



Food and Agriculture Organization of the United Nations

PROJECT DOCUMENT

Project Title:	Enhancing SPS capacity and market access for Grenadian Soursop exports
Recipient Country/is:	Grenada
Government / other counterpart(s):	Ministry of Agriculture, Lands, Forestry, Fisheries and Cooperatives
Expected EOD (Starting Date):	15 January 2024
Expected NTE (End Date):	14 January 2027
Contribution to FAO's Strategic Framework: (Indicate as appropriate) ¹	<ol style="list-style-type: none"> 1. Regional Initiative 2: Family Farming and Inclusive Food Systems for Sustainable Rural Development. 2. Result area 3: Inclusive markets established to facilitate linkages with FF/smallholders production and selected food and agricultural value chains supporting sustainable agricultural sector growth and increased utilization of quality and safe national products for better nutrition and trade.
Budget Requested from STDF	USD 298,691
Beneficiary Budget (In-Kind)	USD 240,170
FAO Budget:	USD 190,000
Total Project Value	USD 728,861
<p>Executive Summary</p> <p>Over the past decades Grenadian soursop has developed into a profitable and marketable commodity that is heavily export oriented. Increasing the production and export of soursop has been identified as a priority in Grenada's <i>National Sustainable Development Plan 2020-2035</i>, due to its significant export potential. Soursop is an important means of increasing agricultural diversity and creating opportunities for improved livelihoods in rural areas and especially among small farmers. Soursop has become the largest source of foreign agricultural earnings, valued at USD 2.6 million.</p>	

¹ For projects operated by country offices, it is necessary to link projects in FPMIS at OR level. For all other projects, linkage at product/service level is necessary.

Grenada enjoys a favourable export relationship with the United States (US) as the only country authorized to export soursop as fresh fruit. Demand from the US has increased considerably over the years due to both the high population of immigrant communities and the recent focus on soursop as a healthy fruit. Grenada's favourable access to the US market is due to the absence of two pests: the fruit borer (*Cerconota anonella*) and the soursop seed borer (*Bepratteloides cubense*).

At present, the profitability of the soursop industry in Grenada hinges on maintaining market access to the US, but the country's surveillance system is in need of improvements, and they are operating without a traceability system. Any detection of the borers would result in an immediate ban on exports of soursop from Grenada, which would effectively collapse the industry. This is because currently 97% of production is exported, and local and regional markets cannot absorb the current production nor pay the high prices it currently attracts. Access to other international markets has also not been cultivated, so a quick shift in export strategy is unlikely. At the same time, large producing nations like Mexico, who have the capacity to make large investments and reduce the Cost of Production (COP), are looking to gain market access to the US for irradiated fresh soursop. This poses a serious competitive threat to the Grenadian industry. This project seeks to implement the proper SPS measures and interventions along the supply chain to safeguard this USD 2.6 million industry, take advantage of current favourable access to expand and strengthen the industry and ensure the sustainability of the approximately 2,600 farmer livelihoods (70% of whom are small holders).

This is a market-orientated and demand driven project that uses the stakeholder-developed industry strategic plan as its blueprint. The goal is to safeguard and increase the livelihoods of all actors in the Grenadian Soursop Value Chain. This will be achieved through pairing SPS interventions with production and value chain interventions that will allow for increased exports and possible diversification into new products and markets.

This project is proposing the following technical assistance through the Standards and Trade Development Facility to achieve the aforementioned goal by addressing four output areas:

1. Holistic surveillance program and emergency response system developed
2. Capacities of Government institutions are strengthened on surveillance, detection, response, certification and traceability systems
3. Traceability and certification systems designed and piloted for export market of soursop
4. Capacities of farmers, private sector and extension services are strengthened on GAPs and IPM
5. Soursop industry network strengthened to manage future risks and expand market access

This project is in line with the Grenadian Government's priorities with respect to soursop, and builds on and is informed by previous FAO projects in the country and region, related both to soursop and SPS measures. While this is not a regional project since Grenada is the only country in the region free from the aforementioned pests, the proposed systems will serve as a blueprint for other commodities in neighbouring Small Island Developing States that also face unique constraints relative to other developing nations. The contribution of Grenada and FAO comprise the requested 60 percent, as Grenada faces funding constraints. The proposed activities and scope of the proposal reflect what is at stake should Grenada lose their pest-free status: a USD 2.6 million industry which is growing, a source of key income for small holders, and a major source of foreign currency earnings.

The target beneficiaries include farmers (2600, mostly small holders) through training and increased yields, exporters through the development of the certification and traceability system which ensures they receive high quality, pest-free fruit, and processors through post-harvest and food safety training. All actors in the value chain will benefit from the proposed systems and interventions, as

they will safeguard the industry and increase production. Women will be positively impacted by the training of processors, as they tend to operate in this segment of the value chain. From an environmental perspective, the training on the proper application of agricultural chemicals help to mitigate against overuse as acreage expands in response to prices.

This project is relevant to the STDF mandate as it combines development of public-private partnerships with industry stakeholders to address sanitary and phytosanitary concerns along the entire value chain. Strengthening coordination of industry stakeholders and successfully mitigating against SPS related threats will secure future farmer livelihoods through increased export to the US and allow for possible diversification into new products and markets. The goals of this project align with STDF initiatives to allow and maintain market access for goods through SPS measures and FAO initiatives in value chain development of commodities with good export potential and provision of stable livelihoods to rural communities. IPPC standards and systems will be implemented to prevent the spread of pests and diseases and promote the safe trade of soursop through the implementation/integration of the ePhyto system, and Codex Alimentarius guidelines will be implemented to ensuring proper food production standards are adhered to.

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ACRONYMS

ACP	Africa Caribbean and Pacific
CARDI	Caribbean Agriculture Research and Development Institute
CDB	Caribbean Development Bank
CARICOM	Caribbean Community
CTA	Technical Centre for Agricultural and Rural Cooperation
CELAC	UN Economic Commission for Latin America and the Caribbean
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAO SLC	FAO Sub-Regional Office for the Caribbean
GAP	Good Agricultural Practices
GMP	Good Manufacturing Practices (GMP)
GMNIB	Grenada Marketing and National Importation Board
IBM	Inclusive Business Modell
IICA	Inter-American Institute for Cooperation on Agriculture
IPM	Integrated Pest Management
LTO	Lead Technical Officer
MoA	Ministry of Agriculture, Lands, Forestry, Fisheries and Cooperatives
NEFO	North East Farmers Organization
OECS	Organization of the Eastern Caribbean States
PPP	Public-Private-Partnership
PSC	Project Steering Committee (in-country)
PTF	Project Task Force (at FAO SLC)
SFP	School Feeding Program
SIC	Soursop industry Committee
SP	Strategic Program
SRC	Sub-Regional Coordinator
STDF	Standards and Trade Development Facility
UK	United Kingdom
US	United States of America
VCA	Value Chain Analysis
WTO	World Trade Organization

SECTION 1 - RELEVANCE

1.1 GENERAL CONTEXT

1.1.1 General Context

Grenada is the southernmost member state of the Organization of Eastern Caribbean States (OECS) with a land area of 334 km² and a 2020 population of 112,516. Statistics for 2020 indicate a GDP of USD 1.09 Billion (World Bank), a debt to GDP ratio of 139% (CARICOM), poverty level of 25%, (the highest within the OECS). An estimated 32% of the population exists in poverty while in 2015 World Bank Statistics show undernourishment at 25.5 percent. WHO Global InfoBase 2016 shows Grenada as having the 4th highest level of obesity within the OECS and 9th in Caribbean Community (CARICOM) for population over 30 years.

The food import bill in 2011 was estimated at USD 60 million and the food imports as a percentage of merchandise exports exceeded 90 percent and growing. The GNI per capita income is estimated at \$7,110 the 3rd highest within the OECS following St. Kitts and Nevis with \$13,330 and Antigua and Barbuda with \$12,640.

Over the past ten years, the Government of Grenada has introduced a number of fiscal, social and economic policies to put the economy on a sound financial path, including supporting efforts to revitalize and diversify agriculture. The development and modernization of the agricultural sector for food and nutrition security, poverty reduction, food import reduction and commercialization through value-chain development has been emphasized as policy initiatives.

Grenada is known as the “spice island” and has a long history of producing and exporting tree commodities such as nutmeg and also high-quality cocoa. Prior to Hurricane Ivan (2005) Grenada was a main producer of soursop for exports of fresh and semi processed products to the United Kingdom (UK) and to Trinidad and Tobago. Under Grenada’s *National Sustainable Development Plan 2020-2035*, soursop was one of 6 crops prioritized for further development by maximizing exports foreign exchange earnings and facilitating industrialization of the sector. The Government considers the soursop tree as a priority crop and “super fruit” with one of the highest untapped potentials, which is further supported by soursop overtaking nutmeg and cocoa as the largest source of agricultural foreign exchange earnings (USD 2.6 million) in 2019.

Soursop (*Annona muricata*) belongs to the family Annonaceae. It is a native plant of Central and South America and the Caribbean, growing at high altitude and relatively warm climate of over 50 degrees F. It is a traditional crop of Grenada and efforts to organize and fully commercialize the crop started in 1979 with the implementation of a program of spices and fruit tree crop production for food security, employment and foreign exchange earnings. Large scale orchard production of soursop was promoted on the estates while small holders established few trees on their farms supported by the government labour and pest control incentive programs.

1.1.2 Sectoral Context

Since hurricane Ivan in 2005, the Grenada Marketing and National Import Board (GMNIB) has been working with the Ministry of Agriculture to provide soursop planting material to farmers, and has issued market and farm production contacts to stimulate the industry. Through this intensive Government driven rehabilitation program, about 20,000 plants are currently being multiplied annually to increase the area under production by 100 acres (40 ha) per year. The government provides a labour support incentive for farmers establishing one (1) acre or more of soursop (land clearing, lining, digging of holes and planting). This incentive together with a complementary drainage, soil and water conservation program are contributing positively to the increase in production.

There are three government nurseries which produce soursop seedlings (planting materials) for the farmers at subsidized prices, while 2-3 private nurseries also produce and supply plants. The private

nurseries have been supported in the past by the GMNIB to produce plants for farmers in an attempt to complement the Ministry's nursery production which, at the time, was inadequate to meet the increasing demand for planting materials by farmers. Production areas range from farms with a few scattered trees to well established orchards of 4-5 acres. It is necessary to boost soursop nursery production (seedlings, grafts) as well as to better manage established trees and orchards in order to increase production and productivity.

Traditionally, the major markets for soursop were the CARICOM and UK for fresh fruit exports markets followed by the domestic fresh market. A significant amount used to be also sold to domestic ice cream manufacturers, juice processors, pulpers and traffickers who export semi processed frozen soursop to Trinidad and Tobago, with smaller amounts being sold through the hotels and supermarkets. More recently, fresh exports of soursop to the US have skyrocketed, and is now the main market driver of the Grenadian soursop industry. The dominance of fresh exports to the US is because Grenada enjoys preferential market access as the only nation allowed to export fresh soursop due to being currently free of two pests. Grenada was granted a pest-free status in October 2004 as a consequence of undertaking the required assessments and satisfying the US Department of Agriculture requirements that Grenada was free of the two pests.

Demand for soursop in the US has continued to grow far past what Grenada can supply. Foreign investment in Grenada has also followed due to their market access situation and high prices. The licensing of export is regulated by an Act from 1998 and the Bureau of Standards is named as the entity issuing export licenses to exporting companies. There is some debate about the regulations of exports to lucrative export markets.

With increasing demand for exports and for the domestic market, prices for soursop have increased and are currently (2017) up to EC 2.00/lbs. This is an incentive for farmers to allocate land to set-up soursop orchards. In Grenada, 200 trees are the recommended number of trees planted on an acre of land, with an average yield of about 200 lbs. per tree. Therefore, a farmer with an established 5 acre soursop orchard and 1000 trees can expect an annual gross revenue of about ECD 400,000 (ECD 80,000/acre, USD 29,600/acre) from this orchard. While there seems to be considerable incentives for farmers to invest, access to land, the risks of storm damage (or even a total loss in case of hurricanes) and the uncertainty of market price fluctuations and market access over the coming years are concerns of farmers.

For agro-processors and exporters the high costs of the fruits are a factor to consider. Reports from 2014 indicate that there are about 10 known small processors of soursop. Most are cottage type operators of soursop tea leaves and other value added products, while one professional company is well known for its soursop juice. Products range from concentrates, smoothies, juices and tea packages from the leaves. At that time, over 80 percent of the crop was exported by over five large exporters and traffickers to the region. The estimated demand in 2014 was for 6,000lbs per week and growing. The traffickers to Trinidad and Tobago also exported an estimated 2000lbs weekly. Market indicators showed that for most weeks the demand was not met.

Since 2017, the top five exporters of soursop were the Grenada Fruit Company, Benmo Sales, Big Mac Enterprise, MNIB and Walter Charles. They account for approximately 90% of yearly exports, valued at USD 2.4 million. Demand from the US is still growing. The largest exporter of Grenadian soursop which has a market share of 40% on its own, has annual demand for 2 million pounds and is only able to supply less than 500,000 pounds, which only includes expressed demand of current clients.

Outside of Grenada, there are no other Caribbean states authorized to export fresh soursop to the US, and there is insignificant regional trade of soursop with most countries having insufficient volumes to fill domestic market demand. Trade primarily occurs in pulp form on account of restrictions.

1.1.3 Sanitary and Phytosanitary issues related to Grenadian Soursop

With regards to exports to the US, Grenada enjoys exclusive market access based on phytosanitary compliance confirmed by a Pest Risk Analysis done on the fruit borer (*Cerconota anonella*) and the

soursop seed borer (*Bepratteloides cubense*). The demand for soursop in the US is constantly increasing due to the promotion of reported cancer curing properties of the soursop trees and its fruits and as a health food, high in antioxidants. The demand and lucrative prices for soursop have stimulated investment in the soursop industry in Grenada with foreign investors applying for long-term land leases to establish orchards and an increasing number of exporters in the market. To date soursop is not covered by any licensing regulation, which is even more of a concern when coupled with rapid expansion of orchards and foreign investment that may not be fully aware of the pests and disease risks and may be more short-term oriented. The need to build a well-functioning export certification system based on sound surveillance and a traceability system is imperative now, but even more so as the industry continues to rapidly expand putting more livelihoods at stake while increasing the possible range and severity of pest outbreaks. To protect against the fruit and seed borers, export and import regulation is needed.

The closest countries to Grenada are St. Vincent and the Grenadines, Barbados and Trinidad and Tobago. Currently, the soursop fruit borer has been found in most of northern South America, Honduras, Trinidad and Tobago, Dominica and the Dominican Republic. The soursop seed borer has been found in Curacao, Mexico, Cuba, Jamaica and Barbados. The current pest free status of the country is in jeopardy given the closeness and range of the borers, and capacity of the value chain actors to ensure compliance with even basic SPS requirements. Improvements to the current inspection and surveillance systems are needed to ensure the fruit borer and seed borer remains out of Grenada.

Disease issues are also rampant in the production base, notably anthracnose. While farmers have begun approaching both the ministry and input suppliers on how to deal with these disease issues, knowledge on Good Agricultural Practices, including IPM, is weak. Based on findings from the value chain analysis, farmers have only recently begun using treatments to mitigate against anthracnose, unlike in Latin America. There was also low knowledge of the connection between fertilization and anthracnose at the nursery level in Grenada, as well as proper pruning practices among farmers.

The lack of knowledge and climate (heavy rains, high humidity) has led to widespread anthracnose issues and there is also concern that the movement of pickers from farm-to-farm is exacerbating the issue. In collaboration with other FAO projects being implemented, anthracnose will be addressed through technical assistance in training on integrated pest and disease management including orchard sanitation and pruning practices.

At present, buyers enter farms to harvest and there is no traceability system in place to know which buyers entered which farms nor their timing. Should there be a disease/pest outbreak of either kind, the spread would be quick and hard to contain in the current SPS measures and value chain structure. Any detection of the borers would result in an immediate ban on exports of soursop to Grenada, which would effectively collapse the industry. This is because currently 97% of production is exported, and local and regional markets cannot absorb the current production nor pay as high prices. Access to other international markets has also not been cultivated, so a quick shift in export strategy is unlikely. The effect of livelihoods would be devastating, with an estimated loss in foreign exchange earnings of approximately USD 2.4 million (the vast majority of the industry earnings).

Outside of the loss of the preferential US market, which would effectively lead to the collapse the current soursop industry because almost all production is currently exported, rebuilding would be an issue. The seed borer wasp greatly reduces the quality of marketable fruit, rendering a large portion of harvested fruit inedible. The introduction and spread of the seed borer would likely be the most significant production barrier farmers in Grenada will face, and it would hinder exports to other nations since marketable yields would decrease.

Additionally, it is hypothesized that the current prevalence of anthracnose is potentially due to buyers spreading it as they move from farm-to-farm. Without a good surveillance and traceability system, the containment and control of pests/disease would be difficult and will result in a loss of market access and the collapse of the industry. Related to the control of disease is proper application of agricultural chemicals. To explore other markets, farmers will need to be trained on GAPs to meet Maximum Residue Level (MRL) of markets with more strict entry requirements.

In addition to maintaining market access by improving SPS related measures, there is also the issue of the quality of the fruit and competitive threats. Based on the prior conducted value chain analysis (FAO), yields have been decreasing and prevalence of disease increasing. The exact cause is unknown, but it is likely a combination of disease and production practices. To ensure good relationships with importers overseas, it is imperative that the quality of the soursop be improved as importers in the US have received complaints about the quality of the fruit in the past. Since yields are low, Grenada is not fully capitalizing on demand from the US and also not capitalizing on returns to scale from larger shipments. At the same time, large producing nations like Mexico, who have the capacity to make large investments and reduce COP, are looking to gain market access to the US for irradiated fresh soursop. This poses a serious competitive threat to the Grenadian industry. Furthermore, Belize's soursop industry is currently preparing to expand production substantially and are looking into how to meet current USDA requirements.

Product diversification is also another opportunity for the industry. Entering into value added markets can mitigate against competitive threats to fresh soursop and provide additional income for households. As production levels increase, rejections of fresh soursop can be diverted to value added production like pulps, and in particular for products that cater to the tourist industry. To properly service this market however, food safety issues will need to be addressed.

Overall, a full holistic approach is needed to control current pest issues and protect against future SPS related threats. Coordination and organization along with training of all actors along the value chain is needed, particularly at the buyer-level. All actors must also have a keen understanding of the market access requirements of importing nations, particularly the US. Cooperation and solid partnerships are needed to implement an effective export certification, surveillance and traceability system.

A previous project funded by FAO and partly implemented by CAHFSA oversaw the development of the National Plant Pest Surveillance Framework. It had two main parts, the establishment of surveillance focal points at all relevant institutions and the formation of a coordinated surveillance committee. These arrangements would cover the range of threats from pre-border and border to post-border. This project would build on the previous work done, which include a full Value Chain Analysis report, and continue efforts to assist Grenada to implement the previously identified measures.

1.1.4 Problems/issues to be addressed

In essence, ensuring access to export markets through the development and implementation of certification and surveillance measures, in conjunction with a traceability system and increased coordination of the value chain, has the potential to create employment at farm and enterprise levels, increase foreign exchange earnings and contribute to the nutrition of the population.

There are widespread production practice and disease issues that are limiting Grenada's national production levels of soursop, resulting in lost incomes for local farming communities. At the same time, the entire supply chain is at risk of collapsing should the fruit and seed borer be found in the country. As such, the soursop industry is currently operating beneath its full export potential while also being highly exposed to severe pest risks. Should the borers be found in Grenada and not managed, the quality of the edible fruit will seriously deteriorate, which will affect both local consumption and possibilities of export to nations that do not have the pest (loss of market access).

This project aims to address all aforementioned issues by implementing actions aimed at reducing the risk exposure for this important national industry, whilst also working with stakeholders to sustainably build and develop the sector to its full potential. The project will tackle the linked issues of pest surveillance with the current GAPs and orchard management issues in a coordinated manner (through certification and training), using a full value chain approach to ensure sustainability of implemented practices (building public-private partnerships). By implementing certification, surveillance and traceability systems, the Grenadian soursop industry can maintain market access to the US and use this period of preferential treatment to bolster their value chain against future shocks. Improvements to the organization of the value chain and flow of goods through a traceability system will not only help with quality of fruit but will help with the current spread of disease which is affecting production levels, and

with containment should there be an outbreak of any pest or disease. Interventions in nursery and production will attract more farmers, optimize existing farmers and ultimately increase exports (and foreign exchange earnings). Interventions on GAPs and orchard management will increase yields and quality of the fruit. By addressing both SPS threats and current production issues, this project will result in an increased supply of soursop to international markets, safeguarding and increasing the incomes of small holders and local business operators who rely on soursop production for their livelihoods.

1.1.5 Relevance to STDF

Currently, the soursop industry requires improvements to their existing surveillance system and the implementation of certification and traceability systems. Their favourable access to the US market completely hinges on keeping two pests out of Grenada: the fruit borer (*Cerconota anonella*) and the soursop seed borer (*Bepratteloides cubense*). Should these pests be found in Grenada, they would immediately lose their main export market, which takes 97% of their production. Without immediate action to develop plans to eradicate or contain these pests should they infest the country, they will likely lose favorable market access. This project intends to safeguard these livelihoods by implementing the proper SPS measures to ensure continued market access.

It is also likely that over the short to medium term new competitors will enter the US market, and Grenada will lose its competitive export position. The secondary intention is to use this period of competitive advantage to strengthen the value chain, address production issues and improve strategic product marketing so that Grenada can diversify, and the value chain can respond to competitive threats from other exporters. There are opportunities to diversify into value-added processing (teas, pulps) that can service local, regional and international markets, and provide protection against shocks from increased competition in the fresh soursop market. At present, the country could produce and export a higher volume of soursop through increased yields and expansion of cultivated acreage. The largest exporter of Grenadian soursop has annual demand for 2 million pounds but is only able to supply less than 500,000 lbs, which only includes expressed demand of current clients.

There is also a lack of coordination between stakeholders, a limited framework in which to undertake policy direction, limited marketing strategies to take advantage of market opportunities, and the occurrence of quality issues in production and the post-harvest handling of the product are of concern. To protect the Grenadian soursop industry, SPS issues must be addressed along the entire value chain and within the enabling environment, and at the same time the value chain must become more coordinated to capitalize on the incredible unmet export demand, improve surveillance and implement traceability measures.

This project was formulated by Ministry of Agriculture, Lands, Forestry, Fisheries and Cooperatives, with FAO. As mentioned before, in the Government of Grenada's *National Sustainable Development Plan 2020-2035*, soursop was one of 6 crops prioritized for further development by maximizing exports foreign exchange earnings and facilitating industrialization of the sector. The Government considers the soursop tree as a priority crop and "super fruit" with one of the highest untapped potentials, and is a major source of foreign exchange earnings for Grenadians. The Ministry of Agriculture and FAO have committed to continue to build on the work done given the significant stakeholder interest and potential for the crop.

This project uses results from previous Government led initiatives as a foundation for the proposed interventions, which include a value chain analysis of the sector with recommendations, a proposed upgrade to pest surveillance systems, and a national Strategic Plan for upgrading the soursop sector which was developed in 2018 where five key strategic areas were identified. The five areas of the national strategic plan for the soursop industry included expanding exports, meeting market requirements, diversifying industry products, preparing for the threat of competition in U.S. market, and improving coordination. The plan was developed with extensive stakeholder engagement from all levels of the value chain (farmer to exporter), and included both the public and private sector. The project uses the stakeholder-approved strategic plan as a guide for activities. This project will provide technical support in the critical areas of SPS and IPM, identification of viable and integrated agricultural business models, attraction of private sector investment into the sector, and coordination of sector stakeholder's to improve the competitiveness, resilience and sustainability of the industry over the long term.

Moreover, in order to create conditions for the sustainable development of an inclusive soursop industry, the proposed technical intervention seeks to develop an improved governance and management structure of the value chain for soursop and to promote greater market development and systems to support the effective production of clean planting material to drive the expansion of the industry. Furthermore, export regulations and the licensing processes of exports of high-quality produce for overseas market destinations as well as an environment which stimulates continuous investment into the growth of the industry must be established.

This is a demand driven project that uses the stakeholder-developed industry strategic plan as its blueprint. The goal is to safeguard and increase the livelihoods of all actors in the Grenadian Soursop Value Chain. This will be achieved through pairing SPS interventions with production and value chain interventions that will allow for increased exports and possible diversification into new products and markets.

Consequently, this project is proposing the following technical assistance through Standards and Trade Development Facility to achieve the aforementioned goal by addressing five output areas:

1. Holistic surveillance program and emergency response system developed
2. Capacities of Government institutions are strengthened on surveillance, detection, response, certification and traceability systems
3. Traceability and certification systems designed and piloted for export market of soursop
4. Capacities of farmers, private sector and extension services are strengthened on GAPs and IPM
5. Soursop industry network strengthened to manage future risks and expand market access

The project will undertake activities under these five outputs. The primary benefit to this project is the safeguarding and expansion of the USD 2.6 million industry in Grenada, which is a significant contributor to farmer livelihoods and the primary source of agricultural foreign exchange earnings. In total, there are approximately 2,600 soursop farmers, where almost 50% operate farms less than 1 acre, and almost 70% operate farms less than 2 acres.

This project will have a measurable impact on all farmers, but specifically smallholders, as they will be involved and benefit from the project activities both through safeguarding the industry and increasing exports. Project activities related to certification, surveillance and traceability, including the strengthening of diagnostic services, will have positive spillover effect into other crops, as the framework can be expanded to include other plant pests. Additionally, those farmers who adhere to the GAPs and surveillance activities would be a part of the certification systems. Fruit sourced from a certain area or farm, produced under the appropriate conditions would be assigned a lot number when inspected/certified and shipped from the packing houses.

This method (should it be approved) would incentivize farmers to engage in surveillance activities and proper production practices as exporters will require soursop to be certified, and will also allow for containment and quick mitigation should the pest be found.

This project is being submitted to the STDF because it will have a demonstrable impact on trade and poverty reduction in Grenada by facilitating continued market access and ensuring the value chain is properly organized to respond to future risks of plant pests and build resilience against increased competition on the global market. Proper implementation of the project will not only help maintain current market access to the US but will also aid in increasing and diversifying exports to other markets with similar SPS concerns, namely the UK and EU. The project will employ a multi-pronged approach, addressing SPS threats through an improved traceability, export certification, and surveillance mechanism to ensure continued market access, improving application of GAPs and proper post-harvest practices to both increase exports to capitalize on current market access and to address current disease issues, and lastly by improving value chain coordination which will aid in the competitiveness of Grenadian soursop and the effective implementation of the proposed systems. Furthermore, this project will use a value chain approach which uses heavy stakeholder engagement during the planning session.

Development of a new system will be done using the Plant Health Protection specialist with the Soursop Industry Committee comprised of public and private stakeholders.

The proposal aligns with the STDF's principals of funding projects that convene and connect stakeholders, pilot innovative approaches to improve SPS capacity, ensure dissemination of good practices and knowledge products that address food safety and plant health, and influence and catalyse SPS improvements on the ground.

The project will bring together public sector actors from different ministries, private sector stakeholders from all levels of the value chain, and international specialists on plant health, plant production, value chain development, agribusiness, and processing to create and pilot a sustainable system to address the SPS issues that threaten Grenadian soursop market access. By bringing together these experts and connecting them with industry actors on the ground regularly, the project ensures that all knowledge and networks are effectively leveraged.

The project makes use of STDF-specific expertise also developed by STDF's key partners like the IPPC. IPPC standards and systems will be implemented to prevent the spread of pests and diseases and promote the safe trade of soursop through the implementation/integration of the ePhyto system. This project will foster compliance with a number International Standards for Phytosanitary Measures (ISPMs), including but not limited to, ISPM-1 (Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade), ISPM-6 (Surveillance), ISPM-7 (Phytosanitary Certification System), and ISPM-14 (The use of integrated measures in a systems approach for pest risk management). Codex Alimentarius guidelines will also be implemented to ensuring proper food production standards are adhered to.

The project will use references consulting IPPC guides and materials on surveillance (<https://www.fao.org/documents/card/en/c/cb7139en>), the IPPC e-learning course on Surveillance and reporting obligations as part of the personnel training program (<https://elearning.fao.org/course/view.php?id=824>). The IPPC Prevention preparedness and response guidelines for *Spodoptera frugiperda* <https://www.fao.org/documents/card/en/c/cb5880en> will be used as an existing example for setting up a specific surveillance program and contingency plans in the event of introductions. In addition, IPPC materials on export certification (<https://www.fao.org/documents/card/en/c/CA6379EN>), export certification e-learning course as part of personnel training (<https://elearning.fao.org/course/view.php?id=860>) and the IPPC guide for establishing and maintaining pest free areas (<https://www.fao.org/documents/card/en/c/ca5844en>) will be used and consulted for reference.

A significant deliverable of this project is the development, piloting and expansion of the proposed export certification system, and the traceability and surveillance systems. These types of systems have not been implemented in Grenada nor the Caribbean before, and when successfully implemented, can serve as a blueprint for other crops and/or other countries, particularly for Small Island Developing States which face the same constraints as Grenada. By using a value chain approach to develop and pilot these systems, the project ensures there is private sector buy-in as they will be main driver of implementing the agreed upon systems. As mentioned before, soursop is a very economically and socially important industry for Grenada, and it is also not meeting its full export demand. There is room for many improvements, both for SPS and production issues, that will help protect this industry and enable further economic gains.

All results and proposed systems will be properly documented and disseminated to stakeholders, and available for use by other countries and other industries. This is a multi-functional project, that aims to simultaneously address SPS issues, production issues and organization of the value chain through a public-private partnership approach. It will serve as a blue print for countries that face resource constraints but are looking to increase their SPS capacity, and it will ensure coordination and cooperation between stakeholders through regular meetings of the Soursop Industry Committee.

These regular meetings will serve as a catalyst for improved public-private sector relations, and improved communication and coordination between stakeholders themselves, which will facilitate further upgrading of the value chain to meet challenges in the future. Proper implementation of the project will also develop a solid foundation for expansion, with more farmers being trained to supply packers and exporters requiring the certification, traceability and surveillance systems. As more farmers are incentivized to enter into these partnerships, there will be increased production and exports due to

better production practices, which will then catalyse investments back into the value chain. This will set the stage for future access to other markets, and increased availability of quality soursop for processed products.

Overall, this project is relevant to the STDF mandate as it combines development of public-private partnership with industry stakeholders to address sanitary and phytosanitary concerns along the value chain. Strengthening coordination of actors and successfully mitigating against SPS related threats will secure future farmer livelihoods through increased export to the US and other regions. The goals of this project align with STDF initiatives to allow and maintain market access for goods through SPS measures and FAO initiatives in value chain development of commodities with good export potential and provision of stable livelihoods to rural communities.

1.1.6 Positive Spill-over effects

The development of an Export Certification System and Traceability System for the Grenadian Soursop Value Chain will be well documented. A manual and guidance document will be developed under this project to outline the development and implementation of the systems. This can be easily disseminated within the Caribbean region and other FAO sub-regions, and be applied to other value chains of interest for different commodities.

Not many countries in the region have successfully implemented an export certification system, and almost none have implemented a traceability system. This project can serve as a framework for adoption by other nations, especially when considering that resources are uniquely constrained in Small Island Developing States.

Moreover, the need for these types of systems across many countries, including Least Developed Countries and Small Island Developing States, will only increase as the climate becomes more volatile, the range of pests increases, and the requirements of importing nations become higher. Proper implementation of this project will provide a useful step-by-step approach to implementing these systems using a full value chain approach, which ensures the sustainability of the systems.

1.1.7 FAO's comparative advantage

Aside from a strong presence in the region, in recent years FAO has carried out projects specifically related to soursop in Grenada under which farmers were trained on GAPs, a production manual was developed for soursop, a value chain analysis was conducted, a strategic plan for the industry was developed and a value chain coordination committee was formed (*Support to the Development of the Soursop Value Chain in Grenada – TCP/GRN/3601*). This TCP ran from May 2017 to October 2018, and the budget was USD 232,000. The main lesson learned was that there are significant opportunities to develop the Grenadian soursop industry, but this would not be possible without implementing the necessary safeguards against pests, making improvements to orchard management, and improvements to value chain coordination in general. During this process, good working relations were further developed with the Grenadian government, soursop farmers and other private stakeholders, which will help with implementation of the project. Additionally, FAO is currently implementing the World Bank funded AGRICOM project in Grenada, which provides grant funding to companies that work with clusters of farmers for particular commodities, of which soursop is included.

In development of this proposal, Juliet Goldsmith from the Caribbean Agricultural Health and Food Safety Agency (CAHFSA) was consulted. CAHFSA is designated a Regional Plant Protection Organization by IPPC, where they contribute to various activities that achieve the objectives of the IPPC through cooperation and coordination between the organizations. Previously, Grenada was also included in a regional project (*Strengthening the institutional and technical capacity of agricultural services in three countries of the OECS - TCP/SLC/3605*), where a plan and framework for pest surveillance was carried out with FAO and CAHFSA. The objective of the TCP in Grenada was the development of quick reference manuals, guides, and training modules for supporting national animal and plant surveillance

systems, to be used by Customs, Port and Security Services. This TCP ran from April 2017 to June 2019 and FAO contribution was USD 123,000. Lessons learned from this project was that an integrated approach to the management of monitoring and surveillance activities, supported by risk-based decision making, was needed to help prioritize the allocation of government resources and to maximize the use of existing capability and infrastructure. This proposal builds on work carried out by CAHFSA for FAO addressing enhancements to their general surveillance infrastructure and the soursop value chain.

This project is also in line with IPPC initiatives to ensure plant health information is recorded and exchanged and to build domestic capacity to respond to plant health risks. Also, extensive work on the state of surveillance was completed under TCP/GRN/3601 and TCP/SLC/3605 which both explicitly carried activities to strengthen the Plant Protection Unit via the provision of training and equipment for conducting monitoring and surveillance activities.

Considerations will be made for implementing the relevant ePhyto Solution system of the IPPC as part of Activity 2.1, where a digital-trace back system will be developed and piloted. Specific considerations will include the structure of the proposed traceability system, the cost of implementing/integrating ePhyto or specific components (HUB, GeNS and/or Harmonization), and ease of integration into Grenada's existing infrastructure. This project would allow Grenada to implement critical areas laid out in the Strategic Plan developed for the soursop industry, the proposed Framework for National Monitoring and Surveillance Activities, maintain market access, increase exports (by extension farmer incomes), and strengthen value chain coordination.

FAO also has strong ties to regional organizations, like the OECS. Discussions were had with Lench Fevrier about developing the Grenadian soursop industry in advance of developing this project proposal. This project is in line with OECS priorities as it focuses on improvements to local industries to increase their competitive position globally, and building resilience to enhance members' ability to respond to outbreaks and crises in a well-managed and organized fashion. This project specifically fits with OECS goals to transform agriculture through private sector partnerships, development of agri-business and facilitation of non-traditional agricultural exports. The proposed systems will serve as a blueprint for implementing similar systems in other OECS nations, which will likely be needed in the future as the range and severity of pests and disease increase.

Lastly, FAO is also a partner of the STDF and houses the institutional knowledge necessary to ensure compliance with SPS measures related to market access, and hosts the Secretariats for IPPC and Codex Alimentarius Commission, whose plant and food safety standards integrate well into this project's activities.

1.1.8 Participants and other stakeholders

This project has the support of key stakeholders and is based on the Grenadian government's priorities as identified by official reports and previous projects done in the country related to soursop. The project uses a private-public approach, consistent with FAO's Value Chain Development Methodology to address SPS related threats and improve the volume and quality of exported soursop.

On the government side, the project will closely involve the CEO and staff of the GMNIB, the Bureau of Standards, the Government's laboratory facility, and both the Ministry of Agriculture's Planning and Extension Unit and Pest Management Unit. The Port Authority, Airport Authority, and Customs & Excise Department will also be included. These organizations will benefit from the technical training and on-the-job training required to develop and implement the surveillance framework. They will also take part in the value chain coordination and traceability aspect of the project, specifically the Bureau of Standards. The laboratory will benefit from new equipment, technical training and standardization of procedures and the Ministry of Agriculture will benefit from enhanced effectiveness of extension services. At the higher level, SPS authorities will be enabled to better understand and demonstrate continued SPS compliance, and avenues will be opened for engaging with importing nations to better understand how the market access situation is evolving.

On the private sector side, the beneficiaries include farmers, buyers, packing houses and exporters. The investors in the industry and the exporting companies will be contacted and invited to participate in the

further formulation of the value chain coordination and traceability, certification, and surveillance activities. The project will strike a balance across the different groups participating in and benefitting from the project. All private stakeholders, which includes 2,600 farmers, will benefit from the safeguarding of Grenadian market access, and improvements to production and value chain coordination issues.

Farmers will benefit from training on both GAPs and integration of surveillance practices into their regular production practices. Notably, the soursop production base is disproportionately composed of smallholders, so small farmers livelihoods will be enhanced. The Grenadian farmer association Northeast Farmer Organization (NEFO) has been involved in earlier FAO support project and members are amongst the soursop famers with regular new plantings since 2009. The project will try to include more farmer organizations into the value chain activities, like the Carriacou Farmers Organization which has several farmers involved in growing soursop and also including youth groups and youth-based enterprises.

1.1.9 Public-Private Partnerships

In using a value chain development approach to implement this project, with a key step being the development of the Soursop Industry Committee, the proposal explicitly recognizes the importance of public-private partnerships and seeks to establish, strengthen and properly leverage public-private partnerships in addressing SPS issues in the Grenadian soursop value chain. The proposed systems cannot be implemented without the buy-in of the private sector, from farmer all the way to exporter. By ensuring key public and private stakeholders are brought together regularly to plan, pilot and implement the proposed SPS and value chain improvements, the project ensures that the proposed systems are functional and sustainable.

The plan to use the Soursop Industry Committee to develop and implement the systems, while addressing production and organizational issues, ensures that there is ownership and buy-in at all levels of the value chain, that all stakeholders understand and approve the objectives, and that there is transparency and communication throughout the project between stakeholders to strengthen relationships and overcome barriers. The project is designed to meet the complex needs of all stakeholders, and ensure that all proposed changes are financially viable in the long-term. Addressing production issues, coordinating the flow of goods, and developing and implementing a traceability and monitoring system will allow for protection of the current industry, as well as optimizing current market access which is underutilized due to production inefficiencies.

All proposed systems will be developed with stakeholder input, and piloted and adjusted based on results from our private sector partner experiences in implementation. A full analysis and debriefing to understand their constraints and issues, and incorporate their expertise into the systems will ensure that practices are sustainable after the life of the project. Farmers and extension officers will receive training on GAPs, plant health requirements and the proposed systems. Private sector actors will be properly trained, provided with resources to learn about requirements, and will be the driver of implementation of standards by the farmers they source their soursop from. These groups are in a good position to advocate and incentivize reforms with help from the public sector, to enable increased exports, which translates into increased incomes for all actors.

During the life of this project, all results will be monitored carefully, and through the Soursop Industry Committee, the system can be adjusted to properly address constraints on the ground. The committee will also serve as a medium for regular communication between relevant public sector bodies and private sector actors along the value chain (farmers, packers, exporters, etc.). The Committee will serve as an open and transparent environment for stakeholders to discuss issues with implementation, and agree on changes that are mutually beneficial.

1.2 EXPECTED RESULTS

Logical Framework					Baseline	Target
Project Hierarchy		Indicators	MOV	Assumptions		
Goal	Market access for Grenadian soursop maintained and increased.	% of increased export earnings from soursop STDF indicator: US\$ value of exports for target HS code products and target markets (i.e., regional, intra-regional, global etc.)	Monitoring and Evaluation reports and national trade statistics	Farmers implement GAPs recommendations; no soursop farmer attrition; no loss of market access	Export earnings from soursop in 2022 (USD 2.5 million)	20% two years after project ends
		Number of detections of fruit and seed borer (compliance with SPS requirements of main trading partners) STDF indicator: # of SPS non-compliance alerts/notifications	NPPO pest reporting Surveillance and diagnostic reports; Farm reports	Stakeholders agree to plan and implementation strategy	0 instances of fruit or seed borer, current tests per year	0 instances of fruit or seed borer, current tests per year
		Number of new export markets identified STDF indicator: x market accessed	Monitoring and Evaluation reports, national production statistics and Industry reports	There are other markets opportunities for Grenadian soursop	0 new markets identified	At least one new market for soursop indentified
		Outcome 1	Pest-free system (based on systems approach) in	Number of farms integrated in the surveillance program for pest-	Monitoring and Evaluation reports, national production statistics and Industry reports	no soursop farmer attrition; no loss of market access

	place and operationalized by Government institutions.	free soursop production issued per year STDF indicator: Evidence of improved implementation and enforcement of food safety, animal and/or plant health measures			implemented by government	validated and adopted by the government At least 50 % of soursop farms participating in a surveillance program
Output 1:	Holistic surveillance program and emergency response system developed	Number of samples tested, laboratories improved, and simulations carried out STDF indicator: Evidence of improved implementation and enforcement of food safety, animal and/or plant health measures	Laboratory, NPPO and project reports	Staff from Ministry of Agriculture actively engaged with surveillance program, efficient capacities for pest identification and data collection	No current surveillance program in place	Four emergency response simulations and at least one laboratory improved
Output 2	Capacities of Government institutions are strengthened on surveillance, detection, response, certification and traceability systems	Number of government officials trained disaggregated by gender and institution STDF indicator: # of people reached (disaggregated by	Training plan, list of participants attending training and training reports	Staff from institutions are interested on increase their capacities on surveillance, detection, response, certification and traceability systems	0	At least 20 staff from different institutions received training

		women/men and geography/region) with STDF good practices, knowledge products)				
Outcome 2	Quality standards for soursop export market developed and maintained by the private sector	Number of farmers, buyers, exporters, agro-processors and soursop industry engaged in developing and maintaining quality standards for export markets STDF indicator: Evidence of improved implementation and enforcement of food safety, animal and/or plant health measures	Workshops reports, contributions and co-investment from private sector reports	Farmers implement GAPs recommendations; Private sector is interested and willing to co-invest in developing, piloting, adopting and maintain quality standard systems	No quality standards systems for exports in place	Private sector at least own one quality standard system for soursop exports
Output 3	Traceability and certification systems designed and piloted for export market of soursop	Number of traceability and certification systems designed STDF indicator: # and type of STDF knowledge products completed/published Number of value chain actors	Project reports and feasibility studies on traceability and certification for soursop exports delivered	Farmers and exporters recognise value of the export certification and traceability system despite its cost and regulatory burden	No traceability and certification systems in place	One traceability and certification system designed and piloted

		participating in pilots				
Output 4:	Capacities of farmers, private sector and extension services are strengthened on GAPs and IPM	<p>Number of farmers, private sector and extension officers trained</p> <p>STDF indicator: # of people reached (disaggregated by women/men and geography/region) with STDF good practices, knowledge products)</p> <p>Number of knowledge products (factsheets and manuals) produced</p> <p>STDF indicator: # and type of STDF knowledge products completed/published</p>	Training plan, list of participants attending training, factsheets and manuals published and training reports	Farmers, private sector and extension officers are interested on increase their capacities on GAPs and IPM	0	At least 100 persons received training
Output 5:	Soursop industry network strengthened to manage future risks and expand market access	<p>Number of workshops organized</p> <p>STDF indicator: # and type of STDF meetings/year</p>	<p>Meeting records; Attendance records; Media reports.</p> <p>Survey on satisfaction related to performance and operation of the industry group</p>	Representatives of all levels of the value chains recognize the necessity of the meetings and attend regularly and participate.	0 meetings of industry group	1 meeting per month of industry group

OUTPUT 1	Holistic surveillance program and emergency response system developed
ACTIVITIES for achieving Output 1	
Title	Description
1.1 Inception workshop	Project Inception Workshop hosted to discuss and agree on activities and prepare the detailed work plan
1.2 Develop and implement an improved surveillance program for access to the US market.	<ul style="list-style-type: none"> • Conduct a need assessment in consultation with relevant authorities and value chain actors • Pilot a country-wide surveillance program along the soursop value chain
1.3 Enhance diagnostic services and capacity	<ul style="list-style-type: none"> • Assess laboratories capacities • Develop technical specifications of equipment and material needed to improve laboratories capacities for efficient diagnostic • Data base of results and access
1.4 Develop an anticipated action response program	<ul style="list-style-type: none"> • Design the anticipated action program in consultation with all identified actors • Pilot simulation exercises conducted on quarantine pests (borers)
OUTPUT 2	Capacities of Government institutions are strengthened on surveillance, detection, response, certification and traceability systems
ACTIVITIES for achieving Output 2	
Title	Description
2.1 Strengthening capacities of government officials on surveillance program and efficient implementation	<ul style="list-style-type: none"> • Develop a training programme on surveying, sampling, detection methods, identification and quarantine measures for government officials • Carryout training sessions on surveying, sampling, detection methods, identification and quarantine measures • Guidelines and technical manuals on surveillance systems, standard operating procedures for pest identification and detection along the value chain will be developed and distributed.
2.2 Strengthening capacities of laboratory staff	<ul style="list-style-type: none"> • Capacity building on diagnosis for efficient detection of pest and diseases
2.3 Strengthening capacities of government officials on efficient anticipated action response program	<ul style="list-style-type: none"> • Training need assessment on local capacities to carry out a response system in case of quarantine pests appear. • Deliver a training on the role and actions to be taken by all different actors involved • Guidelines and technical manuals on emergency response systems focusing on the role and actions to be taken by all different actors involved

OUTPUT 3	Traceability and certification systems designed and piloted for export market of soursop
ACTIVITIES for achieving Output 3	
Title	Description
3.1 Carry out an assessment on capacity to implement a sustainable traceability system for fresh soursop fruit	<ul style="list-style-type: none"> The assessment will include all equipment, IT services and costs for the implementation of the traceability system for fresh soursop fruit. The report will be presented to value chain actors for validation and adoption of an action plan to achieve sustainability
3.2 Carry out an assessment on capacity to implement a sustainable SPS certification system	<ul style="list-style-type: none"> The assessment will include all equipment, IT services and costs for the implementation of the SPS certification system. The report will be presented to value chain actors for validation and adoption of an action plan to achieve sustainability
3.3 Pilot, monitor and evaluate the traceability and certification systems for pest-free soursop fresh fruit	<ul style="list-style-type: none"> Identify different actors both farmers and exporters to be part of the pilot Identify service providers for traceability and certification systems Execute the pilots, monitor and develop an evaluation report
OUTPUT 4	Capacities of farmers, private sector and extension services are strengthened on GAPs and IPM
ACTIVITIES for achieving Output 4	
Title	Description
4.1 Review and assess technical capacities of extension officers and farmers on GAPs and IPM for soursop	<ul style="list-style-type: none"> The assessment will include the identification of main areas for improvement of fresh soursop production and nursery management and recommendations including IPM
4.2 Establishment of demonstration plots in selected locations	<ul style="list-style-type: none"> Beneficiaries will be selected to demonstrate soursop plots with best practices including water, soil, cultural practices, nutrition and IPM

with different Agro-climatic zone	<ul style="list-style-type: none"> • Technical officers will be visiting regularly demonstration plots to provide high quality technical assistance • Field days will be organized for technical officers and farmers to observe field application of improved practices and cost-benefits
4.3 Strengthening capacities of extension officers and farmers on GAPs and IPM for soursop	<ul style="list-style-type: none"> • Training sessions will be organized for technical officers and farmers to learn on improved practices for fresh soursop fruit production • Factsheets and videos will be produced and published to complement training sessions and field days

OUTPUT 5	Soursop industry network strengthened to manage future risks and expand market access
ACTIVITIES for achieving Output 5	
Title	Description
5.1 Develop a sustainability strategy and action plan	<ul style="list-style-type: none"> • Workshops will be organized with all actors in the soursop industry identify potential areas that will need further development after project completion and responsible institution to carry the work forward
5.2 Conduct a feasibility assessment and market demand for Grenadian fresh soursop fruit and value-added products	<ul style="list-style-type: none"> • New market opportunities assessment for fresh soursop will be carried out taking into account emerging market competition

Please see workplan with timelines in Annex 1.

SECTION 2 - FEASIBILITY

2.1 RISK MANAGEMENT

Figure 1 illustrates the risks that may prevent the project from reaching the proposed goals. For each risk, the likely impact, probability of occurrence, and the suggested mitigation measures if the risk presents itself are identified.

Figure 1: Risk Matrix

Risk	Impact	Probability	Mitigation
1 Infestation of produce prevents market access, especially to the US market	Processing enterprises, farmers are threatened, prices will collapse	Medium	Work closely with the Bureau of Standards and adhere to GMP and standards related to food safety and hygiene practices; engage US authorities on requirements to demonstrate pest-free status after infestation (need to cost out financial burden of maintaining pest-free status, consider reorienting industry to value added if cost is prohibitive); invest in containment measures and measures to prevent entry; Grenada bans imports of host plants of two pests from infested countries
2 Farmers move out of soursop production	Decreased supply of raw material supplies to processing enterprises	Low	Work closely with extension officers to understand farmer attrition and use previously developed business profiles to attract new farmers
3 Pest outbreaks	Decreased supply of raw material supplies to processing enterprises	Medium	Establish an early warning system for target pests based on surveillance and inspection; Source raw materials from farmers in different locations in Grenada; promote wind breaks at orchards; work closely with MoA to monitor and combat outbreak; explore more resilient varieties

4 Limited capacity of government personnel	Inability to apply proposed measures to safeguard the soursop industry	Low-Medium	Work with experts and local staff to identify base level requirements and constraints of staff to ensure skeleton needs of industry are met
5 Industry disputes	Uncontrolled exports and exploitation of the resource based threaten market access and future supplies	Medium	Governance and management structure of the Soursop Industry Committee has been developed in agreement with all value chain actors in a participatory manner

2.2 IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

2.2.1 Implementation strategy

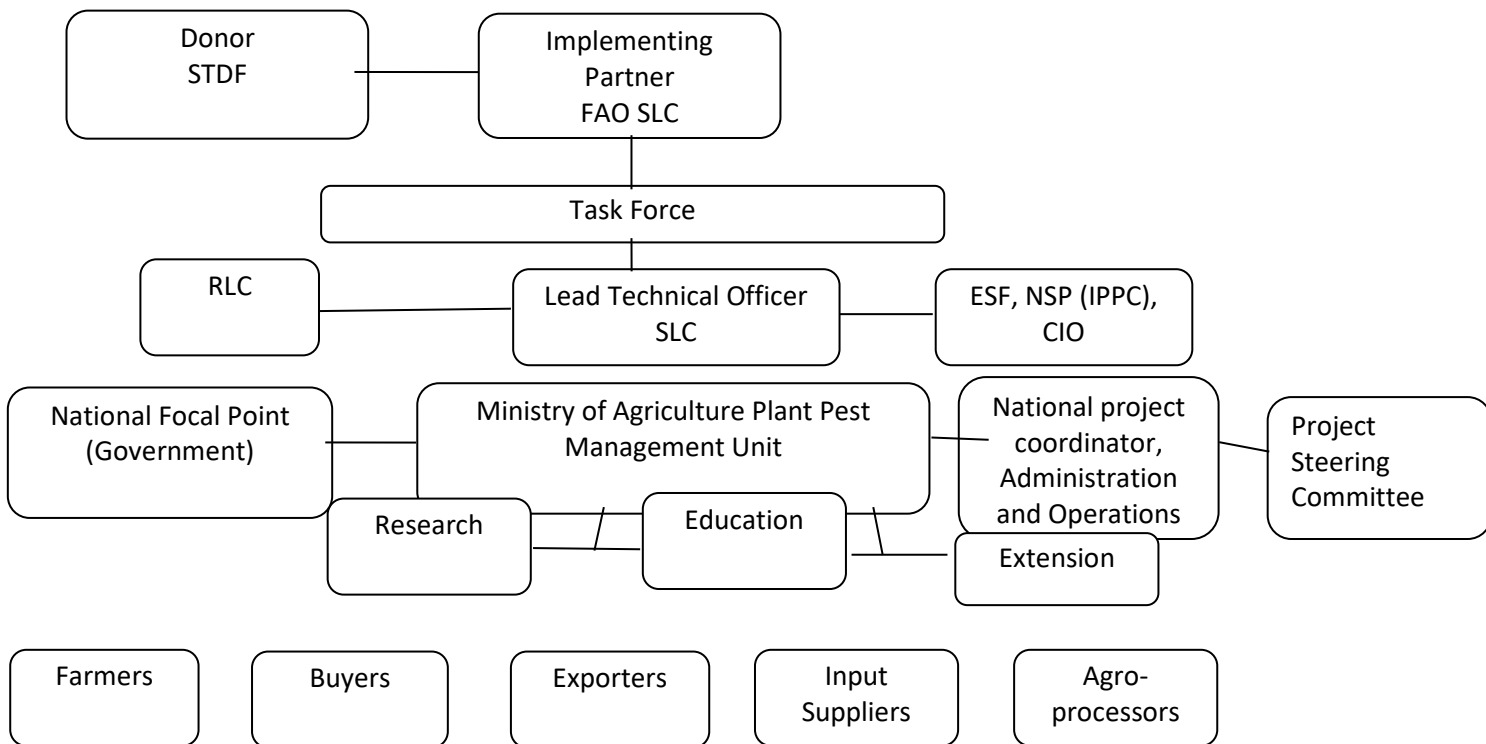
This project is requested by the Ministry of Agriculture, Lands and Forestry (MoA), in collaboration with the Ministry of Foreign Affairs, Trade & Export Development. The project will be implemented by FAO Sub-Regional Office for the Caribbean (FAO SLC), in accordance with normal FAO rules and procedures, in close cooperation with MoA and other relevant authorities.

As the implementing partner, FAO provides the following services:

- Coordinates and supervises inputs and expertise from national and international consultants and service providers to ensure technical quality of the highest standards with regard to project outputs;
- Provides technical guidance, inputs and expertise in the development of the methodology to formulate intervention strategies to increase the climate resilience of crop systems;
- Provides capacity development and training of local stakeholders from key institutions responsible for agriculture extension, supply and distribution and marketing to implement specific measures to increase climate resilience of crop systems;
- Coordinates project activities and communication with national and local Government institutions through FAO Country Offices, National Counterparts and the project coordination located at FAO-SLC.

The project will be supported by technical units and Divisions located at FAO Regional Office (RLC) and Headquarters such as Food Safety (ESF), Plant Production and Protection (NSP) and IT Services (CIO) among others. ESF will provide support in the area of food safety and traceability systems including upgrading laboratories for testing. NSP is the Division in which the International Plant Protection Convention (IPPC) is located and will be supporting standards and systems to prevent the spread of pests and diseases and promote the safe trade of soursop through the implementation/integration of the ePhyto system as well as compliance with International Standards for Phytosanitary Measures (ISPMs). NSP also will provide support in the area of pest/pesticide and orchard management. CIO will provide guidance on platforms developed supporting IT issues and clearances.

The following chart describes the project institutional and coordination framework:



FAO SLC will work closely with the MoA and other relevant government authorities (Bureau of Standards, Pest Management Unit, Extension and Agronomy Department, Port Authority, Airport Authority, Customs & Excise Department) to implement particular activities, which will support local capacity building and enhance the sustainability of the project. FAO will sign Letters of Agreement for particular activities under the project to MoA and other relevant government authorities, as appropriate, based on a clear, written agreement regarding the expected roles, responsibilities, budget and deliverables for each activity. Other organizations with whom FAO will sign Letters of Agreement for particular activities may include the Caribbean Agricultural Health and Food Safety Agency and the University of the West Indies.

The project will have an inception phase of about one month. During that period, the lead technical officer based in the FAO sub-regional office for the Caribbean will liaise with focal point in the Ministry of Agriculture to carryout pre implementation activities organizing meeting with stakeholders and validating the logical framework (including establishing baselines and targets). STDF's best practices and previous experiences in implementing SPS related interventions will be leveraged to avoid common pit-falls. The IPPC Systems Approach for pest risk management will also be explored during the inception phase, and potentially the two Excel-based tools which have been developed by STDF-supported projects to guide the system development process, and to ensure the proposed system is in line with IPPC standards and guides². Finally, during the Inception Phase FAO will also detail the project's governance (steering committee members) and identify specific activities in terms of women and environment. In addition, detailed terms of reference and agreements governing letters of agreement

² IPPC guide on Surveillance <https://www.fao.org/documents/card/en/c/cb7139en>.

IPPC elearning course on Surveillance and reporting obligations as part of the personnel training program <https://elearning.fao.org/course/view.php?id=824>.

The IPPC Prevention preparedness and response guidelines for *Spodoptera frugiperda* <https://www.fao.org/documents/card/en/c/cb5880en> which can be used as an existing example for setting up a specific surveillance program and contingency plans in the event of introductions.

IPPC materials on export certification <https://www.fao.org/documents/card/en/c/CA6379EN>.

IPPC Export certification elearning course as part of personnel training: <https://elearning.fao.org/course/view.php?id=860>

IPPC Guide for establishing and maintaining pest free areas: <https://www.fao.org/documents/card/en/c/ca5844en>

between FAO and other partners will be shared with the STDF for review prior to signature and release of funds.

FAO SLC will receive, disburse and manage funds for the implementation of project activities, in accordance with FAO rules and procedures. FAO SLC will provide oversight and supervision on the project budget. Relevant staff of the FAO Regional Office in Chile, FAO-HQ or other relevant FAO Units will provide regular technical backstopping support to the project.

FAO will hire a full-time project manager, to be based in the country, who will manage all aspects of project implementation on a day-to-day basis. Normal FAO rules and procedures -- including on human resources and recruitment, financial arrangements and budgeting, audit, international and local procurement, anti-corruption, etc. -- will apply to all aspects of project implementation (by FAO and any other partners or third parties involved in implementation). The MoA will nominate a National Project Coordinator, for the duration of the project, to ensure coordination at the central level of activities carried out.

A Project Steering Committee (PSC) will be established to oversee and supervise implementation. The PSC will be chaired by the MoA Secretary. It will include representatives from FAO, MoA (Pest Management Unit, Extension and Agronomy Department), Port Authority, Airport Authority, Customs & Excise Department, Bureau of Standards, and the Delegation of the European Union to Barbados, the Eastern Caribbean States (OECS) and CARICOM/CARIFORUM (as observers). The STDF will be invited to all steering committee meetings and be kept apprised of all project developments.

The PSC will meet on a bi-annual basis. Other donors and development partners will be invited to particular meetings as appropriate. The PSC will supervise implementation of the project and the results achieved, and facilitate inter-agency coordination. PSC activities will include reviewing project plans, budgets, project reports, updates to recommended implementation, and targets. The PSC will also coordinate any inter-agency activities and identify and respond quickly and efficiently to any problems with the project.

2.2.2 Government Inputs

The MoA and GMNIB will each make available a staff member to serve as the NPC. Furthermore, the MoA will make space available and release officers for regular Project Steering Committee (PSC) and Soursop Industry Committee meetings. A National Project Director will be appointed by the Permanent Secretary.

The technical staff of the Ministry and of GMNIB will support the project activities as part of their normal duties. The logistic infrastructure such as agricultural field extension workers and field stations of the Ministry will be available to support the project activities. Furthermore the Ministry will make available office space, logistic support and transportation for the national consultant employed by FAO, incoming short-term specialized consultants and FAO staff on backstopping mission.

2.2.3 Project Budget

FAO's contribution to the budget will be funded through a Technical Cooperation Programme (TCP) focused on promoting competitive, sustainable and resilient national value chain development in Grenada. A portion of the funds from this TCP will be allocated to the STDF project. The contributions from Grenada will be in-kind contributions primarily of personnel and office resources, that would be re-allocated or allocated to work on this project. These in-kind contributions will primarily be comprised of labour from staff in the Ministry of Agriculture, Land and Fisheries, the Port Authority, Airport Authority, and the Customs & Excise Department.

Please find the budget below. A budget in Excel format was also submitted (Annex 3).

Item	Description	Days	STDF (USD)	FAO (USD)	In-Kind - Grenada (USD)	Total (USD)
Professional Services			8,534			8,534
Professional services	USD 198/Day	43	8,534			8,534
Consultants			56,858	87,750		144,608
International Consultants			23,561	87,750		111,311
Crop Surveillance Specialist	USD 450/Day	85		38,250		38,250
Anticipated Action Specialist	USD 450/Day	80		36,000		36,000
International Consultant (assess production)	USD 450/Day	15		6,750		6,750
International Consultant (training in GAPS&IPM)	USD 450/Day	20		6,750		6,750
Marketing Consultant	USD 400/Day	23	9,187			9,187
IT Specialist	USD350/Day	21	7,187			7,187
Project Evaluator	USD350/Day	21	7,187			7,187
National Consultants			33,297			33,297
Project Coordinator	USD150/Day	202	30,270			30,270
Communications & Visibility Consultant	USD150/Day	20	3,027			3,027
Contracts			118,300			118,300
Contract services/LoA - assessments and Specification	Lumpsum		23,660			23,660
Contract services/LoA - assessments on traceability systems	Lumpsum		23,660			23,660
Contract services/LoA - SPS certification systems	Lumpsum		23,660			23,660
Contract services/LoA - Pilot of traceability systems	Lumpsum		23,660			23,660
Contract services/LoA - Pilot of SPS certification systems	Lumpsum		23,660			23,660
In-Kind Contributions (Grenada-Beneficiary)					240,170	240,170
Local Labour (In-Kind) by activity					224,060	224,060

1.2 Surveillance surveying	10 persons * 2 years * every week @USD 90/day	104			93,600	93,600
1.4 Simulations	6 persons * 20 days @USD 110/day	20			13,200	13,200
2.1 Training	10 persons * 10 days @USD 110/day	10			11,000	11,000
2.2 Training of lab staff	5 persons * 5 days @USD 110/day	5			2,750	2,750
2.3 Training	10 persons * 10 days @USD 110/day	10			11,000	11,000
4.2 Extension Officers support for Demonstration plots	4 persons * 104 weeks @ USD 110/week	110			45,760	45,760
4.3 Training	30 persons * 10 days @USD 110/day	10			33,000	33,000
5.1 Project Value Chain Meetings	5 persons * 5 days @USD 110/day	5			2,750	2,750
5.1 Project Committee Meetings	10 persons * 10 days @USD 110/day	10			11,000	11,000
Training & Workshops			9,320	39,550	12,000	60,870
Venue	For workshops, training, etc.				12,000	12,000
Catering	AM Break, Lunch and PM Break (for 10 workshops/trainings)		9,320	39,550		48,770
Travel			14,364	33,983	4,110	52,457
Airfare & DSA+ Terminals	Travel for LTO		4,632			4,632
Airfare & DSA+ Terminals for Crop Surveillance Specialist	Needs assessment and Pilot			13,724		13,724
Airfare & DSA+ Terminals for IT Consultant	Map data requirements and flows		3,244			3,244
Airfare & DSA+ Terminals for Anticipated Action Specialist	Anticipated Actions			13,365		13,365
Airfare & DSA+ Terminals for International Consultant	Training in GAPS and IPM			6,894		6,894

Airfare & DSA+ Terminals for Marketing Consultant	for Marketing		3,244			3,244
Project evaluator travel			3,244			3,244
On-Island Transport	On-island vehicle services				4,110	4,110
Non-Expendable Equipment			30,088	12,000		42,088
Procurement of equipment	Diagnostic services		20,044			20,044
Procurement of equipment	Pilot and Traceability and SPS Certification		10,044			10,044
Procurement of equipment and supplies	4 Demonstration plots @ USD 5000/ per plot			12,000		12,000
Expendable Equipment			15,809	10,000		25,809
Printing Services & Stationery	For manuals and pamphlets on introduced systems		11,160	10,000		21,160
Workshops & Trainings sessions	Lumpsum		4,649			4,649
Technical Support Services			18,634			18,634
TSS Standard	FAO Fixed Costs		12,084			12,084
Reporting	FAO Fixed Costs		6,550			6,550
General Operating Costs			26,784	6,717		33,501
General Operating Expenditures (5%)			7,243	6,717		13,960
Indirect Support Costs	7% of STDF Funding		19,541			19,541
Grand Total			298,691	190,000	240,170	728,861

Materials, supplies and equipment

Category	Type of materials / supplies / equipment	Use in the project / link to outputs
Expendable	Training materials, publications, office supplies, etc.	For training session and project reporting (Output 1, 2, 3, 4)

Non-expendable	<i>Soursop laboratory, nursery and processing upgrading equipment and surveillance and traceability</i> (to be determined by the Senior Food Systems Officer and LTO, based on the recommendations of the consultants	Support to demonstration (Output 1, Output 3)
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2.3 MONITORING AND REPORTING

The National Project Coordinator Consultant (NPC) will produce the monthly reports on the technical activities conducted and prepare a draft terminal report to be reviewed by the LTO. To ensure financial monitoring and on time delivery, the NPC will liaise with the FAO SLC program unit to establish the status and prepare quarterly reports on activities implemented, including financial data.

The initial in-country assessments carried out by consultants will obtain important data from Government institutions. Type of data to be sourced include indicators such as number of pest found under surveillance, number of farmers part of any type of certification system, number of nurseries upgraded, number of fruit seedlings produced, distributed and planted, number of farmers renovating, rehabilitating or expanding area under production, number of farmers receiving training and improving production practices, number of personnel receiving training and being part of the surveillance system and number of laboratories increasing capacities for testing among others that will be defined during implementation.

The NPC will also ensure that the STDF Monitoring, Evaluation and Learning Framework is adhered to, and that STDF specific reporting requirements are honoured. STDF program indicators will also be integrated into the log-frame, and performance will be monitored and tracked on an on-going basis. These measures will ensure that an evaluation can be carried out to assess the project in light of its efficiency, effectiveness and sustainability in achieving STDF objectives.

Under the responsibility of the Project Task Force (PTF) and in collaboration with the PSC, a mid-term review of the project based on the performance indicators will be carried out to assess progress against the work plan, make suggestions for possible re-orientation and identify needs for a potential extension of program activities. At country level the PSC will be responsible for constant monitoring of project with the support of the NPC; this will include the deliveries of the contracted service providers. The perspective of farmer groups and beneficiaries (processing enterprises, traders) will be captured through progress reports and regular grower-buyer workshops. The LTO will regularly review progress and alert to eventual problems encountered and recommend solutions as required.

For each training workshop, a summary report will be prepared. Both contracted services provide will provide a final report stating the services provided and lessons learnt. The consultant(s) will provide a technical report on the trainings conducted and technologies promoted. All of the consultants as well as FAO TSS missions will prepare an end of mission report indicating activities carried out, findings and conclusions and recommendations to the project and to FAO.

At the end of the project, a final narrative report will be drafted and submitted to the Government. This report will be prepared in accordance with FAO procedures. The narrative report (terminal statement) will contain a complete review of activities undertaken, major results obtained, problems encountered, progress towards achieving the specific objectives of the project and impact on the participants.

2.4 COMMUNICATION

The project will ensure that the guidelines in the STDF Communication Plan are followed in all communication activities, and that the required actions will be taken to ensure that there is visibility, proper documentation of results, and outreach in order to communicate widely as outlined in the Communication Plan. The PSC will ensure the preparation of the necessary documentation and publications tracking the program progress and achievement of activities. The PSC will also ensure that there is the necessary STDF, FAO and local media coverage of any activities carried out under the project, including ensuring proper photo documentation for STDF, FAO, and Ministry use. Quarterly progress reports will be submitted to FAO to ensure proper monitoring and evaluation throughout and at the end of the project.

Visibility actions at country level will be ensured through the value chain working group meetings, stakeholder meetings and a marketing and promotion campaign for the products. The public will also be informed about the performance, progress and achievements of the projects through the appropriate social media options. There is a public component to monitoring for pests, so education and engagement with the public will be carried out to raise awareness of the threat these pests pose. As well, as part of the project, documentation on the proposed system, monitoring practices and good production and post-harvest practices will be distributed to stakeholders. These resources will also be made available online through the Ministry of Agriculture.

Results will be measured through the number of resources disseminated to different groups, coverage in the press, and the increase of participants in the proposed systems. Key stakeholders will also be informed about project activities through the Soursop Industry Committee leading the implementation of upgrading activities, both to ensure their participation and for them to promote within their networks.

SECTION 3 - SUSTAINABILITY OF RESULTS

The project will strive to ensure that stakeholders are fully involved at all stages of the project implementation and SPS- related actions (i.e. planning, implementation, surveillance system, traceability measures) to ensure ownership of project activities. With the growing market for soursop fresh fruits and processed products globally and domestically, the demand for raw has been increasing and will continue to increase. Addressing SPS issues along with supply issues will contribute to increased productivity of existing orchards and increase overall production with newly planted trees coming into production. It is expected that regular exports will be ensured and more fruits will become available for the domestic market, regional markets and for the processing sector.

This project uses a value chain approach to not only implement holistic solutions to the issues affecting the value chain, but to ensure that all stakeholders (farmers, processors, packing houses, exporters) and the public sector can have input and ownership over the project. The value chain approach will also ensure that these actors are more organized and communicating with each other regularly. Over the life of this project, one of the outcomes will be stronger relationships and communication between different segments of the value chain, which will allow for the systems to continue to be implemented and expanded, and also for the chain to better adapt to any shocks in the future. Improvements to value chain coordination through regular meetings, improved communication and stronger relationships, as well as improvements to production practices along the value chain, will act as a catalyst to motivate actors to sustain the project's results since it will enable increased production, result in a more predictable flow of goods, and increase exports, all of which increases incomes for actors along the value chain.

The export certification system which has not yet been developed, and will need to be developed with the Soursop Industry Committee to ensure its sustainability. The establishment of the Soursop Industry Committee to oversee development and implementation of the export certification system, and the traceability and surveillance systems will be done through regular meetings, which will continue past the life of this project. As members see the positive impacts of improvements along the value chain, they can increase membership and also move as a coordinated group to address more advanced issues using the methods employed during the project.

The economic sustainability of the proposed systems will be ensured by the Agribusiness and Marketing Specialist costing out the proposed systems, to ensure that the system is financially viable outside the life of this project. The specialist will also be needed to ensure that any changes to production practices are worth the investment and viable in the long term. Once this analysis is completed, all information will be compiled into business profiles which will be presented and verified by stakeholders and participants in the pilot to show that while the systems require investment, the changes it will yield will be profitable. The business profiles can also be used to attract new investment into the industry, since as mentioned before, there is room for exports to expand significantly.

The documents for the final systems and lessons learned from this project will be documented thoroughly and distributed to all stakeholders, and available to other countries to aid in implementation of similar traceability and monitoring systems. Guidelines will be developed in consultation with both public and private stakeholders to ensure that government staff, farmers, packers and exporters understand the requirements for implementation and maintenance of the system, and can expand participation after the project is over. Additionally, training materials will be developed so that other persons in the soursop industry can be trained, or the system can be expanded to other crops that face pest issues.

Soursop is not the only crop that faces threats from pests in Grenada nor in the region. The proposed system can be replicated to address other crops in Grenada, or can be used in other Small Island Developing States which face similar financial, pest and production constraints. Successful implementation of this project in Grenada will have positive spill over effects into other industries, and will also serve as a blueprint for how the private and public sector can work together to address complex constraints that are holding back their industries. Learnings from this project are also useful outside SPS concerns, where it can show countries how to push a viable local industry forward using a full value chain approach, particularly since a number of Caribbean islands are looking to capitalize on niche agricultural exports to the US and UK. Notably, the OECS and Grenada have expressed interest in maximizing exports of non-traditional agricultural products. The proposed SPS systems and improvements to the value chain can help achieve this goal in Grenada and in other OECS countries.

Each consultant, service provider and workshop coordinator must produce a report on the significant outputs and milestones of the activities, including disaggregated data indicating the gender and youth participation and equity in the benefits. Consultant reports and outputs that have been technically cleared will be submitted to the National Coordinator for his/her onward circulation to stakeholders. At the end of the project, a final narrative report, the Terminal Statement, will be drafted by the FAO and submitted to the Government. The narrative report will contain a complete review of activities undertaken, major results obtained, problems encountered, progress towards achieving the specific objectives of the project and impact on the participants.

Prior to project completion FAO will undertake an assessment in order to identify potential areas that will need further development after project completion and will identify a responsible institution to carry the work forward. Such assessment will also explore potential regional south-south collaboration with other countries.

Annex 1 – Work Plan

Activities	Responsibility	Y 1				Y 2				Y 3			
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Output 1	MoA, NPPO, FAO												
1.1 Inception workshop	MoA, NPPO, FAO												
1.2 Develop and implement an improved surveillance program for access to the US market.	MoA, NPPO, FAO												
1.3 Enhance diagnostic services and capacity	MoA, NPPO, FAO												
1.4 Develop an anticipated action response program	MoA, NPPO, FAO												
Output 2	MoA, NPPO, FAO												
2.1 Strengthening capacities of government officials on surveillance program and efficient implementation	MoA, NPPO, FAO												
2.2. Strengthening capacities of laboratory staff	MoA, NPPO, FAO												
2.3 Strengthening capacities of government officials on efficient anticipated action response program	MoA, NPPO, FAO												
Output 3	MoA, SIC, FAO												
3.1 Carry out an assessment on capacity to implement a sustainable traceability system for fresh soursop fruit	FAO SIC												
3.2 Carry out an assessment on capacity to implement a sustainable SPS certification system	FAO SIC												

3.3 Pilot, monitor and evaluate the traceability and certification systems for pest-free soursop fresh fruit	FAO, SIC														
Output 4	SIC, MoA														
4.1 Review and assess technical capacities of extension officers and farmers on GAPs and IPM for soursop	FAO, SIC, MoA, NPPO														
4.2 Establishment of demonstration plots in selected locations with different Agro-climatic zone	SIC, MoA, NPPO, FAO														
4.3 Strengthening capacities of extension officers and farmers on GAPs and IPM for soursop	(SIC, MoA, NPPO, FAO														
Output 5															
5.1 Develop a sustainability strategy and action plan	SIC														
5.2 Conduct a feasibility assessment and market demand for Grenadian fresh soursop fruit and value-added products	FAO, SIC														
Operational Activities															
Procurement	FAO SLC/LTO,														
Recruitment	FAO SLC/LTO,														
Inception meeting	FAO SLC,														
Mid-term review	FAO SLC/LTO,														
Validation Meeting	FAO SLC,														
Meetings of the steering group	FAO SLC,														

Annex 2 – Terms of Reference for Personnel

Terms of Reference

Job Title	Project Coordinator (National Consultant)
Location	Grenada
Description of task(s) and objectives to be achieved (per mission if applicable)	
<p>Under the overall guidance of the FAO Subregional Office for the Caribbean (FAO SLC), the direct supervision of the FAO SLC Officer and in close collaboration with the National Focal Point and the Soursop Industry Committee for the soursop value chains, the Consultant will:</p> <ul style="list-style-type: none">- Coordinate timely and quality implementation of overall project components and ensuring appropriate linkages among the components and among consultants and concerned sector stakeholders;- Prepare and update project work plans and budgets as required;- Prepare project reports of progress and briefs as required;- Facilitate, chair and provide close follow-up to national value chain development teams established under the project;- Coordinate the organization and logistics of in-country and virtual working sessions and workshops, assessments and consultations;- Support the implementation of national level value chain monitoring and evaluation frameworks;- Facilitate liaison and linkages with relevant public and private stakeholders for project success;- Coordinate logistical arrangements for the various consultancies under the project;- Coordinate with relevant national stakeholders, especially the Ministry of Agriculture to ensure maximum delivery and participation (country ownership) in project activities;- Coordinate the inputs and organisation of communications materials in collaboration with FAO consultants; and- Ensure interventions are well coordinated with other FAO and non-FAO projects in the country and build on FAO comparative advantage, successful practices, lessons learnt. Get familiar with FAO's inclusive business model approach, the work on value chain development in the Caribbean and the history of farmer-market linkages work in Grenada;- Function as a Secretary to regular Soursop Industry Committee, prepare for and organize all VC meetings and finalize meeting reports;- Maintain an electronic project folder with all consultant reports, VC minutes, workshop reports, training course reports and final versions of training materials prepared by the project, marketing leaflets and other promotional materials as well as newspaper/press released prepared by the project;- Assist in the coordination of project activities, including the organization of workshops, training courses, and promotional events;- Understand requirements of a traceability and certification system, and develop options that would best work for the soursop industry in Grenada- Lead the working sessions to develop and pilot traceability and certification system and co-lead surveillance workshop in coordination with the plant protection expert to ensure all stakeholders are included and organization of systems takes into account organization and market constraints ;	

- Facilitate the formation of a growers association to help farmers organize and implement the new requirements under the proposed systems
- Support an end-of assignment report stating activities carried out, findings and recommendations
- In implementing the activities, the Consultant must take FAO's Gender Policy into consideration, ensuring to the extent possible, that there is equity in the benefits accrued to women and men as well as young persons. Gender and age disaggregated data should be collected and presented for all meetings, training and other activities
- Support administrative processes for the efficient implementation of the project in a timely manner.

Terms of Reference

Job Title:	Marketing Specialist (International Consultant)
Description of task(s) and objectives to be achieved:	
<p>Under the overall guidance of the FAO Subregional Office for the Caribbean (FAO SLC), the direct supervision of the FAO SLC Trade and Markets Officer and in close collaboration the plant protection expert and the National Project Coordinator, the Value Chain Analyst will:</p> <ul style="list-style-type: none"> - Become familiar with Grenadian soursop industry - Calculate and present financial risks of arrival of pests to present to the industry - Take part in surveillance and traceability system development workshops to ensure business perspective is included in proposed system - Develop business plans to show financial feasibility of reorganization of the value chain and implementation of the surveillance and traceability system - Conduct cost-benefit-analysis to look at financial cost of regaining pest-free status in the event of infestation - Conduct cost-benefit-analysis of pursuing irradiation, other methods of treatment for pests and bulk irradiation with other islands in the event of infestation - Investigate and cost options for marketing and promotion of fresh and processed soursop products in the US and other markets, looking at branding/labelling options and trends in demand for value added products (teas, pulps, etc.) - Evaluate financial feasibility of compatibility and full integration of traceability system with IPPC system, to allow for future upgrades - Prepare an end-of assignment report stating activities carried out, findings and recommendations - In implementing the activities, the Consultant must take FAO's Gender Policy into consideration, ensuring to the extent possible, that there is equity in the benefits accrued to women and men as well as young persons. Gender and age disaggregated data should be collected and presented for all meetings, training and other activities 	

Job Title:

Plant Protection Specialist (International Consultant)

Description of task(s) and objectives to be achieved:

Under the overall guidance of the FAO Subregional Office for the Caribbean (FAO SLC) and the technical supervision of the FAO SLC Plant Protection and Production Officer and in close collaboration with the National Coordinator and the Horticulture Consultant, the Plant Protection Specialist will support the strengthening of the soursop plant production (pest management, requirements of a Systems Approach). In implementing the activities, the Plant Protection Specialist must take FAO's Gender Policy into consideration, ensuring to the extent possible, that there is equity in the benefits accrued to women and men as well as young persons. Gender and age disaggregated data should be collected and presented for all meetings, training and other activities.

Specifically, the consultant will:

1. Visit existing nurseries and soursop orchards / production areas in order to detect / locate, collect and identify key pests and diseases in Grenada
2. While collecting the pests and diseases on nursery plants, conduct hands-on training on their identification with Extension staff and nursery producers
3. While collecting the pests and diseases on field crops, conduct hands-on training on their identification with Extension and technical staff as well as farmers
4. Prepare a Review of existing economically-important pests and diseases of soursop, as well as those of quarantine importance; based on this, prepare the requirements of a Systems Approach for surveillance and pest management measures in soursop taking into consideration the possible effects of climate change on pest situation.
5. Run working sessions with stakeholders and government to develop and implement a surveillance system, working with the Value Chain Development Consultant
6. Consult on development of traceability and export certification system
7. Conduct an assessment on current laboratory capacity to diagnose plant pests
8. Develop proposed improvements to laboratory infrastructure in light of increased surveillance activities
9. Review and propose changes to current laboratory standard operating procedures
10. Train staff on pest identification, alternative methods of identification, and cost saving measures
11. Advise on international and export market requirements for proper disease identification and proof of lack of pest/disease requirements
12. Prepare reports for all missions, trainings, and workshops

Job Title:	International Consultant (assess production/training in GAPS&IPM)
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Description of task(s) and objectives to be achieved:

Under the overall guidance of the FAO Subregional Office for the Caribbean (FAO SLC) and the technical supervision of the FAO SLC Plant Protection and Production Officer and in close collaboration with the National Coordinator and the Plant Protection Specialist, the Agronomy Consultant will support the strengthening of the soursop plant production (nursery plants and orchard establishment and management). In implementing the activities, Agronomy Consultant must take FAO's Gender Policy into consideration, ensuring to the extent possible, that there is equity in the benefits accrued to women and men as well as young persons. Gender and age disaggregated data should be collected and presented for all meetings, training and other activities.

Specifically, the consultant will:

- Visit existing nurseries and soursop orchards / production areas in Grenada
- Conduct a detailed review of the production systems of soursop nursery plants and orchards (in various locations and at different stages of growth), based on discussions with nursery producers and farmers
- Using the draft Manuals and in conjunction with the Plant Protection Specialist, conduct a practical, hands-on training of farmers as well as Technical and Extension staff of Ministry of Agriculture in (1) Nursery Production and Management and (2) Orchard Establishment and Management
- Train farmers on grafting methods to aid in replacement of aging trees and hand pollination
- Trainings to be conducted 2 times per year, for three years of the project with upgrading to the training plan as the production situation on the ground changes
- Obtain feedback on the Manuals at the training
- Consult on traceability and export certification systems
- Prepare an end-of assignment report stating activities carried out, findings and recommendations

Job Title:	IT Consultant (Local)
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Description of task(s) and objectives to be achieved (per mission if applicable)

Under the overall guidance of the FAO Subregional Office for the Caribbean (FAO SLC) and the technical supervision of the FAO SLC Plant Protection and Production Officer and in close collaboration with the Plant Protection Specialist, the IT Consultant will support the strengthening of the local data storing infrastructure and aid in integrating the expanded surveillance, traceability and certification data into existing government databases:

Specifically, the consultant will:

- Consult with Plant Protection Specialist to understand surveillance data requirements and gaps in data collection at nursery and production level
- Consult with Value Chain Development and Plant Health specialists to understand data required to monitor and implement traceability, certification and surveillance systems, and build required data infrastructure (with considerations for ePhyto Solution system from IPPC)
- Consult with local government staff on current data storage practice to develop and implement plan to integrate new data collection into current infrastructure
- Develop and implement database and standard operating procedures to collect required data
- Explore options for cost effective methods of storage and surveying

Job Title:

Anticipated Action Specialist

Description of task(s) and objectives to be achieved (per mission if applicable)

Reporting Lines

Under the overall guidance of the FAO Sub-Regional Office for the Caribbean, and the technical supervision of the FAO SLC Trade and Markets Officer and Fisheries Officer, the Consultant will provide administrative, organisational and technical support to the project in Grenada.

Specifically, the consultant will:

- In close collaboration with the NPPO and other stakeholders, conduct a study to obtain information to determine the following:
 - Recommend specific measures to reduce and maintain zero pest population level including different methods such as genetic, cultural, physical, biological and chemical control.
 - Recommendation of maintenance procedure and corrective actions to maintain the status of free pest areas
 - Create an audit plan and documents including checklist based on the requirements of free pest areas to conduct the audits.
 - Utilize findings to prepare and submit an audit report including recommendations where necessary.
 - Develop targeted training materials (guides, record templates, presentations, procedure, documents, etc.) for different stakeholders who met the established selection criteria.
 - Deliver training on anticipated actions to keep the country free of pest and implement simulations including all different actors in case pest appear.