928                                  | 3.5       | 0.2             | 4.4              |
| Food preparations, n.e.s. (classified under HS 21)                   | 34 552                                 | –         | 2.2             | 6.6              |
| Sauces, mixed condiments & mixed seasonings (classified under HS 21) | 10 752                                 | –         | 2.5             | 7.0              |

Source: ITC calculations based on United Nations Comtrade statistics.

Although the United States is by far the largest importer of processed food classified under the HS20 tariff nomenclature with almost US\$ 7.7 billion worth of these products imported in 2015, the EU28 Member States are the main importing market for these products, capturing more than half of world imports, led by Germany (accounting for 9.2% of world imports), France (6.8%), the United Kingdom (6.2%) and the Netherlands 6.1%) (figure 3). A similar trend has been observed for imports of sauces, mixed condiments and mixed seasonings (HS 2103).

Although its share in world imports is still minimal, only accounting for a mere 3% in 2015, the demand for processed food from African countries is booming, with an annual growth of imports of 11% over the period 2006–2015, boosted by the rapid urbanization of the continent and the growth of the African population. However, there was a sharp decline of 20% in value of African demand in 2015 compared with 2014, falling below its 2011 level. There is also a significant rise in demand for processed food in Asia, as imports to the continent grew at a CAGR of 8% over the past 10 years.

Figure 3: Imports of HS 20 products by region, 2015



Source: ITC calculations based on United Nations Comtrade statistics.



Photo: Miwok (CC0 1.0)

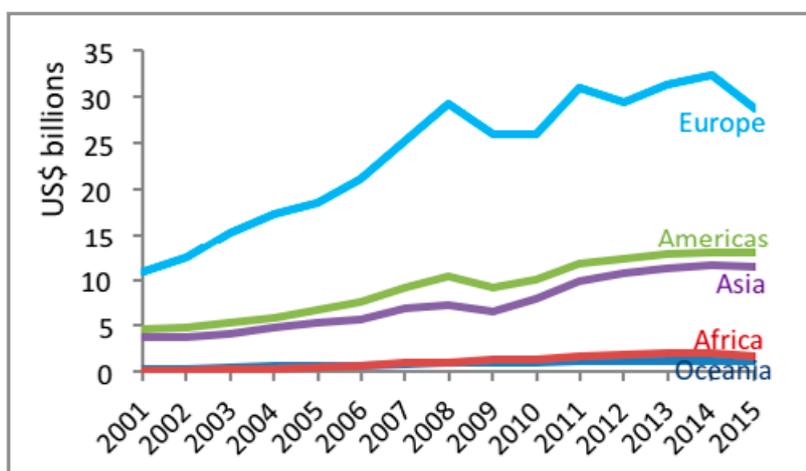
## Outlook

Supported by the strong demand for industry products in developing economies such as China and India, the global fruit and vegetable processing industry is expected to grow at an accelerated pace over the next five years. Conversely, demand in developed economies is expected

to decline at a marginal rate as consumers increasingly replace their consumption of processed fruits and vegetables with fresh produce.<sup>5</sup>

5. *Ibid.*, p. 7.

Figure 4: Evolution of HS20 product imports by region, 2001–2015 (US\$ millions)



Source: ITC calculations based on United Nations Comtrade statistics.



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# VALUE CHAIN ANALYSIS AND SECTOR DIAGNOSTICS

## HISTORICAL PERSPECTIVE

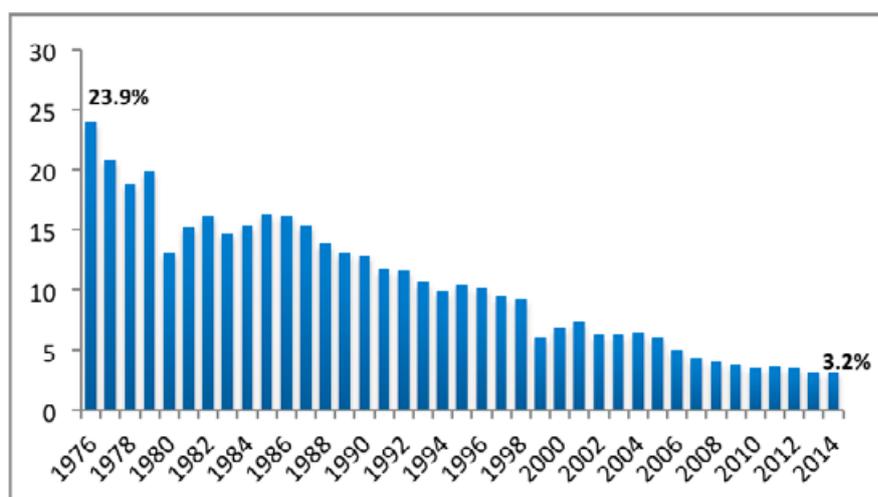
The food processing sector has for decades been dominated by the production and export of sugar in a country that historically has secured its food supply mostly by indirect use of its agricultural system: that is, focusing on a monocrop (sugar cane) generating enough foreign currency to more than cover the importation of most of the country's food requirements.<sup>6</sup>

6. Mauritius, Ministry of Agro Industry and Fisheries (2008). Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008–2015', pp. iii–iv.

In the years following its independence in 1968, Mauritius was a sugar-based monoculture with the agricultural sector playing a pivotal economic role and serving as a driver of the country's development. During that period, sugar alone accounted for over 90% of total exports of the country, in an economic landscape characterized by a low level of sectoral diversification.

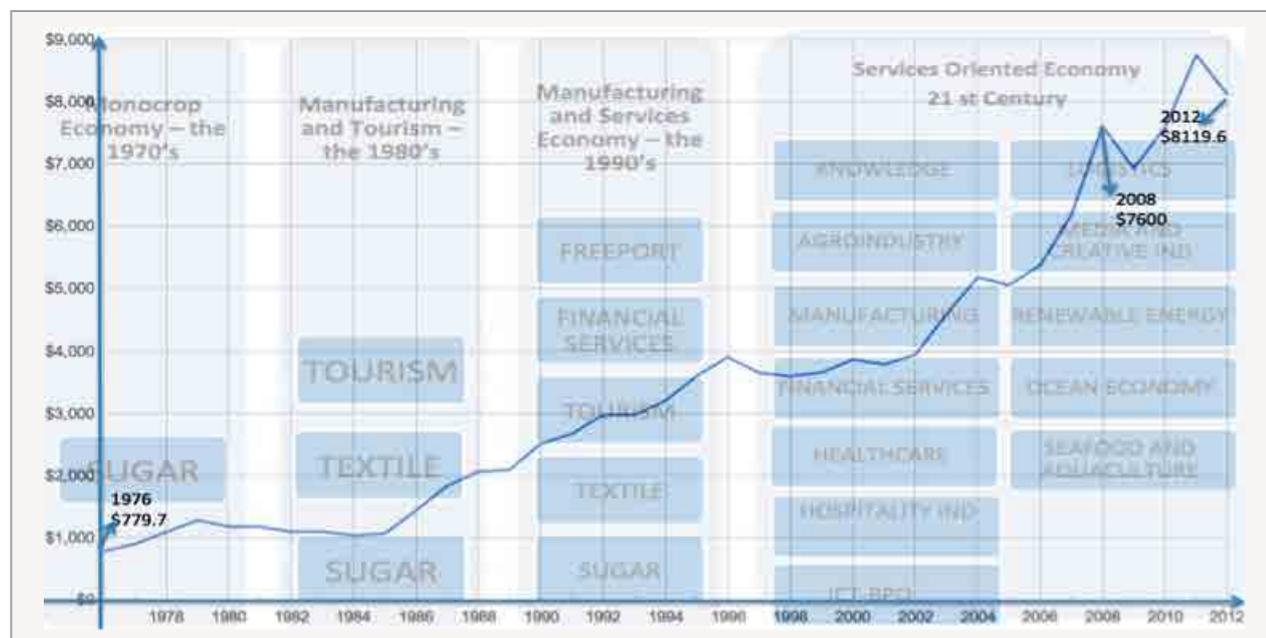
With the successful diversification of the economy into the manufacturing and services sectors in the early 1980s, the contribution of the agricultural sector to GDP began to decline progressively, dropping from around 30% at the time of independence to approximately 10% in the mid-1990s (figure 5).

Figure 5: Agriculture, value added (% of Mauritian GDP), 1976–2014



**Sources:** World Bank national accounts data, and Organisation for Economic Co-operation and Development National Accounts data files.

Figure 6: Mauritius' economic trajectory: sectoral transformation and GDP per capita (in US\$)



Source: World Bank.

Since the 1990s Mauritius has made considerable efforts to diversify its agriculture and produce selected food crops to meet domestic demand and ensure some measure of self-sufficiency by using an import substitution strategy.<sup>7</sup> Although close to 100% self-sufficiency in fresh vegetables and tropical fruits has been achieved, the Mauritian agri-food sector is not meeting domestic demand in either quantity or quality, with an overall self-sufficiency ratio of less than 30%.<sup>8</sup>

With the liberalization of the local economy and the sharp increase in GDP per capita, Mauritius has become more and more dependent on food imports for local consumption and currently relies on imports for more than 70% of its food requirements, mostly for direct consumption but also, to some extent, for processing. Another trend of particular importance for the future evolution of the sector is the shift in food habits of Mauritian consumers towards processed and convenience foods, with a focus on quality, food safety and brands. In the context of food security, the Government has actively been encouraging agricultural and agro-industrial development to diversify the industry.

7. Mauritius, Ministry of Agro Industry and Fisheries (2016). *Strategic Plan (2016–2020) for the Food Crop, Livestock and Forestry Sectors*, p.19.

8. Mauritius, Ministry of Agro Industry and Fisheries (2008). *Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008–2015'*, p.3.

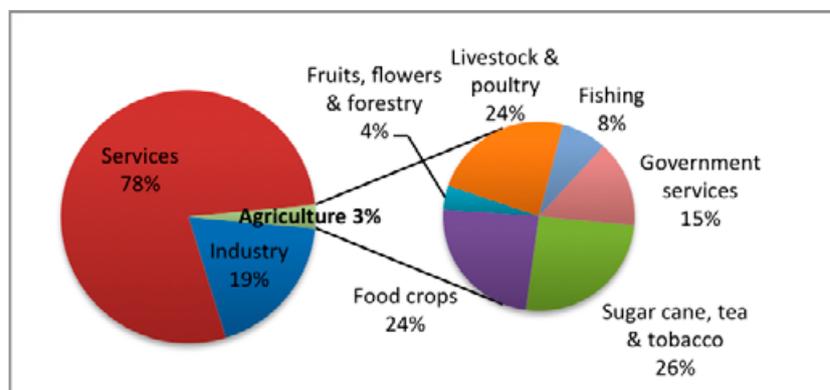
## CURRENT CONTEXT

The agro-processing sector and its future development being closely related to –and dependent on– the supply of locally produced raw materials, i.e. fresh fruits and vegetables, a careful understanding of the dynamics of the non-sugar food crop sector is needed.

According to Statistics Mauritius, the share of agriculture in GDP in Mauritius only reached 3.0% in 2014, the sugar industry alone accounting for 1.8%.<sup>9</sup> While progress has been observed in the industrial and services groups in recent years, the value added at current basic prices by the agricultural sector is stagnating, only reaching MUR 10,308 million in 2014, far behind the MUR 267,825 million generated by the services industry. As indicated in figure 7, the share of food crops in agriculture is significant, accounting for 24% of the value generated by the sector in the economy in 2014, or MUR 2,469.5 million, thus confirming the efforts made in the past decades to diversify the agricultural sector and ensure some measure of self-sufficiency. Although the value generated by the sector at basic prices increased by more than 7% over the period 2012–2014, the subsector nevertheless remains relatively small in terms of value.

9. Statistics Mauritius (2015). *Digest of Agricultural Statistics 2014*.

Figure 7: Value added of Mauritian agriculture at basic prices by main product group, 2014



Source: Statistics Mauritius (2015). Digest of Agricultural Statistics 2014.

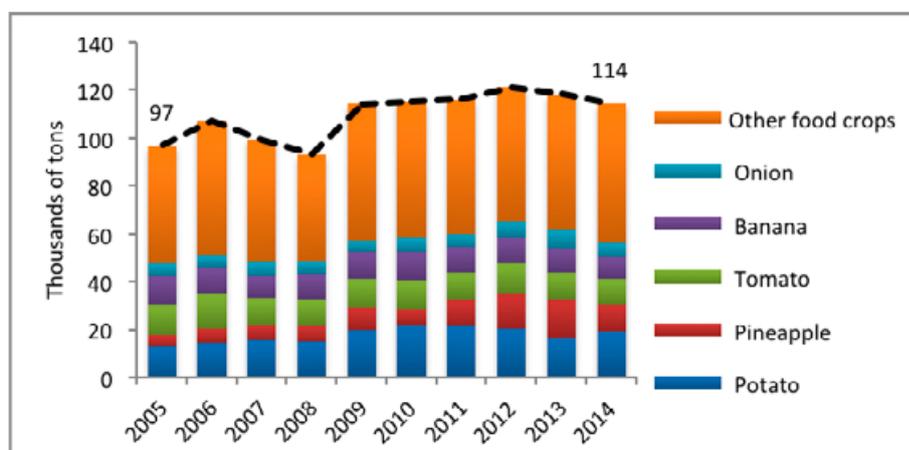
Taking a closer look at the production of raw materials for the agro-processing industry, i.e. fresh fruits and vegetables, a first comment relates to the competition for arable land between the sugar and non-sugar sectors. It is estimated that there are around 67,000 hectares of land under cultivation, 58,000 hectares of which are dedicated to sugar cane cultivation and the remainder to food crops, tea and tobacco cultivation (Board of Investment (BOI)). The non-sugar strategic plan also suggests that 8,000 small growers and 375 hydroponic producers cultivating about 8,200 hectares of land are producing on average some 110,000 tons of food crops annually.<sup>10</sup>

10. Mauritius, Ministry of Agro Industry and Food Security (2016). *Strategic Plan (2016–2020) for the Food Crop, Livestock and Forestry Sectors*, p. 7.

The main crops cultivated are potato, tomato, onion, crucifers, cucurbits, green vegetables and tropical fruits such as banana, pineapple and the seasonal lychee and mango. This food crop production only marginally progressed over the past decade, even stagnating since 2009 (figure 8). Although close to 100% self-sufficiency is achieved for fresh vegetables and tropical fruits with the agricultural output, the quantity – and the quality – currently produced remain insufficient to support the development of a strong, competitive and sustainable agro-processing industry.

Notably, as the development of the area cultivated has followed the same trend as the product, the overall productivity of the food crop sector is plateauing at approximately 15 tons per hectare.

Figure 8: Food crop production, Mauritius, 2005–2014 (thousands of tons)



Source: Mauritius Ministry of Agriculture Extension Division up to 1997; Agricultural Research and Extension Unit as from 1998; Food and Agriculture Research and Extension Institute as from 2013.

Although it is safe to state that the share of the agro-processing industry in the economy of Mauritius is extremely limited, more disaggregated and up-to date data would be needed to measure the production and the contribution of the sector to the economy with accuracy. Navindra Boodia (2003, p. 50) suggests that the production output of preserved fruits, preserved or prepared vegetables, and fruit and vegetable juices remained fairly stable from 1991 to 2001, though in very small quantities not exceeding 2,000 tons yearly.<sup>11</sup> She further indicates, quoting the Mauritius Chamber of Agriculture (MCA), that the fruit and vegetable subsector was processing a mere 5% of domestic horticultural production in 2001. Although there is no data available to check on the precise extent of progress made by the sector in terms of production, export data for similar products indicate that little progress has been made in the sector, with very low levels of exports registered over the past decade and no clear upward trend.

Although they do not allow for a precise analysis because sector-specific information is diluted in the broader 'food manufacturing sector', largely driven by the growth of the fish processing sector, national statistics do provide an insight into the performance of this segment of the manufacturing sector. The food manufacturing sector generated a value added of MUR 20,938 million in 2014, an increase of 31.5% compared with its 2010 level. The 'food manufacturing sector' contributed to 37% of the value added generated by the entire manufacturing sector in 2014 (figure 9).

Similarly, the contribution of the agro-processing industry to total employment is unclear. However, we can

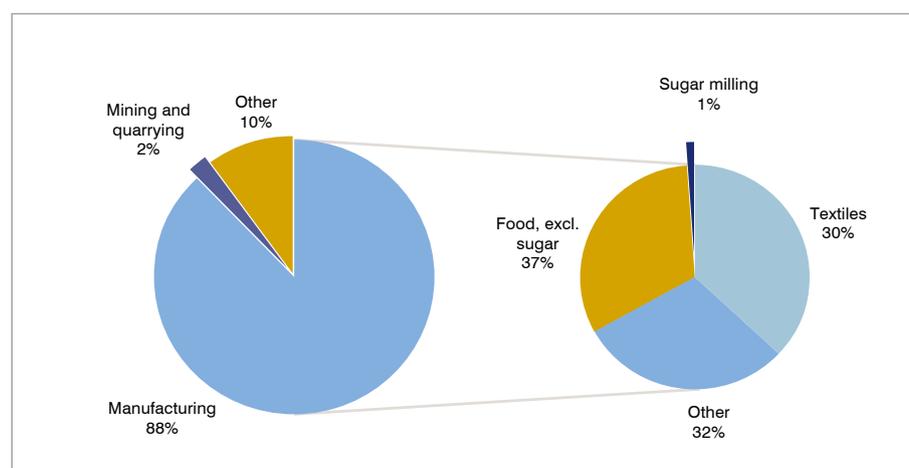
11. Boodia, N. (2003). *Prospects, Constraints and Opportunities for Fruit and Vegetable Processing in Mauritius*, p. 50. Food and Agricultural Research Council, Mauritius.

note that, in 2014, employment in agricultural activities excluding sugar cane, tea and fishing – therefore capturing employment in the production of fresh fruits and vegetables – stood at 25,430 persons, representing 57% of total employment in the agricultural sector that year. Of those, only 5,480 were employed in large establishments, confirming the relatively small size of farm holdings in Mauritius. By way of comparison, in the sugar cane subsector, large establishments captured 56% of employment. While the sector employs mainly men (53%), female employment predominates in small and medium-sized farm holdings (54%) while the workforce in 'large establishments', that is establishments which engage 10 or more people, remains male-dominated at 79%.

As indicated earlier, owing to the lack of sufficiently disaggregated data, it was not possible to obtain a comprehensive picture of the agro-processing sector in Mauritius, including processing data on the number of processors. Process volumes were also not available. Navindra Boodia (2003, p. 50) indicates that a census conducted by Boodia and Nallee (2002) revealed that approximately 35 enterprises were involved in fruit and vegetable processing at the time the paper was published. While more recent studies would be needed to obtain a more precise and up-to-date overview of the sector, we can affirm that few changes have occurred in the structure of the sector over the past decade. Statistics Mauritius provides an order of magnitude by indicating that 104 large establishments were operating in 'food products' manufacturing in 2014, employing 11,474 people,<sup>12</sup> again largely driven by the growth of the fish processing sector. The beverages segment employed 2,629 persons in 15 large establishments that same year.

12. Statistics Mauritius (2015). *Digest of Industrial Statistics 2014*.

Figure 9: Value added at current basic prices of the Mauritian industrial sector, by industry group, 2014



Source: Statistics Mauritius (2015). *Digest of Industrial Statistics 2014*.

## Domestic production

Mauritius has the unique advantage of blending Indian, Chinese, European and African cuisines, which has given rise to a wide variety of exotic commodities. The *Strategic Plan 2016–2020 for the Non-Sugar Sector* listed a certain number of agro-processing activities in the crop subsector, including the following:

|                                                                           |                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pickles, or 'achards', (fruits and vegetables) and other related products | This category of processed fruits and vegetables comprises products such as pickles (or achards), sweet and sour (locally known as 'aigre doux'), and sauces and chutneys. Pastes, including chilli paste and garlic paste, also fall under this category. |
| Sugar-based products                                                      | Sugar-based products present important potential for Mauritian processors. They include products such as crystallized fruits and vegetables; candied fruits; jam, jelly and marmalade; fruit paste; and juice, cordial and syrup.                          |
| Canning                                                                   | Key products under the canning category include fruits and syrup, puree and canned vegetables (including beans and pulses).                                                                                                                                |
| Deep-fried products                                                       | Deep-fried products produced in Mauritius include banana, potato and cassava chips.                                                                                                                                                                        |
| Flour                                                                     | A few processors produce breadfruit, banana and manioc flour, among others.                                                                                                                                                                                |
| Dehydrated fruits and vegetables                                          |                                                                                                                                                                                                                                                            |
| Frozen products                                                           | This category comprises mainly frozen fruits and vegetables and frozen snacks.                                                                                                                                                                             |
| Minimal processing                                                        | Minimal processing activities in Mauritius include the production of whole, diced and sliced fruits and vegetables using different types of packaging including cling film, punnets and vacuum-packing.                                                    |

Other categories of processed foods are also produced locally by smallholder farmers but the range is so diverse that it is practically impossible to list all of them. Nevertheless, most fruit and vegetable processors fall in the product category of jam, jelly, marmalade, canned pulses and vegetables, tomato ketchup and sauce, chilli sauce, chilli paste and a vast range of fruit and vegetable pickles.<sup>13</sup> Two major private actors have emerged in the agro-processing sector, namely Conserverie Sarjua, specialized in the production of pickles, jams and spices, and Les Vergers de Labourdonnais, whose products include fruit juices, fruit pastes and jams. Other major players include companies such as Fail and Happy World Group.

## TRADE ANALYSIS

Given the specificities of the agro-processing sector and the fact that it is composed of a broad range of products from various subproducts and subcategories, careful analysis is needed to identify as precisely as possible the main products exported by the sector. These commodities derived from the processing of fruits and vegetables are comprised of products classified under HS20 ('vegetable, fruit, nut, etc. food preparations') and HS21 ('miscellaneous edible preparations').

According to national statistics on domestic exports for the year 2014,<sup>14</sup> the value of Mauritian exports of these products is extremely limited, only reaching approximately MUR 15 million in 2014. To put these figures into perspective, exports from the sector accounted for less than 0.03% of the country's total exports in 2014. By way of comparison, MUR 7.8 billion worth of sugar was exported from Mauritius that same year, or approximately 13% of total exports. For decades, the production and export of sugar has been predominant in the food processing sector, with little development of other processing activities and few large companies operating in the sector. Importantly, the sector has adopted an inward-looking approach, focusing on achieving a higher level of self-sufficiency rather than increasing exports.

Main products exported to date are sauces, pickles and condiments; food preparations; and products requiring minimal processing such as prepared or preserved vegetables. While some level of export has been reported for juice, exports of sugar-based products have not picked up yet (figure 10).

Exports of Mauritian products derived from the agro-processing sector are mainly concentrated in two regions, namely Europe (excluding Réunion) and Indian Ocean countries and territories, accounting for 42% and 34% of the sector's exports, respectively. France is by far the main trading partner of Mauritius, capturing 32% of the sector's total exports, importing MUR 4.7 billion worth of goods

13. Boodia, N. (2003). *Prospects, Constraints and Opportunities for Fruit and Vegetable Processing in Mauritius*, p. 50. Food and Agricultural Research Council, Mauritius.

14. Domestic exports Free on board (in MUR), excluding re-exports.

in 2014, notably sauces, mixed condiments and seasonings, preserved vegetables and food preparations. With a similar import basket, the United Kingdom is the second European importer after France. In the Indian Ocean subregion, the main destination for Mauritian exporters is Réunion, notably for preserved, unshelled beans and the typical Mauritian chilli sauce. Seychelles has emerged as another key partner in the region, notably for sugar-based products such as juices, jams, fruit jellies and marmalades. Other key partners include South Africa, mostly for export of food preparations, and Australia for sauces and preserved vegetables.

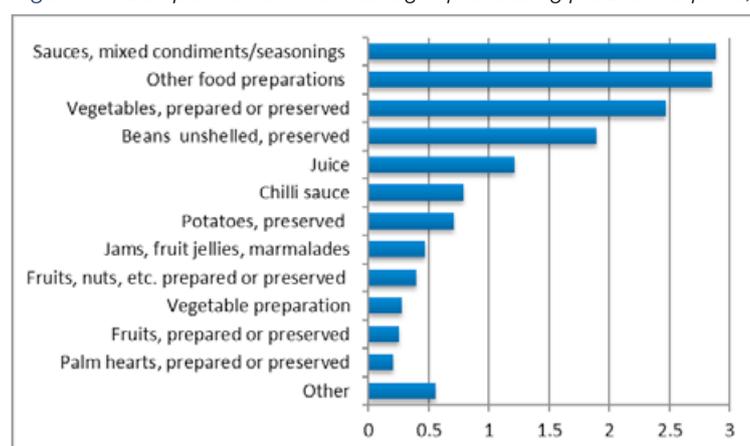
As indicated earlier, with an overall self-sufficiency ratio of less than 30%,<sup>15</sup> Mauritius relies heavily on imports for its domestic food supply, importing a very wide range of processed fruits and vegetables. This dependency has

15. Mauritius, Ministry of Agro Industry and Fisheries (2008). *Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008-2015'*, p. 3.

increased over the years. The recent shift of food habits of Mauritian consumers towards processed and convenience foods, with an emphasis on quality, food safety and brands, has also contributed to the sharp increase in processed food imports, deepening Mauritius' trade deficit for HS 20 ('vegetable, fruit, nut, etc. food preparations') and HS 21 ('miscellaneous edible preparations') products (figure 10).

Combined, Mauritian imports of these products amounted to around US\$ 78 million in 2015. Imports are largely dominated by food preparations (accounting for 38% of the country's imports for these products), followed by sauces and seasonings (13%), fruit juices (9%), and prepared or preserved tomatoes (9%), vegetables (6%) and fruits (5%) (ITC). The relatively low sophistication of the products imported, with the exception of food preparations and sauces, suggests significant room for import substitution in Mauritius, notably for commodities such as preserved tomatoes, vegetables and fruits, excluding temperate varieties.

Figure 10: Composition of Mauritius' agro-processing products exports, 2014 (Mauritian Rupee millions, free on board)



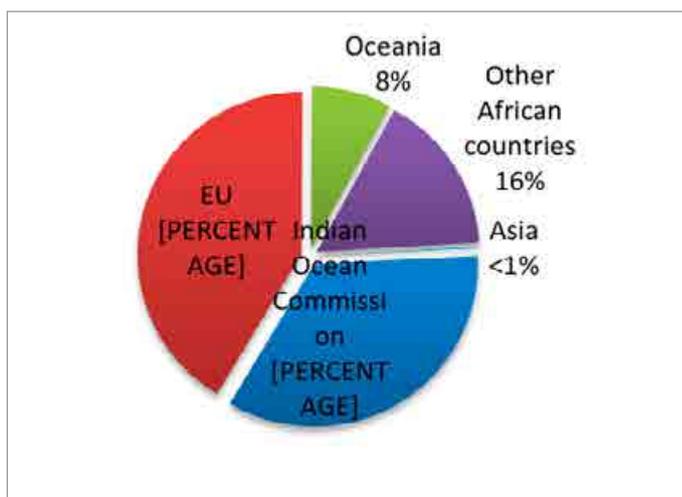
Source: ITC calculations based on Statistics Mauritius data (Domestic Exports – Year 2014 (Provisional)).

Table 3: Top 10 importers of Mauritius agro-processing products, 2014

| Importers      | Value exported (MUR) | Share (%) |
|----------------|----------------------|-----------|
| World          | 14 974 557           | 100       |
| France         | 4 732 230            | 32        |
| Réunion        | 2 930 173            | 20        |
| South Africa   | 1 474 293            | 10        |
| Seychelles     | 1 394 184            | 9         |
| Australia      | 1 101 483            | 7         |
| United Kingdom | 977 467              | 7         |
| Madagascar     | 828 397              | 6         |
| Algeria        | 727 308              | 5         |
| Switzerland    | 256 120              | 2         |
| Germany        | 202 210              | 1         |

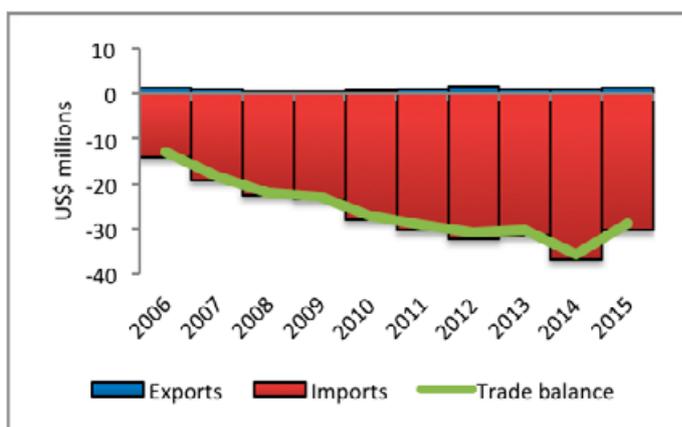


Figure 11: Exports by region



Source: ITC calculation based on Statistics Mauritius data (Domestic Exports – Year 2014 (Provisional)).

Figure 12: Mauritian trade balance for HS 20 products, 2006–2015 (US\$ millions)



Source: ITC calculations based on United Nations Comtrade statistics.

## Product and market cross section

The following analysis highlights some key features for each of the main export markets of Mauritian fruit and vegetable processing industry products.

### European Union (France, excluding Réunion, and the United Kingdom mainly)

| Main products exported                                                                                                                                                          | Use and application of products                                                                          | Main type of buyers in target markets                                                                        | Top critical success factors                                                                                                                                                                                                                                                | Comparison with competitors                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Sauces, preparation of sauces, mixed condiments / seasonings (44% of EU imports from Mauritius)</p> <p><b>Key markets:</b> France (89% of EU imports), United Kingdom</p> | <ul style="list-style-type: none"> <li>Retail, food service, and wholesale</li> </ul>                    | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> <li>Fine food shops</li> </ul> | <ul style="list-style-type: none"> <li>Sanitary safety and quality standards</li> <li>Traceability (incl. Rules of Origin (ROO))</li> <li>Quality (superior)</li> <li>Supply consistency</li> <li>Delivery reliability</li> <li>Packaging</li> <li>Niche product</li> </ul> | <p><b>Main competitor:</b> India</p> <p>Critical factors:</p> <ul style="list-style-type: none"> <li>Superior quality</li> <li>Traceability</li> <li>Certification</li> <li>Trade agreements</li> <li>Niche product</li> </ul> |
| <p>2. Vegetables, prepared or preserved (26%)</p> <p><b>Key markets:</b> France (61%), United Kingdom (29%)</p>                                                                 | <ul style="list-style-type: none"> <li>Retail, food service, further processing and wholesale</li> </ul> | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> </ul>                          | <ul style="list-style-type: none"> <li>Sanitary safety and quality standards</li> <li>Traceability</li> <li>Nutritive quality</li> <li>Price</li> <li>Volumes</li> <li>Delivery reliability</li> </ul>                                                                      | <p><b>Main competitors:</b> China, Morocco</p> <p>Critical factors:</p> <ul style="list-style-type: none"> <li>Price</li> <li>Traceability</li> <li>Certification</li> </ul>                                                   |
| <p>3. Food preparations (7%)</p> <p><b>Key markets:</b> France (95%)</p>                                                                                                        | <ul style="list-style-type: none"> <li>Retail, food service</li> </ul>                                   | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> <li>Fine food shops</li> </ul> | <ul style="list-style-type: none"> <li>Sanitary safety and quality standards</li> <li>Traceability (incl. ROO)</li> <li>Quality</li> <li>Supply consistency</li> <li>Delivery reliability</li> <li>Packaging</li> <li>Niche product</li> </ul>                              | <p><b>Main competitor:</b> India</p> <p>Critical factors:</p> <ul style="list-style-type: none"> <li>Niche products</li> </ul>                                                                                                 |
| <p>4. Fruits, nuts, etc., prepared or preserved (5%)</p> <p><b>Key markets:</b> France (55%), United Kingdom (45%)</p>                                                          | <ul style="list-style-type: none"> <li>Retail, food service, further processing and wholesale</li> </ul> | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> </ul>                          | <ul style="list-style-type: none"> <li>Sanitary safety and quality standards</li> <li>Traceability</li> <li>Nutritive quality</li> <li>Price</li> <li>Volumes</li> <li>Delivery reliability</li> </ul>                                                                      | <p><b>Main competitor:</b> India</p> <p>Critical factors:</p> <ul style="list-style-type: none"> <li>Price</li> <li>Traceability</li> <li>Certification</li> </ul>                                                             |

### Indian Ocean Commission members (Comoros, Madagascar, Réunion and Seychelles)

| Main products exported                                                                                                                                         | Use and application of products                                                      | Main type of buyers in target markets                                                                                      | Top critical success factors                                                                                                                                | Comparison with competitors                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Beans unshelled, preserved (36% of Indian Ocean Commission imports from Mauritius)<br><b>Key markets:</b> Réunion (100% of Indian Ocean Commission imports) | <ul style="list-style-type: none"> <li>Retail, food service and wholesale</li> </ul> | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> </ul>                                        | <ul style="list-style-type: none"> <li>Sanitary safety and quality standards</li> <li>Traceability (incl. ROO)</li> <li>Quality</li> <li>Volumes</li> </ul> | <p><b>Main competitor:</b> Réunion</p> <p><b>Critical factors:</b></p> <ul style="list-style-type: none"> <li>Price</li> <li>Volume</li> <li>Quality</li> </ul>                                                                                  |
| 2. Fruit juice (20%)<br><b>Key markets:</b> Seychelles (78%), Madagascar, Réunion                                                                              | <ul style="list-style-type: none"> <li>Retail, food service</li> </ul>               | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> <li>Hotels and restaurants</li> </ul>        | <ul style="list-style-type: none"> <li>Price</li> <li>Quality</li> <li>Supply consistency</li> <li>Packaging</li> </ul>                                     | <p><b>Main competitors:</b> Other regional and African suppliers (South Africa, Kenya)</p> <p><b>Critical factors:</b></p> <ul style="list-style-type: none"> <li>Superior quality</li> <li>Higher-end product</li> <li>Certification</li> </ul> |
| 3. Chilli sauce (15%)<br><b>Key markets:</b> Réunion (95%)                                                                                                     | <ul style="list-style-type: none"> <li>Retail, food service</li> </ul>               | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> <li>Hotels, restaurants and cafés</li> </ul> | <ul style="list-style-type: none"> <li>Sanitary safety and quality standards</li> <li>Quality (general and Intrinsic)</li> <li>Price</li> </ul>             | <p><b>Main competitor:</b> India</p> <p><b>Critical factors:</b></p> <ul style="list-style-type: none"> <li>Uniqueness of the product (quality)</li> <li>Supply consistency</li> </ul>                                                           |
| 4. Potatoes, preserved (14%)<br><b>Key markets:</b> Madagascar (100%)                                                                                          | <ul style="list-style-type: none"> <li>Wholesale</li> </ul>                          | <ul style="list-style-type: none"> <li>Distributors</li> <li>Wholesalers</li> </ul>                                        | <ul style="list-style-type: none"> <li>Price</li> <li>Supply consistency</li> <li>Delivery reliability</li> </ul>                                           | <p><b>Main competitors:</b> Other regional and African suppliers</p> <p><b>Critical factors:</b></p> <ul style="list-style-type: none"> <li>Price</li> <li>Delivery reliability</li> </ul>                                                       |

### Australia

| Main products exported                                                                        | Use and application of products                                                      | Main type of buyers in target markets                                                | Top critical success factors                                                                                                                                                                                                                                             | Comparison with competitors                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Vegetables, prepared or preserved (66% of Australia's imports of agro-processing products) | <ul style="list-style-type: none"> <li>Retail, food service and wholesale</li> </ul> | <ul style="list-style-type: none"> <li>Retailers</li> </ul>                          | <ul style="list-style-type: none"> <li>Sanitary safety</li> <li>Specific quality standards in Australia</li> <li>Traceability</li> <li>Price</li> <li>Delivery reliability</li> </ul>                                                                                    | <p><b>Main competitors:</b> India, Indonesia, Malaysia</p> <p><b>Critical factors:</b></p> <ul style="list-style-type: none"> <li>Delivery reliability</li> <li>Price</li> <li>Superior quality</li> <li>Certification</li> </ul> |
| 2. Sauces, preparation of sauces, mixed condiments / seasonings (11%)                         | <ul style="list-style-type: none"> <li>Retail, food service and wholesale</li> </ul> | <ul style="list-style-type: none"> <li>Retailers</li> <li>Fine food shops</li> </ul> | <ul style="list-style-type: none"> <li>Sanitary safety</li> <li>Specific quality standards in Australia</li> <li>Traceability</li> <li>Niche product</li> <li>Quality (superior)</li> <li>Supply consistency</li> <li>Delivery reliability</li> <li>Packaging</li> </ul> | <p><b>Main competitor:</b> India</p> <p><b>Critical factors:</b></p> <ul style="list-style-type: none"> <li>Niche product</li> <li>Superior quality</li> <li>Certification</li> </ul>                                             |

## South Africa

| Main products exported                                                            | Use and application of products                                        | Main type of buyers in target markets                                                | Top critical success factors                                                                                                                                                                                                                                 | Comparison with competitors                                                                                                                                             |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Food preparations (100% of South Africa's imports of agro-processing products) | <ul style="list-style-type: none"> <li>Retail, food service</li> </ul> | <ul style="list-style-type: none"> <li>Retailers</li> <li>Fine food shops</li> </ul> | <ul style="list-style-type: none"> <li>Sanitary safety and quality standards (Southern African Development Community (SADC))</li> <li>Quality</li> <li>Supply consistency</li> <li>Delivery reliability</li> <li>Packaging</li> <li>Niche product</li> </ul> | <p><b>Main competitor:</b> India</p> <p><b>Critical factors:</b></p> <ul style="list-style-type: none"> <li>Niche product</li> <li>SADC Free Trade Agreement</li> </ul> |

## VALUE CHAIN MAPPING

### Production of raw materials

The first step in the value chain is the production of inputs for the fruit and vegetable processing industry. At this stage, land is prepared and fruits and vegetables planted. Once they have reached the appropriate level of maturity they will be harvested by the planters. As consumers are sensitive to the quality and taste of the industry products they purchase, this step, i.e. the production of quality agricultural inputs, is crucial to ensure maximized end product quality.

The main production inputs include seeds, fertilizers, agrochemicals, planting materials and land. Input supply is often of low quality and expensive as there is a heavy reliance on imports for most inputs. The key actors at this stage are smallholder planters and farmers, as they handle the bulk of the production of fresh fruits and vegetables in Mauritius. As indicated earlier, it is estimated that approximately 8,000 small growers are producing on average some 110,000 tons of food crops annually,<sup>16</sup> consisting mainly of potato, tomato, onion, crucifers, cucurbits, green vegetables, and tropical fruits such as banana, pineapple and the seasonal lychee and mango. Not all these varieties are suitable for processing though, and it is estimated that only a mere 5% of this production is used in the domestic fruit and vegetable processing industry, the bulk of it being consumed as fresh produce.

Raw materials intended for processing are sold either directly to processors or through the auction markets of Port Louis, Vacoas and Flacq that currently regulate the wholesale marketing of fruits and vegetables in Mauritius. It is also estimated that a share of small agro-processors

operating locally are directly producing the fresh fruits and vegetables used for processing. Finally, although the majority of fresh fruits and vegetables is sourced locally, a small share is also imported by the industry from mainland Africa.

### Fruit and vegetable processing

Because the size and level of technological complexity of fruit and vegetable processing establishments varies greatly, it is difficult to establish an exhaustive list of the different processing techniques and operations used in the industry. Nevertheless, despite its variability in scale, fruit and vegetable processing generally involves: the acquisition of industrial and semi-industrial processing equipment; the sourcing of other raw materials including sugar, preservatives, colourants, antioxidants, etc.; the acquisition of food packaging; the use of food packaging equipment; and, importantly, the use of skilled workers.

The sector being at an infant stage of development, the production of processed food is mainly performed by individual smallholder farmers who most of the time are transforming their own production of fresh produce with limited capacities. As indicated earlier, very few large establishments are currently operating in the fruit and vegetable industry, with the exceptions of Conserverie Sarjua and Les Vergers de Labourdonnais. There is not really enough information available to identify the capacities of individual processing factories.

As indicated earlier, most products from the domestic fruit and vegetable processing industry include jam, jelly, marmalade, canned pulses and vegetables, tomato ketchup and sauce, chilli sauce, chilli paste and a vast range of fruit and vegetable pickles.<sup>17</sup>

16. Mauritius, Ministry of Agro Industry and Food Security (2016). *Strategic Plan (2016–2020) for the Food Crop, Livestock and Forestry Sectors*, p. 7.

17. Boodia, N. (2003). *Prospects, Constraints and Opportunities for Fruit and Vegetable Processing in Mauritius*, p. 50. Food and Agricultural Research Council, Mauritius.



Photo: Miwok (CC0 1.0)

## Distribution

Once processed, the final products are stored and later distributed to either the local retail market or export markets through various channels.

### International markets

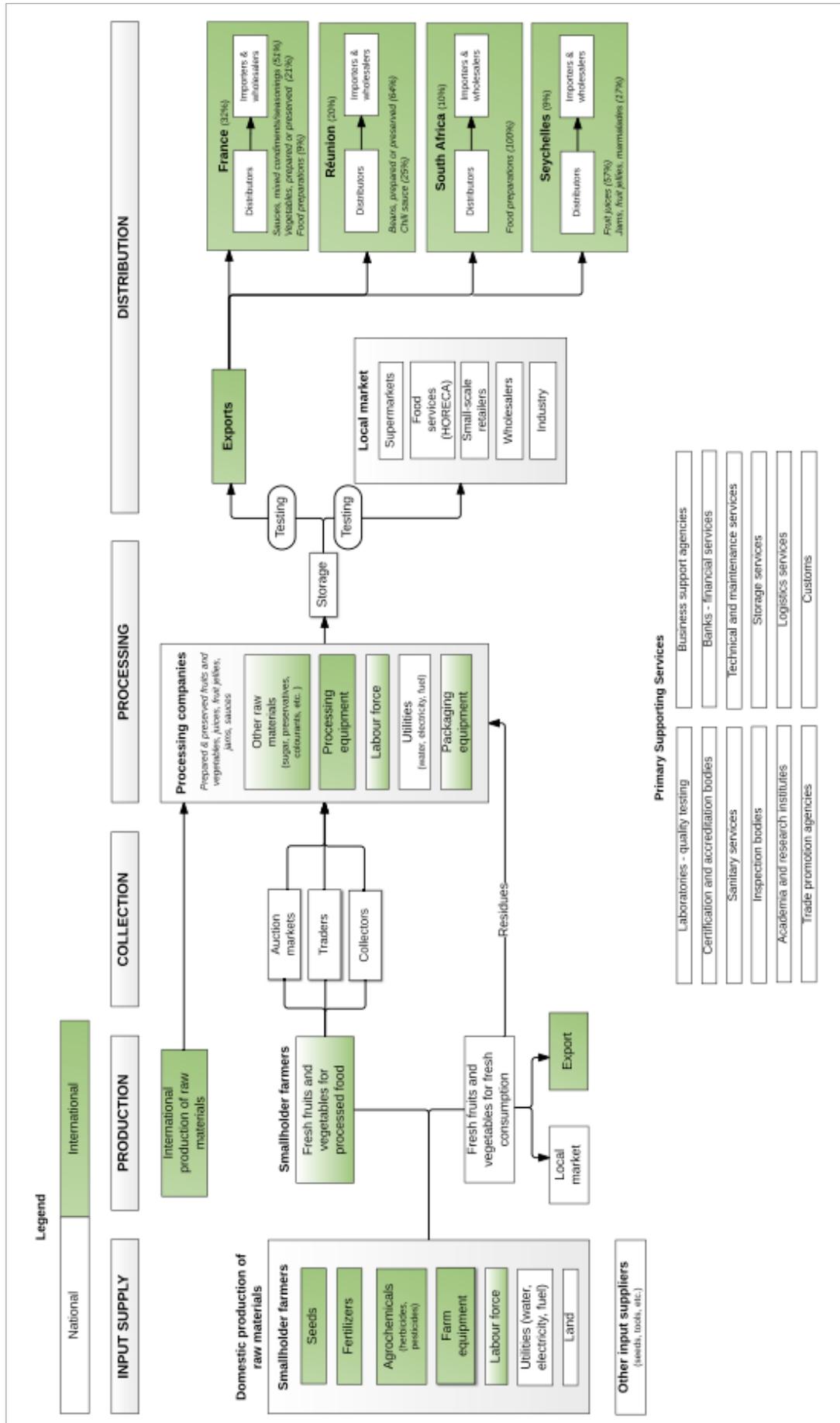
As noted in the trade analysis section, the value of Mauritian exports of fruit and vegetable processed products is extremely limited, only reaching approximately MUR 15 million in 2014, and concentrated in a limited number of export destinations in Europe and in the Indian Ocean region, with France, Réunion, South Africa and Seychelles capturing more than 70% of Mauritian exports. Products are sold to these markets through exporters and wholesalers and are then sold to distributors in the destination markets for retail trade in supermarkets or fine food shops.

## Domestic market

Most local food processing enterprises supply the local market. Navindra Boodia (2003, p. 54) estimates that less than 20% of local enterprises operating in the sector export their processed commodities). In Mauritius, given the relatively small volumes produced by local agro-processors, most of the production is sold directly to downstream supermarkets and convenience stores. A share of industry products is also delivered to downstream retailers through sales to grocery wholesalers.

Food services –including hotels, restaurants and cafés– are also an important channel of distribution in Mauritius given the highly developed tourism sector and the related infrastructures. Finally, other industries, including food manufacturers, also buy processed vegetable and fruit products from industry operators for use as inputs in their manufacturing processes.

Figure 13: Mauritius food processing value chain



## THE INSTITUTIONAL FRAMEWORK AND DEVELOPMENT SUPPORT

### Institutional framework

Rising concerns about food security and food safety in Mauritius led the Government of Mauritius to develop specific strategies and development plans to support the growth of the non-sugar sector. Efforts are under way to provide the legal framework as well as leadership, policies and supporting interventions with the view to improving the action of the actors in the field. In that context, and as highlighted in the *Strategic Plan 2016–2020 for the Non-Sugar Sector*, several institutions will require a review of their roles and a reorientation of their actions to better respond to the new challenges faced by this subsector.

The main public institutions involved with the non-sugar sector include:

- The **Ministry of Agro Industry and Food Security (MAIFS)**, entrusted with responsibility for all matters pertaining to agriculture: decides on overall policies and agricultural development generally.
- **Agricultural Services**, the technical arm of MAIFS for its regulatory and policy functions.
- The **Small Farmers Welfare Fund**, created to promote the economic and social welfare of small farmers and their families. It registers farmers and can set up schemes and projects or create special funds in line with its policy.
- The **Irrigation Authority**, in charge of the preparation of schemes for irrigation of specific areas.
- The **Agricultural Marketing Board (AMB)**, established as a measure to promote diversification of agriculture.
- The **Food and Agriculture Research and Extension Institute (FAREI)**, taking over the functions of the Food and Agricultural Research Council and the Agricultural Research and Extension Unit as part of reforms to ensure cost-effective and quality services, and optimize human resources. FAREI is responsible for conducting research in non-sugar crops, livestock and agroforestry, and providing an extension service to farmers.

Other important public institutions and parastatal organizations which may not be directly involved in the agro-processing sector also play an important role in supporting its activities. They include:

- The **Commerce Division** of the Ministry of Industry, Commerce and Consumer Protection (MICCP);
- The **Mauritius Standards Bureau (MSB)**, under the aegis of MICCP;
- The **International Trade Division** of the Ministry of Foreign Affairs, Regional Integration and International Trade (MoFARIIT);

- The **Employment Division** of the Ministry of Labour, Industrial Relations, Employment and Training;
- The **Government Analyst Division** of the Ministry of Health and Quality of Life;
- **Enterprise Mauritius (EM)**;
- **BOI**;
- The **Small and Medium Enterprises Development Authority (SMEDA)**;
- The **Human Resources Development Council (HRDC)**;
- **The University of Mauritius**;
- **The University of Technology Mauritius**;
- The **Mauritius Revenue Authority**.

Other private organizations including the Mauritius Chamber of Commerce and Industry (MCCI) and MCA also play a vital role by providing direct support to their members.

### Recent developments

In its efforts to support the development of the non-sugar crop sector the Government of Mauritius, through different public institutions and parastatal organizations, has established a number of support schemes and mechanisms for the agro-processing industry. An important scheme for the **purchase of agricultural and processing equipment** has been implemented to encourage planters to acquire farm machinery and equipment to mechanize their production systems and to venture into food processing or other activities for value addition.<sup>18</sup>

Other key schemes to improve the supply of raw materials for the agro-processing industry include the **Fruit Protection Scheme** to prevent fruit damage by bats and birds; the **Crop Nursery (Curing Scheme)** to assist vegetable growers to improve their capacity for production of planting materials and to enhance the quality of harvested produce; and the **Compost Subsidy Scheme** to assist farmers in reducing production costs and the use of chemical fertilizers. Assistance will also be provided to planters who are adopting self-assessment guides to upgrade their production system for certification in Good Agricultural Practices (GAP) through GLOBALG.A.P. Finally, the **Freight Rebate Scheme** for the promotion of export of various products, including agricultural products, is meant to boost exports from the sector.

In line with the growing interest in agro-industry development in Mauritius, FAREI has set up a fully equipped Agro-Processing Resource Centre, a research and development (R&D) programme dedicated to agro-processing to service the needs of entrepreneurs interested in the agro-processing and value addition sector. The Centre serves as a model agro-processing unit acquainting

18. Mauritius, Ministry of Agro Industry and Food Security (2016). *Strategic Plan (2016–2020) for the Food Crop, Livestock and Forestry Sectors*, p. 12.

prospective agro-processors with semi-industrial processing equipment and processing norms. It is also used for training and development purposes.

### Development policies

The Government of Mauritius has provided strong policy-level support to the sector over the years through initiatives such as the *Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008–2015'*, including its preparatory *Strategic Options in Crop Diversification and Livestock Sector (2007–2015)* and, more recently, the *Strategic Plan (2016–2020) For The Food Crop, Livestock and Forestry Sectors*, also referred to as the *Strategic Plan 2016–2020 for the Non-Sugar Sector*.

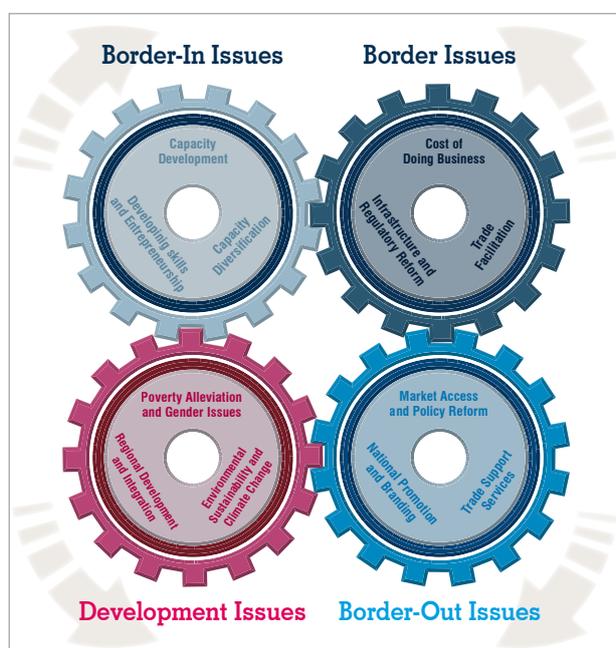
- The **Strategic Plan 2016–2020 for the Non-Sugar Sector**, launched in January 2016, sets out the goals and objectives to be attained by Mauritius over the next five years to improve the level of food security and food safety and promote more sustainable agriculture. This document is of utmost importance because it 'promotes the development of the agribusiness sector, to enhance import substitution in order to reduce dependency on imports'. Specific measures have been proposed in the Plan to support agro-processing and value addition in Mauritius, including provisions for the setting up of an agro-processing park, encouraging grouping of operators into clusters, providing incentive schemes to upgrade agro-processing operations and providing a capacity-building and incubation facility, among other things. The Plan also insists on the importance of promoting biofarming to 'ensure the production of safe and quality food, with standards and norms defined'.
- Another important initiative was the preparation, in 2008, of the **Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008–2015'** prepared by the Ministry of Agro Industry and Fisheries. This document included a commodity development programme comprising six subprogrammes, including one dedicated to agro-processing. Actionable strategies were designed for the agro-processing sector, notably to encourage production of vegetables and fruits with suitable processing qualities; develop protocols, norms and standards for minimally processed and preserved products and fruit juices; initiate the setting up of an incubator; and offer financial support to the sector. While no evaluation report indicating whether the expected results have been achieved has been published, it is safe to state that the strategy yielded mixed results and that the targets were not fully achieved. Additional efforts are therefore needed to effectively support agro-processing and value addition.
- In its objective to 'improve the level of self-sufficiency in various commodities, promote export and create new opportunities for farmers, entrepreneurs and rural families to increase farm income and productivity while conserving the natural biodiversity and providing safe, sufficient and nutritious food supply', the **Food Security Strategic Plan 2013–2015** also developed proposals and proposed actions for agro-processing, notably on a food crop basis.
- Reference to the agro-industry is also made in the **Government Programme 2015–2019**, in particular encouraging its development through regional cross-border initiatives and by accompanying small planters and agro-entrepreneurs to 'modernize their production methods, upgrade their skills and professionalize their activities'. Efforts will also be made to encourage young entrepreneurs to engage in agricultural activities. Finally, natural farming and organic production will be promoted.

### Selected initiatives currently active in the sector

- The Country Programming Framework 2014–2019 establishes the support of the Food and Agriculture Organization of the United Nations to Mauritius in agribusiness development and the agro value chain. The Framework sets out priorities for collaboration in the field of sustainable agriculture for food security, among others. Agribusiness is one of the priorities of the Framework, with a focus on the strengthening of the enabling environment as well as strategies, legal and management frameworks, and institutional capacities for selected strategic value chains.
- Food processing, including the fish and fish preparation sector, has also been identified as one of the four priority sectors for the implementation of the **United Nations Industrial Development Organization Resource Efficient and Cleaner Production Programme in Mauritius**. The objective of this ongoing project is to improve resource productivity and reduce the pollution intensity of industry and thereby contribute to sustainable industrial development and sustainable consumption and production in Mauritius. Although little information on this project is available, the level of trade focus will undoubtedly be relatively low.

## COMPETITIVE CONSTRAINTS AFFECTING THE VALUE CHAIN

Traditionally, the scope of trade strategies has been defined in terms of market entry, such as market access, trade promotion and export development. This ignores several important factors in a country's competitiveness. For an export strategy to be effective it must address a wider set of constraints, including any factor that limits the ability of firms to supply export goods and services, the quality of the business environment, and the development impact of the country's trade, which is important to its sustainability. This integrated approach is illustrated by the four gears framework schematic on the right.



### Supply-side constraints

Supply-side issues impact production capacity and include challenges in areas such as availability of appropriate skills and competencies, diversification capacity, technology and low value addition in the sector's products.

### Business environment constraints

Business environment constraints are those that influence transaction costs, such as regulatory environment, administrative procedures and documentation, infrastructure bottlenecks, certification costs, Internet access and cost of support services.

### Market access constraints

Market entry constraints include issues such as market access, market development, market diversification and export promotion.

### Social and environmental constraints

Social constraints include issues related to poverty reduction, gender equity, youth development, environmental sustainability and regional integration.

## SUPPLY-SIDE CONSTRAINTS

### Box 2: Border-in gear issues

- Inadequate use of chemicals and low level of pest and disease control in the production of fruits and vegetables
- Limited availability of raw material for processing exportable goods
- Limited uptake of modern management techniques and low level of mechanization
- Inadequate storage capacities for fruits and vegetables
- Proliferation of fruit bats
- High costs of raw materials
- Lack of coordination among the different value chain actors
- The farming community is ageing and the new generation is unwilling to embark on agriculture as a profession
- The manufacture of processed products with high added value is extremely limited
- Low levels of R&D in the agro-processing sector
- Low level of domestic and foreign investment in the agro-processing sector
- Limited access to finance
- Lack of technical expertise in the field of fruit and vegetable processing

## CAPACITY DEVELOPMENT

### The inadequate use of chemicals raises the issue of the safety of products and could hinder the export potential of the sector

There is limited knowledge among farmers about the use of agrochemicals, and chemical pesticides and fertilizers in particular, and the right treatments to be used for pest and disease problems in field crops. The misuse and abuse of chemical products can lead to the production of fruits and vegetables which are unfit and potentially dangerous for human consumption as they are likely to contain high agrochemical residues. The low level of pest and disease control in the production of fruits and vegetables further complicates the matter.

There is an urgent need to work with support institutions towards better regulation and control of agrochemical use in the agricultural sector. A crucial need for sensitization of farmers on the safe use of fertilizers and pesticides, and on the concept of sustainable agriculture more generally, has also been identified. This concept of 'sustainable agriculture' is described in the *Strategic Plan 2016–2020 for the Non-Sugar Sector* as 'an alternative approach that maximizes the reliance on natural, renewable on-farm inputs while ensuring long-term environment protection, health benefits and economic viability'.

- **Severity:** ●●●●●
- **Value chain segment:** Raw material production
- **PoA reference:** Activities 1.4.1. to 1.4.4.

### The limited availability of raw material for processing exportable goods is a major drawback to the development of a viable industry

There is a mismatch between varieties planted and the varieties that can be processed in the country, especially for canning, as most fruits and vegetables are cultivated to be sold as fresh produce, with exclusive reliance on locally available varieties. Unfavourable agronomic and climatic conditions coupled with the degradation of the soil also contribute to the limited availability of raw materials in Mauritius, as well as negatively affecting crop yields.

This situation highlights the need for market and feasibility studies to identify the varieties of fruits and vegetables that can be processed and which have export potential. Trials on new varieties of crops should be conducted in order to identify fruits and vegetables that are suitable for the processed food industry. The information collected on potential products should then be disseminated to relevant stakeholders across the value chain.

Note: While it is essential to ensure that the country can produce raw materials in sufficient quantity for processing, it is equally important to be cautious not to re-direct products meant to be exported as fresh produce towards processing.

- **Severity:** ●●●●○
- **Value chain segment:** Raw material production
- **PoA reference:** Activities 1.1.1. and 1.1.2.

### The limited uptake of modern management techniques and the low level of mechanization are limiting agricultural production potential

The productivity of the agricultural sector in Mauritius is negatively affected by overreliance on manual methods and agrochemicals associated with low adoption of good practices and modern agricultural systems. The majority of horticultural holdings still rely on traditional practices at both production and post-production levels, with relatively low use of agricultural machinery to mechanize the work of agriculture. Most operations, from planting to sorting and grading, are still carried out by hand with limited to no technical assistance. The irrigation network also appears to be limited as a result of the high initial investment costs for micro irrigation technologies. In addition, the limited reach of cooperatives and farm organizations contributes to the limited dissemination of improved agricultural techniques.

The Strategy will address these challenges by fostering the adoption of GAP, including harvesting and postharvest techniques, plant layout and production systems, through the elaboration of training programmes to farmers and extension workers, also building on the current MAURIG.A.P. initiative being developed jointly by MSB and FAREI. Pilot farm initiatives – to be used as demonstrators for the production of specific fruits and vegetables with suitable processing qualities – will also be developed with a view to sharing best agricultural practices.

In order to boost the use of agricultural machinery, schemes and support programmes could be put in place with simplified procedures and eligibility criteria. Efforts could also be made to bring the Leasing for Equipment Modernization Scheme, closed in 2015, back onto the agenda.<sup>19</sup> The value added tax (VAT) Refund Scheme for agro-industrial and fisheries sector – wherein VAT paid on equipment is refunded to registered producers and which became operational in 2012 – has been made permanent.<sup>20</sup>

19. Under the Leasing for Equipment Modernization Scheme, the Government provided a line of credit to leasing companies so as to provide affordable financing to SMEs for purchasing of equipment.

20. The Scheme provides for the refund by the Mauritius Revenue Authority of VAT paid on a scheduled list of equipment and tools purchased by planters, horticulturists, breeders, apiculturists and fishermen, also including cooperative societies.

- **Severity:** ●●●●●
- **Value chain segment:** Raw material production
- **PoA reference:** Activities 1.2.1., 1.2.3, 1.3.1., 1.3.2. and 2.1.3.

### The sector suffers from inadequate storage capacities for fresh fruits and vegetables, significantly affecting the quality of the raw materials available for the agro-processing industry

Postharvest losses largely stem from the limited use of existing warehouses and certified storage facilities, or lack of them. Storage capacities such as cold rooms and refrigerated trucks, essential to maintain the quality of harvested crops, appear to be lacking in most small horticultural holdings, generating significant postharvest losses and affecting the quality of the products.

To address postharvest loss and improve the quality of the raw materials sourced locally, a first step will be to assess the availability and use of existing storage infrastructure in the different regions to obtain a clear picture of the current situation and identify needs. Collection points and certified storage centres with the required facilities, such as grading, packaging, etc. should then be established where needed.

- **Severity:** ●●●●○
- **Value chain segment:** Raw material production
- **PoA reference:** Activity 1.2.2.

### The proliferation of fruit bats in Mauritius is severely affecting food crops

Due to the lack of major cyclones for over a decade, the population of fruit bats has dramatically increased, shifting its International Union for Conservation of Nature status from 'endangered' to 'vulnerable' in 2014.<sup>21</sup> According to the Mauritian Wildlife Foundation, the most recent bat survey done by the National Parks and Conservation Service found that the population of the Mauritius fruit bat is around 90,000. This proliferation is reported to have a significant impact on food crops.

To tackle the problem of increasing losses incurred by fruit growers, MUR 4 million was provided by the Ministry of Finance and Economic Development (MoFED) in 2015 to cover 75% of the purchase price of bat nets, an initiative that has proven successful even if its scope could be expanded. As envisaged in the *Strategic Plan (2016–2020)*, this anti-bird net scheme to prevent fruit damage by bats and birds for the food crop should be maintained.

21. Mauritian Wildlife Foundation (2016). Mauritius fruit bat. Available from <http://www.mauritian-wildlife.org/application/index.php?tpid=30&tcid=81>.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Raw materials production
- **PoA reference:** Activity 1.2.4.

### The high cost of raw materials in Mauritius significantly erodes the competitiveness of the agro-processing sector

Several factors can explain the high price of fruits and vegetables in the country: chief among them is the small size of domestic land holdings,<sup>22</sup> preventing the sector from achieving economies of scale. Companies that produce a high volume of output benefit from lower operating costs due to economies of scale, therefore granting these companies a competitive advantage by allowing them to sell their products at lower prices.

Another key factor responsible for the high production costs in Mauritius is the increasing labour compensation, and most importantly the unit labour costs, faced by operators. This increase is all the more important because, at the same time, agricultural productivity has not significantly improved. High costs related to product certification (treated separately), costs related to the import of inputs such as fertilizers and pesticides and the acquisition of farm equipment also contribute to the high cost of Mauritian fruits and vegetables. Although the situation has compelled several agro-processors to source fruits and vegetables abroad, it is important to note that most small and medium-sized enterprises (SMEs) acquire their raw materials locally.<sup>23</sup>

In addition to the different actions envisaged under this Strategy to tackle some of the issues listed above, the feasibility of establishing strategic clusters targeting specific fruit and vegetable crops for export will be assessed, with a view to reducing the costs of inputs.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Raw materials production
- **PoA reference:** Activities 1.1.3., 1.2.3. and 3.1.1.

### The lack of coordination among the different value chain actors leads to inefficient sector development

This situation results from low levels of cooperation among the different farmers, poor horizontal and vertical linkages and, most importantly, a lack of trust among the different producers operating in the sector. Mistrust among farmers is one of the reasons why there has been, despite repeated Government efforts, limited to no

22. According to the 2014 Census of Agriculture, the average area per holding in the household sector on the island of Mauritius worked out to 0.6 hectares.

23. Boodia, N. (2003). *Prospects, Constraints and Opportunities for Fruit and Vegetable Processing in Mauritius*. Food and Agricultural Research Council, Mauritius.

establishment of farmers' groups and cooperatives that could have helped structure the market and improve its competitiveness through economies of scale.

As most smallholder farmers do not have the capacity to produce high value added products for export individually, these producers need to group together in order for the sector to grow. In order to improve the structure and the coordination of the market, the Strategy will foster the establishment of a single authority with a view to promoting and supporting agro-industry under one roof (also developed later in this document). In addition, the existing system for the collection of onions, garlic and potatoes implemented by AMB could be expanded to other varieties of fruits and vegetables, and collection points and certified storage centres with the required facilities (grading, packaging, etc.) could be established.

- **Severity:** ● ● ● ● ●
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 1.2.2. and 3.2.3.

### The farming community is ageing and the new generation is unwilling to embark on agriculture as a profession

These two phenomena cause labour shortages in the agro-processing sector and prevent the sector from expanding. Because working-age young educated people are more interested in the services industry and other competing economic sectors, the Mauritian agricultural sector is facing a labour shortage, in turn leading to the ageing population of farmers. More generally, **there is limited knowledge about the potential of processed food, and processed fruits and vegetables in particular, in the country**. This situation can be partly explained by the fact that the sector receives little attention from support institutions operating in the field of agriculture, which tend to focus more on processed fish and (raw) sugar. The cultivation of fruits and vegetables is mainly considered as subsistence farming, with little interest from farmers.

In order to trigger interest in farming and agro-processing from the younger generation, communication campaigns and career guidance on the potential of the agro-industrial sector will be launched at the national level.

- **Severity:** ● ● ● ● ○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 1.2.1., 1.3.3. and 3.4.4.

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 CAPACITY DIVERSIFICATION
 

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### The manufacture of processed products with high added value is extremely limited in Mauritius

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The processing of fruits and vegetables remains largely underdeveloped in the country, with a limited number of private companies currently producing and exporting high value added processed products. Because the cultivation of fruits and vegetables only generates limited interest from farmers, who mainly consider the activity as subsistence farming, the level of private sector investment that would allow the development of higher added value activities in agro-processing activities is extremely low.

In addition, **the low adoption of technology in the processing industry**, i.e. modern semi-industrial processing equipment, **limits the development of the sector**. The limited availability of adequate processing equipment, the limited knowledge of international markets and their requirements, and the uncertain supply and quality of inputs also prevent the sector from producing value added products.

Value addition in manufactured products will contribute to an increase in revenue, improve export penetration into new markets and help develop product diversification. Improvements in value added and quality are also expected to lead to improved sustainability of export markets, which has been identified as being extremely low. One of the key objectives of this Strategy is to develop processing capacity in Mauritius for processing and export of value added products, notably through fostering technology transfer.

- **Severity:** ●●●●○
- **Value chain segment:** Processing
- **PoA reference:** Activities 2.1.1. to 2.1.3. and 2.4.1 to 2.4.6.

### The low levels of R&D in the agro-processing sector limit the industry's potential for product diversification and impede the development of new and innovative processed products

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R&D activities appear to be insufficiently developed in the sector due to a lack of interest from farmers but also because of the absence of specific fiscal incentives to conduct such activities in Mauritius. As a result, and as stated above, the manufacture of innovative products with high added value is extremely limited in Mauritius

Incentives such as tax credits for R&D could play a major role in encouraging the development of higher value added and innovative products and manufacturing processes and would contribute to attracting investors to

establish production sites in Mauritius. Targeted tax incentives in the form of an entitlement programme could be established to support producers, offsetting some of the costs associated with research activities and helping more businesses conduct R&D and innovate. Research infrastructure in agro-processing should also be further developed.

- **Severity:** ●●●●○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 2.2.1. to 2.2.3., 2.4.1. and 2.4.2.

### The low level of domestic and foreign investment hinders the development of the agro-processing sector

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As mentioned earlier, the food processing industry – and the processing of fruits and vegetables in particular – remains largely underdeveloped in Mauritius, with a limited number of companies currently exporting a limited number of products including jams, marmalades, fruit pastes and special sugars. In order to increase the volumes produced, to develop new products and to create a wider range of quality products, significant investment in the sector is needed. The limited interest in labour-intensive sectors in Mauritius, the fact that the cultivation of fruits and vegetables is mainly considered as subsistence farming and the high aversion to investment risk of farmers partly explain the limited level of investment from established entrepreneurs in the country.

Investment promotion efforts (treated separately) are needed in the processed food sector in Mauritius to attract new investors but also to contribute to changing the current mindset.

- **Severity:** ●●●●●
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 2.4.3. to 2.4.6.

### Limited access to finance hinders the growth of the sector

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There is limited access to finance for smallholder farmers and exporters in the agricultural sector in general, with the exception of the sugar sector. Farmers, especially resource-poor smallholders, are often unattractive credit candidates for financial institutions because of the unpredictable, fragmented and unstructured nature of their agricultural activities. There is a lack of suitable and affordable finance for smallholders operating in the sector, especially for the processed fruits and vegetables segment. While funding is currently available from various sources, including specific grant schemes created to support the agricultural sector through the Development Bank of Mauritius, operators have difficulty applying to these programmes because of complex procedures and application processes.



Photo: Miwok (CC0 1.0), framboises-de-Ile-maurice

These procedures should be simplified to ensure that a larger number of private sector actors can benefit from those programmes. Additional information and guidelines should be provided to applicants on the preparation of applications. Financial support and banking facilities at attractive terms and conditions for innovative agro-processors should also be fostered by encouraging commercial banks to offer low interest rate loans. This financial support will be accompanied by appropriate market research/insurance schemes to prevent bad debts.

- **Severity:** ●●●○○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 1.2.3., 2.4.1. and 2.4.2.

#### DEVELOPING SKILLS AND ENTREPRENEURSHIP

##### The lack of technical expertise in the field of fruit and vegetable processing limits the development of the industry towards higher value added production

The development of the workforce capacity in the agricultural sector was an important consideration throughout the Strategy development process because technical know-how appears to be lacking, notably in SMEs. The main technical problems faced by these enterprises include the lack of expertise to determine shelf life, the lack of know-how on packaging and presentation of their products, and little knowledge on semi-industrial processing equipment. Although agricultural training programmes exist locally, professionals operating in the sector agreed

that the quality of the degree trainings provided in Mauritius is insufficient, resulting in locally trained people not being proficient in the technical skills needed to meet industry requirements. Stakeholders also indicated that none of the competencies required in the processed food sector, such as agro engineers and food technologists with an industrial background, are currently available in country. In addition to the lack of technical know-how, the expansion of the agro-processing sector is also constrained by smallholders' lack of business skills.

In order to develop the agro-processing industry in Mauritius, it is of utmost importance that the skills of the workforce are improved throughout the sector's value chain through the development of a variety of training programmes. The Strategy will address the need for improved knowledge and hands-on skills in food processing by developing and delivering, in close collaboration with universities and training institutions, targeted training courses on appropriate technologies and the latest techniques, food preservation techniques, use of semi-industrial processing equipment and food packaging, among others. The involvement of universities, agronomists and other experts, as well as local companies, will be essential in this regard. Training programmes in business skills on specific topics relevant to the development of the agro-processing sector, such as innovation management, business management, marketing strategy, etc. will also be launched as part of the Strategy.

- **Severity:** ●●●●○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 2.1.1. to 2.1.3.

## BUSINESS ENVIRONMENT CONSTRAINTS

### Box 3: Border gear issues

- The lack of transparency of the market generates uncertainty and price fluctuations
- Ineffective market information systems
- Inappropriate protection of intellectual property, patents and brands
- The number of permits and licences required to conduct business or carry out exports is an obstacle for operators
- Lack of coordination among TISIs
- The National Quality Infrastructure in Mauritius is not up to international standards
- Mauritius is not equipped yet to be able to accompany local operators in their GLOBALG.A.P. certification process
- No proper enforcement of existing national standards and regulations in the field of agriculture, notably to regulate the use of chemicals
- Information asymmetries between farmers and TISIs in the field of research
- Poor linkages between the industry and academia in the field of research
- Obtaining internationally recognized certification and standards has financial implications for the sector's operators
- High freight costs and port charges
- High certification, product analysis and testing costs

### INFRASTRUCTURE AND REGULATORY REFORM

#### The lack of transparency of the market generates uncertainty and price fluctuations, negatively impacting the business environment

Marketing logistics for agriculture are poor in Mauritius and the profitability for planters has often been questionable in view of the poor marketing system under which they operate. To market their produce at the local level, most planters still resort to the auction markets of Port Louis, Vacoas and Flacq that currently regulate the wholesale marketing of fruits and vegetables. This situation is considered unsatisfactory by almost all value chain operators because a lack of transparency in this system has often been reported and a price control, ensuring a decent margin of profit to producers, seems difficult. Overall, there is a lack of readily available market information to planters and producers, in particular about domestic market prices.

To address these issues, the setting up of a national wholesale market is currently being discussed at Government level. It is envisaged that the 'wholesale marketing of fruits and vegetables will be reorganized at national level through concentration of volumes in a single

place'.<sup>24</sup> The national wholesale market will be managed by AMB. The setting up of a network to collect, analyse and disseminate production, market, price and trade information for the agro-processing sector will also contribute to enhancing transparency.

- **Severity:** ●●●○○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 1.2.2., 3.1.3. and 3.1.4.

#### ***Past market information system initiatives proved ineffective***

Poor marketability is often the major cause of substantial losses incurred by planters. The suboptimal organization of production is often linked to surpluses of commodities on the market at some times and severe seasonal shortages at others. To this effect, timely availability of market information is essential. Initiatives such as the Agricultural Production and Market Information System

24. Government of Mauritius Information Service (2015). Stakeholders convened for consultative meeting on national wholesale market, 3 September. Available from [www.govmu.org/English/News/Pages/Stakeholders-convened-for-Consultative-Meeting-on-National-Wholesale-Market-.aspx](http://www.govmu.org/English/News/Pages/Stakeholders-convened-for-Consultative-Meeting-on-National-Wholesale-Market-.aspx).

(APMIS) online portal<sup>25</sup> have been launched in the past to address market information issues but the tools are not regularly updated, which is a prerequisite in a constantly changing environment, and have consequently not succeeded as expected.

Building on existing initiatives, the Strategy will support, through technical assistance, the setting up of a network that will allow speedy collection and dissemination of market information on various agricultural products to operators, including production, prices, area under cultivation and market trends. This network will play a role in regulating prices at the national level and hence ensure a reasonable margin of profit to producers, resolving the present difficulty. The establishment of such tools will be accompanied by information campaigns targeted at operators to raise awareness about the existence of such platforms and promote their use.

- **Severity:** ● ● ○ ○ ○
- **Value chain segment:** Inputs and production
- **PoA reference:** Activity 3.1.4.

### Inappropriate protection of intellectual property, patents and brands creates unnecessary hurdles to growth

There is currently no national framework for patent protection in Mauritius. *The Patent, Industrial Designs and Trademarks Act 2002* provided for the signature of the Patent Convention Treaty – under the World Intellectual Property Organization – but the Act is not yet in force and neither has the Treaty been signed. As a result, patents registered with the Intellectual Property Office, under the aegis of MoFARIIT, are recognized and protected locally but not internationally. This situation is forcing exporters willing to register their trademarks or patents to seek intellectual property protection from internationally recognized bodies abroad.

Efforts will be made under the NES to advocate for the signature of the Patent Convention Treaty, the Madrid Protocol and The Hague System under the World Intellectual Property Organization to guarantee the necessary intellectual property protection for the agro-processing sector and more generally for the Mauritian economy.

- **Severity:** ● ● ○ ○ ○
- **Value chain segment:** Entire value chain
- **PoA reference:** See NES document

25. APMIS, an initiative of the Ministry of Agro Industry and Food Security, is an online portal that provides information on production, prices, area under cultivation, market trends and business opportunities for various agricultural products.

## TRADE FACILITATION ISSUES

### The number of permits and licences required to conduct business or carry out exports is an obstacle for operators

The regulations, administrative procedures and documentation requirements that govern how business is done in Mauritius act as a disincentive for an operator considering developing agro-processing activities for export. As part of the strategy to attract new investors in Mauritius, efforts will be made to offer procedural incentives and to set up a one-stop shop to reduce bureaucracy, in particular regarding the number of permits and licences required for export.

- **Severity:** ● ● ● ○ ○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activity 2.4.3.

## QUALITY OF INSTITUTIONAL SUPPORT

### The lack of coordination and linkages between TISIs results in the absence of a clear vision for the sector

The large number of TISIs currently operating in the Mauritian agricultural sector has resulted in a scattering of resources and a duplication of efforts, an overlapping of functions, and TISIs competing with one another. As things are now, resources are wasted due to lack of coordination between the different institutions, in turn hampering the effectiveness of the support provided and leading to the absence of a clear policy direction or strategy for the sector.

As improving the performance and the competitiveness of the sector also involves significant changes at the level of the institutional framework, operational efforts will concentrate on enhancing inter-institutional collaboration in the agro-processing sector. The roles and strategies of the public institutions involved with the agro-processing sector should be revisited and their actions to support the farming community aligned.

The current situation and the confusion of roles between the different actors that transpires from it highlight the need for the establishment of a single authority to act as a one-stop shop to promote and support the industry under one roof. The entity could take the form of an inter-branch organization under the aegis of the ministries in charge and functioning on the basis of a public–private partnership model. The objective will be to agree on a common agenda and a long-term strategy to support the sector and pave the way for a comprehensive agricultural policy.

- **Severity:** ●●●●●
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 3.2.1. to 3.2.3.

### The National Quality Infrastructure in Mauritius is not up to international standards

Quality management is a critical buyer's requirement that can shut out a market altogether if standards are not met. Therefore, maintaining quality levels conforming to international standards is extremely important. However, as the Mauritius Accreditation Service (MAURITAS), the public accreditation body, is not yet a signatory of the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA),<sup>26</sup> products certified by a body accredited by MAURITAS, such as MSB laboratories or the Food Tech Lab, are not currently accepted by international importers. There are consequently no internationally recognized laboratories capable of certifying food and processed food products in the country, leaving no other choice to agro-processors but to seek the services of internationally recognized certification bodies to export, which contributes to increasing certification costs for enterprises.

It is essential for the industry that MAURITAS becomes a signatory of the ILAC MRA in order to achieve international recognition. A critical step towards achieving that goal is the full independence of MAURITAS vis-à-vis the public authorities, and MICCP (Industry Division) in this particular case. Once full membership status is obtained, MAURITAS will be able to assess and accredit conformity assessment bodies according to the relevant international standards, including testing laboratories.

- **Severity:** ●●●●●
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activity 2.3.1.

### Mauritius is not equipped yet to be able to accompany local operators in their GLOBALG.A.P. certification process

GLOBALG.A.P. certification, which confirms that requirements related to pre- and post-harvest activities in agriculture are met, is essential for the sector because it has become a key condition for access to international markets, and Europe in particular.<sup>27</sup> This certification applies only to fresh produce and does not cover processing activities.

Operators should be encouraged and assisted to apply for this certification as very few of them are currently GLOBALG.A.P. certified. At present, companies willing to be certified must pay consultants from abroad to accompany them through the process and must also pay certifying agencies to come to Mauritius for certification.

The Strategy will contribute to providing technical assistance for the progressive development of an initiative that is currently being jointly undertaken by MSB and FAREI, and consists of proposing an equivalent certification, which is MAURIG.A.P.. Standards under the MAURIG.A.P. initiative have already been developed but the scheme has not yet been enforced. Although MAURIG.A.P. is based on GLOBALG.A.P., it would not have international recognition and cannot replace the GLOBALG.A.P. certification when it comes to exports. However, any MAURIG.A.P. certified operator that applies for GLOBALG.A.P. certification will already be equipped to go through the GLOBALG.A.P. certification process.

- **Severity:** ●●●○
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activity 2.3.5.

### There is no proper enforcement of existing national standards and regulations in the field of agriculture, particularly to regulate the use of chemicals.

As mentioned earlier, as a significant share of planters do not adhere to the established protocol, numerous cases of misuse of agrochemicals such as fertilizers and pesticides have been reported in the production of fruits and vegetables in Mauritius, calling into question the safety of domestic production. This risk is amplified by the ineffectiveness of the enforcement of existing regulations and standards – primarily governed by the Chemical Fertilizers Control Act 1980 and the Dangerous Chemicals Control Act 2004 – resulting in harmful or potentially harmful products for use by consumers being distributed on the domestic market. While it is not clear if tests and controls are being carried out to assess the level of chemicals being used, it is widely recognized that they are not properly targeted, allowing most farmers who do not respect the regulations to fall between the cracks. Controls and tests currently performed on crops by FAREI are carried out at the request of producers. The apparent lack of traceability with regards to pesticide control in Mauritius further complicates the matter.

A first step towards the effective enforcement of existing legislation and protocols regulating the use of chemicals in the agricultural sector is to conduct of comprehensive review of the legal framework in place, particularly the Acts mentioned above. As also envisioned in the *Strategic Plan 2016–2020 for the Non-Sugar Sector*, recommendations will then be formulated to adopt and enforce a new

26. MAURITAS is currently an associate member of ILAC.

27. GLOBALG.A.P. is a system of recognized international standards, created on the basis of the requirements of Good Handling Practices, Good Management Practices and HACCP, which aims to ensure safety of agricultural products and compliance with existing quality and technical requirements.

strategy to regulate the use of agrochemicals in Mauritius. The creation of an enforcement body to regulate the conduct of tests and analysis on agrochemicals has been envisaged. The present Strategy will also support sensitization campaigns on the safe use of agrochemicals and will mobilize resources to raise awareness and promote organic farming and the use of biofertilizers and pesticides. Furthermore, since January 2014, an experiment station of FAREI at Pamplémousses has been converted as a model to showcase production of fruits and vegetables without agrochemical inputs.<sup>28</sup>

- **Severity:** ●●●●○
- **Value chain segment:** Inputs
- **PoA reference:** Activities 1.4.1. to 1.4.4.

### Information asymmetries between farmers and TISIs in the field of research limits the potential for developing new products

This situation exists due to the limited capacities of FAREI,<sup>29</sup> which is responsible for conducting research in non-sugar crops, livestock and forestry, and for providing an extension service to farmers in Mauritius. Another key role of the organization is to promote dissemination and practical application of research results. However, insufficient human and financial resources at FAREI are limiting the scope of its activities and negatively affecting the quality of the support provided in the field.

Although the quality of the agricultural research conducted by FAREI has not been subject to question, it is widely acknowledged that research results have not been adequately shared with operators in the field and that the necessary linkages with marketing and commercialization have not yet been established. More generally, it was reported that researchers do not work with farmers, indicating that more efforts are needed in relation to extension services to get the message across, to encourage and not to coerce.

Based on a comprehensive gap analysis, the Strategy will work towards reinforcing FAREI with a view to providing the organization with the necessary tools and skills to extend its reach and scope and more efficiently support the development of the agricultural sector and, as a consequence, the agro-processing industry. Efforts will be made to upgrade existing equipment and to improve the quality and availability of extension services through targeted capacity-building activities and by creating the conditions for the recruitment of additional staff.

28. Mauritius, Ministry of Agro Industry and Food Security (2016). *Strategic Plan (2016–2020) for the Food Crop, Livestock and Forestry Sectors*, p. 36.

29. FAREI was established on 14 February 2014, as per the FAREI Act 2013, to take over the functions of the Food and Agricultural Research Council and the Agricultural Research and Extension Unit.

Through the development of a national programme for agricultural extension, the Strategy will also contribute to strengthening agricultural R&D and will improve access to extension services for farmers. Mechanisms for systematic dissemination of information between research institutes and operators in the field will also be established, with a view to linking new products or processes arising from research activities and their marketing and commercialization.

- **Severity:** ●●●●○
- **Value chain segment:** Raw materials production and marketing and distribution
- **PoA reference:** Activities 2.2.1. to 2.2.3.

### Poor linkages between the industry and academia in the field of research impede the development of the sector

While universities and industry are already working together, notably under the Youth Employment Programme, existing linkages remain weak and insufficient, making it difficult for the industry to find the expertise needed to conduct research activities. As indicated earlier, recruiting qualified agronomists, agro engineers and food technologists appears to be challenging. Backward and forward linkages need to be developed with research institutions such as FAREI and the Mauritius Research Council, as well as universities, to develop R&D programmes specifically designed for the processed food industry.

To tackle the issue and in order to align the education infrastructure with the requirements of industry, the Strategy will foster greater collaboration between private companies, universities and training institutions to develop training courses to improve knowledge and hands-on skills in food processing.

- **Severity:** ●●●○
- **Value chain segment:** Inputs and production
- **PoA reference:** Activity 2.1.1.

## COST OF DOING BUSINESS ISSUES

### Obtaining internationally recognized certification and standards has financial implications for the sector's operators

Standards such as HACCP and GLOBALG.A.P. are a tremendous asset to accessing the demanding European and North American markets. Given the limited resources of the majority of local operators, complying with voluntary standards and certification systems appears to be a significant obstacle because they require important investments, mostly to upgrade farms and production sites.

Consequently, not many producers have undertaken HACCP certification for the traceability of fruits and vegetables, which further hampers their ability to export. Similarly, and as mentioned earlier, the fact that GLOBALG.A.P. standards have not yet been fully implemented in Mauritius is also eroding the competitiveness of Mauritian products. It has also been noted that, once certified in HACCP, SMEs sometimes have difficulties in applying the relevant protocols and maintaining their certifications, mainly due to the lack of qualified manpower. Voluntary labels related to organic farming and fair trade certifications also appear to be largely underdeveloped in Mauritius despite the booming international demand for those products

With a view to offsetting some of the costs associated with product certification and in order to facilitate the compliance of the sector with voluntary standards and certification systems, the present Strategy will help develop and strengthen specific schemes available to operators willing to export, and will work towards the modernization and implementation of efficient quality management systems. Procedures to access these schemes should also be simplified to ensure that a large number of private sector actors can benefit from these programmes. The document will also support the elaboration of a national strategy for the development of the production of organic products in Mauritius and will provide technical assistance to support fair trade certification of cooperatives and processors.

- **Severity:** ●●●○○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 2.3.5. to 2.3.8.

### High freight costs and port charges negatively impact the competitiveness of the sector

The logistical isolation of Mauritius coupled with the lack of economies of scale in the sector leads to high costs of inputs as well as high costs of exports for producers, in turn affecting the competitiveness of the industry. The limited number of shipping lines between Mauritius and regional markets also results in high freight costs incurred by exporters, notably to export to Western Africa or enclaved countries. Cargo handling costs also appear to be relatively high.

To enhance the competitiveness of products from Mauritius to Africa vis-à-vis exports from Asia and other parts of the world, the Government introduced the Freight Rebate Scheme in 2012 for firms exporting to Africa and Réunion.<sup>30</sup>

30. The Freight Rebate Scheme consists of a 25% refund of basic freight costs per container exported, up to a maximum of US\$ 300 per standard container of 20 feet. Eligible companies should be registered with AMB and the exported products shall be either unprocessed or minimally processed (i.e. produce which is peeled and vacuum packed; or peeled, sliced/carved and vacuum packed; or peeled or dried and vacuum packed. The Scheme currently applies to 44 ports in Africa and Réunion Island and is open to all shipping lines.

In the 2015–2016 Budget Speech, local authorities also announced the setting up a regional shipping line to expand regional trade and the role of Mauritius ports in the region.

- **Severity:** ●●○○○
- **Value chain segment:** Marketing and distribution
- **PoA reference:** See NES document

### The lack of harmonization of the regulatory framework for the agro-processing sector regarding testing and certification creates unnecessary hurdles to growth and generates significant costs for agro-processors

Firstly, because the tests conducted by Mauritian laboratories accredited by MAURITAS are not recognized by most international importers, processed food companies have no choice but to seek the costly services of accredited and internationally recognized certification bodies such as SGS in order to export their products. This situation sometimes leads exporters to have the same product analysed and tested twice, at two different laboratories, in order to comply with both the Mauritian requirements, governed by the Food Act, and export market quality requirements. For instance, for each consignment being exported to Kenya, the Kenyan Bureau of Standards requires tests and inspections that can only be carried out by international inspection, product testing and certification companies such as SGS or Intertek.<sup>31</sup> More generally, exporters' complaints concerned limited or inappropriate facilities in Mauritius to conduct the tests.<sup>32</sup>

A concerted effort needs to be made to harmonize and streamline the regulatory framework regarding testing and certification in Mauritius, namely by clearly specifying the certifications needed and from which eligible laboratories they can be obtained, and by streamlining the administrative processes related to validation of the tests and controls performed. A gap analysis to determine the norms and standards requirements of the agro-processing sector and the services currently provided by testing laboratories in Mauritius will also be conducted, with a view to upgrading laboratories to allow them to issue internationally recognized food safety certificates necessary for value added exports of foodstuffs.

- **Severity:** ●●●○○
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activities 2.3.2. to 2.3.4.

31. MSB worked out a Memorandum of Understanding with the Kenyan Bureau of Standards in order to be recognized by the Kenyan Bureau but it has not yet been validated by the Kenyan authorities.

32. International Trade Centre (2014). *Mauritius: Company Perspectives – An ITC Series on Non-Tariff Measures*, p. xiv.

## MARKET ACCESS CONSTRAINTS

### Box 4: Border-out gear issues

- High concentration on a few export markets
- Difficulties complying with conformity assessment measures applied by partner countries
- Importing raw material poses the problem of ROO
- Fierce competition from imported products
- Limited use of contract farming with domestic and international buyers
- Limited knowledge of international market access requirements
- Fragmented approach in export promotion and branding efforts

## MARKET ACCESS AND POLICY REFORM

### The high concentration on a few export markets is a risk for exporters

With France capturing more than half of the domestic exports of HS 20 products (vegetables, fruits, nuts, etc., food preparations) in 2015, of which 32% are shipped to Réunion, the industry appears to be highly dependent on market conditions in France and vulnerable to external economic shocks affecting this economy. Greater market diversification will be essential for the domestic agro-industry to spread risk and to participate more actively in international trade.

- **Severity:** ●●○○○
- **Value chain segment:** Distribution
- **PoA reference:** Activities 3.4.1 to 3.4.3.

### Mauritian exporters are facing difficulties complying with conformity assessment measures applied by partner countries

Note: The following section was retrieved from an ITC report published in 2014 assessing the impact of non-tariff measures on the business sector, based on a large-scale survey conducted directly with companies in Mauritius.<sup>33</sup>

Among the burdensome regulations encountered by exporters, 87% were imposed by partner countries (mainly EU Member states and the Common Market for Eastern and Southern Africa (COMESA)) and only 13% were applied by Mauritius. Most non-tariff measures reported by

exporting companies (accounting for 65%), as applied by partner countries, were conformity assessment measures such as product certifications and testing measures. Technical requirements followed, where 21% of the companies reported burdensome effects, for example labelling requirements and storage conditions. Some companies reported certification measures, which involved destination countries requiring Hazardous Analysis and Critical Control Points (HACCP) and sanitary and phytosanitary (SPS) certificates. Product certifications were viewed as too strict or difficult to comply with.

Complying with SPS measures to penetrate the higher-end European and North American markets has indeed proven to be difficult because the limited technical and financial capacity of Mauritian smallholder farmers impedes their ability to implement the relevant requirements and procedures. In particular, because several analysis certificates required by importers for processed food products cannot be obtained in Mauritius, local producers are forced to seek competent international expertise to have their products certified. The non-availability of such services in-country contributes to the high certification costs faced by local producers and acts as a disincentive to engage in export. Complying with technical barriers to trade/SPS measures is further complicated by the fact that there is no proper enforcement of existing national standards and regulations in the field of agriculture, particularly to regulate the use of chemicals, potentially resulting in high levels of chemical residues in the domestic production.

The present Strategy will foster the adoption of policies, standards and practices to facilitate the compliance of the sector with key importers' SPS requirements. It will be important to ensure that Mauritian legislation in this area meets the international obligations of the World Trade Organization SPS Agreement and that rules are correctly

33. International Trade Centre (2014). *Mauritius: Company Perspectives – An ITC Series on Non-Tariff Measures*, p. xiv.

implemented in the internal market and abroad (imports from third countries). Efforts will be made to develop of efficient quality management systems such as the HACCP one.

- **Severity:** ●●●●●
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activities 1.4.1. to 1.4.4. and 2.3.1. to 2.3.4.

### Importing raw material poses the problem of ROO

As the availability of quality raw materials, i.e. fruits and vegetables, is limited and because the labour costs in Mauritius are increasing, food processors operating in the country may be tempted to import cheaper raw materials from neighbouring mainland African countries. Such a practice would however raise the problem of ROO, i.e. the criteria needed to determine the national source of a product, an essential factor because duties and restrictions in several cases depend on the source of imports. With a wide variation in the practice of governments with regard to ROO, substantial transformation of the final product must have occurred in the country in order for it to be exported as a product of Mauritian origin. Taking into account the ROO criteria needed to determine the national source of a product, the Strategy will explore opportunities to strengthen regional integration and linkages for the supply of raw materials.

- **Severity:** ●●○○○
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activity 1.1.3.

### Local producers face fierce competition from imported products

Given the relatively low quality and high price of raw materials in Mauritius, coupled with the lack of market intelligence, producers find it difficult to compete with international suppliers, as illustrated by the overall self-sufficiency ratio of food production of less than 30%. As a result, voices are being raised to protect an industry that is still in its infancy and to enable the sector to thrive and to become more competitive in the longer term. Currently, though, because the country is bound by World Trade Organization rules, the level of duties on food product imports to Mauritius are extremely low, allowing international suppliers to penetrate the Mauritian market with superior, higher value added products at the expense of local producers.

As stated above, it will be important to ensure that Mauritian legislation meets the international obligations of the World Trade Organization SPS Agreement and that rules are correctly implemented not only in the internal market but also for imports from third countries.

- **Severity:** ●●●○○
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activities 2.3.2. and 2.3.3.

### The use of contract farming to secure long-term business agreements with domestic and international buyers is limited

To improve the quality of the raw materials in Mauritius, the development of contract farming could be encouraged. This agricultural production system is carried out according to an agreement between a buyer and farmers which establishes conditions, including the quality required and the price, for the production and marketing of a farm product or products. Such a system allows for better management of contract defaults and buyers' risk and encourages farmers to improve product quality.

The Strategy will encourage farmers and buyers to engage more extensively in contract farming by undertaking targeted information campaigns on contract farming, developing policies and establishing a more formalized and structured process for contract farming agreements.

- **Severity:** ●●●●○
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activity 3.1.2.

## TRADE AND BUSINESS SERVICES SUPPORT

### The limited knowledge of international market access requirements, standards and compliance hinders export development

If some institutions have been providing support to Mauritian exporters<sup>34</sup>, the lack of market intelligence still appears to be a major constraint for Mauritian producers and potential exporters, as very little information is available on issues such as market requirements, distribution channels, packaging requirements and duty access, among others. There is, in particular, very limited knowledge about the preferential market access opportunities granted to Mauritius following the signature of several trade agreements and which remain untapped. This inadequate knowledge of market requirements not only negatively affects the development of processed food exports from Mauritius, it also prevents the design of relevant market entry and promotion strategies. Insufficient or incomplete information prevents exporters from adopting the market requirements critical to succeeding in a specific target market.

34. For example, Enterprise Mauritius conducts market research and disseminates information.

Initiatives such as 'Trade Easy'<sup>35</sup> have been launched in the past to tackle the issue and provide information on import and export procedures but the online tool has not encountered the success expected because it is not regularly updated, a prerequisite in a constantly changing environment. Experience has shown that the setting up of such tools providing market access information should be accompanied by a continuous monitoring system to keep the online platforms up-to-date. Using the appropriate communication channels to inform the sector's stakeholders about the existence of such online tools is also crucial to ensure the success of such initiatives.

Improving the knowledge of international market access requirements will be a priority of the Strategy. Building capacity on these issues will be essential to allow the industry to identify international business opportunities – and to develop corresponding marketing strategies – while mitigating some of the costs and risks related to new market development, ultimately resulting in greater competitiveness. Building on existing tools for the provision of timely and relevant market intelligence should also be strengthened and upgraded with a view to improving the industry's knowledge and understanding of international market access requirements. Targeted campaigns and trainings to inform operators about the existence of such tools and promote their use will also be carried out.

- **Severity:** ●●●●●
- **Value chain segment:** Marketing and distribution
- **PoA reference:** Activities 3.3.1. to 3.3.3.

35. 'Trade Easy', under MoFARIIT (International Trade Division), is an online tool providing information on regulations, duties and taxes, and controls and shipment documents required for import and export operations.

## SOCIAL AND ENVIRONMENTAL CONSTRAINTS

### NATIONAL PROMOTION AND BRANDING

#### The fragmented approach in export promotion and branding efforts limits the visibility of the sector

Building a strong national brand would allow the sector to advance the 'country-of-origin' effect, to promote exports and to attract investors and a skilled workforce, in turn strengthening the export competitiveness of the country. The national brand could then serve as an umbrella under which sub-brands could be developed, in particular for the agro-processing sector.

To date, the country branding approach appears to be fragmented in Mauritius as several organizations have launched their own branding initiatives, such as the EM 'Mauritius Made with Care' slogan or the 'Made in Moris' logo recently created by the Association of Mauritian Manufacturers (AMM), even if some members of the Association seem reluctant to use it for export purposes. An increasing demand for private labelling among producers in Mauritius has also been observed, supported by the Business Growth Scheme Unit (recently incorporated to SMEDA). These branding efforts should not hide the fact that there is currently no brand specifically established for the Mauritian food industry and no targeted national promotion campaign for the industry.

- **Severity:** ●●●●○
- **Value chain segment:** Marketing
- **PoA reference:** Activity 3.4.4.

#### Box 5: Development gear issues

- The development of the industry could have a high socioeconomic impact
- Youth are not willing to engage in the agro-industrial sector
- There is scope for strengthening regional integration and linkages, both upstream and downstream from production
- Lack of enforcement of regulations on planting, chemicals, pesticides, etc. is a serious danger for the environment
- High levels of energy consumption and related emissions
- The agricultural sector appears unprepared to face climate change

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## POVERTY ALLEVIATION AND GENDER INCLUSIVENESS

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### There is great potential to create employment and business opportunities in the agro-processing sector, notably for young entrepreneurs and women

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In 2014, employment in agricultural activities excluding sugar cane, tea and fishing stood at 25,430, representing 57% of the total employment in the agricultural sector. Employment generated by agro-processing activities should be added to this figure but more disaggregated data on this industrial sector would be needed in order to do so.<sup>36</sup> Given the importance of the sector in terms of employment, the development of the processed food industry could significantly boost job creation and generate direct and indirect jobs, especially in rural communities.

Looking at gender inclusiveness, although the sector employs mainly men (53%), 11,900 women were employed in agricultural activities excluding sugar cane, tea and fishing (non-inclusive of women engaged in agro-processing activities). The development of the agro-processing industry could therefore have a significant impact on female employment.

- **Severity:** ●●●○○
- **Value chain segment:** Entire value chain

### Youth is not willing to engage in the agro-industrial sector

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Despite the high unemployment rate among young people in Mauritius – around 20,700 (49%) of the unemployed were aged below 25 years at the third quarter of 2015<sup>37</sup> – operators are facing difficulties in bringing ‘new blood’ into the agricultural sector. The younger generation’s clear lack of interest in pursuing farming can be partly explained by the fact that young people are more attracted by the services industry, which is said to be more remunerative and physically less demanding. In addition, potential new planters may be discouraged by the frequent cases of theft of crops in the field that occur in Mauritius. With the ageing population of farmers, the situation is becoming alarming because the agricultural sector will not be able to thrive if the lack of interest in farming among young people continues.

National communication campaigns and career guidance on the potential of the agro-processing industry

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36. Statistics Mauritius only provides data for ‘food products’, which also include products such as processed fish and meat as well as other food preparations not covered by this Strategy.

37. *Ibid.*

will be encouraged under this Strategy to trigger interest from youth. Training courses to improve knowledge and hands-on skills in food processing will also be developed to encourage young students to enter farming and agro-processing activities.

- **Severity:** ●●●●○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 1.3.3. and 2.1.1. to 2.1.3.

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## REGIONAL DEVELOPMENT AND INTEGRATION

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### There is scope for strengthening regional integration and linkages, both upstream and downstream from production

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Despite preferential market access to the COMESA and SADC markets that Mauritian exports enjoy, the benefits are currently relatively poor due to weak market intelligence and insufficiently developed in-market support for these markets. Indeed, as indicated in the Strategic Trade Development Roadmap, the lack of market information and market surveys makes it challenging for exporters to increase penetration in these markets. Although Mauritius has a relatively robust institutional presence in regional trading blocs such as SADC and COMESA, there is significant scope for improvement to benefit more widely from these preferential market accesses.

Upstream activities, i.e. the supply of raw materials, such as the development of fruit and vegetable crops in regional countries such as Madagascar and East African countries to benefit from advantageous climatic conditions and the availability of a low-cost labour force could be further developed. Raw products would then be shipped for processing in Mauritius. With regards to final processed food product exports, the sector needs to strengthen or develop trade relationships with regional markets. In order to do so, a first step will be to conduct comprehensive market surveys and to design and implement in-market support programmes for the agro-processing industry.

- **Severity:** ●●○○○
- **Value chain segment:** Entire value chain
- **PoA reference:** Activities 1.1.3. and 3.4.3.

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## ENVIRONMENTAL SUSTAINABILITY AND CLIMATE CHANGE

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The environmental conditions surrounding the development of the agro-processed food sector, including the implementation of effective waste disposal methods and the use of chemicals, must be managed in order to strengthen the sector’s development potential.



### The lack of enforcement of regulations on planting, chemicals, pesticides, etc. is a serious danger for the environment

There is, to date, no proper enforcement of existing national standards and regulations on the use of agrochemicals, including pesticides, herbicides and fertilizers. The misuse of such products by farmers and the lack of control by the authorities leads not only to the potential distribution of harmful or potentially harmful products to consumers but also to soil degradation, and surface and underground water pollution. In addition, despite the entry into force of the Dangerous Chemicals Control Act<sup>38</sup> in 2004, it seems that the hazardous waste management system is deficient – for obsolete pesticides, for instance – therefore raising the question of the environmental sustainability of the sector's activities.

As a first step, specific and targeted studies should be conducted to evaluate the environmental footprint of the agro-processed food sector in Mauritius, including the collection of data on amounts of hazardous waste being generated, stored and disposed of, and actions that could be taken to tackle the issue identified. Second, it will be of the utmost importance to enhance awareness among producers about the rational use of agrochemical products.

- **Severity:** ●●●●○
- **Value chain segment:** Production
- **PoA reference:** Activities 1.4.1. to 1.4.4.

38. The Dangerous Chemicals Control Act 2004 is an Act 'to provide for the prevention of damage to health and to the environment caused by dangerous chemicals and for better protection of the workers, members of the public and the environment against dangerous chemicals'.

### The food processing sector is characterized by high levels of energy consumption and related emissions

As the food processing industry uses energy-intensive processes, the electricity consumption of food processing facilities is relatively high. While little can be done at the plant level to reduce that consumption, alternative sources of energy and energy efficiency systems could be developed at the national level to ensure that economic growth occurs with the environment in mind.

- **Severity:** ●●●○
- **Value chain segment:** Processing
- **PoA reference:** See NES document

### The agricultural sector appears unprepared to face climate change

Although the actual impact of climate change on crop yields has not been scientifically quantified yet, with the climate change scenarios envisaged in coming decades, adverse climatic events are more likely and will eventually pose additional risks for local production of raw materials. Producers already agree that climate conditions have become increasingly unpredictable over the past decades. The unpredictable and inconsistent rainfalls that have recently been observed have a significant, and potentially devastating, impact on agricultural crops. This has significantly affected national agricultural production and its predictability, and has created a certain level of uncertainty – and risk – among Mauritian farmers, adding to the reluctance observed among the younger generation to enter into farming.

- **Severity:** ●●○
- **Value chain segment:** Production
- **PoA reference:** See NES document



## THE WAY FORWARD

The industry being at the infant stage of development, the sector's strategic orientation should follow a structural approach. The strategy for the next five years will thus be primarily built around a goal of reinforcing the domestic supply of raw materials and increasing the competitiveness of the farming sector as well as the organization between the various operators of the value chain. Strong emphasis will also be placed on improving the business environment and raising awareness about the potential of the industry. The next step will then be to look into specific ways to develop further processing activities in Mauritius, increase value addition and diversify the offering of Mauritian products in order to improve the performance and competitiveness of the industry in international markets.

### VISION

The processed food sector has demonstrated its potential to impart socioeconomic contributions to the Mauritian economy through export-led growth. In order to reinforce this contribution, competitive constraints and structural deficiencies along the four export development gears (supply side, business environment, market entry and development side) will be addressed and identified opportunities will be leveraged. The following is a delineation of the proposed vision and strategic approach in this direction, agreed with all stakeholders of the agro-processing value chain.

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“ An innovative and competitive industry driven  
by sustainability and inclusiveness ”

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## STRATEGIC OBJECTIVES

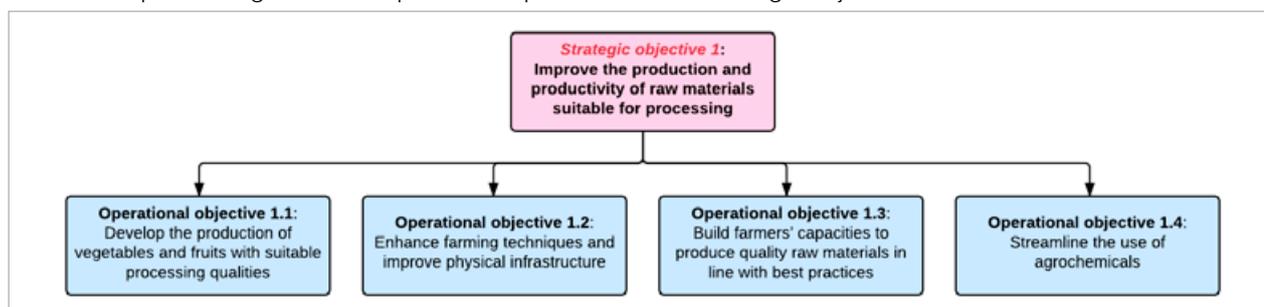
The vision set up for the strategy is delineated in three strategic objectives built around the key areas where action is required over the following five years.

### **Strategic objective 1: Improve the production and productivity of raw materials suitable for processing**

The potential of the agro-processing industry is severely affected by the poor performance of the domestic agricultural sector. Mauritius is confronted by several constraints that have posed severe impediments to agricultural development, including high production costs, inadequate storage capacities, misuse of agrochemicals, a low level of mechanization, reliance on traditional practices and lack of organization of the sector. However, if the Mauritian agro-processing industry is to develop so as to maximize its competitiveness, improving the production of raw materials (i.e. fresh fruits and vegetables) in terms of both quantity and quality is a prerequisite.

In operational terms, this objective will be reached first of all through identifying and developing new varieties and characteristics of fruits and vegetables which are suitable for processing and which processed products

thereof enjoy strong demand on international markets. The opportunity to strengthen regional linkages for the supply of raw materials will also be explored. Another important component under this strategic objective will be to enhance farming techniques and improve the physical infrastructure, particularly by establishing pilot farm initiatives and by providing special long-term credit and technical assistance to improve farm mechanization and the adoption of modern technology. Provision is also made to sensitize and train agricultural stakeholders including planters, farmers and agro-industrial entrepreneurs in the adoption of new technology and modern practices in their respective domains, with a view to promoting entrepreneurship and professionalism in the sector. Activities aimed at ensuring adequate use of pesticides in the agricultural sector will also be implemented under this strategic objective.



### **Strategic objective 2: Improve the sector's capacity and provide an enabling regulatory environment**

To further develop agro-processing activities with an emphasis on promotion of value addition to primary products, it is of utmost importance to improve the sector's capacities, including in the field of research. Promoting capacity-building in new technology with a view to encouraging entrepreneurship appears to be fundamental in Mauritius, as the sector currently triggers little interest among the population and notably from the younger generation. Another key component under this strategic objective is the inculcation of the notion of quality at all levels of agricultural practices. With rising customer needs and demands, coupled with increasingly stringent norms regulating food and agricultural trade, quality has become a prerequisite for the development of the agro-processing industry and, most importantly, for the expansion of export opportunities.

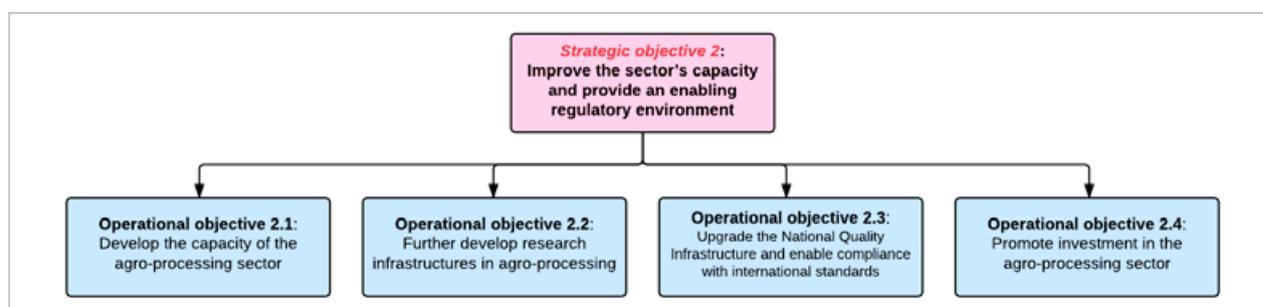
In operational terms, this objective will be reached through the development of training programmes aimed

at improving techniques for food processing and preservation and also at improving the business skills of the different operators. Setting up an agribusiness incubation centre will also offer entrepreneurs the opportunity to venture into agro-processing. In the field of research, the Strategy will look at improving the reach and effectiveness of FAREI, the main research body operating in the field of agriculture, through the development of mechanisms aiming at linking new products or processes arising from research activities and their marketing and commercialization.

As it does not currently enable operators to comply with international standards, upgrading the National Quality Infrastructure in Mauritius is also a priority under this strategic objective, to ensure that the accreditation and standardization bodies are recognized worldwide. Technical assistance will also be provided to facilitate the compliance of processed products with voluntary standards

such as HACCP systems and the GLOBALG.A.P. standards that are increasingly being demanded by retailers and consumers. These measures will be accompanied by capacity-building activities in quality-related issues at the production, handling, processing and sales levels.

Finally, it will be vital to incorporate specific policies for foreign direct investment (FDI) as well as domestic investment in agro-processing in Mauritius, something that can be achieved by advocating and making policy proposals and recommendations to provide incentives to enterprises with the view to stimulating investment in the agro-processing sector.



### Strategic objective 3: Foster the sector's integration and achieve greater market development

To become more competitive on the international scene, the agro-processing industry must be supported by a structured domestic market and a high level of integration among the various supply chain actors. Only by establishing a solid foundation for restructuring the non-sugar agricultural sector and by improving the marketing conditions can the processing industry benefit from quality raw materials at more advantageous prices. In addition, efforts have to be made to achieve greater market penetration, notably in the field of export promotion and market intelligence.

Operationally, this translates to improving the structure of the local market by fostering a tighter collaborative approach between all agricultural stakeholders through the development of cluster initiatives that will encourage efficient sharing of resources, information and know-how, and help achieve economies of scale. Efforts will also be made to promote more favourable marketing conditions by supporting the national wholesale market initiative, which aims to improve access to readily available market information for planters and producers, in particular about domestic market prices. As improving the performance and the competitiveness of the sector also requires a supportive institutional framework, operational efforts will also concentrate

on enhancing inter-institutional collaboration in the sector. To this effect it will be essential that a common strategic agenda is agreed with a view to enhancing collaboration with a more productive, demand-driven and target-oriented approach, also ensuring judicious use of resources.

Another key component under this strategic objective is to achieve greater market penetration for Mauritian products. A first operational step towards reaching that goal is to ensure structured export development and promotion efforts. Greater participation in international trade fairs will be fostered and in-market support programmes for the sector will be designed and implemented. In order to improve the visibility of the sector, the Strategy will also support the organization of a branding initiative through the elaboration of a comprehensive branding strategy specifically designed for the Mauritian agro-processing industry. Finally, to improve the knowledge base of the sector on international market access requirements, timely and relevant trade information will be collected and disseminated to traders and exporters through the development of reliable market information systems. Once the market information system is operational, regular training will be provided to exporters on collection, analysis and use of trade information to facilitate market entry.

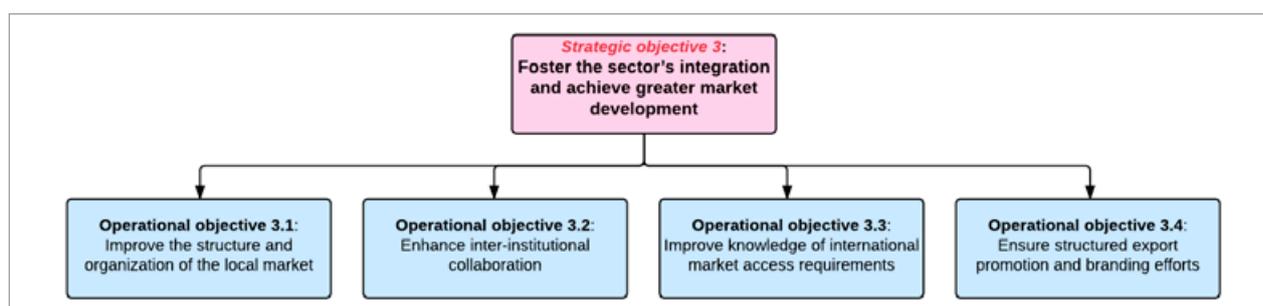
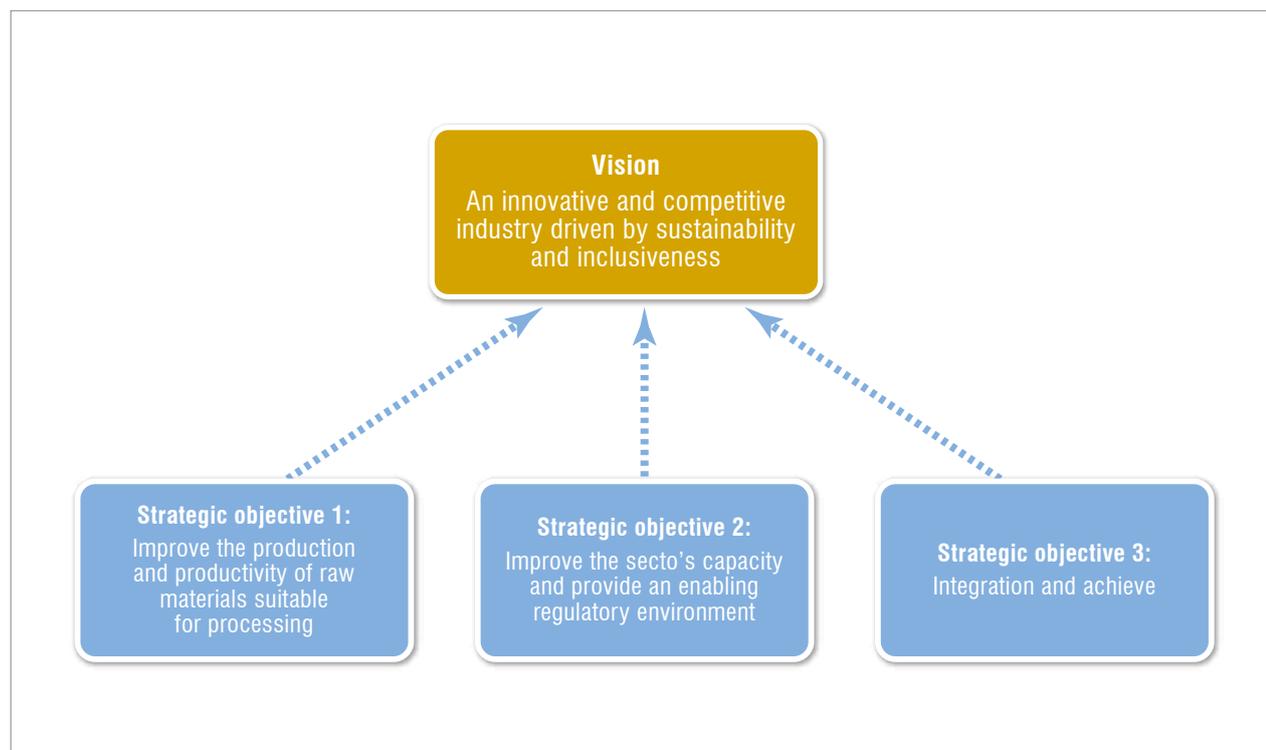


Figure 14: *The strategic scope*

## LEVERAGING MARKET OPPORTUNITIES

Even though the agro-processing sector in Mauritius remains relatively small in terms of value exported, considerable scope exists for agribusiness growth and innovation as the demand for processed fruits in various forms is on the rise in both local and foreign markets. Indeed, with rising standards of living and consumer awareness of healthy lifestyles coupled with the recent observed trend of expanding consumption of convenience processed food items, there has been a gradual increase in the consumption of both preserved fruits and prepared or preserved vegetables worldwide.

In this context, and in addition to import substitution activities supported by the public authorities to achieve a higher level of self-sufficiency, considerable opportunities exist, especially for products requiring minimal processing and transformation in the short term. Considering the high dependence of the agro-processing sector on the French market for its exports (France, including Réunion, captured more than half of the sector's exports in 2015), securing new markets will be crucial for Mauritian firms to reduce their vulnerability to external economic shocks affecting the French economy and to participate more actively in international trade, particularly targeting developing markets in Africa and Asia.

Importantly, as highlighted in the *Strategic Plan 2016–2020 for the Non-Sugar Sector*, because of the limited price competitiveness of the commodities produced in Mauritius, there is a need to identify markets where Mauritius has a comparative advantage, such as niche markets for ethnic foods, to capitalize on the wide variety of exotic primary commodities available, many of which are amenable to agro-processing.<sup>39</sup> Considerable export possibilities also exist at the regional level, notably under SADC and COMESA agreements.

The following key orientations are recommended for the sector.

### **Import-substituting distribution of processed fruits and vegetables requiring minimal processing**

Mauritius currently relies on imports for more than 70% of its food requirements, mostly for direct consumption. As the demand for convenience food is likely to increase in the future, prospects exist for import substitution locally, notably for processed food requiring minimal processing

39. Mauritius, Ministry of Agro Industry and Food Security (2016). *Strategic Plan (2016–2020) for the Food Crop, Livestock and Forestry Sectors*, p. 10.

and transformation. Such products include preserved or prepared tropical fruits and locally grown vegetables, frozen fruits and vegetables, and tomato sauce, among others. Although they involve a higher level of technological complexity, the potential for import substitution is also important for products such as fruit juices and sauces, especially tomato sauce. Import-substituting distribution could benefit from the highly developed tourism industry that represents an interesting market perspective where tourists are exposed to local processed products.

With the liberalization of the market, however, careful market analysis will be required to identify which Mauritian products have a competitive advantage compared to imported ones. Domestic investors in import substitution activities may be stimulated to compete by investing in the scale, quality and speed of their production processes, trucks, packaging, marketing, etc.

#### Key success factors:

- Price competitiveness (notably through economies of scale)
- Access to high quality inputs
- Attractive product presentation.

#### Expand exports of traditional products to established markets in the Indian Ocean region

Building on the existing trade relationships in the Indian Ocean region, and with Réunion, Seychelles and Madagascar in particular, expanding marketing efforts from Mauritius to this region is a natural step for established processors. Because demand varies greatly from one country to another, targeted market studies are needed to identify potential opportunities. However, it has been observed that there is a demand from Seychelles for fresh juices made in Mauritius and that red beans and chilli sauce are highly appreciated in Réunion. Madagascar, on the other hand, consumes cheaper products requiring minimal processing such as preserved potatoes. The relatively untapped market of Comoros could also present interesting prospects for Mauritian producers.

#### Key success factors:

- Price competitiveness (Madagascar)
- Access to high quality inputs
- Attractive product presentation (Seychelles and Réunion)
- Sanitary safety and quality standards (Seychelles and Réunion).

#### Exporting existing products requiring minimal processing to emerging markets, targeting the African continent

The African continent is an enormous future market for the global fruit and vegetable processing industry. As the African middle class grows, particularly in wealthy and politically stable countries such as South Africa, Kenya, Botswana and Ghana, demand for industry products from this continent is expected to grow, with much of this growth in demand forecast to be met by imports.<sup>40</sup> Given its strategic location and its proximity to emerging African markets, Mauritius can greatly benefit from the recent developments observed in these markets.

In addition, being a Member State of SADC and COMESA, Mauritius has the opportunity to expand its exports to these developing markets, benefiting from the Free Trade Agreements signed by these regional organizations. Mauritian products would be waived from Customs duties in SADC and COMESA Member States, thus enabling them to compete with imported products from non-member countries.

#### Key success factors:

- Price competitiveness
- Access to high quality inputs.

#### Expand exports of traditional products, with slight adjustments, to Europe and France in particular

Capitalizing on the rising demand in these markets for processed fruits in various forms, including juices, and building on the already existing trade relationships with these countries, prospects exist to expand exports to developed European markets, and particularly the French one, with which strong linkages already exist.

In terms of products, from currently low value added products such as preserved vegetables, prospects exist for exports of higher value added products such as sugar-based products. As indicated in the *Strategic Plan 2016–2020 for the Non-Sugar Sector*, although the process of making jams, jellies, fruit nectars and other beverages is well established in the country, it now requires 'up-scaling, innovation and improvement in packaging and marketing to tap new markets'. Dehydrated tropical fruits also have good potential for the European market. In order to tap into that potential, Mauritius can capitalize on the fact that locally produced processed fruits have been acclaimed through international awards, enhancing the image of the country as a high quality food producer (BOI).

40. IBISWorld (2016). *IBISWorld Industry Report, Global Fruit & Vegetables Processing*, p. 8.



Photo: Alexandra Golovko (ITC)

### Key success factors :

- Price competitiveness
- Access to high quality inputs
- Attractive product presentation
- Sanitary safety and quality standards
- 'Mauritius brand' recognition.

### Higher value added processing for niche markets

Particularly in Europe, there is a small but quickly growing demand for tropical and ethnic products, notably from the Mauritian diaspora. Products such as pickles, sweet and sour, chilli pastes and other traditional Mauritian preparations could benefit from the emergence of such niche markets, provided that they meet the sanitary safety and quality standards of the demanding European market. Targeted market studies are needed to identify such niche markets where Mauritius could have a comparative advantage.

### Key success factors :

- Access to high quality inputs
- Attractive product presentation
- Sanitary safety and quality standards.

### Role of investment

Exploiting the opportunity areas identified within the sector value chain will require significant investment, from both domestic and foreign investors. Both FDI and domestic investment are seen as essential to accompany the ambitions of the agro-processing industry in Mauritius, a sector that lacks adequate investment in capital, knowledge and new technologies.

Net FDI outside of the real estate sector has remained very low, with a small exception for the financial services and construction sectors. FDI is non-existent in the agro-processing sector in Mauritius. Though there appears to be exploratory interest in the sector, foreign partners are not yet willing to invest, despite an enabling business environment. This neither contributes to the future productive capacity of the sector, nor to the transfer of the know-how and skills necessary for the industry to grow.

Factors of attraction exist, however, in the fruit and vegetable processing sector, including:

- Mauritius' strategic location and proximity to emerging African markets
- Counter-seasonal production for the northern hemisphere
- Huge market for fruit juices and other products to be derived from local production
- Import substitution opportunities requiring minimal processing and transformation
- Presence of a vast regional market in mainland Africa for the supply of fresh products
- Mauritius is signatory to a number of bilateral trade agreements / free trade agreements
- Stable political and economic environment
- Enabling business environment
- Competitive tax regime.

### Structural adjustments to the value chain – value options and future value chain

Unlocking the latent potential of the agro-processing sector will require transformations throughout the value chain. These adjustments will allow the sector to offer competitive levels of quality and type of produce. To this end, options for value retention, addition and creation have been identified.

Table 4: Value options for the processed food sector

| Value retention: Secure production inputs and services locally and develop a high level of integration among supply chain actors                                                                      |                                                                                                                                                                                                                                                                                                                                           |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Value option                                                                                                                                                                                          | How to implement                                                                                                                                                                                                                                                                                                                          | Time frame          |
| <ul style="list-style-type: none"> <li>Enhance farming techniques and improve physical infrastructure to increase productivity and reduce postharvest losses</li> </ul>                               | <ul style="list-style-type: none"> <li>Develop pilot farm initiatives</li> <li>Establish collection points and certified storage centres with the required facilities</li> <li>Provide financial support and technical assistance to improve farm mechanization</li> </ul>                                                                | Medium term         |
| <ul style="list-style-type: none"> <li>Increase the local horticultural production to benefit from the market for fresh and preserved fruit juices that can be derived from it</li> </ul>             | <ul style="list-style-type: none"> <li>Enhance farming techniques and improved physical infrastructure</li> <li>Useful option for diversification on abandoned sugarcane lands</li> </ul>                                                                                                                                                 | Medium-to-long term |
| <ul style="list-style-type: none"> <li>Build stronger linkages across the value chain, to structure the sector and alleviate difficulties in production</li> </ul>                                    | <ul style="list-style-type: none"> <li>Establish clusters for selected strategic commodities within targeted agroecological zones</li> <li>Encourage farmers to engage in contract farming</li> <li>Support the national wholesale market initiative</li> </ul>                                                                           | Medium term         |
| <ul style="list-style-type: none"> <li>Develop minimally processed food activities to minimize postharvest losses and food wastage</li> </ul>                                                         | <ul style="list-style-type: none"> <li>Provide basic training to farmers on agro-processing</li> <li>Sensitization of farmers on the benefits of such activities to retain value</li> </ul>                                                                                                                                               | Short term          |
| Value addition: Adjust the production of raw materials and develop new, higher value added product lines                                                                                              |                                                                                                                                                                                                                                                                                                                                           |                     |
| Value option                                                                                                                                                                                          | How to implement                                                                                                                                                                                                                                                                                                                          | Time frame          |
| <ul style="list-style-type: none"> <li>Expand the range of fruits and vegetables grown which can be dehydrated, frozen or processed into innovative convenience food</li> </ul>                       | <ul style="list-style-type: none"> <li>Conduct an agronomic assessment across the country to identify the potential of different varieties of fruits and vegetables</li> <li>Conduct trials to identify new varieties of fruits and vegetables suitable for processing and for which there is significant international demand</li> </ul> | Short term          |
| <ul style="list-style-type: none"> <li>Produce quality raw materials in line with international best practices for value addition</li> </ul>                                                          | <ul style="list-style-type: none"> <li>Foster the adoption of GAP</li> <li>Streamline the use of agrochemicals</li> </ul>                                                                                                                                                                                                                 | Short term          |
| <ul style="list-style-type: none"> <li>Encourage SMEs to engage in import substitution activities for processed food requiring minimal processing and transformation</li> </ul>                       | <ul style="list-style-type: none"> <li>Identify specific varieties for the purposes of processing</li> <li>Develop protocols, norms and standards for minimally processed and preserved products and fruit juices</li> <li>Provide guidance, support and technical know-how</li> </ul>                                                    | Short term          |
| <ul style="list-style-type: none"> <li>Capitalize on the wide variety of exotic primary commodities available by encouraging farmers to engage in processing activities for value addition</li> </ul> | <ul style="list-style-type: none"> <li>Initiate a project to set up an incubator to offer entrepreneurs the opportunity to venture into processing</li> <li>Offer financial support and banking facilities at attractive terms and conditions</li> <li>Develop the capacity of the sector for agro-processing</li> </ul>                  | Short term          |
| <ul style="list-style-type: none"> <li>Upscale, innovate and improve the packaging and marketing of established products to tap new markets</li> </ul>                                                | <ul style="list-style-type: none"> <li>Further develop R&amp;D activities in the sector</li> <li>Conduct training on processing techniques</li> <li>Provide support schemes for the purchase of processing equipment and machinery</li> </ul>                                                                                             | Medium term         |
| <ul style="list-style-type: none"> <li>Improve the visibility of the sector and promote the specificities of Mauritian food products</li> </ul>                                                       | <ul style="list-style-type: none"> <li>Develop a brand specifically for the Mauritian food industry</li> </ul>                                                                                                                                                                                                                            | Medium term         |

**Value addition: Adopt internationally recognized quality standards**

| Value option                                                   | How to implement                                                                                                                               | Time frame  |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| • Facilitate the compliance of the sector with HACCP standards | • Develop and strengthen schemes available to operators willing to obtain HACCP certification                                                  | Short term  |
| • Encourage the implementation of GLOBALG.A.P. certification   | • Support the development of MAURIG.A.P. certification<br>• Train farmers<br>• Evaluation and certification of GAP by accredited organizations | Medium term |

**Value creation: Expand into value chains in associated sectors based on buyers' requirements**

| Value option                                                                             | How to implement                                                                                                                                                                                                                                                                                                                                               | Time frame  |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| • Encourage farmers to engage in biofarming and expand into organic product value chains | • Develop a national strategy to develop the production of organic products in Mauritius<br>• Develop bioproduction protocols<br>• Establish dedicated biofarming zones<br>• Provide support schemes for the purchase of equipment for biofarming<br>• Promote and raise awareness among producers and consumers about the various benefits of organic farming | Medium term |
| • Initiate the development of a fair trade label                                         | • Sensitize farmers on the importance of a fair trade label<br>• Develop fair trade protocols                                                                                                                                                                                                                                                                  | Medium term |

**Value creation: Expand output and capacity of the sector**

| Value option                                                                                                                    | How to implement                                                                                                                                                                                                                                                                                                          | Time frame  |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| • Expand the range of fruits and vegetables grown which can be dehydrated, frozen or processed into innovative convenience food | • Conduct an agronomic assessment across the country to identify the potential of different varieties of fruits and vegetables<br>• Conduct trials to identify new varieties of fruits and vegetables suitable for processing and for which there is significant international demand                                     | Short term  |
| • Expand the value chain and develop the regional market for the supply of raw materials or semi-processed raw materials        | • Support the development of Special Economic Zones (SEZs) in various African countries<br>• Conduct a comprehensive assessment of local regulations<br>• Assess potential implications on ROO                                                                                                                            | Medium term |
| • Expand output and export capacity through the setting up of agricultural economic zones                                       | • Establish special economic regulations within the identified zones, including measures conducive to FDI<br>• Create regulations towards the use of unused land to implement the zones<br>• Make logistics for export available at SEZs through port facilitation, and Customs inspection and documentation at the zones | Long term   |

**Value distribution: Economic and social development opportunities**

Agro-processing impacts positively on farm incomes, employment and foreign exchange earnings. The sector notably contributes to improving human nutrition, generating employment and mainstreaming women in the agricultural sector.<sup>1</sup>

Figure 15: Mauritius agro-processing future value chain

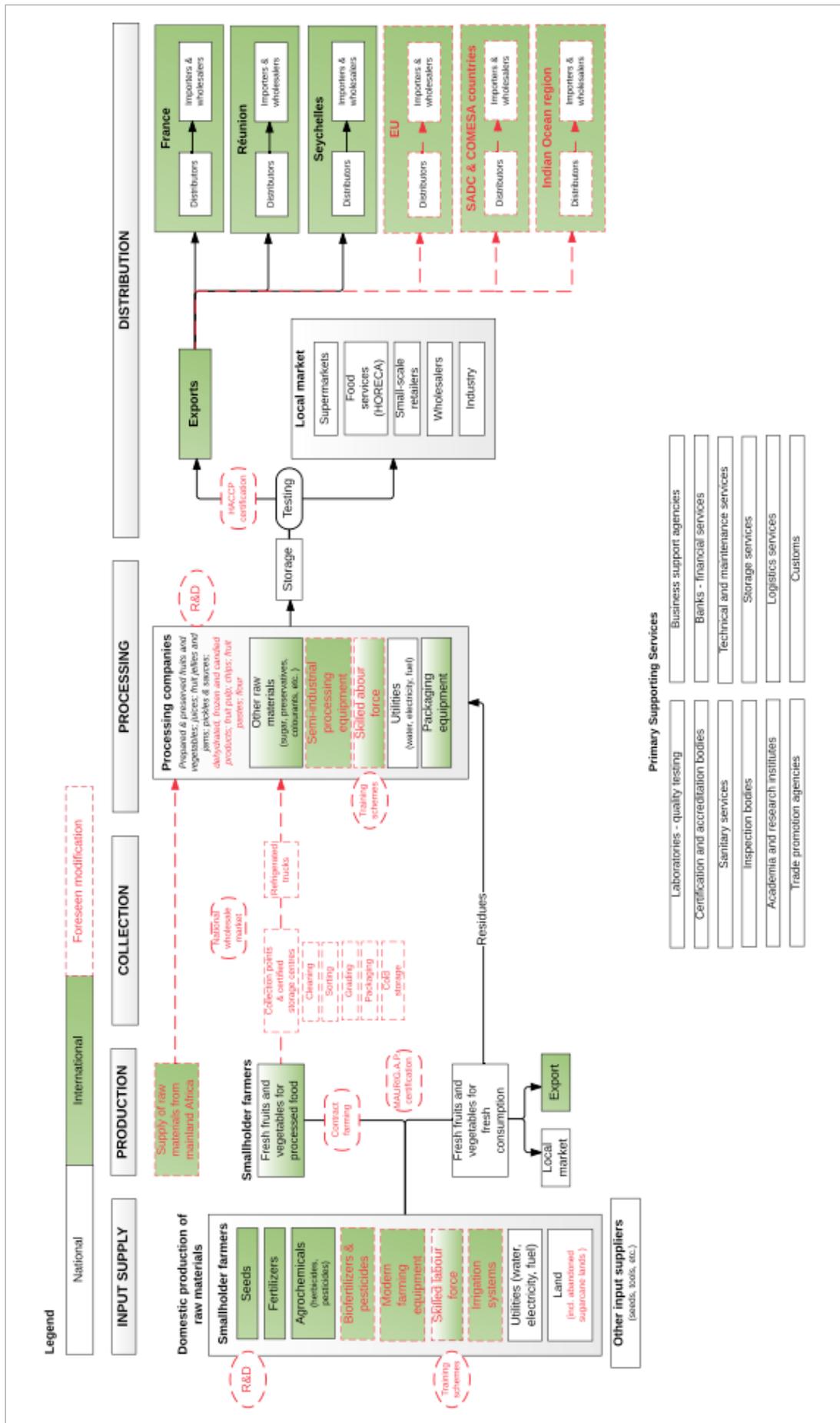




Photo: Miwok (CC0 1.0)

# THE IMPLEMENTATION MANAGEMENT FRAMEWORK

This comprehensive Agro-Processing Sector Strategy, part of the NES Mauritius, endeavours to generate the conditions for a favourable expansion of the industry so as to contribute to overall socioeconomic development. Nevertheless, a strategy in and of itself is not enough to ensure the industry's sustainable development. Such development will require the elaboration and coordination of various activities. While the execution of these activities will allow for the Strategy's targets to be achieved, success will depend on the ability of stakeholders to plan and coordinate actions in a tactical manner.

Indeed, the Agro-Processing Sector Strategy is not the strategy of any specific institution; rather it is the strategy of Mauritius, and to ensure its success it is necessary to foster an adequate environment and create an appropriate framework for its implementation. The following section presents some of the key success conditions considered necessary for the Strategy to be effectively implemented and achieve self-sustainability and long-lasting benefits for the country.

## **Establish and operationalize a public and private coordinating platform and its subsidiary organ**

A key success criterion for the Agro-Processing Sector Strategy is stakeholders' ability to coordinate activities, monitor progress and mobilize resources for the implementation of the Strategy. It is recommended that the country establishes a single authority, to act as a one-stop shop to promote and support the agro-industry under one roof for public-private deliberations, that acts in an advisory capacity to the NES Secretariat, the Government and the private sector over issues related to or affecting the fruit and vegetable processing sector and its Strategy. The entity could take the form of an inter-branch organization under the aegis of the ministries in charge and functioning on the basis of a public-private partnership model.

The inter-branch organization will require high-level involvement of the TSN members (public and private), as their role is crucial and will impact the effectiveness with which the Strategy is implemented. Likewise, the ability of the private sector to provide inputs to the Strategy implementation process will significantly influence the success of the Strategy. A nominated secretariat that coordinates,

monitors and mobilizes resources for implementing the Strategy will also be required.

The main functions of the authority should be the following:

- i. Act as a consultative group pertaining to the agro-processing sector, enabling the private sector and Government representatives to identify priority issues;
- ii. Coordinate and monitor the implementation of the Strategy by the Government, private sector, institutions or international organizations to ensure Strategy implementation is on track;
- iii. Identify and recommend allocation of resources necessary for the implementation of the Strategy;
- iv. Elaborate and recommend revisions and enhancements to the Strategy so that it continues to best respond to the needs and long-term interests of the sector;
- v. Propose key policy changes to be undertaken, based on Strategy priorities, and promote these policy changes among national decision makers;
- vi. Guide the secretariat in its monitoring, coordination, resource mobilization, and policy advocacy and communication functions to enable effective implementation of the Strategy;

In fine, the objective will be to agree on a common agenda and a long-term strategy to support the sector and pave the way for a comprehensive agricultural policy.

As discussed above, the inter-branch organization should be supported by a secretariat to complete the daily operational work related to implementation management of the Strategy. The core responsibilities of the secretariat should be to:

- A. Support and organize regular meetings of the public and private stakeholders involved.
- B. Monitor the progress and impact of Strategy implementation.
- C. Coordinate Strategy implementation partners.
- D. Mobilize resources to implement the Strategy.

Specific tasks falling under these broad areas of activities include:

- Formulate project proposals, including budgets, for implementation of activities of the Strategy;
- Develop annual and biannual workplans for approval by the organization;
- Collect information from project implementation and prepare regular monitoring reports to be submitted to the organization;
- Advocate in favour of the Strategy to public and private partners;
- Execute any other tasks required by the inter-branch organization.

### Private sector support and participation

The private sector should benefit from Strategy implementation through improved productive capacities, reduced costs of doing business, facilitated administrative procedures, enhanced access to finance, etc. However, the private sector clearly expressed during the Strategy design process its willingness to contribute, directly or in partnership with public institutions, to the implementation of the Strategy. Their implementation efforts can range from advocacy to providing business intelligence to institutions, contributing to development projects, etc. In brief, the private sector's practical knowledge of business operations is essential to ensuring that the activities of the Strategy are effectively implemented and targeted.

### Sensitization of implementing institutions to build ownership

The key implementing institutions detailed in the PoA need to be informed of the content of the Strategy and the implications for their 2017–2021 programming. This sensitization is essential to building further ownership and it provides institutions with the opportunity to review the PoA in order to confirm the activities they can implement immediately, and in both the medium and long term. Such a programming approach will permit better resource allocation within the responsible agencies. This allocation can be formalized by integrating the activity of the Strategy into the programme planning of the institution. While the financial dimension is often required, the human resource element is no less important.

### Financial resource mobilization for implementation

While resource mobilization is only part of the solution, it plays a crucial and indispensable role in supporting Strategy implementation. An integrated resource mobilization plan should be elaborated as soon as the NES is adopted. Resource mobilization involves planning the sequencing of communications with donors, project design,

project proposals/applications, and resources collection and management. This should facilitate, leverage and strengthen the impact of diverse sources of finance to support sustainable and inclusive implementation, including national resources, development aid and private investment.

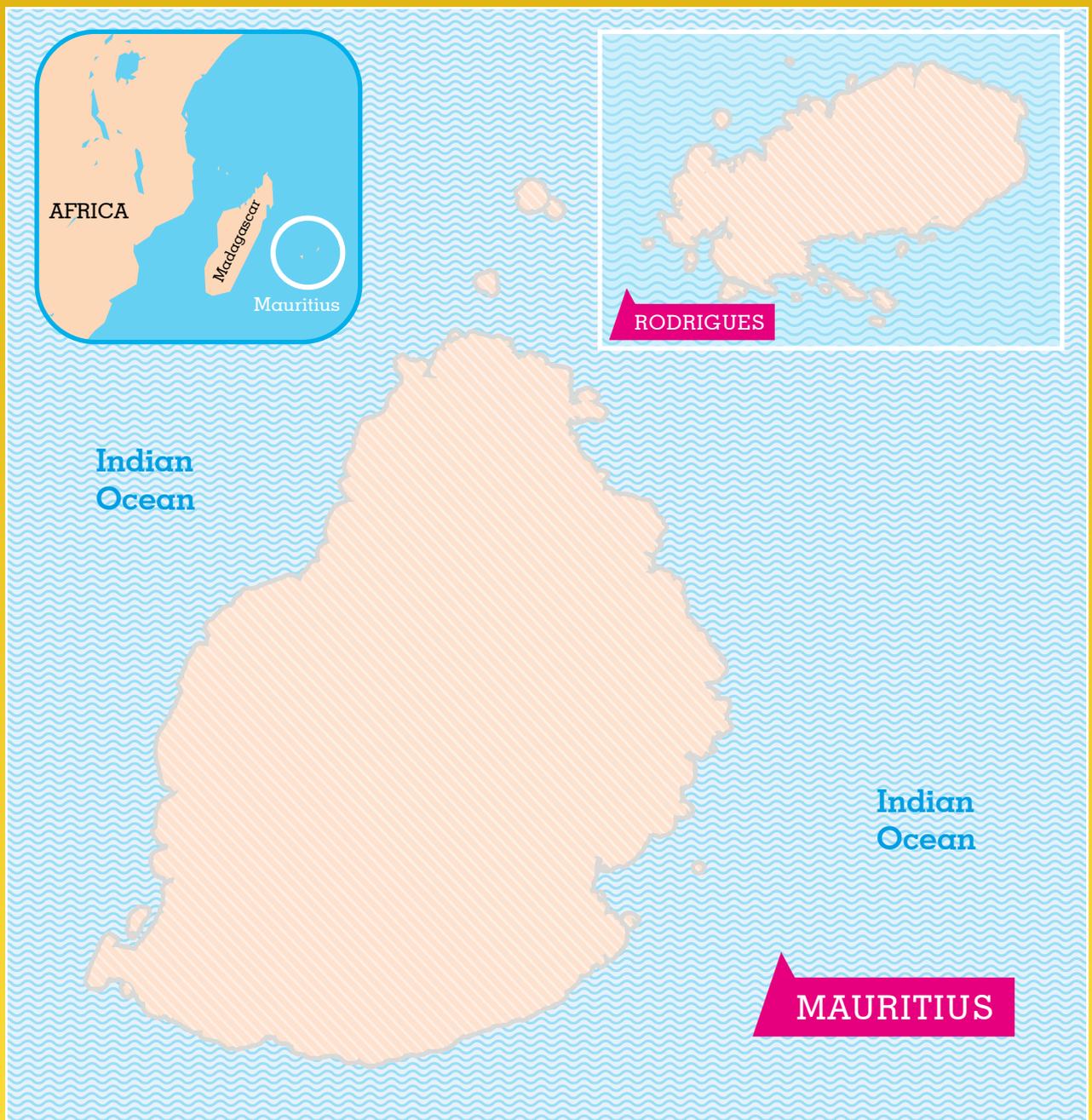
■ **National resources through direct budget and support programme:** The Government will need to validate defined minimum budget support towards the implementation of the different Strategy components of the NES, including the agro-processing sector. This support for the Strategy's activities will demonstrate the Government's commitment to the initiatives.

■ **Alignment of donors' support and interventions with the Strategy:** Little attention and support have been directed towards the fruit and vegetable processing industry from the international donor community. The inter-branch organization, together with the authorities, will have to capitalize on the significant momentum gained as part of the Strategy design process and leverage it for smooth and efficient implementation. International development agencies can use the Strategy as the logical framework for their programmes as they will surely benefit from its favourable conditions for operation (i.e. political endorsement, private sector buy-in and improved collaboration with national institutions). The PoA of the Strategy should serve the inter-branch organization as well as national institutions to improve communication and facilitate the negotiation, planning, coordination and evaluation of commitments made in the context of development aid, in particular through the development of programmes and project proposals aligned with the priorities of the Strategy.

■ **National and foreign investment:** The Strategy design stakeholders' group is composed of representatives of national institutions, the TSN and the private sector. If this group becomes the inter-branch organization, the Strategy should benefit from a solid channel of communication capable of conveying reliable information to companies about the export-related opportunities in the industry, and in turn of communicating to the Government the conditions that investors have identified as necessary to operate successfully. Investment flow in Mauritius could serve as a valuable driver of certain specific areas identified in the Strategy and requiring support. Even so, it must be targeted at specific prospects in order to benefit the industry's development.

# MAURITIUS NATIONAL EXPORT STRATEGY AGRO-PROCESSING SECTOR

## PLAN OF ACTION



## Strategic objective 1 : Improve the production and productivity of raw materials suitable for processing

| Operational objective                                                                    | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                    | Beneficiaries                                                                                              | Targets         | Lead implementer                                                  | Supporting implementers                                                                                         | Possible funding source |
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|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                      | 2017                  | 2018 | 2019 | 2020 | 2021               |                                                                                                            |                 |                                                                   |                                                                                                                 |                         |
| 1.1. Develop the production of vegetables and fruits with suitable processing qualities. | <p>1.1.1. Undertake a detailed agronomic assessment across the country to identify the potential of different varieties of fruits and vegetables.</p> <ul style="list-style-type: none"> <li>» Conduct commodity demand and agroecological zone suitability assessments.</li> <li>» Conduct a mapping study to identify the producers / processors of fruits and vegetables in Mauritius.</li> <li>» Assess the potential for exports from potential production areas, including assessments of storage infrastructure in the regions.</li> <li>» Evaluate the effects of climate change on crop production.</li> </ul> <p><b>Note:</b> Studies to be conducted by Mauritian professionals with a technical and practical knowledge of the sector (trade and investment advisers).</p>                                                                                                                                                                                                                                                                        | 1                                    |                       |      |      |      | Entire value chain | Feasibility study completed by the end of 2017                                                             | MAIFS           | FAREI, EM, Mauritius Research Council, Small Farmers Welfare Fund | Government / donors (United Nations Development Programme? United States Agency for International Development?) |                         |
|                                                                                          | <p>1.1.2. Conduct trials to identify new varieties and characteristics of fruits and vegetables suitable for processing and for which there is significant international demand,* especially from Europe.</p> <p><b>Note:</b> Those varieties should be suitable for the cultivation areas previously identified (through the feasibility study).</p> <p>Ensure the dissemination of the collected information on potential products and markets to the relevant stakeholders.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                                    |                       |      |      |      | Entire value chain | New varieties assessed and released by the end of 2017                                                     | MAIFS           | FAREI                                                             | Government, French Agricultural Research Centre for International Development (CIRAD)?                          |                         |
|                                                                                          | <p>1.1.3. Explore the opportunity to strengthen regional integration and linkages for the supply of raw materials through feasibility studies and cost / benefit analysis, including:</p> <ul style="list-style-type: none"> <li>» Comprehensive assessment of local regulations.</li> <li>» Assess potential implications on ROO</li> <li>» Assess requirements for certification of fumigation and quarantine requirements for imported products with the Mauritian health authorities and explore the possibility to fumigate in Mauritius if the country of origin does not guarantee such services.</li> </ul> <p>The development of fruit and vegetable crops in regional countries such as Madagascar, Ghana, Zambia and East African countries could be envisaged, to benefit from advantageous climatic conditions and the availability of a low-cost labour force and land. In particular, the opportunity to benefit from the SEZs that are currently being developed by Mauritius in Madagascar will be explored.</p>                             | 2                                    |                       |      |      |      | Agro-processors    | Comprehensive feasibility study completed by the end of 2017                                               | MAIFS / MoFARIT | BOI (Africa Centre of Excellence), MCCI, MoFED                    | Mauritius Africa Fund                                                                                           |                         |
| 1.2. Enhance farming techniques and improve physical infrastructure.                     | <p>1.2.1. Building on current initiatives being implemented by FAREI, develop pilot farm initiatives – as a demonstrator initiative – for the production of previously identified fruit and vegetable varieties in the selected agroecological areas.</p> <p>Specifics on assistance:</p> <ul style="list-style-type: none"> <li>» Access to quality inputs including pesticides and fertilizers (including training on safe application);</li> <li>» Build capacities and knowledge on production, including soil analysis and water management, and protection from diseases;</li> <li>» Training on farming, harvesting and postharvest techniques (cleaning, sorting, grading, storage, etc.);</li> <li>» Showcase the different fruit and vegetable varieties and existing production technologies through pilot farms;</li> <li>» Increase the participation of farmers' organizations in awareness-raising campaigns on crop diversification and sustainability;</li> <li>» Assistance with identifying markets and buyers for the harvest.</li> </ul> | 1                                    |                       |      |      |      | Planters           | » Identification of the farm to be completed by early 2017<br>» Pilot farms to be ready by the end of 2017 | FAREI           | MAIFS                                                             | Government / donors (United Nations Development Programme? EU?)                                                 |                         |

\* Activity envisaged in the PoA developed under the Mauritius Ministry of Agro Industry and Fisheries Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008–2015'. Project value: MUR 900,000 (annual budgetary allocation: MUR 300,000).

**Strategic objective 1 : Improve the production and productivity of raw materials suitable for processing**

| Operational objective                                                                                      | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                               | Beneficiaries                                                                                                                                                                                                                                                                                              | Targets | Lead implementer                                                                                                                   | Supporting implementers | Possible funding source |
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|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      | 2017                  | 2018 | 2019 | 2020 | 2021                          |                                                                                                                                                                                                                                                                                                            |         |                                                                                                                                    |                         |                         |
| 1.2. Enhance farming techniques and improve physical infrastructure.                                       | <p>1.2.2. Expand the existing system for the collection of onions, garlic and potatoes implemented by AMB to other varieties of fruits and vegetables and establish collection points and certified storage centres with the required facilities (grading, packaging, etc.).</p> <ul style="list-style-type: none"> <li>» Expand and upgrade existing facilities, including the development of cold storage facilities.</li> <li>» Establish new storage facilities where a need is identified.</li> <li>» Train producers and cooperatives on storage facilities.</li> <li>» Develop, through MSB, standards for the grading of crops, as already developed for some crops such as potatoes.</li> </ul> <p>The aim is to:</p> <ul style="list-style-type: none"> <li>» Improve postharvest management and reduce postharvest losses;</li> <li>» Ensure the collection of fruit and vegetable production;</li> <li>» Ensure proper storage of the commodities;</li> <li>» Guarantee commodity prices for producers.</li> </ul> | 1                                    |                       |      |      |      | Planters<br>Agro-processors   | National collection system expanded to all strategic crops previously identified by the end of 2017                                                                                                                                                                                                        | FAREI   | MoBEC,<br>MAFS, AMB,<br>MSB,<br>national<br>wholesale<br>market                                                                    | Government              |                         |
|                                                                                                            | <p>1.2.3. Provide special long-term credit, a hire-purchase system and technical assistance to improve farm mechanization and the adoption of modern technology. Simplify the procedures and eligibility criteria to access special schemes available to planters and ensure the dissemination of information. Existing or recent schemes and support programmes include:</p> <ul style="list-style-type: none"> <li>» The VAT Refund Scheme for the agro-industrial and fisheries sectors, where in VAT paid on equipment is refunded to registered producers.</li> <li>» Under the Restructuring Working Group, leasing for Equipment Modernization Scheme: a line of credit to leasing companies to provide affordable financing to SMEs to purchase equipment. The Scheme was closed in 2015 but efforts could be made to bring it back onto the agenda, also not limiting it only to SMEs.</li> </ul>                                                                                                                     | 1                                    |                       |      |      |      | Planters<br>» Agro-processors | <ul style="list-style-type: none"> <li>» Mechanisms to improve farm mechanization enforced by mid-2017, including the Leasing for Equipment Modernization Scheme</li> <li>» Ten per cent increase in the number of beneficiaries (from the sector) of the VAT Refund Scheme reported every year</li> </ul> | MoFED   | State Investment Corporation, Mauritius Business Growth Scheme, banks, leasing companies                                           | Government              |                         |
|                                                                                                            | <p>1.2.4. Extend the grant scheme implemented by the Government of Mauritius to purchase nets to protect fruit from bats and birds to tackle the problem of increasing losses incurred by fruit growers.*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1                                    |                       |      |      |      | Planters                      | Grant scheme extended on an annual basis until 2020                                                                                                                                                                                                                                                        | MAFS    |                                                                                                                                    | Government (ongoing)    |                         |
| 1.3. Build farmers' capacities to produce quality raw materials in line with international best practices. | <p>1.3.1. Conduct a training needs assessment to obtain a clear picture of the qualifications and skills needed for the development of the agro-processing sector in Mauritius.</p> <ul style="list-style-type: none"> <li>» Based on the results of the assessment:</li> <li>» Improve the quality of existing training programmes</li> <li>» Develop new curricula for agro engineers and food technologists.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1                                    |                       |      |      |      | Agro-processors               | Study completed by the end of 2017                                                                                                                                                                                                                                                                         | MAFS    | Ministry of Education and Human Resources, Tertiary Education and Scientific Research (MoE) / HRDC, FAREI, University of Mauritius | Government              |                         |

\* Activity envisaged in the PoA developed under the Mauritius Ministry of Agro Industry and Fisheries Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008–2015'. Project value: MUR 900,000 (annual budgetary allocation: MUR 300,000).

**Strategic objective 1 : Improve the production and productivity of raw materials suitable for processing**

| Operational objective                                                                                                                                                                                                         | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                                 | Beneficiaries                                                       | Targets | Lead implementer                                                                          | Supporting implementers   | Possible funding source |
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| 1.3. Build farmers' capacities to produce quality raw materials in line with international best practices.                                                                                                                    | <p>1.3.2. Building on the current MAURIG.A.P. initiative being developed jointly by MSB and FAREI (but not implemented yet), foster the adoption of GAP in the sector by preparing training manuals and delivering trainings to farmers and extension workers aiming to produce quality products. Training courses will focus on, among other matters:</p> <ul style="list-style-type: none"> <li>» Crop rotation to improve soil fertility;</li> <li>» Planting techniques;</li> <li>» Harvesting and postharvest handling techniques, including storage;</li> <li>» Efficient plant layouts and production systems;</li> <li>» Crop protection;</li> <li>» Appropriate use of agrochemicals (see below).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2                                    |                       |      |      |      | » Planters<br>» Agro-processors | Four trainings per year organized, starting in 2017                 | MSB     | FAREI                                                                                     | Government (ongoing)      |                         |
| 1.3. Undertake, through the National Empowerment Foundation / Youth Employment Programme, national communication campaigns and career guidance on the potential of the agro-industrial sector to trigger interest from youth. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1                                    |                       |      |      |      | Entire value chain              | National communication campaign elaborated and launched by mid-2017 | MAIFS   | MoE; Ministry of Labour, Industrial Relations and Employment; EM; MCC; universities; HRDC | Government                |                         |
| 1.4. Streamline the use of agrochemicals.                                                                                                                                                                                     | <p>1.4.1. Review the current system, including the Dangerous Chemicals Control Act* 2004 – and its enforcement – to control the levels of chemical residues in crop production and formulate recommendations to:</p> <ul style="list-style-type: none"> <li>» Adopt a more systematic approach for control tests.</li> <li>» Adopt a new strategy for targeted controls of chemical residues in fruits and vegetables.</li> <li>» Ensure traceability with regards to pesticide control.</li> <li>» Follow up the recent developments for the enactment of specific regulations on pesticides and ensure that:</li> <li>» Effective enforcement mechanisms have been included.</li> <li>» A written protocol for the use of chemicals on fruit and vegetable crops in Mauritius has been elaborated.</li> </ul> <p>1.4.2. Strengthen existing sensitization campaigns and training implemented by FAREI on the safe use of agrochemicals, including fertilizers and pesticides, and the adequate treatments to be used for pest and disease problems in field crops. Raise awareness and promote organic farming and the use of biofertilizers and pesticides.</p> <p>1.4.3. Upgrade laboratories to deal with the control of chemical residues, by advocating for budget allocation and expanding technical cooperation with regional and international organizations.</p> <ul style="list-style-type: none"> <li>» Provide the laboratories with advanced equipment to perform complex tests.</li> <li>» Train staff.</li> </ul> <p>1.4.4. Create an enforcement body to regulate the conduct of tests and analysis on agrochemicals.</p> | 1                                    |                       |      |      |      | Planters                        | System reviewed and recommendations formulated by early 2017        | MAIFS   | Independent consultants, FAREI                                                            | Government                |                         |
|                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1                                    |                       |      |      |      | Planters<br>» Agro-processors   | All producers met and sensitized by the end of 2017                 | MAIFS   | FAREI                                                                                     | Government                |                         |
|                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1                                    |                       |      |      |      | » Planters<br>» Agro-processors | Three laboratories upgraded by 2018                                 | MAIFS   | FAREI                                                                                     | Government / donors (EU?) |                         |
|                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1                                    |                       |      |      |      | » Planters<br>» Agro-processors | Enforcement body operational by mid-2017                            | MAIFS   | FAREI                                                                                     | Government                |                         |

\* The Dangerous Chemicals Control Act 2004 is an Act 'to provide for the prevention of damage to health and to the environment caused by dangerous chemicals and for better protection of the workers, members of the public and the environment against dangerous chemicals'.

**Strategic objective 2: Improve the sector's technical capacity and provide the industry with an enabling regulatory environment**

| Operational objective                                             | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                                 | Beneficiaries                                                                          | Targets                 | Lead implementer                                                                  | Supporting implementers                 | Possible funding source |
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|                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                      | 2017                  | 2018 | 2019 | 2020 | 2021                            |                                                                                        |                         |                                                                                   |                                         |                         |
| 2.1. Develop the capacity of the agro-processing sector.          | <p>2.1.1. Foster collaboration between private companies and universities and training institutions to develop training courses to improve knowledge and hands-on skills in food processing, including:</p> <ul style="list-style-type: none"> <li>» Appropriate technologies and the latest techniques;</li> <li>» Food preservation techniques;</li> <li>» Industrial and semi-industrial processing equipment, including maintenance and repair of processing machinery;</li> <li>» Food packaging.</li> </ul> <p>2.1.2. Launch training programmes in business skills on specific topics relevant to the development of the agro-processing sector, including:</p> <ul style="list-style-type: none"> <li>» Innovation management</li> <li>» Cash preparation</li> <li>» Business management</li> <li>» Marketing strategy</li> <li>» Communication</li> <li>» Business plan preparation</li> <li>» Human resources planning</li> <li>» Opportunity recognition.</li> </ul>                                                  | 1                                    |                       |      |      |      | Agro-processors                 | Organization of one meeting per semester, starting second semester 2017                | MoE                     | Universities, HRDC, FAREI, MAIFS, private sector                                  | Government (ongoing)                    |                         |
|                                                                   | <p>2.1.3. Set up an agribusiness incubation centre – to act as a technology business incubator for processing – to offer entrepreneurs the opportunity to venture in agro-processing.*</p> <ul style="list-style-type: none"> <li>» Privately operated and managed facility so that there is an interest in maintaining the equipment and recovering costs;</li> <li>» Availability of processing equipment as a shared facility for producers to use;</li> <li>» Such facilities could also be used for training and acquainting producers with the latest technologies and equipment.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                               | 1                                    |                       |      |      |      | Agro-industry                   | Training programmes developed by mid-2017 and operational for the second semester 2017 | MoE                     | Industrial and Vocational Training Board, University of Mauritius, private sector | Private companies / Government / donors |                         |
| 2.2. Further develop research infrastructures in agro-processing. | <p>2.2.1. Elaborate, based on the outcome of a comprehensive gap analysis, a strategy to improve the human, technical and financial capacities of FAREI, including:</p> <ul style="list-style-type: none"> <li>» Conduct capacity-building activities to improve the economic intelligence of the Institute;</li> <li>» Upgrade existing equipment;</li> <li>» Increase the number of in-house specialists to provide the necessary support to the developing food processing sector;</li> <li>» Improve quality and availability of extension services.</li> </ul> <p>2.2.2. Develop a national programme for agricultural extension to improve access to extension services by farmers and further strengthen agricultural R&amp;D.</p> <ul style="list-style-type: none"> <li>» Develop innovative agricultural extension courses, also involving private companies;</li> <li>» Have researchers working more closely with the farmers in the field;</li> <li>» Conduct research on the agricultural supply chain.</li> </ul> | 2                                    |                       |      |      |      | FAREI                           | Strategy elaborated by the end of 2017                                                 | Independent consultants | FAREI<br>MAIFS                                                                    | Government / donors                     |                         |
|                                                                   | <p>2.2.3. Using the online platform envisaged under 3.3.1., establish mechanisms for systematic dissemination of information between research institutes and the producers / processors in the field to link new products or processes arising from research activities (FAREI) and their marketing and commercialization.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1                                    |                       |      |      |      | » Planters<br>» Agro-processors | National programme for agricultural extension enforced by mid-2017                     | MAIFS                   | FAREI                                                                             | Government                              |                         |
|                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1                                    |                       |      |      |      | Entire value chain              | Online platform developed by the end of 2017                                           | FAREI                   |                                                                                   | Government / donors                     |                         |

\* Activity envisaged in the PoA developed under the Mauritius Ministry of Agro Industry and Fisheries Blueprint for a 'Sustainable Diversified Agri Food Strategy for Mauritius 2008–2015'. Project value: MUR 9,000,000 (annual budgetary allocation: MUR 3,000,000).

**Strategic objective 2: Improve the sector's technical capacity and provide the industry with an enabling regulatory environment**

| Operational objective                                                                                | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                                                        | Beneficiaries                                                     | Targets                       | Lead implementer                                                                         | Supporting implementers             | Possible funding source |
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|                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                      | 2017                  | 2018 | 2019 | 2020 | 2021                                                   |                                                                   |                               |                                                                                          |                                     |                         |
| 2.3. Upgrade the National Quality Infrastructure and enable compliance with international standards. | <p>2.3.1. Draft recommendations to MICCP (Industry Division) to consider a review of the status of MAURITAS with a view to achieving full independence vis-à-vis public authorities.</p> <p>This independence will be a critical step for MAURITAS to become a signatory of the ILAC MRA with a view to achieving international recognition.</p> <p><i>Note:</i> MAURITAS is currently an associate member of ILAC. Once full membership status is obtained, MAURITAS will be able to assess and accredit conformity assessment bodies according to the relevant international standards.</p>                                                                                                                   | 1                                    |                       |      |      |      | » Agro-processors<br>» MAURITAS                        | MAURITAS is a signatory of the ILAC MRA by the end of 2017        | External technical assistance | MAURITAS                                                                                 | Donors / Government                 |                         |
|                                                                                                      | <p>2.3.2. Conduct a gap analysis to determine the norms and standards requirements of the agro-processing sector and the services currently provided by testing laboratories in Mauritius.</p> <p>Perform a cost-benefit analysis to assess the relevance and feasibility of conducting such tests locally, that is, tests that can be conducted in a timely and cost-efficient manner using the services provided by Mauritian laboratories.</p>                                                                                                                                                                                                                                                               | 1                                    |                       |      |      |      | » Agro-processors<br>» National Quality Infrastructure | Gap analysis completed by early 2017                              | Independent consultants       | MSB, private laboratories, MAIFS (Food Tech Lab), Ministry of Health and Quality of Life | Donors / Government                 |                         |
|                                                                                                      | <p>2.3.3. Based on the results of the gap analysis, work towards upgrading existing testing laboratories to allow them to issue the internationally recognized food safety certificates necessary for value added exports of foodstuffs.</p> <ul style="list-style-type: none"> <li>» Ensure that testing laboratories are accredited by upgrading laboratories if necessary.</li> <li>» Develop internationally recognized protocols, norms and standards for minimally processed and preserved products and fruit juices.</li> <li>» Build staff capacity.</li> </ul>                                                                                                                                         | 1                                    |                       |      |      |      | Agro-industry                                          | Protocols, norms and standards developed and enforced by mid-2017 | MAIFS                         | MICCP, private laboratories, Ministry of Health and Quality of Life                      | Government (ongoing)                |                         |
|                                                                                                      | <p>2.3.4. Harmonize and streamline the current regulatory framework for the agro-processing sector, in particular regarding testing and certification:</p> <ul style="list-style-type: none"> <li>» Clearly specify the certifications needed and from which eligible laboratories they can be obtained (also giving operators a choice among several accredited laboratories, i.e. Government Analyst Division / MSB / other Government laboratories or any recognized laboratories).</li> <li>» Streamline administrative processes related to the validation of the tests and controls performed.</li> </ul> <p>Clearly define the roles and responsibilities between the different ministries involved.</p> | 1                                    |                       |      |      |      | » Agro-processors<br>» National Quality Infrastructure | Simplified system in place by 2017                                | MAIFS                         | MICCP, MSB, MAURITAS                                                                     | Government                          |                         |
|                                                                                                      | <p>2.3.5. Provide technical assistance to MSB for the progressive implementation of the GLOBALG.A.P. Certification Scheme for a safer farm supply chain, namely through the implementation of MAURIG-A.P. certification:</p> <ul style="list-style-type: none"> <li>» Train farmers with the help of development partners;</li> <li>» Monitor the adoption of the practices;</li> <li>» Evaluation and certification of GAP by accredited organizations.</li> </ul> <p>In line, the objective of the scheme is to provide GLOBALG.A.P. certification to farmers for the cultivation of fruits and vegetables, a passport for export to EU countries.</p>                                                        | 2                                    |                       |      |      |      | Agro-processors                                        | MAURIG-A.P. certification implemented by the end of 2017          | Independent consultants       | MSB, FAREI, MAIFS                                                                        | Donors (French Development Agency?) |                         |

**Strategic objective 2: Improve the sector's technical capacity and provide the industry with an enabling regulatory environment**

| Operational objective                                                                                | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                 | Beneficiaries                                                                                           | Targets                                  | Lead implementer                                                                 | Supporting implementers                                                                                                                | Possible funding source |
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|                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                      | 2017                  | 2018 | 2019 | 2020 | 2021            |                                                                                                         |                                          |                                                                                  |                                                                                                                                        |                         |
| 2.3. Upgrade the National Quality Infrastructure and enable compliance with international standards. | <p>2.3.6. Based on past experiences, develop and strengthen schemes available to operators willing to obtain the HACCP certification.</p> <ul style="list-style-type: none"> <li>» The procedures and eligibility criteria shall be written in a way that is easily accessible to those wishing to apply.</li> </ul> <p>Ensure guidance on application procedures and more comprehensible application forms.</p> <p>2.3.7. Develop a national strategy for the development of the production of organic products in Mauritius:</p> <ul style="list-style-type: none"> <li>» Develop a legal framework, including:                             <ul style="list-style-type: none"> <li>» Develop an inspection system</li> <li>» Develop a traceability system</li> </ul> </li> <li>» Set up a certification body or upgrade the capacity of an existing entity.</li> <li>» Identify the infrastructures required and the potential sites for organic farming.</li> <li>» Promote and raise awareness among producers – and consumers – about the various benefits of organic farming.</li> </ul> | 2                                    |                       |      |      |      | Agro-processors | Schemes for HACCP certification in place by mid-2017                                                    | MyBiz                                    | Mauritius Business Growth Scheme, (SMEDA), MAIFS                                 | Government                                                                                                                             |                         |
|                                                                                                      | <p>2.3.8. Support fair trade certification of cooperatives and processors by training these groups in good governance, labour rights, etc. and providing technical support to adhere to and implement fair trade standards (a similar support programme is in place for the sugar industry).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1                                    |                       |      |      |      | Agro-processors | Support programme for the development of fair trade standards in place by mid-2017                      | MoBEC                                    | MAIFS<br>MCA,<br>Mauritius<br>Cooperative<br>Agricultural<br>Federation          | Government<br>FairTrade<br>Africa?                                                                                                     |                         |
| 2.4. Promote investment in the agro-processing sector                                                | <p>2.4.1. Advocate, making policy proposals and recommendations to support farmers willing to invest in innovative products and manufacturing processes through the provision of incentives such as tax credits for R&amp;D, duty-free imports, etc.</p> <p>Targeted tax incentives in the form of an entitlement programme could be established to support producers offsetting some of the costs associated with R&amp;D and to help more businesses conduct R&amp;D and innovate.</p> <p>2.4.2. Offer financial support and banking facilities at attractive terms and conditions to innovative agro-processors by encouraging commercial banks to offer low interest rate loans.</p> <p>The financial support will be accompanied by appropriate market research / insurance schemes to prevent bad debts.</p>                                                                                                                                                                                                                                                                              | 1                                    |                       |      |      |      | Agro-industry   | Inclusion of a tax credit for R&D in the Budget of the Government of Mauritius for the Fiscal Year 2017 | Mauritius Business Growth Scheme (MoBEC) | MCA                                                                              | Government (ongoing)                                                                                                                   |                         |
|                                                                                                      | <p>2.4.3. Review existing policies to support local investors and develop an incentive package for investors. The feasibility of developing the following schemes could be explored:</p> <ul style="list-style-type: none"> <li>» Offer tax holidays for investors in agro-processing</li> <li>» Offer tax holidays for import of capital goods and other inputs for processing.</li> <li>» Offer procedural incentives and set up a one-stop shop to reduce bureaucracy, in particular regarding the number of permits and licences required for export (ongoing)</li> <li>» Provide infrastructural incentives, e.g. buildings and land for lease at affordable rates.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             | 1                                    |                       |      |      |      | Investors       | Incentive package developed and finalized by mid-2017                                                   | MAIFS                                    | Commercial banks,<br>Development<br>Bank of<br>Mauritius,<br>impact<br>investors | Private sector, SME Partnership Fund<br>Government<br>BOI, EM, MCCI,<br>Mauritius<br>Revenue<br>Authority,<br>MoFED, private<br>sector |                         |

**Strategic objective 2: Improve the sector's technical capacity and provide the industry with an enabling regulatory environment**

| Operational objective                                 | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                                                                                          | Beneficiaries                                                                                                                                                                                                            | Targets                                                                   | Lead implementer                                            | Supporting implementers | Possible funding source |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------|------|------|------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------|-------------------------|
|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                      | 2017                  | 2018 | 2019 | 2020 | 2021                                                                                     |                                                                                                                                                                                                                          |                                                                           |                                                             |                         |                         |
| 2.4. Promote investment in the agro-processing sector | <p>2.4.4. Conduct a feasibility study for the setting up of agricultural economic zones, i.e. SEZs specific to agro-industry or integrated fruit and vegetable processing parks, for fruit and vegetable processing for export purposes, also considering the setting up of SEZs in other African countries (see 1.1.3.).</p> <p>The SEZ will adopt a product-specific approach based on the results of the detailed national agronomic assessment (see 1.1.1.) and building on past initiatives. Linkages with the cluster initiative could be envisaged.</p> <p>Special economic regulations within the identified zones, including measures that are conducive to FDI, could include:</p> <ul style="list-style-type: none"> <li>» Special fiscal package</li> <li>» Easier access to land</li> <li>» Access to a more flexible labour market</li> <li>» Duty-free imports of inputs</li> <li>» Access to basic infrastructures</li> <li>» Make logistics for export available at SEZs through port facilitation and Customs inspection and documentation at the zones.</li> </ul> | 2                                    |                       |      |      |      | <ul style="list-style-type: none"> <li>» Investors</li> <li>» Agro-processors</li> </ul> | <ul style="list-style-type: none"> <li>» Feasibility analysis for setting up SEZs focusing on fruit and vegetable processing completed by mid-2017</li> <li>» Export-processing zone functional by early 2018</li> </ul> | MAIFS                                                                     | MICCP, Mauritius Revenue Authority, MCCI, FAREI, BOI, MoFED | Government / donors     |                         |
|                                                       | <p>2.4.5. Stimulate interest by business angel investors in agribusiness (affluent individuals or companies who provide capital for a business start-up, usually in exchange for convertible debt or ownership equity), building on past initiatives developed by the Mauritius Research Council and SMEDA.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2                                    |                       |      |      |      | <ul style="list-style-type: none"> <li>» Investors</li> <li>» Agro-processors</li> </ul> | <ul style="list-style-type: none"> <li>» Strategy developed by early 2018</li> </ul>                                                                                                                                     | BOI                                                                       | SMEDA, Mauritius Research Council                           | Government              |                         |
|                                                       | <p>2.4.6. Draft recommendations to encourage venture capitalism, i.e. investors who support small companies that wish to expand but do not have access to equities markets, in the setting up of orchards. In particular, the following proposals could be explored:</p> <ul style="list-style-type: none"> <li>» Offer R&amp;D cost subsidies (R&amp;D tax credit) for investors</li> <li>» Offer income tax credit for investors</li> <li>» Elaborate a legal text to regulate venture capitalism and protect investors.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2                                    |                       |      |      |      | <ul style="list-style-type: none"> <li>» Investors</li> <li>» Agro-processors</li> </ul> | <ul style="list-style-type: none"> <li>» Strategy developed by the end of 2017</li> </ul>                                                                                                                                | Ministry of Financial Services, Good Governance and Institutional Reforms | Financial Services Promotion Agency, BOI                    | Government              |                         |

**Strategic objective 3: Foster the sector's integration and achieve greater market development**

| Operational objective                                            | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                             | Beneficiaries                                            | Targets | Lead implementer                                                                                      | Supporting implementers                | Possible funding source |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------|------|------|------|-----------------------------|----------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------|
|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      | 2017                  | 2018 | 2019 | 2020 | 2021                        |                                                          |         |                                                                                                       |                                        |                         |
| 3.1. Improve the structure and organization of the local market. | <p>3.1.1. Conduct a feasibility study for the establishment, within targeted agroecological zones, of strategic clusters targeting previously identified strategic fruit and vegetable crops for export.</p> <ul style="list-style-type: none"> <li>» Assess the readiness of the industry to engage in active pooling of knowledge.</li> <li>» Ensure clear expectation of and orientation towards benefits as a basis for active involvement of the partners in the cluster.</li> <li>» Assess the readiness of companies to establish reciprocal trust with other cluster members.</li> </ul> <p>The cluster approach has several advantages as it contributes to:</p> <ul style="list-style-type: none"> <li>» Achieving economies of scale</li> <li>» Enhancing the delivery of essential services</li> <li>» Reducing costs of inputs</li> <li>» Making the required infrastructure available</li> <li>» Bulking of produce</li> <li>» Developing agro-processing activities</li> <li>» Reducing transaction costs.</li> </ul> | 1                                    |                       |      |      |      | Planters<br>Agro-processors | Feasibility study completed by mid-2018                  | MAIFS   | FAREI, MICCP                                                                                          | Government / donors (World Bank Group) |                         |
|                                                                  | <p>3.1.2. Encourage farmers and buyers to engage more extensively in contract farming whereby agricultural production is carried out according to an agreement between a buyer and farmers, which establishes conditions, including the quality required and the price, for the production and marketing of a farm product or products.</p> <ul style="list-style-type: none"> <li>» Undertake information campaigns on contract farming.</li> <li>» Develop policies for promoting contract farming.</li> <li>» Organize business meetings between buyers and farmers to promote contract farming.</li> <li>» Establish a more formalized and structured process for contract farming agreements.</li> </ul>                                                                                                                                                                                                                                                                                                                        | 3                                    |                       |      |      |      | Planters<br>Agro-processors | Sensitization campaign launched in 2018                  | MAIFS   |                                                                                                       | Government                             |                         |
|                                                                  | <p>3.1.3. Promote more favourable marketing conditions through the provision of technical assistance to support the establishment of the national wholesale market initiative to improve access to readily available market information to planters and producers, in particular about domestic market prices.</p> <p>MAIFS is planning on setting up a national wholesale market (currently being discussed at Government level) whereby the 'wholesale marketing of fruits and vegetables will be reorganized at national level through concentration of volumes in a single place'.</p> <p>Such an infrastructure will provide better transparency in market dealings and at the same time put up modern and adequate premises to the fruits and vegetables food system'.</p>                                                                                                                                                                                                                                                     | 1                                    |                       |      |      |      | Entire value chain          | National wholesale market initiative implemented by 2017 | MAIFS   |                                                                                                       | Government (ongoing)                   |                         |
|                                                                  | <p>3.1.4. Set up a network to collect, analyse and disseminate production, market, price and trade information for the agro-processing sector locally and ensure that existing market information platforms such as APMS are updated on a regular basis.</p> <p>Undertake targeted campaigns to inform operators about the existence of such tools and promote their use.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1                                    |                       |      |      |      | Entire value chain          | Network created and operational by mid-2017              | FAREI   | National Computer Board (under the aegis of the Ministry of Technology, Communication and Innovation) | Government / donors                    |                         |

\* Ibid.

**Strategic objective 3: Foster the sector's integration and achieve greater market development**

| Operational objective                                               | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      |                                 | Beneficiaries                                                      | Targets | Lead implementer                                                  | Supporting implementers   | Possible funding source |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------|------|------|------|---------------------------------|--------------------------------------------------------------------|---------|-------------------------------------------------------------------|---------------------------|-------------------------|
|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                      | 2017                  | 2018 | 2019 | 2020 | 2021                            |                                                                    |         |                                                                   |                           |                         |
| 3.2. Enhance inter-institutional collaboration.                     | 3.2.1. Through the development of an online platform, promote a more systematic information sharing system between farmers and TISIs to reduce information asymmetry and improve the knowledge base of the sector.<br><br>3.2.2. Hold regular meetings between the different public and private institutions and parastatal organizations involved in the development of the agro-processing sector and agree on a common agenda and a long-term strategy to support the sector and pave the way for a comprehensive agricultural policy.*<br><br>3.2.3. Establish a single authority, to act as a one-stop shop, to promote and support agro-industry under one roof.<br>The entity could take the form of an inter-branch organization under the aegis of the ministries in charge and functioning on the basis of a public-private partnership model. | 1                                    |                       |      |      |      | » TISIs<br>» Entire value chain | Online platform developed by the end of 2017                       | FAREI   | Mauritius Chamber of Agriculture, BOI, EM, MEXA, SMEDA, AMM, MCCI | Government                |                         |
|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                                    |                       |      |      |      | Entire value chain              | Meetings held twice a year starting in 2017                        | MAIFS   | Mauritius Chamber of Agriculture, MCCI, SMEDA, EM, BOI, MEXA, AMM | Government                |                         |
|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2                                    |                       |      |      |      | Agro-processors                 | One-stop shop established by the end of 2017                       | MAIFS   | MICCP                                                             | Government / donors (EU?) |                         |
| 3.3. Improve knowledge of international market access requirements. | 3.3.1. Collect and disseminate information on international quality requirements and procedures.<br>Identify the most relevant ways and means to diffuse this information (publications, websites, e-mails, text messages, etc.).<br><br>3.3.2. Upgrade and improve the existing 'Trade Easy' online portal with the view to providing timely and relevant market information and international market requirements to exporters.<br>Configure the system to receive and distribute information related to fruit and vegetable processing through external sources.<br>Make information about international market requirements more easily available.<br>Undertake targeted campaigns to inform operators about the existence of such tools and promote their use.                                                                                      | 1                                    |                       |      |      |      | Agro-processors                 | System in place by the end of 2017                                 | FAREI   | EM                                                                | Government                |                         |
|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2                                    |                       |      |      |      | Agro-processors                 | Online information system upgraded by the end of 2017              | MAIFS   | Independent consultants                                           | Donors                    |                         |
|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2                                    |                       |      |      |      | Agro-processors                 | Organize information workshops every four months, starting in 2017 | MAIFS   | MCA, cooperatives, MCCI, EM                                       | Government                |                         |

\* Mauritius Chamber of Commerce and Industry (n.d.). *Memorandum for the 2015 National Budget*.

**Strategic objective 3: Foster the sector's integration and achieve greater market development**

| Operational objective                                         | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Priority<br>1=high<br>2=med<br>3=low | Implementation period |      |      |      | Beneficiaries   | Targets                                                                       | Lead implementer | Supporting implementers                           | Possible funding source |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------|------|------|------|-----------------|-------------------------------------------------------------------------------|------------------|---------------------------------------------------|-------------------------|
|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                      | 2017                  | 2018 | 2019 | 2020 |                 |                                                                               |                  |                                                   |                         |
| 3.4. Ensure structured export promotion and branding efforts. | <p>3.4.1. Ensure greater participation in international trade fairs, notably targeting fairs in non-traditional markets, to enable local exporters to meet international buyers and strengthen the visibility of the Mauritian agro-industrial sector.</p> <ul style="list-style-type: none"> <li>» Organize trade meets that will be leveraged to promote processed food exports.</li> <li>» Promote local products through international trade fairs such as FOODEX in Japan; ANUGA food fair in Cologne, Germany; and GULFOOD in Dubai, among others.</li> <li>» Organize bilateral trade facilitation forums to develop market linkages.</li> </ul> <p>Strategic markets will have to be identified according to the range of products that are available for export, also ensuring that those products comply with the norms and standards of the target markets.</p>                              | 1                                    |                       |      |      |      | Agro-processors | Participation in at least two international events per year, starting in 2017 | EM               | AMM, MCCI, MEXA                                   | Government              |
|                                                               | <p>3.4.2. Promote and organize B2B events such as B2B trade shows to:</p> <ul style="list-style-type: none"> <li>» Initiate contact with potential international buyers;</li> <li>» Generate interest among prospective foreign investors.</li> </ul> <p>Provide support to exporters visiting the market.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                                    |                       |      |      |      | Agro-processors | Participation in at least two B2B events per year, starting in 2017           | EM               | MCCI, SMEDA, AMM                                  | Government              |
|                                                               | <p>3.4.3. Design and implement in-market support programmes for the sector, with the main focus on regional markets, including SADC and COMESA regions, in order to benefit from preferential market access to those markets. This activity aims to:</p> <ul style="list-style-type: none"> <li>» Build capacities of commercial attachés at Mauritian missions abroad on the potential of the agro-processing sector by training, sending related information and networking with the relevant institutions in Mauritius;</li> <li>» Organize training sessions for exporters on procedures and documentation for export;</li> <li>» Organize trade missions to selected target markets for business owners from the sector.</li> </ul> <p>Conduct targeted market studies to identify products with export potential, as well as buyers' requirements, and develop targeted marketing strategies.</p> | 1                                    |                       |      |      |      | Exporters       | In-market support programmes designed and implemented by the end of 2017      | EM               | MoFARIT, BOI, MCCI, MEXA                          | Government              |
|                                                               | <p>3.4.4. Coordinate efforts for the creation of a brand for the Mauritian agro-processing sector that could be used to promote exports.</p> <ul style="list-style-type: none"> <li>» Use the national brand as an umbrella under which a sub-brand dedicated to the agro-processing sector could be developed.</li> <li>» Synchronize with the 'Mauritius Made with Care' (EM) slogan and 'Made in Moris' (AMM).</li> <li>» Develop a branding communication strategy for the agro-processing sector targeting end consumers in strategic, including premium, markets.</li> <li>» Access to this brand should be open to all within a framework that will have to be defined.</li> </ul> <p>Raise awareness and promote the sector both locally and internationally.</p>                                                                                                                               | 1                                    |                       |      |      |      | Agro-industry   | Brand dedicated to the sector created and launched by mid-2017                | EM               | Business Growth Scheme Unit, AMM, MAIFS / MoFARIT | Government              |



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