



# Sint Maarten's Policy on Agriculture, Livestock & Fisheries

December 2022

Department of Economy, Transportation & Telecommunication  
Ministry of Tourism, Economic Affairs, Transportation & Telecommunication

# Agriculture Policy Summary



## Policy Overview:

A blueprint for the advancement of agriculture on the island of St. Maarten under the direction of the governing program and the National Development Vision.

The Policy's primary objective is to secure and strengthen food security and to make agriculture a sustainable contributor to the health and economic development of St. Maarten.



### Key Outcomes

- **Economic Diversity:** Contribution of at least 5% to the country's overall GDP.
- **Food Security:** Reduced levels of imports by 10% of fresh fruits, vegetables & produce.
- **Nutritional / Health Benefits:** Reduce the number of diseases by 10% to ensure a healthier population.
- **Educational:** Incorporate Agriculture into all levels of the education system in addition to considering it a priority study for the country.



### Expected Benefits

- **Department of Agriculture:** Well established and fully functional.
- **Farmer's Market:** Designated area/ location with a seedling center and agricultural station.
- **Legislation & Policy:** Establishing of Laws and rules of with the actions plan proposed needs to be in compliance by all stakeholders.



### Major Barriers

- **Land:** Limited land mass and arable land.
- **Natural Disasters:** The country is positioned within the hurricane belt thus having high vulnerability to natural disasters.
- **Food Imports:** The country is heavily reliant on imports particularly for food.
- **Economic Sector:** Being a single sector makes it more susceptible to external economic shocks.



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## 1. Introduction

According to the United Nations Food and Agricultural Organization (FAO), food and agriculture lie at the heart of the 2030 sustainable development Goals (SDG) agenda under the theme “ending poverty and hunger by transforming the world through food and agriculture”. The SDG was adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. The mandate gives credence to the production of agriculture in order to sustainably increase its production, to improve the global supply chain, decrease food losses and waste, and to ensure that those suffering from hunger and malnutrition have access to nutritious food. Ultimately, the sector has the potential to contribute to increased food security, poverty alleviation and reduced child mortality through better nutrition, among others.

As part of this commitment, in January 2016, the Government of St. Maarten adopted the UN SDG agenda for Sustainable Development with a focus geared towards People and Planet, under the responsibility of the Ministry of General Affairs with the Department of BAK being responsible for spearheading the 2030 Agenda.

Guided by the Sustainable Development Goal to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” (SDG2), the government has established renewed forms of participatory governance and decisions at a national level taking into consideration the inter linkages in support of sustainable agriculture. These include stakeholder consultations, continued annual budgetary allocation towards agriculture development and financial support to schools with an agriculture component. The objective of the latter is to stimulate agriculture through youth involved by building awareness in support of healthy lifestyle and to generate interest in growing locally. This action supports the United Nations agenda, whereby “Sustainable agricultural practices and food systems, including both production and consumption, must be pursued from a holistic and integrated perspective”.

This policy framework is presented as a blueprint for the advancement of agriculture on the Island of St. Maarten, to achieve the objective of securing and strengthening food security and as a contributor to the economic development of the island. The COVID pandemic has emphasized the importance of the agriculture sector because of its potential to support economic growth, create and sustain jobs and ultimately to reduce the dependency on food imports.

The Government's commitment for the support of agriculture development is enshrined in the governing program and the National Development Vision. With this backing, the ministry of Tourism, Economic Affairs, Transportation & Telecommunication will build on previous studies, to explore the potential development of various crops, livestock and fisheries production on the island.

This policy document is intended for Senior Policy makers, private sector stakeholders and international agencies as a roadmap for the long-term development of Agriculture on St. Maarten. It shows what investments are needed, what policy changes are required and what areas need to be prioritized.

## 2. Background

### 2.1 Limited development on St Maarten

In the Caribbean region, agriculture has been developed mainly to satisfy both domestic and export markets while for St. Maarten agriculture has had limited development and has therefore been displaced to a considerable extent by food imports. The existing small farm holdings on the island are constrained by scarcity of arable land along with environmental challenges such as hurricanes and drought diseases (e.g. white mealybugs, giant African snails and black sigatoka to name a few), and pests such as iguanas and monkeys.

In order to appreciate the potential role that agriculture can play in St Maarten, it is important to understand trade history of the Island. St. Maarten was named “Souliga” which means the land of salt which was once a booming industry for St. Maarten. The Spanish, Dutch and traded slaves for salt and sugar frequently in the form of rum. They then traveled to the United States where the salt and sugar were sold in exchange for cotton. The salt was battered for salted fish and brought back to the eastern part of the Atlantic along with sugar, rum, salt, and cotton and in 1797, a quarter million tax guilders were collected. St. Maarten reached the top of the salt production era around the year 1800 with only 70 laborers employed in Great Salt Pond (GSP) in 1837. St. Maarten’s salt was awarded the Diplome de Grand Prix as the Best Product in the Bruselles Universal Exposition of 1910. It was exported to France, Guadeloupe, Martinique, Nova Scotia, but mostly to New England in the U.S.A. and was used for the preservation of meat and cod fish. After a relatively continuous production the salt era ended in the Great Salt Pond of Philipsburg in 1949. The remnants of the salt Industry can be found at several locations on both sides of the island. Salt has since been replaced by tourism which is now the primary economic activity.

St. Maarten, a small Dutch territory of 16 square miles, remains heavily dependent on the tourism industry as its main export with industry value added services which have propelled a myriad of tourism related businesses to develop, with nearly four-fifths of the labor force engaged in this sector and a main source of foreign income.

Growth in agricultural productivity has consequently been slow due to limited land mass and arable land and hence the inability to adequately respond to rapidly growing demand for agri-food products from the tourism and retail sectors and as a result, the growing demand by these sectors is fulfilled mainly by imports.

As compared to other sectors, the average value of Agriculture’s contribution to the GDP for the period 2014-2018 was NAf. 1.4 M, representing one of the lowest contributor’s to the overall GDP. The development of this sector over the mentioned period has been flat, when compared to the motor vehicle and real estate sectors as the highest contributors over the same period. The data confirms that the majority of food in St. Maarten is imported.

**Table 1 – Role of Agriculture in GDP (million NAf.)**

Sector	2014	2015	2016	2017	2018
<b>Agriculture, forestry, fishing, mining and quarrying</b>	1.3	1.3	1.4	1.4	1.4
<b>Manufacturing</b>	9.1	9.6	10.9	12.0	12.5
<b>Electricity, gas, steam and air conditioning supply</b>	54.3	56.0	57.1	47.0	39.3
<b>Water supply; sewerage, waste management and remediation activities</b>	23.0	25.4	27.6	27.1	25.0
<b>Construction</b>	156.6	140.3	139.3	150.1	170.4
<b>Wholesale and retail trade; repair of motor vehicles and motorcycles</b>	292.2	268.5	250.7	237.3	242.6
<b>Transportation and storage</b>	213.3	243.3	255.3	223.7	194.3
<b>Accommodation and food service activities</b>	189.9	180.4	174.6	138.8	103.3
<b>Information and communication</b>	128.1	122.6	110.7	97.1	93.0
<b>Real estate activities</b>	214.9	238.5	255.5	257.7	218.7
<b>Professional, scientific and technical activities</b>	45.6	45.5	50.2	50.3	55.4
<b>Administrative and support service activities</b>	53.4	56.8	55.5	45.2	42.5
<b>Education</b>	108.6	129.1	127.2	134.4	111.7
<b>Human health and social work activities</b>	59.6	66.7	73.9	80.0	77.2
<b>Arts, entertainment and recreation</b>	94.6	76.7	80.6	60.4	49.4
<b>Other service activities</b>	52.7	49.9	48.6	51.7	47.8
<b>Private households</b>	8.7	8.7	8.7	8.7	8.7
<b>Gross Value Added, market prices</b>	<b>1706.0</b>	<b>1719.3</b>	<b>1727.6</b>	<b>1622.8</b>	<b>1493.2</b>
Financial Corporations					
<b>Financial and insurance activities</b>	141.5	140.3	150.2	129.1	129.6
<b>Gross Value Added, market prices</b>	<b>141.5</b>	<b>140.3</b>	<b>150.2</b>	<b>129.1</b>	<b>129.6</b>
Government					
<b>Public administration and defense; compulsory social security; education; human health; arts, entertainment and recreation; other service activities</b>	236.0	226.5	220.5	224.8	224.4

Gross Value Added, market prices	<b>236.0</b>	<b>226.5</b>	<b>220.5</b>	<b>224.8</b>	<b>224.4</b>
Total Gross Value Added, market prices	<b>2083.5</b>	<b>2086.2</b>	<b>2098.4</b>	<b>1976.8</b>	<b>1847.2</b>
<b>Taxes less subsidies on products</b>	180.4	180.6	181.7	171.1	159.9
<b>minus financial intermediation indirectly measured</b>	35.0	29.9	32.7	30.6	30.1
Gross Domestic Product, market prices	<b>2228.9</b>	<b>2236.9</b>	<b>2247.3</b>	<b>2117.3</b>	<b>1977.1</b>

Source: Dept. of Statistics, 2018 preliminary estimates

Furthermore, table 2 shows that over the five year period 2014-2018, food imports increased from Naf. 5.89 to 13.74 M. Although fruits and vegetable are not part of the statistics obtained due to its unavailability, it still demonstrates that agriculture is the lowest contributor to GDP on the island.

Table 2 - Imports in St. Maarten

Year	Gross Domestic Product (million Naf.)	Total Imports (million Naf.)	Services imports	Goods imports	Goods of which Oil Imports (million Naf.)	Goods of which Food Imports (million Naf.)
<b>2014</b>	2,228.94	2,333.51	522.36	1,811.15	270.13	5.89
<b>2015</b>	2,236.85	2,031.31	497.25	1,534.06	140.27	8.22
<b>2016</b>	2,247.30	2,025.95	493.29	1,532.66	186.20	9.56
<b>2017</b>	2,117.31	1,841.60	479.11	1,362.49	132.02	13.64
<b>2018</b>	1,977.07	2,211.51	597.29	1,614.22	218.13	13.74

Source: Dept. of Statistics, 2018 preliminary estimates

Table 3 shows that Wholesale and retail trade is the largest industry in terms of numbers (830) and industry share (29.8%), with accommodation and food service activities being the second largest industry (425, 15.3%). As compared to the agriculture, forestry and fishing sector with only five (5) establishments representing 0.2% share of the industry.

Table 3- St. Maarten's Industries

Industry	Nr. of Establishments	% Industry Share
Accommodation and food service activities	425	15.3%
Accommodation	46	1.7
Food and beverage service activities	379	13.6%
Administrative and support service activities	193	6.9%
Agriculture, forestry and fishing	5	0.2 %
Arts, entertainment and recreation	126	4.5%
Construction	163	5.9%
Education	54	1.9%

Electricity, gas, steam and air conditioning supply	4.0	1%
Financial and insurance activities	64	2.3%
Human health and social work activities	97	3.5%
Information and communication	36	1.4%
Manufacturing	98.3	5%
Other service activities	295	10.6%
Professional, scientific and technical activities	187	6.7
Real estate activities	94	3.4%
Transportation and storage	91	3.3
Water supply; sewerage, waste management and remediation activities	19.0	0.7
Wholesale and retail trade; repair motor vehicles & motorcycles	830	29.8
<b>Grand Total</b>	<b>2,781</b>	<b>100.0%</b>

*Source: Dept. of Statistics, 2018 preliminary estimates*

To the extent to which available data and information allow, a sectorial review of agriculture in St. Maarten is required in order to identify opportunities, prospects and investment priorities for agriculture production to help reduce food imports. It will ultimately help to build a local resilient economy, in particular the food and beverage service activity.

## 2.2 Resiliency through Diversification

Following the devastation caused by hurricanes Irma and Maria in September 2017, the Island suffered damages and losses of up to US\$1.38 billion, or around 260% of its gross domestic product, impacting houses, public buildings, the airport, hotels, and firms engaged in the tourism sector.<sup>1</sup> The airport, being its main hub suffered from major damages which dramatically reduced tourist arrivals. Such vulnerabilities have resulted in a complex set of challenges and to some extent the reversal of developmental gains, while at the same time impairing long-term vision and redirecting focus and resources to immediate needs rather than sustained solutions.

With these external shocks and much recently, the impact of the COVID-19 pandemic, the government has placed renewed interest in a diversification strategy for St. Maarten based on amongst others the premise of food security and sustainability through agriculture development. Available data indicates that food imports amounted to NAf. 13.74 Million in 2018; this share is likely to increase over time if not addressed.

The focus is in line with the Food and Agriculture Organization's (FAO) sustainable development goals for small island development states who face unique vulnerabilities. St Maarten suffered

<sup>1</sup> <https://www.worldbank.org/en/country/sintmaarten/overview>

extensive damage from two category 5 hurricanes, Luis in 1995 and twenty-two years later from hurricane Irma in 2017. Both events posed major setbacks to the Island's economic development due to widespread devastation across all sectors especially the food and agriculture. Given these previous events and current realities, a key priority for the government is to address such challenges, through empowering the small farm holder or household gardeners by diversifying agricultural systems to build self-reliance as an essential component for economic development and long-term food and nutritional security. It builds on family farming or the backyard gardening concept which has regained popularity in St. Maarten during the covid-19 era. Given this revived interest, the government is more propelled to enhance traditional production systems, develop integrated approaches to pest, land and water management and at the same time promote consumption of locally grown foods, especially fruits and vegetables. It is on this basis that this policy framework will shape the national development vision by shaping an enabling environment for agriculture development on St. Maarten.

### 3. Goals and Objectives of this Policy

The primary goal of this document is to present a policy framework for the effective development of agriculture on St. Maarten. It is part of the 2020-2030 national development strategy of the government of St. Maarten and provide the blueprint to a more diversified economy with increased economic growth, resilience, food security and sustainability.

Once developed to the level of sustainability, the agriculture sector has the propensity to provide critical necessities of life, food, for the community while also having the ability to function as a diversified contributor to the Island's tourism economy. The aim is to achieve the following goals by the end of 2030:

#### 3.1 Goals

The primary goals of this policy are:

##### 1. Educational goals

- Incorporate agriculture into the curriculums of primary and secondary schools
- Add agriculture and related degrees to list of studies covered by study financing
- Offer structural tertiary vocational courses through local institutions e.g. through institutions such as USM,NIPA, students exchange programs (regional and international)
- Communication through awareness activities

##### 2. Nutritional/ Health goals

- Reduce the number of diseases related to poor diets and nutrition by 10%, thus ensuring a healthier population.

##### 3. Food Security goals

- Provide access to affordable, fresh, organic food
- Development of a Farmer's Market
- Development of a national foodbank
- Reduce the level of imports of fresh fruits, vegetables, poultry meat and fish by 10%;
- Have 35% of households growing some form of produce.
- Safeguard traditional plants and herbs
- Conservation of water reserves (wells)

##### 4. Economic Diversity

- Export 5% of local produce, poultry, meat and fisheries
- To contribute at least 5% to the country's overall GDP

- To create entrepreneurs, careers and sustainable jobs by empowering persons to invest in agricultural production
- To Strengthen the linkages between agriculture, fishery and livestock and the tourism sector so that at least 25% of the local produce/ products (fruits, vegetables, poultry, meat and seafood is bought by local vendors (supermarkets, hotels, restaurants, mariners).
- Eco-tourism, community based tourism

This policy also sets the foundation for the following:

- ✓ To communicate and collaborate with stakeholders in the Agriculture/tourism sector on the way forward.
- ✓ To present policy recommendations as needed.
- ✓ To present public sector investments as needed.
- ✓ To discuss what resources need to be allocated for the development of the Agriculture sector.

**Table 4- Desired Impact Agriculture**

	<b>2019</b>	<b>2030</b>
Value added	<1% of GDP	5% of GDP
Jobs above minimum wage	< 500	>2000
Linkage local agriculture to tourism	<1%	>25%
Existing Export Products to Caribbean	0%	>5%
% Citizens and Students know benefits of Agriculture	<25%*	>85%

Source: EVT

## 4. Global Trends

### 4.1 Impact of COVID-19 on the Caribbean food chain

The COVID-19 pandemic is a global crisis which has affected the food chain and shown the necessity for a local agriculture sector. In many countries, prompt measures were undertaken to ensure that food supply chains are kept alive to mitigate the risk of large shocks that would have a considerable impact on the population, especially on the poor and the most vulnerable. According to the World Health Organization, projections predict that the pandemic may have a more severe impact on the number of hungry than the global food crisis of 2007–2008, constituting what David Beasley, Executive Director of the World Food Programme (WFP), has labelled a ‘hunger pandemic’ alongside the health crisis.<sup>2</sup>

For the Caribbean region, disruptions in the food supply chain in 2020 were minimal, and minor logistic challenges was experienced. This is according to the Caribbean Agricultural Research and Development Institute (CARDI), one of the leading research institutes for the region, which stated that while food supply chains are stable in 2020, an extended period of the pandemic coupled with the ongoing drought and the predicted active hurricane season will put the region’s agriculture food supply chains on a precarious footing.

The institute further stated that the Caribbean must set about producing its own food, promoting healthy food consumption and look towards import substitution as a viable solution towards ensuring food security in these uncertain times.

### 4.2 Impact of COVID-19 on Cruise and Stay-Over Tourism in St. Maarten

Economic growth of Caribbean economies has been severely reduced by the impact of the COVID-19 Pandemic. For St. Maarten, Tourism arrivals are estimated to drop by as much as 70% in 2020 according to economic forecasts by the department of Economy, Transportation & Telecommunication. Estimates from the Central Bank of Curacao and St. Maarten and the IMF, data for the first two quarters of 2020 reveal that the size of the economic contraction in St. Maarten was estimated at 24% in 2020 as compared to the estimated growth of the previous year. This is largely because of the halt in international travel combined with the effects of the lockdown due to the pandemic. Tourism is a labor-intensive sector, and according to the department of Economy, Transportation & Telecommunication, 2016-2020 data reveal that it directly contributes to an average of 55% of our economies GDP. The sector is the leading source

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<sup>2</sup> <https://www.sipri.org/commentary/topical-backgrounder/2020/impact-covid-19-critical-global-food-supply-chains-and-food-security>

of employment and job creation, providing a high volume of jobs for low skilled workers such as housekeeping, tour guides, drivers, gardeners and laundry staff, together with higher skilled jobs in management and supervisory roles. Because of the pandemic, St. Maarten's economic contraction in 2020 was significantly larger than the economic contraction caused by the Hurricane Irma. On the other hand, the crisis offers an opportunity for St. Maarten to accelerate reforms by transforming its economy to be more competitive, productive and resilient. The development of agriculture offers opportunities for inclusive economic growth, because agriculture complements the island's primary export earner; which can be achieved through linkages between tourism and agriculture (tourism sectors like hotels, restaurants purchase fruits and vegetables and fish from the local agriculture sector instead importing these products). By strengthening the existing linkages between agriculture and tourism St. Maarten's economy has the possibility of becoming more resilient against external shocks like the pandemic.

Prompted by such developments, the focus is increasingly shifting towards sustainability and the obligation for advancing agriculture production plus new agricultural products. By creating such harmony, the linkage between agricultural development and tourism offers the ideal balance towards achieving sustainability.

## 5. Current State of Agriculture

Agriculture contributes to less than 2% of St Maarten’s GDP. A snapshot of the industry is provided the in SWOT analysis below.

Table 5: SWOT Analysis

<p style="text-align: center;"><b>S</b></p> <p style="text-align: center;"><b>STRENGTHS</b></p>	<p style="text-align: center;"><b>W</b></p> <p style="text-align: center;"><b>WEAKNESSES</b></p>	<p style="text-align: center;"><b>O</b></p> <p style="text-align: center;"><b>OPPORTUNITIES</b></p>	<p style="text-align: center;"><b>T</b></p> <p style="text-align: center;"><b>THREATS</b></p>
<ul style="list-style-type: none"> <li>• St. Maarten’s location and position as a hub could be ideal for exporting</li> <li>• Population will have better access to affordable nutritional food</li> <li>• Healthier population</li> <li>• Lowered cost of nutritional food.</li> <li>• Economic diversification through agricultural diversification</li> <li>• Good climate for growing a variety of produce</li> <li>• Seafood market already ripe and ready for export</li> <li>• Complementary to Tourism Industry</li> <li>• Step towards National food security</li> </ul>	<ul style="list-style-type: none"> <li>• Domain land scarcity and high cost of private land</li> <li>• Ability to change Consumer behavior</li> <li>• Lack of required legislation (i.e., plant health)</li> <li>• Lack of quality controls</li> <li>• Lack of inventory (or registration system) of the number of farmers and fishermen and what is being produced.</li> <li>• Lack of trained persons to be able to work on farms.</li> <li>• Lack of co-operation amongst existing farmers and stakeholders</li> <li>• Lack of investment/ financial support for the industry – high operational cost and no tax incentives</li> <li>• Small domestic market</li> </ul>	<ul style="list-style-type: none"> <li>• Possibility to liaise with other islands due to land scarcity, to lease property and have produce imported back to the island</li> <li>• Possibility for farmers to collaborate and engage local supermarkets, restaurants and yachting sector</li> <li>• The development of a national food bank</li> <li>• Introduction of new technologies and trainings for existing farmers and those seeking employment in the industry</li> <li>• Matchmaking opportunities to increase productivity and lower costs</li> <li>• Investments in agri-businesses</li> <li>• Gov’t incentive programs and policies to stimulate the industry</li> </ul>	<ul style="list-style-type: none"> <li>• Existing competition with more knowledge and experience within the region</li> <li>• Existing farmers offering the same product</li> <li>• Lack of proper (natural) water systems / high utility costs for businesses</li> <li>• Sector Is prone to Weather (hurricanes, storms and drought) and Climate change as St Maarten lied within the hurricane belt</li> <li>• Various plant diseases and pests disrupting crops</li> <li>• Cheaper overseas land and labor costs</li> </ul>

	<ul style="list-style-type: none"> <li>• Agriculture is currently not part of vocational education</li> </ul>	<ul style="list-style-type: none"> <li>• Employment creation</li> <li>• reduce dependency of food imports</li> </ul>	
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Source: Department EVT

## 5.1 Current Stakeholders

The following are the current stakeholders who play a significant role in the importance of food security and the sustainability on St Maarten.

- The local farmers and their ability to increase production and collaborate towards the ultimate goal of the country becoming self-sufficient as it pertains to food security;
- Landowners and their willingness to dedicate portions of un-used land to agricultural development;
- GEBE and its willingness to provide favorable water rates for this industry;
- The Government of St. Maarten, specifically the Ministries of TEATT, VROMI and VSA to ensure that the proper regulations, checks and incentives are in place to sustainably develop the agriculture industry;
- Grocery Stores & Supermarkets and their willingness to carry and showcase local, fresh produce;
- The public as consumers and their ability to steer demand for fresh, local produce.

## 5.2 Current Regulations

There are currently no regulations as it relates to agriculture for St. Maarten. The main legislation governing food and agricultural products is the Commodities Act (formerly the Netherlands Antilles Food Law 334 of 1997). Given that this law is quite general, relevant authorities are developing more modern and detailed food safety laws as well as plant protection laws. Drafts legislation is available for which the Ministry of TEATT is planning to incorporate in the planned development of the required legislation.

## 6. Current and New Agricultural Techniques

### 6.1 Existing types of Agriculture, Fisheries and Livestock on St. Maarten

#### 6.1.1 Traditional

Traditional farming refers to practices that have been passed down for many generations.<sup>3</sup> It is based on traditional knowledge, expertise, skills and practices related to food security and to food and agricultural production and diversity.<sup>4</sup> Traditional farms or gardening continue to be the preferred choice for growing foods on the island.

#### 6.1.2 Aquaponics & Hydroponics

Hydroponics is a method of growing plants using a nutrient solution, which is a mixture of water and nutrient salts, without the presence of soil. (Gericke 1940; Gericke 1945; Hoagland and Arnon 1950). Aquaponics on the other hand, is a method for producing food that combines recirculating aquaculture (raising fish in land-based tanks) with hydroponics (cultivating plants in water)<sup>5</sup>

Consultation with local farmers, indicate that there was one farmer who once utilized aquaponics or hydroponics systems for lobster production in conjunction with others means of growing . An assessment (base-line) study of the industry would provide more details of the modern growing methods being utilized.

#### 6.1.3 Organic

The Food and Agriculture Organization defines Organic food production as a “a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs”.<sup>6</sup> This method is utilized by most of the traditional farmers/ growers on St. Maarten. However, this method comes at a higher cost, in particular if production is to be maximized to meet the goals outlined in this policy. The table below highlights some of the advantages and disadvantages of traditional versus modern farming practices.

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<sup>3</sup> <http://www.fao.org/3/as989t/as989t.pdf>

<sup>4</sup> <http://www.fao.org/3/i0841e/i0841e.pdf>

<sup>5</sup> <http://documents1.worldbank.org/curated/en/103361524057787356/pdf/RWSAT-AUS.pdf>

<sup>6</sup> <http://www.fao.org/organicag/oa-faq/oa-faq1/en/>

**Table 6 – Traditional v modern farming techniques**

Traditional	Advantages	Disadvantages
	Better quality – low/no pollution	Time consuming and low production
	No health related issue	Productivity depends primarily on the natural fertility of the soils, hence slow growth
<b>Modern</b>	Optimum Utilization of land	Likelihood of a loss or reduction in taste, quality and medicinal properties of crop
	Methods are quick, efficient and easy to used and lead to higher production in less time.	Reduce the Fertility of the Soil
	Reduced labor intensity and farming time	Environmental Damage
	Ability to maintain large field easier	Chemical fertilizers are pesticides are used.
	Can grow crops without soil & little usage of water	

*Source: Department of EVT*

### 6.1.4 Locally grown Produce

Information obtained from local farmers and home growers reveal that the following produce is being grown locally.

**Table 7- Herbs - 11 different types**

Ginger	Parsley	Spring/green onion/garlic	Rosemary
Thyme	Sweet peppers	Season Peppers	Sweet Basil
Oregano	Terragon	Tomato	Bay leaf
Stingy Thyme	Shadow Beni	Mint	
Coriander	Turmeric	Lemmon Grass	Arugula

*Source: Department of EVT*

**Table 8- Fruits - 37 different types**

Starfruit	Genip	Sea Grape	Golden Apple
Mango	Sour sop	Coconuts	Tamarind
Sugar Apples	Guavas	Gooseberries	Cantaloupe
Cherries (Cashew)	Pomegranate	Sapodilla	Noni
Papaya	Orange (green)	Stinking Toe	Guava berry
Ackee	Cactus pork	Passion fruit	Pineapple
Banana	June Plum	Dragon Fruit	Jack Fruit
Almonds	Limes	Cherries (Suriname)	Sugar Cane
Plums (yellow and red)	Tomatoes	Pomme-serrat	Figs

*Source: Department of EVT*

**Table 9- Vegetables - 25 different types**

Pumpkins	Squash	Zucchini	Kale
Cucumbers	Carrots	Lettuce	Tanya
Peas	Potatoes	Eddoes	Yams
Blogo/Porto	Plantain	Cassava	Eggplant/Chubba
Jamaican Callaloo	Surname Callaloo	Okra	String Beans

Spinach	Peanuts	Christophine/Prickly pear	Cabbage
Breadfruit	Corn		

Source: Department of EVT

### 6.1.5 Locally raised Livestock

On St. Maarten livestock farming is minimal given the land limitation on island. Those engaged in this activity collaborate with the Agriculture Department on St. Martin (French side), through the use of their abattoir facility, while some persons rely on obtaining livestock from Saba. Below is an overview of the most common types of livestock raised on Sint Maarten/ Saint Martin for the purpose of consumption.

Table 10 - Livestock - 7 different types

Goat	Sheep	Cattle	Iguana
Horses	Rabbits	Pigs	

Source: Department of EVT

Poultry farmers are also few. Chicken is the primary type of poultry available on the island, but the possibility exists for other types of poultry to be raised including those mentioned below.

Table 11 Poultry - 6 types

Fowl/Chicken	Ducks	Peacocks
Guinee hen	Doves	Turkey

Source: Department of EVT

### 6.1.6 Fisheries

In February 2004, an inventory of the fisheries sector on St. Maarten was undertaken through the cooperative Dutch Government with supported funding by the Dutch Ministry of Internal and Kingdom Affairs. The objective was to formulate the National Fishery Policy and to establish sustainable management and exploitation in the territorial waters of St. Maarten and in the adjacent waters of the Economical Fishery Zone (EFZ).

St. Maarten does not possess rich fishing areas. Feedback from the industry indicate that, those earn a living from this industry, need to venture into the fishing grounds of other islands such as Saba and Anguilla in order to secure a sizeable catch. Local Fisherman are not permitted to fish in the waters of Saint Martin (French side) or Saint Barthelemy.<sup>7</sup> The park coordinates are highlighted below.

<sup>7</sup> Inventory of the Fishery Sector of St. Maarten (document)

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The **Marine Park Boundary** is comprised of four coordinates:  
18 -00.0 N 63 -01.3 W      18 -00.0 N 63 -04.5 W  
17 -57.0 N 63 -01.3 W      17 -57.0 N 63 -04.5 W

- Within the Boundary of the park the areas:
- To the left of 17 -58.55 N 63 -04.5 W & 18 -00.0 N 63 -03.9 W
  - To the right of 17 -58.55 N 63 -01.3 W & 18 -00.0 N 63 -03.0 W
  - To the south of 17 -58.4 N 63 -04.5 W and 17 -58.4 N 63 -01.3 W
- MUST** remain open to shipping

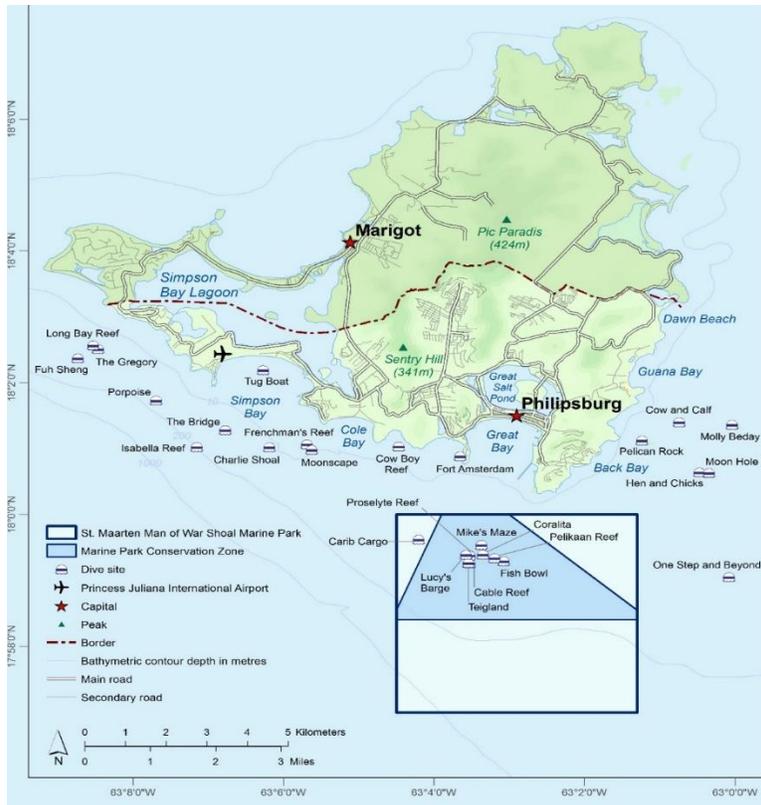
**Marine Park Authority: Nature Foundation St. Maarten**  
Tel: +1(721) 544 4267  
Email: [info@naturefoundationsxm.org](mailto:info@naturefoundationsxm.org)  
[www.naturefoundationsxm.org](http://www.naturefoundationsxm.org)

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Source: <https://naturefoundationsxm.org/preservation/marine-park/>

The Cooperation in the context of the Kingdom of the Netherlands - The Exclusive Economic Zone (EEZ) links the countries of the Kingdom of the Netherlands. In order to coordinate the sustainable management of this extensive marine area, a management plan was developed and segments of which have been implemented by the Netherlands and the Caribbean Netherlands. The Man of War Shoal National Marine Park, established in 2010, covers 31 km<sup>2</sup> (3,100 hectares) and is located off the southern shore of the island of St. Maarten and is managed by the Nature Foundation.

Figure 2 - Map of the Man of War Shoal Marine Park



Source: <https://naturefoundationsxm.org/preservation/marine-park/>

## 6.2 Diversification within Agriculture - The legalization of Marijuana

The cannabis sector provides an alternative and lucrative opportunity that can realistically contribute to the St Maarten’s GDP. Two components will be explored in this policy.

- (1) **Recreational marijuana** - Legal in 16 U.S. States, recreational marijuana refers to cannabis used to intentionally experience its intoxicating and mind-altering effects.
- (2) **Medicinal marijuana** - Legal in 35 U.S. States, medical marijuana refers to the use of cannabis as a physician-recommended therapy for treating certain health conditions and symptoms

### 6.2.1 Recreational Marijuana

Recreational marijuana means making use of the plant or components thereof for non-medicinal, leisure and enjoyment purposes.

The most widely known example of a ‘successful’ recreational marijuana industry is the Netherlands, which holds close to 200 coffee shops in Amsterdam alone. Unlike medicinal marijuana, recreational marijuana is not legal in the Netherlands, but rather tolerated via a

tolerance policy and has been for decades. However California and Canada legalized this industry in 2016 and 2019 respectively.

On a local level, the “Opiumlandsverordening” prohibits amongst others, the cultivation, import, export, possession, transportation and sale of marijuana plants and products; with the exemption that the exploitation of marijuana is being done for scientific purposes or to be distributed to pharmaceutical manufacturers, suppliers and retailers as outlined in articles 617 of the Opiumlandsverordening. These articles formed the basis for the aforementioned policy published by the Ministry of VSA. Although a legislative basis exists for the exploitation of medicinal marijuana, in a controlled manner exists, this is not the case for recreational marijuana and a different trajectory would need to be considered in order to exploit this industry. This will be further explained in the recommendations section of this policy.

### 6.2.2 Medicinal Marijuana

The term Medical Marijuana refers to “the use of the whole, unprocessed cannabis plant or its extracts to treat certain health conditions.”<sup>8</sup> On August 2, 2019, the Ministry of Health, Social Development & Labor (VSA) published a Policy on Medical Cannabis and CBD Products<sup>9</sup>, which provides guidelines on how medicinal marijuana and related products can be dispensed on the island of St Maarten. Based on feedback from the aforementioned Ministry, the Ministry has developed requirements to qualify for dispensing and as such, though allowed in principle, medicinal marijuana is not currently dispensed on the island. This policy will focus on medicinal marijuana. Some of the pros and cons of medicinal marijuana<sup>10</sup> according to an advocacy group called the American Alliance for Medical Cannabis (AAMC) is detailed in the table below.

**Table 12-Advantages and disadvantages of Medicinal Marijuana**

Disease	Advantages	Disadvantages
Diabetes	Plays a role in stabilizing blood sugar levels	effects the developing brain, potentially impairing learning and memory, so people under the age of 25 years should avoid it
	reducing neuropathic pain	May cause an increase in appetite
	providing relief from muscle cramps	May lead to addiction
	Increased insulin sensitivity	
<b>Obesity</b>	May help reduce the risk of obesity	bloodshot eyes, dry mouth
<b>Cancer treatment</b>	Reduce loss of appetite	

Source: Department EVT

<sup>8</sup> <https://www.medicalnewstoday.com/articles/316999#what-is-medical-marijuana>

<sup>9</sup> Landscourant 2019, nr. 16

<https://www.medicalnewstoday.com/>

Figure 3 – States where marijuana is legal



Source: Business Insider

The above map displays the 36 states have legalized medical marijuana and three states, including New Mexico, Virginia, and South Dakota have either voted for or passed legalization, though the laws are yet to take effect.<sup>11</sup>

Figure 4 - Industry Trends and Forecast to 2027

<sup>11</sup> <https://www.businessinsider.com/legal-marijuana-states-2018-1#vermont-17>

Global Legal Marijuana Market is Expected to Account for USD 90.83 Billion by 2027



Research also suggests that the legal marijuana market is expected to gain market growth in the forecast period of 2020 to 2027. Data Bridge Market Research expects the market to account for USD 90.83 billion by 2027 growing at a compound annual growth rate (CAGR) of 20.0% in the above-mentioned forecast period.<sup>12</sup>

Despite the aforementioned, the medical cannabis import/export market is very new. According to [www.harrisbricken.com](http://www.harrisbricken.com), “aside from the legal complexities, there are practical matters to work through. Foremost among these are quality standards. Although good manufacturing practice adherence is required to ship medical cannabis to the E.U., for example, there are no standardized regulations between and among countries for medical cannabis quality control—including for content, composition, adulterants, potency and even levels of toxic residues.”<sup>13</sup>

## 7. Agriculture Value Chains in St. Maarten

The stages of activities that an agriculture, fishery and livestock product may need to go through starting from origin until reaches the consumer will be handled in the following paragraphs.

<sup>12</sup> <https://www.databridgemarketresearch.com/reports/global-legal-marijuana-market>

<sup>13</sup> <https://harrisbricken.com/cannalawblog/how-to-export-medical-marijuana-internationally/>

## 7.1 Landowners

As it pertains to landowners St. Maarten recognizes the distinction between Public and Private Properties (land spaces). In order to facilitate any agriculture, livestock or fisheries development. Many current local farmers operate on government land spaces or on rented/ leased spaces. In this regard, for a successful implementation of this policy, a policy detailing the process surrounding the usage and or the obtainment of both public and or private land for agricultural purposes is necessary.

### 7.1.1 Public Sector

The public sector land spaces are managed by the Ministry of Public Housing, Spatial Planning, Environment and Infrastructure (VROMI) in collaboration with the local Kadaster, and extend across all corners of the Dutch side of the island. The National Ordinance (AB 2013, GT no. 144) was adopted to support the development of plans with zoning regulations (zoning plans) to manage the spatial development of the island. The availability of government's (domain) land is scarce and much of what is left lies in the upper hillsides of the island. The aforementioned ministry will need to identify areas that can accommodate the required needs based on set agreements pertaining to usage of domain property and the purpose.

Statistical information regarding availability of public domain spaces is not readily available at the mentioned ministry which will be incorporated in the proposed base-line study of the industry.

### 7.1.2 Private Sector

The private sector consists of land spaces that are owned by either private entities or private individuals. These land spaces when available are rarely used for agriculture, fishery or livestock purposes. Following the passing of hurricane Irma and during the COVID-19 global pandemic, many residents have sought to utilize their yard spaces for recreational gardening. The private sector also offers the opportunity for private yard space owners to utilize or even lease their (land) spaces to government initiatives or community programs that focus on the development of the agriculture, fishery and livestock sectors.

## 7.2 Producers

The Agriculture, Fishery and Livestock industry is small and thus very few persons or entities are engaged in this industry on a scale large enough to sustain a significant segment of the community. A growers association is an avenue that can serve and enhance the interest of growers and act as one voice to the Government.

### 7.3 Suppliers

Much of the produce available on the island are flown or shipped into the island for sale by retailers, wholesalers and hucksters. Once produce can be developed locally, a structured supplier's system will need to be developed, as currently much of the sale of locally grown products is conducted through social media advertisement and form part of the informal economy.

At the time of writing this policy there was little to no data available on this industry and as such it can be assumed that the Government of St. Maarten does not currently have a final tally or overview of suppliers of agriculture-, fishery- and or livestock producers. It is proposed that such data will be made available through the conducting of a baseline study.

#### 7.3.1 Water and Electricity

Water and electricity both play a critical role in the food value chain and as such utility costs will need to be taken into consideration to ensure that the cost-benefit structure is well balanced.

The table below provides an overview of the 2020 petrol prices of the Leeward Islands in the Caribbean, starting from the highest to the lowest. Petrol data from several of the Leeward Island territories was not retrievable at the time of drafting this policy and as a result the data relevant to their territories is not reflected in the below overview. Petrol prices for the Dutch Caribbean territories Bonaire, St. Eustatius and Saba were derived from the website of the Central Bureau of Statistics in the Netherlands and reflect the data as per Aug. 2020.

#### 7.3.2 Seed/ Pesticide Suppliers

Seeds and pesticides are vital components in the development of any agriculture sector, while quality fertilizers may also be required for farmers who choose to grow produce more traditionally.

The department of agriculture station will require trained personnel in order to ensure a fair level of control and enforcement of established (and future) regulations. These regulations will need to, among others, focus on the quality of seeds and or fertilizers being utilized by local farmers. Another key area to be considered for the fishery and livestock sector, is the establishment of measures that will ensure the health of the population.

### 7.3.3 Farmers

Currently there are a handful of known growers as farmers who:

- grow and supply locally grown crops for sale at organized farmers markets.
- offer crops for sale on the farm.
- Utilize part of the farm space as eco-tourism and for school educational fieldtrips.

## 7.4 Clients

At the end of the agriculture value chain there are clients. Clients vary from supermarkets, fresh markets, foreign clients (potential exporters of agriculture produce) and the end consumer (in case of direct to consumer purchasing). It is important to distinguish these different client segments as they have different needs and requirements for the agriculture product.

### 7.4.1 Supermarkets

The supermarkets remain a vital part of the value chain as provide the 'local' products to the consumers. The island's retail supermarkets currently purchase most of their products from the wholesalers who import from as far as China and from some neighboring Caribbean islands including Anguilla, St Vincent and Dominica. Developing a sustainable agriculture, fishery and livestock industry on-island can translate to more affordable, fresh and qualitative produce for the consumer, but also an alternative supply chain for supermarkets once local fish, poultry, meat and produce are introduced.

Therefore supermarkets will continue to play a critical role as clients of local famers/ growers and fishermen, while simultaneously acting as suppliers to the end consumers.

### 7.4.2 Fresh (Farmer's) Markets

Market spaces are great places where community and product can meet. Currently, there are no official or structural marketplaces for the sale of agri-produce/products or livestock products outside of the formally established Fish Market in Simpson Bay. A secured market place would

serve the needs for the ad hoc pop up farmers market for the trade of local goods including supplies of the creative industry on a more regular basis.

While the sale of locally grown and harvested produce and or raised products may become part of the supplies being sold in the local supermarkets, the establishment of (fresh) marketplaces may better complement the sale of the local produces and products. Marketplaces may ensure that prices remain relatively low due to their relatively overhead cost as compared to traditional supermarket. A marketplace also provides the potential for the (in) direct creation of a 'new' local 'attraction' for visitors and locals alike. Given the island's relatively high turnover of tourist from either the cruise, stay-over and yachting sub-industries, a marketplace that not only sells local produce and products, but locally made agri food products, arts, crafts combined with entertainment activities such as local music and other cultural activities, can provide for a unique opportunity to further highlight the island's qualities and creative industries.

#### 7.4.3 Foreign Clients (Export industry)

The ability to create a viable exporting network of foreign clients for St. Maarten's agriculture, fishery and livestock products can be considered an ultimate (long term) objective subsequent to being able to provide healthy foods to the local community.

Exporting to foreign destinations will require trade agreements with the countries concerned and should only be pursued once the supply of local produce to the local market is sustainable with a contribution to at least 5% of the island's GDP; with exceptions in the lobster and fishers industry which already experience surpluses. A possible strategy, can be from 2020 - 2025 the focus should remain on developing for local consumption, and from 2025 - 2030 the basis for exports can be set for export to Caribbean (in particular as it relates to specialty goods that are not grown, harvested or made in those islands), and subsequently to other territories depending on the product. For instance, spiny lobsters are always in high demand in Europe and the USA and are also in abundance on the other Caribbean islands.

## **Caribbean**

According to at least two recently published reports/papers regarding agriculture in the Caribbean<sup>14</sup> with the exception of a few countries in the wider Caribbean, agriculture has been experiencing slow growth which prompted the drafting of the studies and papers. Recommendations provided indicate positive possibilities such as growing non-traditional produce that are scarce/ rare in other countries but can easily be grown in tropical climates, such as the Caribbean, for the export.

The Caribbean has an approximately 44 million residents which represents a vast market to export produce and products to. A mere 1% export of a product that is in high demand within this region could potentially result in about US\$440.000 in revenue, which if TOT or an equivalent tax is applied could result in \$22,000 for Governments' coffers. Further research will be necessary to determine the required criteria for St. Maarten (an associated member to CARICOM) to conduct trade with CARICOM countries as a non-CARICOM member.

Table 13 - Population per Caribbean Country

Country	Population (2020)	Country	Population (2020)
<a href="#">Haiti</a>	11,402,528	<a href="#">Aruba</a>	106,766
<a href="#">Cuba</a>	11,326,616	<a href="#">United States Virgin Islands</a>	104,425
<a href="#">Dominican Republic</a>	10,847,910	<a href="#">Antigua and Barbuda</a>	97,929
<a href="#">Jamaica</a>	2,961,167	<a href="#">Dominica</a>	71,986
<a href="#">Puerto Rico</a>	2,860,853	<a href="#">Cayman Islands</a>	65,722
<a href="#">Trinidad and Tobago</a>	1,399,488	<a href="#">Saint Kitts and Nevis</a>	53,199
<a href="#">Guadeloupe</a>	400,124	<a href="#">St. Maarten</a>	42,876
<a href="#">Bahamas</a>	393,244	<a href="#">Turks and Caicos Islands</a>	38,717
<a href="#">Martinique</a>	375,265	<a href="#">Saint Martin</a>	38,666
<a href="#">Barbados</a>	287,375	<a href="#">British Virgin Islands</a>	30,231
<a href="#">Saint Lucia</a>	183,627	<a href="#">Caribbean Netherlands</a>	26,223
<a href="#">Curaçao</a>	164,093	<a href="#">Anguilla</a>	15,003
<a href="#">Grenada</a>	112,523	<a href="#">Saint Barthélemy</a>	9,877
<a href="#">Saint Vincent and the Grenadines</a>	110,940	<a href="#">Montserrat</a>	4,992

Source: <https://worldpopulationreview.com/continents/caribbean-population>

From a farming programming level, key supportive policy will need to make clear how the agriculture industry in the Caribbean will work with the agriculture industry in St. Maarten. In order to achieve such, critical agreements such St. Maarten's contributions will need to be addressed in a supportive policy following discussions and agreements with regional industry stakeholders.

## **Latin America**

<sup>14</sup> 'Study of the State of Agriculture in the Caribbean' written by the Caribbean Development Bank and the Food and Agriculture Organization of the United Nations, and 'Caribbean and Agricultural development and employment in the Caribbean: Challenges for the future' by Dr. Carlisle Pemberton,

Based on data from the Economic Commission for Latin America and the Caribbean (ECLAC), currently the Caribbean region exports approximately 0.2% of products to Latin America. According to ECLAC, the main reasons for low trade levels are:

- Costly transportation;
- Language;
- Production patterns and history.

With a population of roughly 652.000.000 inhabitants in 2020 , any consideration to tap into this market will require similar in approach towards trade in the Caribbean, and therefore should only be explored once the local markets are able to be sustainably serviced.

### **USA**

The USA market has approximately 359.000.000 consumers may present opportunities for trade. Consideration into exploring this market can be advanced once objectives to becoming self-sufficient are first met.

### **Europe**

Depending on the product, the European market may be a viable market to enter. There is a demand for fish for including crustaceans and lobsters from the Caribbean waters. The supply and trade to the European markets can be considered by exploring trade agreements with the European Union by joining union with other islands within the Dutch Kingdom. Currently, St Maarten is a huge importer of European food products, hence a reciprocate in trade agreement can be considered.

For an effective development of local production, it is essential that an assessment (base-line study) of the local agriculture, fisheries and livestock sector (i.e., growers, land, seedlings, type of vegetation, harvest period, etc.), is undertaken. The information obtained will provide the necessary guidance on the extent of the progress of the sector.

## **8. Investing in Agri Tourism 2020-2030**

Agriculture and agri-tourism are growing sectors and as such they present investment opportunities, new product platforms, technologies, innovation and value added business models that could drive the economy to a more sustainable food production and distribution system. The previous chapters address the vision, goals regarding local production over a ten-year period (2020-2030) as it relates to local agriculture, fisheries and livestock. This chapter establishes the roles and responsibilities of the stakeholders with respect to responsible investment in food systems. Furthermore, it identifies opportunities, which can promote responsible investment, while assisting with diversifying and complementing the economy to enhance livelihoods and food security on St. Maarten.

Agri-tourism is expected to grow incrementally world-wide in the near future, from US\$69.24 billion in 2019 to a projected US\$117.37 billion by 2027 because of rising government initiatives.<sup>15</sup> The growing consumer demand for nature-based and sustainable tourism among tourists is acting as a crucial driving force for the market. The growth is due to the market driver, top market players, and strategies adopted globally by investors and companies to promote agri-tourism specifically.

There is vast room for technological development in today's agricultural sector to boost productivity and efficiency and a transition to "smart" agricultural technologies is expected over the next decade and beyond. Going into the next decade, "smart" and climate-smart agriculture will include advanced irrigation and precision technologies, an effective marketing and distribution system for producers and consumer-led demand markets for sustainably grown foods. Enhancing aggregating business pipelines as well as the knowledge gaps will also assist in this growth. With such a vision, it becomes clear that smart growth strategies will enable St. Maarten to benefit from its local heritage and resources.

Essential to achieving the above and the gauge the local production, an assessment (baseline study) of the local agriculture, fisheries and livestock sector (that is, growers, land, seedlings, type of vegetation, harvest period etc.. Be undertaken. The information obtained will provide the necessary guidance on the extent of the development of the sector.

## 8.1 Key Industry Investment Players

The role investors can play in Agriculture and particularly in the supply-chain, according to Tomislav Ivančić, of the World Food Organization (WFO) indicates that it will be difficult to imagine agriculture without the active participation of institutional investors. The progress is facilitated by the UN Guiding Principles on Business and Human Rights, (UNGPs) the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) all of which pay

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<sup>15</sup> [www.fortunebusinessinsight.com](http://www.fortunebusinessinsight.com), July 22,2020.

attention to how enterprises can contribute to the communities in which they operate.<sup>16</sup> Therefore, increasingly, governments, international and local organizations as well as other development entities, are looking to the investor community for cooperation in supporting socio-economic progress. For St. Maarten, such a public-private partnership will be vital for the development of the sector. Government must create an investor-friendly atmosphere and offer attractive incentives that would encourage local and international companies to partner with local businesses to set up shop on the island.

## 8.2 Private Investment

Private investment is essential if agriculture and specifically agri-tourism are to fulfill their vital functions as contributors to economic improvement, diversification, poverty reduction and food security on St Maarten. This policy framework therefore, supports private investment initiative for agriculture development.

## 8.3 Direct Marketing

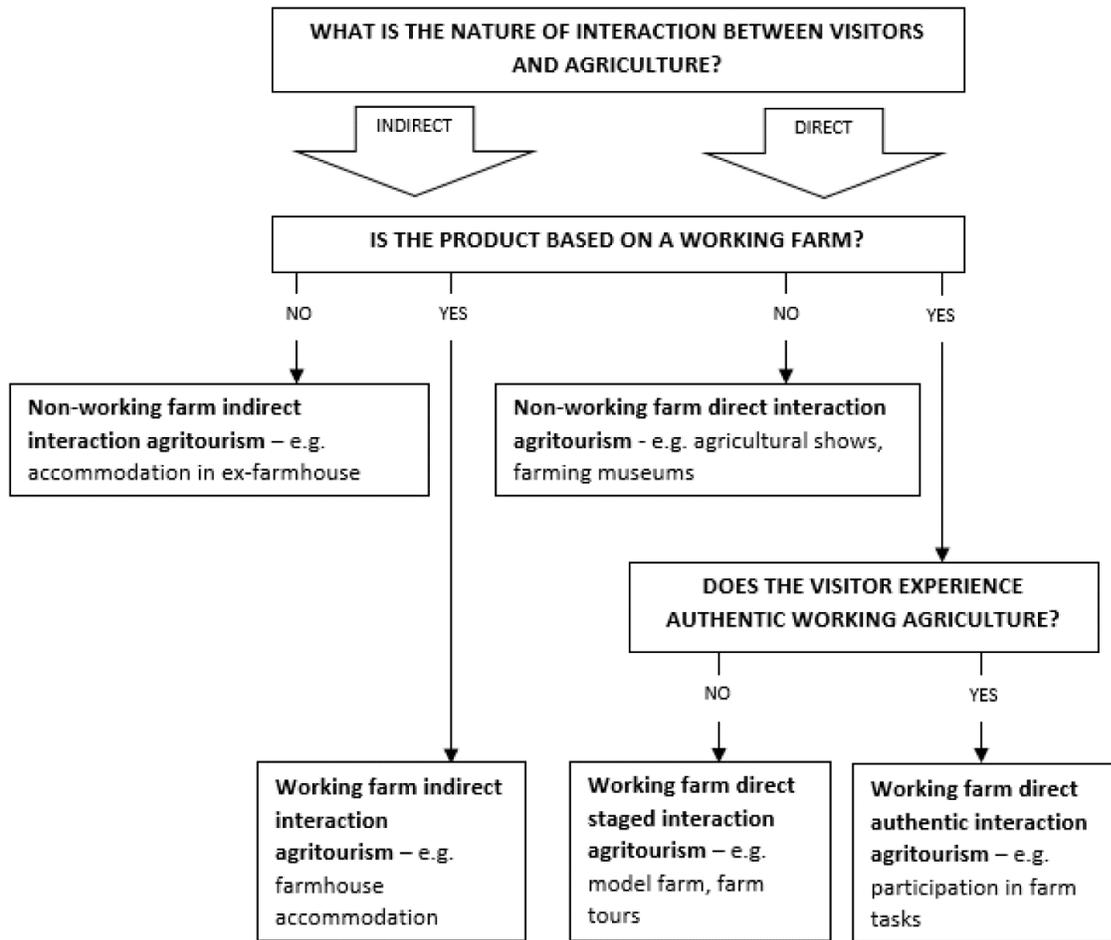
In some markets, Direct Market Agri-tourism generated 36.06% in terms of agri-tourism market share. This contribution is attributable to the rising government investments to enhance the agricultural economy due to growing interest of international and domestic tourists in agri-tourism for educational and recreational purposes. Many potential tourists admire this lifestyle and experience and are willing to purchase authentic farm products and services while visiting such a destination. (*See chart on following page*). This factor, along with governmental marketing support in amplifying the product ranges sold at the farms, would help contribute to the growth of the segment in the coming years.

In the case of St. Maarten, the innovative model of the development of Guavaberry Emporium was first produced at home and then expanded into a commercial venture provides prime example of innovation that similar cottage industries in the agribusiness sub sector can pattern.

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<sup>16</sup> Sustainabledevelopment.un.org, "United Nations World Food Program, 2018

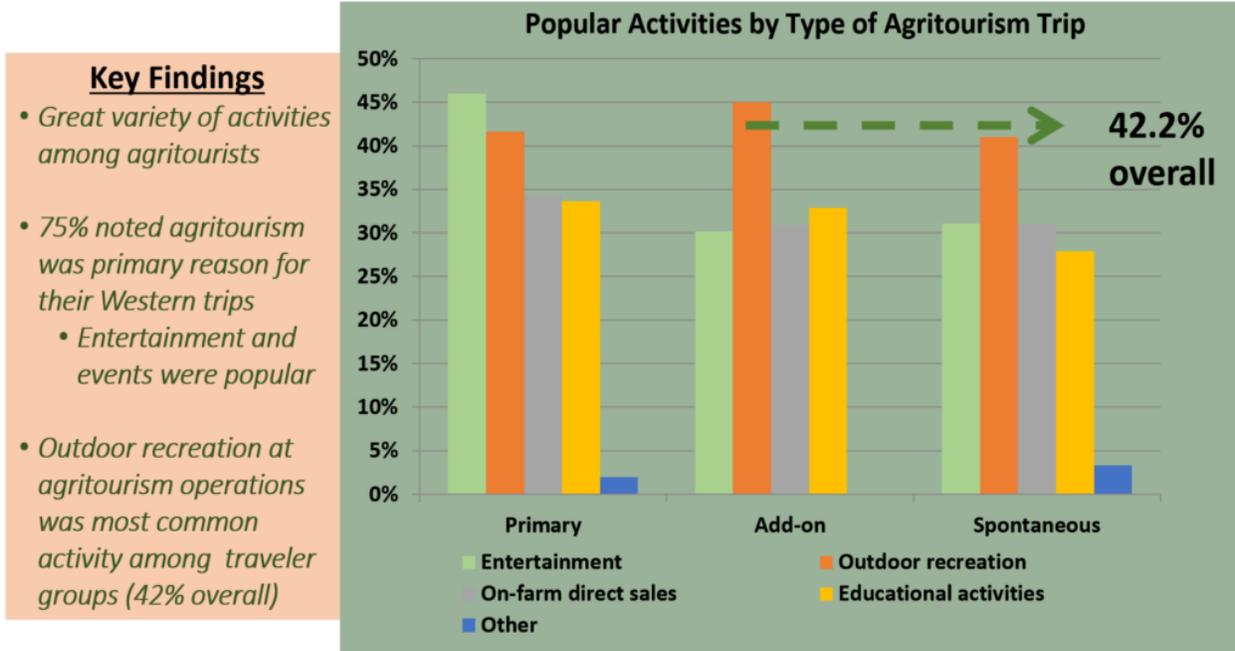
Figure 5: Interaction between Visitors and Agriculture



Source: Interamerican Development Bank, “Restarting Tourism’s Engine,” Luis Obrera

A world tourism report as highlighted in figure 6 below established that a significant number of those who buy an agritourism trip do so for the great variety of activities offered, especially in entertainment and other events, including on-location direct sales, outdoor recreation and educational activities . (See following chart).

Figure 6- Types of Agri-Tourism trips



Source: World tourism Forum, "different type of agritourism," 2016

## 9. Plan of Approach

The plan of approach for the development of a sustainable agriculture, livestock and fisheries industry is divided into immediate and short-to-midterm activities, with government taking a leading role in the execution of same.

### 9.1 Immediate action required

#### 9.1.1 Develop short term initiatives for home-growers and farmers

Consultations headed by the department of Economy, Transportation & Telecommunication with stakeholders during the writing of this policy produced the following results:

- Deeper understanding of their level of ongoing activities and obtained feedback to guide decision making.
- Existing challenges, if any.
- The ability to ascertain their immediate needs.
- Recommendations in support of agriculture development on the island was received.

A common theme throughout the discussions showed that:

- There is a need for St. Maarten to grow local food supplies and develop a local food industry.
- The cost of food (and the level of imports) is too high.
- The quality of food imports is substandard and thus creates a health risk for the population.
- The need for government to make land available for agriculture and livestock.
- Government should invest in greenhouses for farmers.
- The need for pest control: farmers/growers is challenged by a heavy influx of iguanas, monkeys, and rats, to name a few.
- The cost of water is too high.
- The waiving or lowering of license fees as an incentive to stimulate the industry.
- The need to introduce Agriculture into the primary school syllabus.
- A secure marketplace to sell commodities to the public.

The overarching activity from all but two individuals was the swapping and or selling of soil and seedlings. As a result, in terms of immediate initiatives, it was recommended that the Government of Sint Maarten subsidizes the cost of soil, which would not only assist the farmers, but also make growing more affordable for homeowners/ renters.

### 9.1.2 Establish, endorse or support regular pop-up farmer's markets

Amidst the pandemic, there have been individual/community initiatives to organize swapping events and small-scale farmer's markets. Consideration to financially support and endorse these initiatives until a structural solution with the collaboration with the Ministry of VROMI is achieved.

### 9.1.3 Explore export trade agreements with the EU (and other markets identified by industry reps) for the fishing and seafood industry

The Seafood and fisheries industry suffered a major setback due the pandemic affecting the ability to export supplies. Considering that the fisheries and seafood sub-sector of the industry is already more advanced than agriculture and livestock sub-sectors, St Maarten can move to explore export trade agreements to ensure survivability of the industry and its stakeholders. For example Sint Maarten can move to join with islands within the Dutch Kingdom, such as Aruba, Curacao, St. Eustatius, and Saba by applying for the EU's Registered Exporter (REX) system.<sup>17</sup>

## 9.2 Short-to-Mid Term Actions required

Because of the current challenges, governments need to adopt proactive policies to reduce possible disruptions that the pandemic may trigger. It is recommended that agriculture and the strengthening of national food security systems be at the forefront of such policies. Policies should focus on boosting production while simultaneously increasing the supply of nutritious food to its people and serve as a complementary means to support St. Maarten's tourism driven economy.

### 9.2.1 Explore the incorporation of Agriculture, Livestock & Fisheries into schools' curriculum

This should be spearheaded by the Ministry of Education, Culture, Youth and Sports (OCJS). The draft curriculum (as attached) was prepared by Mr. Jocelyn Richardson can be reviewed and implemented where feasible.

### 9.2.2 Explore matchmaking possibilities with RVO

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<sup>17</sup>[https://ec.europa.eu/taxation\\_customs/business/calculation-customs-duties/rules-origin/general-aspects-preferential-origin/arrangements-list/generalised-system-preferences/the\\_register\\_exporter\\_system\\_en](https://ec.europa.eu/taxation_customs/business/calculation-customs-duties/rules-origin/general-aspects-preferential-origin/arrangements-list/generalised-system-preferences/the_register_exporter_system_en)

The Rijksdienst voor Ondernemend Nederland (RVO) recently launched a program, which would offer business matchmaking services. The goal of this program is to seek support through knowledge base as well as investors from the Netherlands, who do not only want to invest locally, but partner with locally established entities to offer mutual benefits. In this regard, the Ministry of TEATT can engage the RVO to seek partners within the Kingdom, to partner with local farmers and introduce best practices to maximize production, while lowering costs.

### 9.2.3 Trainings with Caricom agro-organizations and University of Wageningen

There are various agricultural organizations within the region as well as the University of Wageningen in the Netherlands and the University of the West Indies who can assist with capacity building. Together with the departments of Kingdom & Interior Affairs and Foreign Affairs, the Ministry of TEATT can arrange for the necessary educational opportunities in the field of agriculture, agri business and related trainings for industry workers.

### 9.2.4 Restructure and strengthen the Agriculture, Livestock & Fisheries (LVV) section within the Ministry

It is recommended to review, restructure and strengthen this section in order to formalize activities and policies for the development of agriculture. Based on feedback from the Section Head on the desired formation and structure, the following structure is being proposed.

**Table 14- proposed LVV structure**

Function	Proposed Staffing	Level of Education	FTE's	Functional Scale
Department Head		WO	1	14
Administrative Assistant		MBO	2	6
Agriculture, Livestock and Fisheries policy officers		HBO	2	11
General preventive / curative plant health policy officer		HBO	1	11
Invasive animal and plant species policy officer		HBO	1	11
Scientific staff		WO	2	12
Sr. Legal Advisor		WO	1	12
		<b>Total</b>	<b>10</b>	

*Source: Department of Inspection, Economic Affairs*

### Budgetary needs

To achieve such a formation, a budget of NAf 1.5 Million (incl. materials costs) comparative to that of the Department of Economy, Transportation & Telecommunication would be required.

## Infrastructure & investment needs

- Specialized software or equipment
- office space
- desks, computers and basic office supplies

## Capacity building

Capacity building will enable the staff to obtain, improve, and retain the skills, knowledge, needed to execute their responsibilities competently. The amount of required capacity building will be dependent on the educational and work experience of the individuals.

### 9.2.5 Electricity and Water needs of Farmers

## Electricity

Modern applications of electricity in farming include conditioning and storage of grain and grass; preparation and rationing of animal feed; and provision of a controlled environment in stock-rearing houses for intensive pig and poultry rearing and in greenhouses for horticultural crops. Electricity plays an equally important part in the dairy farm for feed rationing, milking, and milk cooling.

**Table 15 – Electricity consumption on St. Maarten**

Year	2015	2016	2017	2018	2019	2020
Total consumption	335,760,012	342,146,595	281,680,535	235,764,446	288,510,712	133,812,112
Absolute change		6,386,583	-60,466,060	-45,916,089	52,746,266	-154,698,601
Percentage change		2%	-18%	-16%	22%	-54%

*Source: Department of Statistics*

## Water

Most of the water supplied for irrigation will be portable water originating from rain, wells or through GEBE piping. Some farmers on St. Maarten have become creative in meandering water from the hills directly to their grounds through terracing. For those not so lucky to be near a hill, the cost of watering is significant and costly. As such, water is procured from water truck owners who source water from local wells. The water is filtered via the filtration system set up by the truck owner, and then delivered to the farm.

Table 16-. Water consumption on St. Maarten

Year	2015	2016	2017	2018	2019	2020
Total consumption	4,030,145	4,377,209	4,293,033	3,960,003	4,389,227	2,135,888
Absolute change		347,064	-84,176	-333,030	429,224	-2,253,339
Percentage change		9%	-2%	-8%	11%	-51%

Source: Department of Statistics

The future Department of Agriculture will undertake a project to address the usage of GEBE water and electricity

## 10. Medium to Long term needed Policy response

The following tables present medium to long term policy responses and actions for the realization of a resilient and sustainable agriculture sector on St Maarten.

**Table 17 - Food Chain studies to improve food resiliency of St Maarten**

Phase	Study/Survey	Stakeholder	Investment/Policy change	Timeline
<b>Foreign Production</b>	A Study to determine which countries of import of canned food, fresh vegetables and fruit and fish	Central Bank Curacao and St. Maarten, Supermarkets, Whole sales and STAT	Annual Survey about which countries we import which products. To determine the risks. The economic situation of these countries are monitored. Potential countries: USA, Caribbean, Latin America, Venezuela, Dutch Caribbean.	6 -12 months
<b>Transport</b>	Map the transport companies/timeline of canned food, fresh vegetables/fruit and fish to St. Maarten	Transport companies (air and container and boat)/ LVV	Who are the transporters of fresh food and what are the timelines of transport?	6-12 months
<b>Local Production</b>	Survey local farmers	Local Farmers/ LVV	Survey of local farmers. How many companies, what type of production, what is investment?	6 months
<b>Local Transport</b>	Survey local cooling transport	Transport organizations	Survey local transport organization	1 year
<b>Wholesale/Retail Sale</b>	Survey Local Retail for canned food, fresh food, vegetables and fish products	Local supermarkets	Survey STAT/EVT	3-6 months
<b>Consumption households</b>	Survey current consumption Fruits and vegetables	Households/ Ministry of Health	Survey fresh vegetables/fruit and fish consumption	6 months
<b>Consumption Hotels</b>	Survey local demand fresh vegetables/fruit and fish	St. Maarten Hotel Association	Survey what local consumption is	1 year
<b>Consumption Restaurants</b>	Survey local demand fresh vegetables/fruit and fish	St. Maarten Restaurant Association	Survey what local restaurants demand and where they buy it	1 year
<b>Consumption Apartments</b>	Survey apartment tourists	St. Maarten Apartment holders	Survey what tourists buy in fresh fruit/vegetables and fish	1 year

Source: Department EVT

**Table 18 – Strategic Actions and or policies to improve resiliency of St Maarten**

Type	Actions, Policies	Stakeholder	Investment/Policy change	Timeline
Market place	Establishment of an official marketplace where local agriculturists, fishermen, butchers, creative industries can conduct trade directly to consumers	TEATT/VROMI	To identify a suitable location	2-3 years
<b>Agricultural station/Seedling Center</b>	To establish a centralized location for the provision for the general supply of seedling/plants to the planting population	TEATT/VROMI	Identify a suitable location/land for the structure	2-3 years
<b>Foreign trade policy</b>	To regulate the usage of natural resources such as fisheries in the waters that fall within the country's boundaries	TEATT, BAK,VROMI	Establish policies as it pertains to the Exclusive, Economic Zone (EEZ	2-3 years
<b>Foreign export policy</b>	A strategy for export of local produce first to Caribbean (in particular specialty goods that are not available in these countries, after which surplus to be exported on the international market	TEATT, BAK	Create an export strategy policy for local and specialty food production	2-4 years
<b>Cannabis exploitation</b>	Develop Legislation followed by Policy	TEATT, Legal Affairs	Use of recreational marijuana and establishing of national safety standards	1-3 years
<b>Ship registry</b>	Develop legislation for a registered flag state	TEATT, Justice	New	2-4 years
<b>Livestock tracking and disease management</b>	Establish national livestock identification, traceability, and animal health certification	LVV,VSA	Policy for the management of disease outbreaks and food safety incidents, reducing praedial larceny and illegal animal processing, tracking animal movement, and controlling for the use of veterinary drugs and pesticides	2-3 years

*Source: Department EVT*

## 11. Conclusion

St Maarten a small Dutch colony, share many traits with its regional counterparts. This includes limited land mass and arable land, high vulnerability to climate change, natural disasters, external economic shocks, a heavy reliance on food imports and a single economic sector. The tourism sector which is the mainstay of the economy has been crippled by current global events triggering job losses, a reduction in government revenues, including foreign exchange and putting food and nutritional security at risk.

Amidst a staggering food import bill and the need for a secure and sustainable food production, the government has renewed its commitment to boosting local food production through policies and structures that are in line with sustainable development goals. It is against this backdrop that development of the agriculture policy framework is set to deliver the roadmap for the realization of a sustainable agriculture sector for St Maarten.

The framework focuses on the elements of local food production, livestock, and fisheries development and proposes a new industry – the cannabis industry as another intervention for economic diversification. The sectors identified presents an ideal prospect for complimenting the island's primary economic pillar, the tourism industry. The agri business sector and the potential to supply locally grown produce to supply the over 1.8m million visitors (2016 figures) and to feed a population of over 40,000, provides an ideal opportunity to address the demand for food and food services.

However, for this to be realized, the policy recommends key investments in infrastructure primarily a department of agriculture, supporting institutions including a farmer's market, a seedling center among others along with related legislation and policies; in order to help farmers and fisherfolks comply with international food safety standards and market access for high-value food products. Recommendation for a baseline study is the preliminary action plan. The study will help to determine the current state of the industry and provide a trajectory tailored to St. Maarten's realities and address specific needs.

The recommendations are presented in a phased approach and involves private and public sector entities, the ministries of Vromi, Justice, VSA and Education as key players for policy options.

