SPS Regional Coordination Plan Study & Roadmap

SECTION I: Study & Analysis

Prepared for:
European Development Fund,
Caribbean Regional Fisheries Mechanism, and Inter-American Institute for Cooperation on Agriculture

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NEXUS COASTAL

Contents

CHAPTER 1 INTRODUCTION

The *SPS Regional Coordination Plan Study & Roadmap* report is comprised of two sections (Section I: Study & Analysis and Section II: Roadmap). The report was prepared as part of the activities commission by IICA and CRFM to increase CARIFORUM Member States' compliance with international SPS measures, standards, and procedures to enhance international and regional market access for seafood products. The combined findings from Section I of this report and other activities completed for this consultancy enable the development of a roadmap (as presented in Section II).

The fisheries and aquaculture sector, a foundational component of local and regional economies in the Caribbean, contributes to the development and stability of community economies through food security, employment, cultural continuity, recreation, and tourism. Fisheries also provide foreign exchange through international export markets.[1] For example, several CARIFORUM Member States are listed by the European Union for seafood exports, and some enterprises have been approved to export seafood to Europe.

The fisheries sector is experiencing uncertainties due to global changes in trade relations and climate change. Efforts are being considered to address the capacity for economic growth and resiliency to extreme weather events for the fisheries sector. More recently, the global impact of COVID-19 on international trade and travel has further exacerbated the problems facing Caribbean fisheries. In the face of these challenges, every effort must be made to improve the quality and reputation of Caribbean seafood products in international markets. Accordingly, high standards of sanitary and phytosanitary (SPS) condition of Caribbean seafood products should be established. Enhanced sanitary and phytosanitary (SPS) measures are also an important mechanism to ensure food safety for local consumers, the safe export of food products, and the safe import of food products into the region.

The international market demand for quality seafood of high standard puts additional responsibilities on CARIFORUM governments and industry to enhance national capacities to meet food safety and quality requirements. There is general heightened consumer awareness on health and sanitary issues of food sources. Therefore, there is a need and opportunity to improve compliance with international SPS standards and measures to enhance market access for Caribbean seafood products at the local, regional, and international level. Furthermore, regional efforts to develop a sustainable regional blue economy highlight the need for common SPS standards and measures. These measures can protect industry and consumers' common interests and goals in CARIFORUM Member States. To this end, the Inter-America Institute for Cooperation on Agriculture (IICA) and Caribbean Regional Fisheries Mechanism (CRFM) have been cooperating on a regional initiative to enhance SPS measure for seafood and agricultural products, which will protect the overall economic stability, food security, and access to international markets for seafood and agricultural products from the Caribbean.[2]

[1] IICA. (2015). Final Report: Cost Benefit Analysis and Impact of Compliance and Non-Compliance with Sanitary and Phytosanitary Requirement for CARIFORUM Countries. 126p.

[2] This consultancy is part of the European Development Fund (EDF) 11th EDF Sanitary and Phytosanitary (SPS) Measures Project.

This consultancy report is part of the efforts by IICA and CRFM to increase CARIFORUM Member States' compliance with international SPS measures, standards, and procedures to enhance international and regional market access for seafood products. To better understand the specific areas where greater attention must be placed and areas where measures must be enhanced, CRFM and IICA commissioned this consultancy to:

- Assess the status of regional cooperation of SPS measures amongst CARIFORUM Member States;
- Identify all national-level stakeholders involved with SPS management;
- Determine the level of priority for stakeholder participation in regional SPS management, and;
- Determine priority actions to enhance the governance of SPS activities at the regional level and provide a framework for the coordination of SPS measures in the context of fisheries and aquaculture.

This report, the SPS Regional Coordination Plan & Roadmap, builds on a previous report completed for this consultancy (NEXUS IICA SPS Project Stakeholder and Institutional Analysis Report), which identified the need for regional cooperation and standards to improve SPS governance across the CARIFORUM region. In the institutional analysis report, it was noted that common efforts can be made to enhance SPS measures for all CARIFORUM Member States based on achievable SPS standards that meet market requirements. Both reports incorporate learnings from the 10th EDF SPS Project as well as research conducted specific for this consultancy.

To achieve the outlined objectives, an analysis of opportunities and challenges for the fisheries sector in CARIFORUM Member States was conducted to determine necessary steps to harmonize SPS measures in the region. This work consisted of an online survey and semi-structured interviews with value chain actors from government institutions, designated laboratories, harvesters, landing sites, processors, exporters, and consumer-facing establishments. For the purposes of this report, value chain actors include persons or organizations that regulate, handle, or transform seafood across the value chain from harvest to end-market. Information collected provided insights on knowledge, SPS compliance capacity, and SPS monitoring capacity across the value chain.

Combining the previous institutional analysis and a sector-based analysis of survey and interview results enabled the development of a roadmap for the enhancement and harmonization of SPS measures that incorporates common opportunities and addresses common barriers across Member States. In developing the roadmap, a matrix was used to cross-reference the relative strengths and weaknesses of Member States in relation to the completeness of their legislation, their commitment to the implementation of regulatory instruments, and the capacity across the fisheries value chain to meet their regulatory requirements (refer to Section I of this report). The matrix analysis identified priority actions, which were incorporated into the roadmap, to strengthen fisheries SPS capacities in the region (refer to Section II of this report).

CHAPTER 2 METHODOLOGY

Information was collected through desktop research, an online survey, and semi-structured stakeholder telephone/video interviews to inform project activities and analysis. These methods allowed for the collection of data to support the development of the roadmap while following health and safety protocols for the CARIFORUM region. It is important to note that the following project activities were not intended to collect data for statistical analysis, but rather provide useful qualitative insights and perspectives regarding the many opportunities and barriers for the harmonization of SPS measures across the CARIFORUM region.

It should be noted that information could not be collected through in-person interviews as a consequence of COVID-19. Furthermore, changes in government and administrative systems in Member States affected their opportunity to participate in online engagement and interviews.

2.1 Desktop Research

Background information on SPS measures in the CARIFORUM region were compiled through a web-based data mining exercise. Peer reviewed academic journal articles, government reports, and news media articles were sourced, downloaded, and saved into a central project directory. Documents were reviewed and relevant project information was summarized. Information on SPS regulations and the current state of SPS measures was summarized according to various nodes of the value chain, including government agencies, designated laboratories, fish harvesting, fish processing, and fish marketing.

Relevant stakeholders were also identified through desktop research. Contact information, including organization name, point of contact, email address, and phone number, were compiled in a stakeholder spreadsheet. Roundtable meetings were held with the Project Team to review and discuss findings from desktop research and identify information gaps. Legislation and regulations for each CARIFORUM Member State were also sourced and downloaded to determine roles of government institutions.

2.2 Stakeholder Engagement

Stakeholders identified through desktop research were contacted and offered an opportunity to provide input through an online survey and a follow-up semi-structured telephone interview. Stakeholders were grouped into the following categories:

- Government agency
- Designated laboratory
- Fisher/fisherfolk
- Landing site
- Fish processing
- Fish broker
- Fish exporting
- Restaurant/retail

2.2.1 Online survey

An online survey (Quicktap™) was developed to gather qualitative information on the current state of SPS regulations in the CARIFORUM region. A link to the online survey was distributed to a targeted list of stakeholders representing the aforementioned stakeholder groups. The survey was organized as a branched survey so that each stakeholder group could answer questions specific to their involvement with SPS regulations for seafood products (See Appendix A for Survey Questions). Respondents were asked to indicate their country of origin and asked to choose the stakeholder group that best represented them, at which point they were taken through a series of stakeholder-specific questions that were aimed to understand the roles and responsibilities of their profession related to SPS matters in fisheries. As some Designated Laboratories are also government agencies, some responses in the Government Agency stakeholder group may reflect the opinions of individuals who operate in an analytic and testing services capacity.

The online survey used Quicktap™, an online survey platform, which supports all web browsers in desktop and mobile modes. The online survey was distributed to stakeholders both directly, through an individual email with the invitation to participate in the survey, and indirectly by contacting regional organizations (i.e., fisherfolk organizations) and requesting that the survey be distributed to their membership via internal communication channels. The following table provides a breakdown of the number of responses from each country and by each sector group.

Table 1: Online Survey Response Results by Country and Sector

Country	Number of Survey Responses	Sector Group	Number of Survey Responses
Antigua & Barbuda	1	**Government Agency**	31
Bahamas	5	**Designated Laboratory**	5
Barbados	6	**Fisher/Fisherfolk**	11
Belize	3	**Landing Site**	1
Dominica	3	**Fish Processing**	5
Dominican Republic	2	**Fish Broker**	-
Grenada	5	**Fish Exporting**	1
Guyana	4	**Retail/Restaurant**	1
Haiti	-		
Jamaica	4		
Saint Lucia	10		
St Kitts & Nevis	2		
St Vincent & the Grenadines	4		
Suriname	3		
Trinidad & Tobago	3		

The survey was anonymous and did not provide the opportunity for respondents to disclose their identity and contact information. The survey was operational for four months, during which time follow-up emails and telephone calls were sent to the list of identified stakeholders regarding completion of the survey and request for a follow-up telephone interview. Despite the long duration

of the survey, changes in work environments due to COVID-19 resulted in limited response. Therefore, the follow-up semi-structured interviews were important in gathering baseline information.

2.2.2 Semi-structured interviews

An interview guide was developed for each stakeholder group with a set of discussion topics to guide telephone interviews. Discussion topics were reviewed by the Project Team prior to the interview process. Stakeholder interviews were conducted by telephone or video call. The average interview time was 30 minutes. Stakeholders were provided the opportunity to be interviewed throughout the entire duration of the project to maximize the amount of time available for stakeholder input. The snowball sampling method[3] was also used in some instances where stakeholders provided contact information for other points of contact involved with SPS-related matters in fisheries.

[3] Snowball sampling method is a recruitment technique in which research participants are asked to assist researchers in identifying other potential participants.

CHAPTER 3 CURRENT STATE OF SPS MEASURES BY COUNTRY

Through desktop research and a legislative review, we determined the roles and responsibilities for SPS measures in fisheries for each CARIFORUM Member State. This information was further contextualized with stakeholder engagement activities to provide a clear understanding of the current state of SPS measures at the institutional level in each Member State. While every Member State was contacted to review the information provided in this section, only some governance institutions have verified the information. The roles and responsibilities for government institutions in the Member States is described in detail followed by a value chain diagram to provide a visualization of the regulatory mandates for SPS measures. In the description for each Member State, **bolded governance institutions** indicate the competent authority (CA) for fisheries SPS measures[4]. This review of roles and responsibilities builds upon the stakeholder mapping exercise completed in the previous technical report. The diagrams are a representation of the roles and responsibilities as of 2021 and are subject to change, based on emerging priorities at the national level.

In the NEXUS IICA SPS Project Stakeholder and Institutional Analysis Report, a stakeholder mapping exercise was conducted to identify all national-level stakeholders involved in SPS management in the CARIFORUM Member States. A value chain diagram was created for each Member State to provide a visual summary of the roles and responsibilities of each national institution with a regulatory mandate related to SPS measures. A common framework was used for each Member State to allow for efficient comparison of the mapping of SPS regulations between countries. Each diagram describes the key governance institutions including those with regulatory jurisdiction and responsibility for SPS and provides a generic structure of the fisheries value chain for harvesting, processing/marketing, and exporting/retail. Arrows connect stakeholders across the value chain to show the various components of SPS activities in each Member State. Dashed arrows indicate the movement of seafood products across the value chain, while solid arrows indicate SPS activities that take place, including inspections, health/export certification, and official analysis. This exercise was designed to identify key areas of responsibility and facilitates analysis of commitment, capacity, and legislative instruments for the harmonization of SPS measures in the CARIFORUM region.

3.1 Antigua and Barbuda

The desktop study and stakeholder engagement identified the following key institutions that are responsible for SPS in Antigua and Barbuda:

- **Fisheries Division, Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs (CA)**
- Veterinary and Livestock Division, Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs
- Ministry of Health, Wellness, and the Environment

The Fisheries Division and the Veterinary and Livestock Division, which both have responsibilities for SPS-related matters in fisheries, are within the Ministry of Agriculture, Lands, Fisheries and Barbuda

[4] The term Competent Authority is commonly used to refer to agencies with regulatory authority and responsibility for SPS-related matters in fisheries. It should be noted that not every country does not have a designated competent authority clearly defined in legislation while others have more than one competent authority designated in legislation.

Affairs. The Fisheries Division is the competent authority for SPS measures in fisheries. The Fisheries Division is responsible for authorizing fish and processing operations including fishing vessels, landing sites, processing establishments, ice plants, and laboratories for the purposes of seizing and disposing of contaminated seafood products unfit for human consumption. The Fisheries Division provides Catch and Health Certificates for fish and processing establishments. Inspection elements for exported product include the species produced, shipping method, a list of suppliers and quantities purchased, criteria for seafood products rejection, and information regarding the destination of seafood products. In addition to artisanal and commercial fisheries, the Fisheries Division is responsible for SPS measures in aquaculture facilities. Furthermore, the Fisheries Division provides food safety and handling training for fishers.

While the Fisheries Division has the primary role for SPS measures in Antigua and Barbuda fisheries regarding export and import, there are other institutions involved in SPS matters. Inspection of fish markets is the responsibility of the Ministry of Health, Wellness, and the Environment. The Veterinary and Livestock Division have certain provisions in their legislation regarding the inspection of seafood product destined for import and export. However, much of their involvement is limited to end-point inspection for specific countries. The Fisheries Division also conducts end-point inspection for seafood products, as well as approvals and audits of processing and exportation facilities. Lastly, there is a Coordinating Council on Agricultural Health and Food Safety for Antigua and Barbuda that includes stakeholders from the various Ministries involved in SPS measures as well as consumer associations and producers.

Currently, Antigua and Barbuda is undergoing an audit regarding fisheries exports to the European Union. However, there are staff shortages associated with the COVID-19 pandemic that are limiting the ability of the Fisheries Division to meet basic obligations regarding SPS measures in order to satisfy audit requirements.

The Department of Analytical Services of the Ministry of Agriculture and its associated Biosafety Testing Laboratory, which analyzes samples from processing facilities and international exports. Primary analytical responsibilities are general food safety and water quality testing; however, the Department is mainly used for monitoring and surveillance purposes. Fisheries samples are required to be sent to accredited laboratories overseas in order to meet specific requirements for international export to the European Union. This laboratory also serves as a regional testing facility for other fish and seafood sampling projects within the Caribbean.

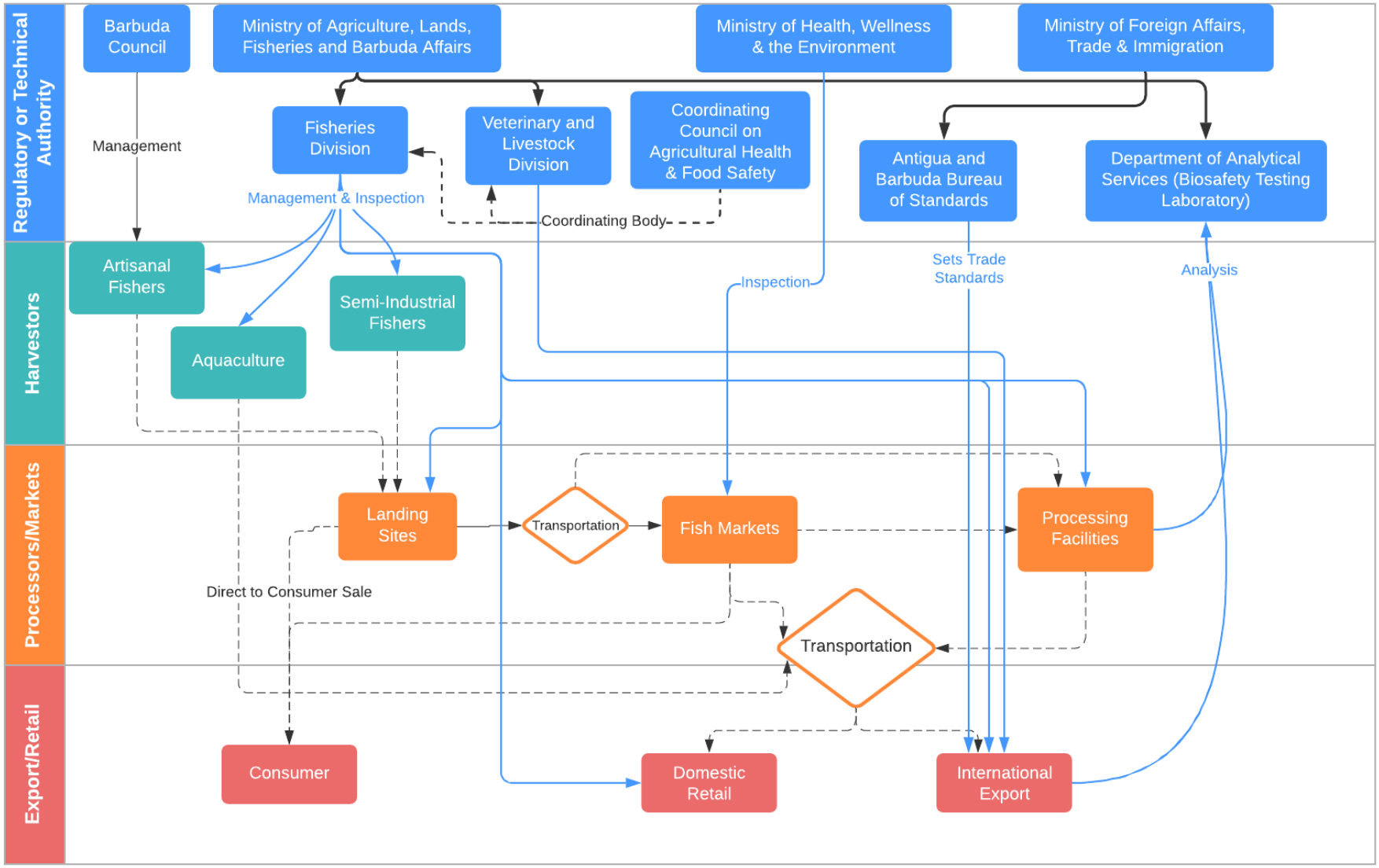


Figure 1: Roles and Responsibilities for SPS Measures in Antigua and Barbuda

3.2 Bahamas

The desktop study and stakeholder engagement identified the following key institutions that are responsible for SPS in the Bahamas:

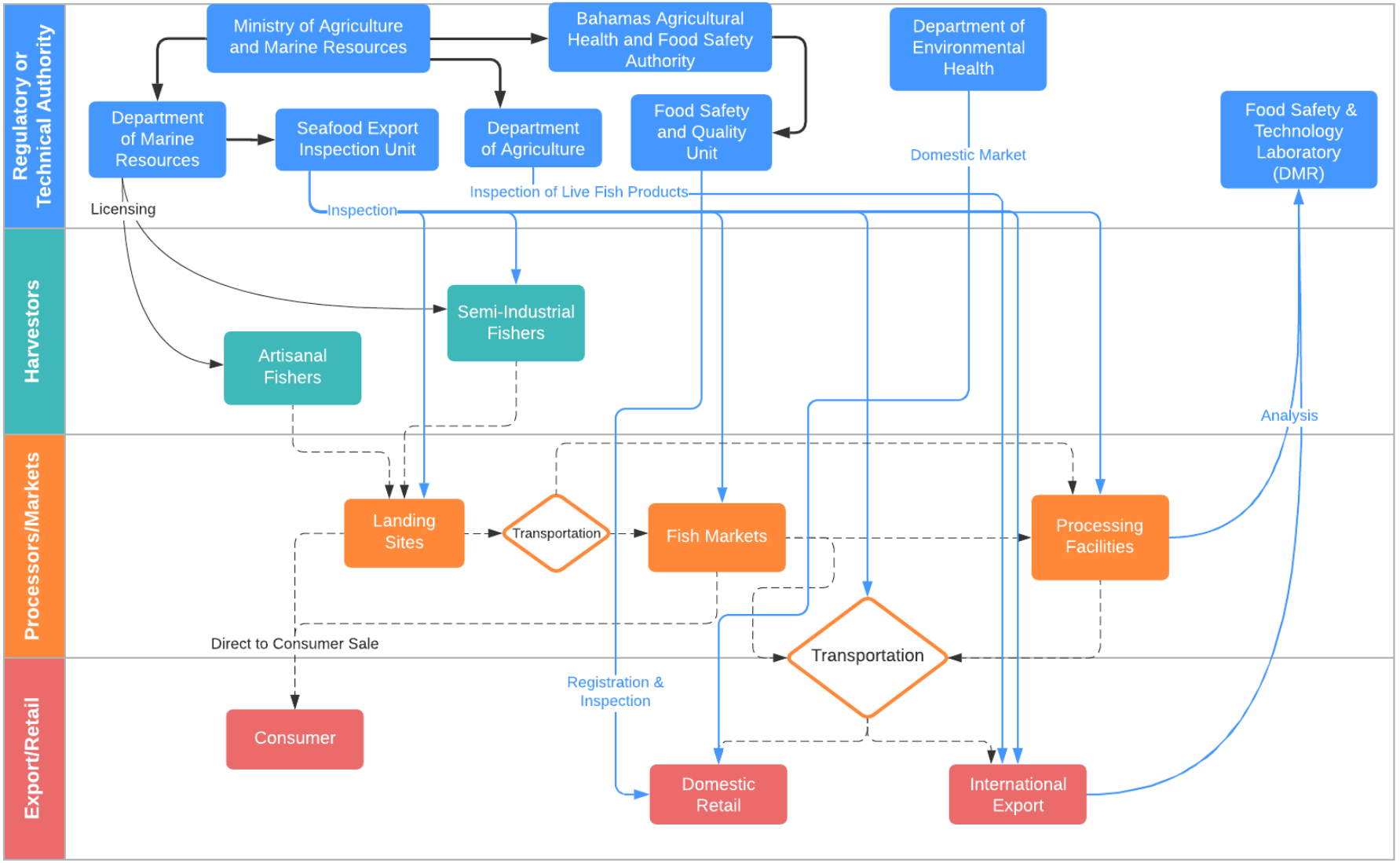
- Seafood Export Inspection Unit, **Department of Marine Resources, Ministry of Agriculture and Marine Resources (CA)**
- Department of Agriculture, Ministry of Agriculture and Marine Resources
- Food Safety and Quality Unit, Bahamas Agricultural Health and Food Safety Authority, Ministry of Agriculture and Marine Resources
- Department of Environmental Health Services, Ministry of Environment and Natural Resources
- The Bahamas Food Safety & Technology Laboratory, Department of Marine Resources

The competent authority for SPS measures in the Bahamas is the Department of Marine Resources (DMR) within the Ministry of Agriculture and Marine Resources. The DMR's Seafood Export Inspection Unit inspects and licences all fisheries production establishments, including factory vessels, landing sites, and processing plants, for seafood products intended for export with the exception of live seafood (e.g., lobster). The Department of Agriculture within the Ministry of Agriculture and Marine Resources is responsible for the inspection of live and imported seafood products.

Additionally, the Bahamas Agricultural Health and Food Safety Authority (BAHFSA), which is within the Ministry of Agriculture and Marine Resources, is responsible for monitoring the performance of enforcement agencies in administering the legislation for which they are responsible. BAHFSA is also responsible for the development of guidelines and reviews of existing regulations in collaboration with other departments through the Food Safety and Quality Unit. The Department of Environmental Health Services of the Ministry of Environment and Housing conducts inspections on food establishments, including seafood products intended for domestic consumption.

The Bahamas Food Safety and Technology Laboratory is the designated laboratory for official analysis for the Seafood Export Inspection Unit, which includes microbiological analysis and a few chemical analyses. The laboratory regularly receives samples for analysis to meet the specified standards of the country or region receiving fisheries exports (e.g., Europe, Asia, etc.). The laboratory is accredited to ISO standard 17025, which is the main internationally recognized ISO standard for quality management in testing and calibration laboratories. In addition to providing official analysis for the Seafood Export Inspection Unit of the Department of Marine Resources, the Bahamas Food Safety and Technology Laboratory also provides testing services for processing facilities.

SPS Stakeholder Mapping - Bahamas



blue lines = SPS controls; black = management; dashed lines = movement of fish

Figure 2: Roles and Responsibilities for SPS Measures in Bahamas

3.3 Barbados

The desktop study and stakeholder engagement identified the following key institutions that are responsible for SPS in Barbados:

- Fisheries Division: Ministry of Environment and National Beautification (Blue and Green Economy)
- Environmental Health Department, Ministry of Health and Wellness
- Markets Division: Ministry of Environment and National Beautification (Blue and Green Economy)
- National Agricultural Health and Food Control Programme, Ministry of Agriculture, Food, and Nutritional Security
- Government Analytical Services: Ministry of Agriculture, Food, and Nutritional Security

Three ministries are involved with measures related to SPS in Barbados: The Ministry of Environment and National Beautification (Blue and Green Economy), the Ministry of Health and Wellness, and the Ministry of Agriculture, Food and Nutritional Security. Several roles and responsibilities are shared between these three ministries, but the divisions and departments within Ministry of Maritime Affairs and the Blue and green Economy and the Ministry of Health and Wellness share primary responsibility for SPS matters in Barbados with respect to fish and fishery products.

The Ministry of Environment and National Beautification (Blue and Green Economy) is the institution with several regulatory responsibilities for measures related to fisheries. The Markets Division within the Ministry of Environment and National Beautification (Blue and Green Economy) was developed in 2018 with a specific focus on inspecting fish and seafood products, which distinguishes this Division from the Markets Division within the Ministry of Agriculture, Food, and Nutritional Security that has responsibilities for SPS measures outside of the fisheries sector. The Markets Division of the Ministry of Environment and National Beautification (Blue and Green Economy) has responsibility for landing sites and fish markets and conducts inspections in conjunction with the Fisheries Division and the Environmental Health Department. Further, the Markets Division inspects transportation for fish exporters, but government officials agree that this responsibility should be shifted to the Environmental Health Department in future to streamline and enforce Standard Operating Procedures. Regarding fish markets, there are currently 2-3 inspectors from the Markets Division at fish markets who complete fit for human consumption checks and issue health certificates.

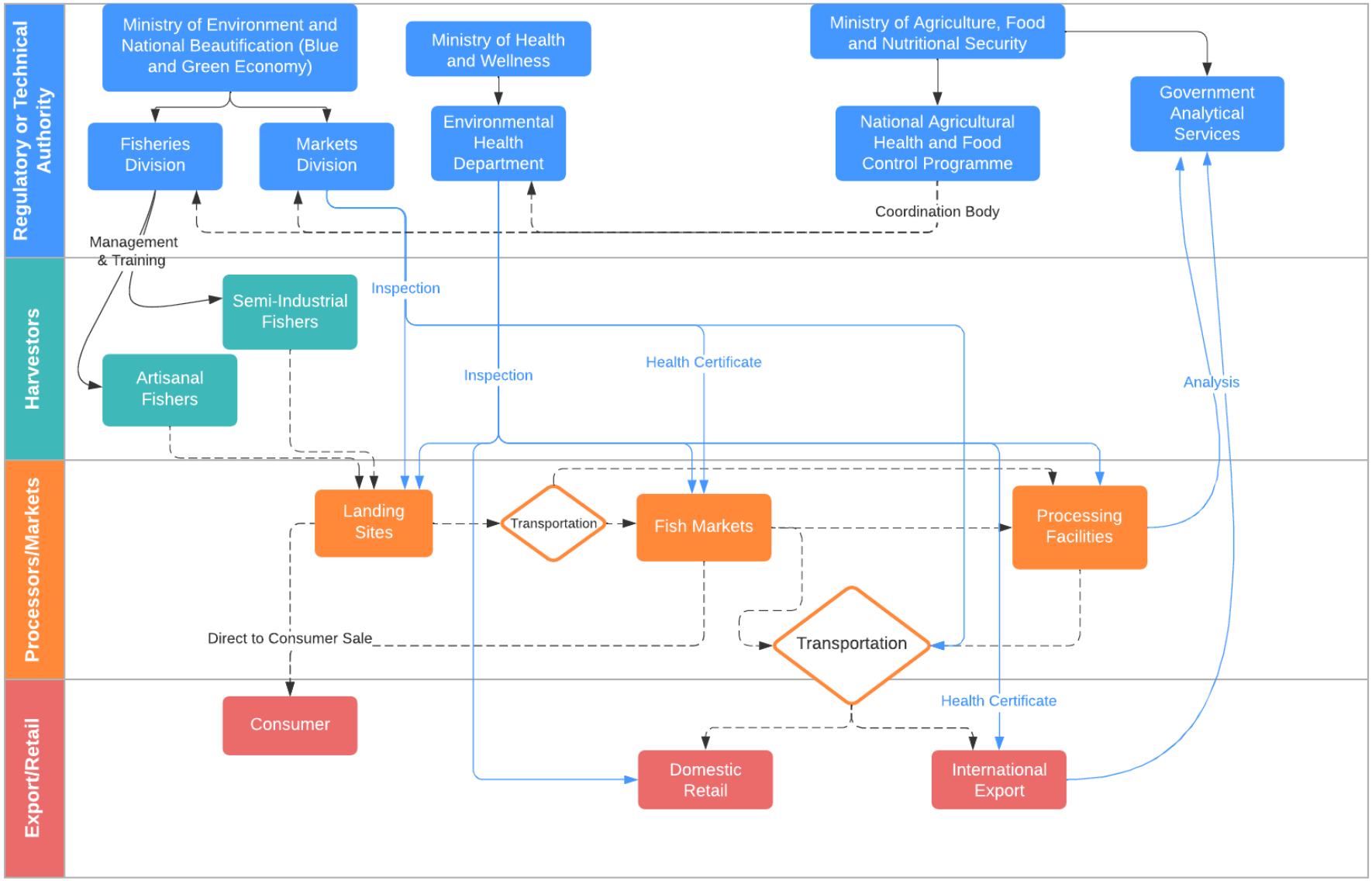
The Fisheries Division within the Ministry of Environment and National Beautification (Blue and Green Economy) manages artisanal and semi-industrial fishers. The Fisheries Division has some responsibilities related to SPS, including the inspection of infrastructure at landing sites and collaboration of training for health, safety, and sanitation best practices with the Markets Division and the Environmental Health Department. Generally, the involvement of the Fisheries Division in SPS measures is limited to collaboration efforts on training.

The Environmental Health Department within the Ministry of Health and Wellness has several responsibilities related to SPS matters in Barbados fisheries. The Environmental Health Department occasionally inspects landing sites (especially those that do not have infrastructure, such as beaches), processing facilities, and imports/exports. Additionally, the Environmental Health Department

provides health certificates for products destined for import or export. The Environmental Health Department is meant to be inspecting transportation for import and export, but capacity to do so is currently limited. Regarding consumer health, the Environmental Health Department within the Ministry of Health and Wellness is responsible for inspecting and providing permits for food establishments/food businesses. As well as collaborating with the Fisheries Division on training, Environmental Health Department also collaborates with the Ministry of Tourism and International Transport has limited involvement with the Barbados National Union of Fisher folk Organisation (BARNUFO) for training purposes regarding fish handling and sanitation.

The National Agricultural Health and Food Control Programme (NAHFCP) is the coordinating body for SPS measures under the Ministry of Agriculture, Food, and Nutritional Security. NAHFCP coordinates and collaborates with the Fisheries Division, the Markets Division, and the Environmental Health Department to ensure SPS measures are integrated and enforced within these departments. While NAHFCP has no direct authority over SPS-related measures, it provides a platform for communication between the various departments that do have direct responsibilities.

In terms of fish analysis, Government Analytical Services (GAS) within the Ministry of Agriculture, Food, and Nutritional Security is meant to provide analytical services for processing facilities and international exports. However, seafood products are currently not routinely sampled due to lack of a monitoring programme and not routinely tested for some parameters due to instrument and capacity issues. The NAHFCP, in collaboration with the Fisheries Division is in the process of developing a programme to strengthen the procedures and practices along the fish value chain, including sampling, inspection and traceability. Some private sector companies in Barbados provide microbiological testing, but other testing options are limited.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 3: Roles and Responsibilities for SPS Measures in Barbados

3.4 Belize

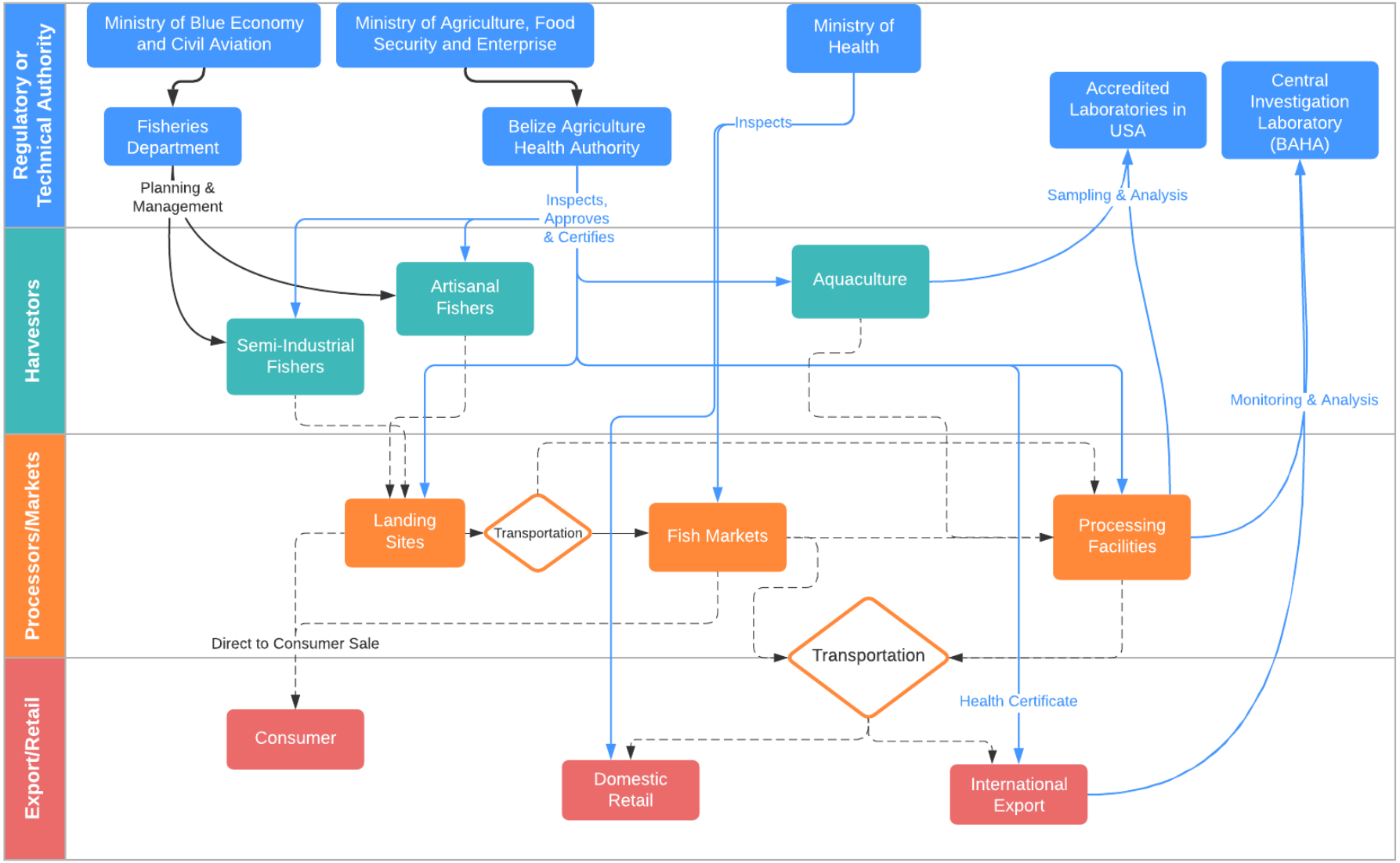
The desktop study and engagement activities identified the following key institutions that are responsible for SPS in Belize:

- **Belize Agriculture Health Authority (BAHA), Ministry of Agriculture, Food Security and Enterprise (CA)**
- Ministry of Health and Wellness
- Central Investigation Laboratory (BAHA) and Accredited Laboratories in USA

The Belize Agricultural Health Authority (BAHA) within the Ministry of Agriculture, Food Security and Enterprise is the competent authority for SPS measures in Belize. BAHA is responsible for official controls throughout the production chain for the export and import markets. Through BAHA's various departments, BAHA inspects, approves, and certifies all fisheries production establishments and issues health certificates for export of seafood products. Specifically, Food Safety Services with BAHA inspects, approves, and certifies processing facilities for aquaculture and wild-caught products. BAHA Food Safety Services also conducts monitoring of aquaculture farms for chemical residues and contaminants in collaboration with the Department of Environment and BAHA Animal Health Department, which conduct surveillance of aquaculture farms for environmental health and aquatic diseases, respectively. BAHA Food Safety Services is also responsible for validating HACCP plans for aquaculture facilities. BAHA has initiated training programmes in Good Agricultural Practices and other SPS-related matters, but the financial resources to implement these programmes is limited.

The Ministry of Health and Wellness is responsible for the inspection of the domestic fisheries market, which includes landing sites, fish markets (which are often consolidated within landing sites), and domestic retail establishments. There is a Memorandum of Understanding (MoU) between BAHA and the Ministry of Health for collaboration on issues related to establishment, implementation, and enforcement of hygienic practices throughout the food value chain; however, this MoU is generally applied to meat products rather than seafood products. The Fisheries Department provides fishing licences and manages fisheries-related requirements for artisanal and semi-industrial fishers, while BAHA Food Safety Services certifies semi-industrial fishers for measures related to food safety and SPS. However, semi-industrial fishers do not generally fish in local waters. These vessels are primarily European Union-listed High Seas Fishing vessels, and their products are designated for export markets, which are not landed in Belize.

The Central Investigation Laboratory (CIL) within BAHA Food Safety Services provides microbiological and chemical analysis for fisheries products in Belize. CIL analyzes fish samples and seafood products intended for the international or domestic market. Currently, CIL is accredited to ISO Standard 17025. Accredited laboratories in the United States analyze aquaculture samples and fish samples destined for export. Analytical services are provided for a fee that is the responsibility of the exporter.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 4: Roles and Responsibilities for SPS Measures in Belize

3.5 Dominica

The desktop study and engagement activities identified the following key institutions that are responsible for SPS in Dominica:

- Fisheries Division, Ministry of Blue and Green Economy, Agriculture, and National Food Security
- **Veterinary Unit, Division of Agriculture, Ministry of Blue and Green Economy, Agriculture, and National Food Security (CA)**
- Environmental Health Department, Ministry of Health
- Dominica Bureau of Standards
- National Centre of Testing Excellence

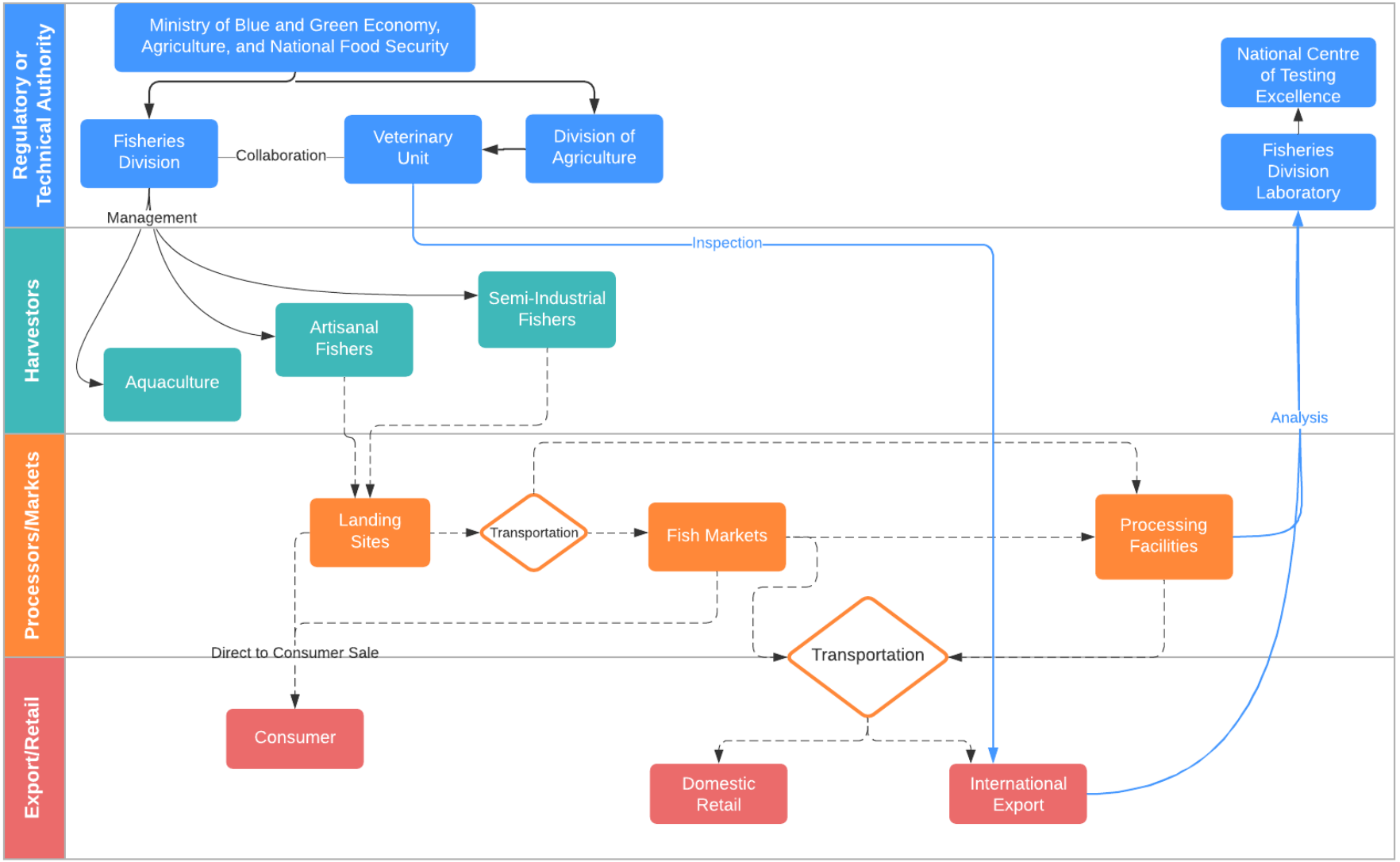
The Veterinary Unit is the competent authority for SPS controls in Dominica. However, due to the small-scale nature of fisheries in the country, seafood products have typically received little attention with respect to SPS enforcement and compliance. While the Fisheries Division predominantly manages the aquaculture industry, artisanal fishers, and semi-industrial fishers, the Division also collaborates with the Veterinary Unit for SPS controls of seafood products, including inspections on an ad-hoc basis when there is available capacity. The Fisheries Division also issues import and export licenses for seafood products in Dominica. The Chief Veterinary Officer conducts SPS inspections on seafood products for international export at the port prior to departure, upon which the Chief Fisheries Officer and Chief Veterinary Officer both provide authorization for export licenses.

While the Veterinary Unit is technically the competent authority for SPS controls in Dominica, there are also draft Fisheries Regulations that detail the responsibility for the Fisheries Division to control food safety and the import and export licensing of seafood products. These regulations, however, have not yet been passed into law and as a result no clear comprehensive regulations exist regarding the specific role of the Fisheries Division with respect to SPS control in Dominica.

While not directly related to SPS controls, the Environmental Health Department of the Ministry of Health is responsible for environmental monitoring. The Environmental Health Department inspects fishers, landing sites, fish markets, processing facilities, warehouses, and domestic retail according to environmental health standards. Environmental health inspections are conducted by District on a quarterly basis (i.e., four times per year). When there is a food safety issue or recalls of food that pose a risk to consumers, the Environmental Health Department and the Dominica Bureau of Standards coordinate a response. The Dominica Bureau of Standards develops, establishes, maintains, and promotes standards to promote the health and safety of consumers as well as protecting the environment, food, and food products. Despite these activities, neither agency has a direct regulatory responsibility for SPS controls for seafood products in Dominica.

While the National Centre of Testing Excellence is the national laboratory in Dominica, the testing conducted at this laboratory provides advisory and reference support and does not necessarily provide diagnostic analysis. The Veterinary Unit and Fisheries Division have been working to establish a new laboratory at the Roseau Fisheries Complex that is undergoing restoration after being destroyed during the passage of Hurricane Maria in 2017. Restoration efforts will include a small built-in laboratory in the Fisheries Complex with equipment capability for heavy metal, pesticide, and

microbiological analysis, among others. The laboratory is expected to reach completion by late 2022, after which the Veterinary Unit and Fisheries Division can analyze SPS samples at the Roseau Fisheries Complex with the National Centre of Testing Excellence providing supplemental support.



blue lines = SPS controls; black = management; dashed lines = movement of fish

Figure 5: Roles and Responsibilities for SPS Measures in Dominica

3.6 Dominican Republic

The desktop study and engagement activities identified the following key institutions that are responsible for SPS in Dominican Republic:

- Consejo Dominicano de Pesca y Acuicultura, Ministry of Agriculture
- Animal Health Department, Ministry of Agriculture
- Department of Food Safety, Ministry of Agriculture
- National Committee for the Application of Sanitary and Phytosanitary Measures, Ministry of Agriculture
- Food Safety Unit, Ministry of Public Health and Social Assistance
- Central Veterinary Laboratory, Ministry of Agriculture

The Consejo Dominicano de Pesca y Acuicultura (CODOPESCA) of the Ministry of Agriculture is responsible for fisheries management of artisanal and industrial commercial fisheries and aquaculture farms. Furthermore, CODOPESCA performs functions similar to that of a competent authority for health and safety of seafood products in the Dominican Republic. However, SPS measures are not included in the legal act that established CODOPESCA and as a result the agency does not have the regulatory authority to perform inspections and enforce SPS regulations. As a result, CODOPESCA collaborates with other agencies regarding SPS regulations, including the Food Safety Unit of the Ministry of Public Health and Social Assistance, Animal Health Department, and the Food Safety Department. While MoUs exist between these agencies regarding agriculture products, no such MoUs are in place that pertain to seafood products. Thus, there is a lot of overlap between agencies in the Dominican Republic in relation to SPS measures in fisheries.

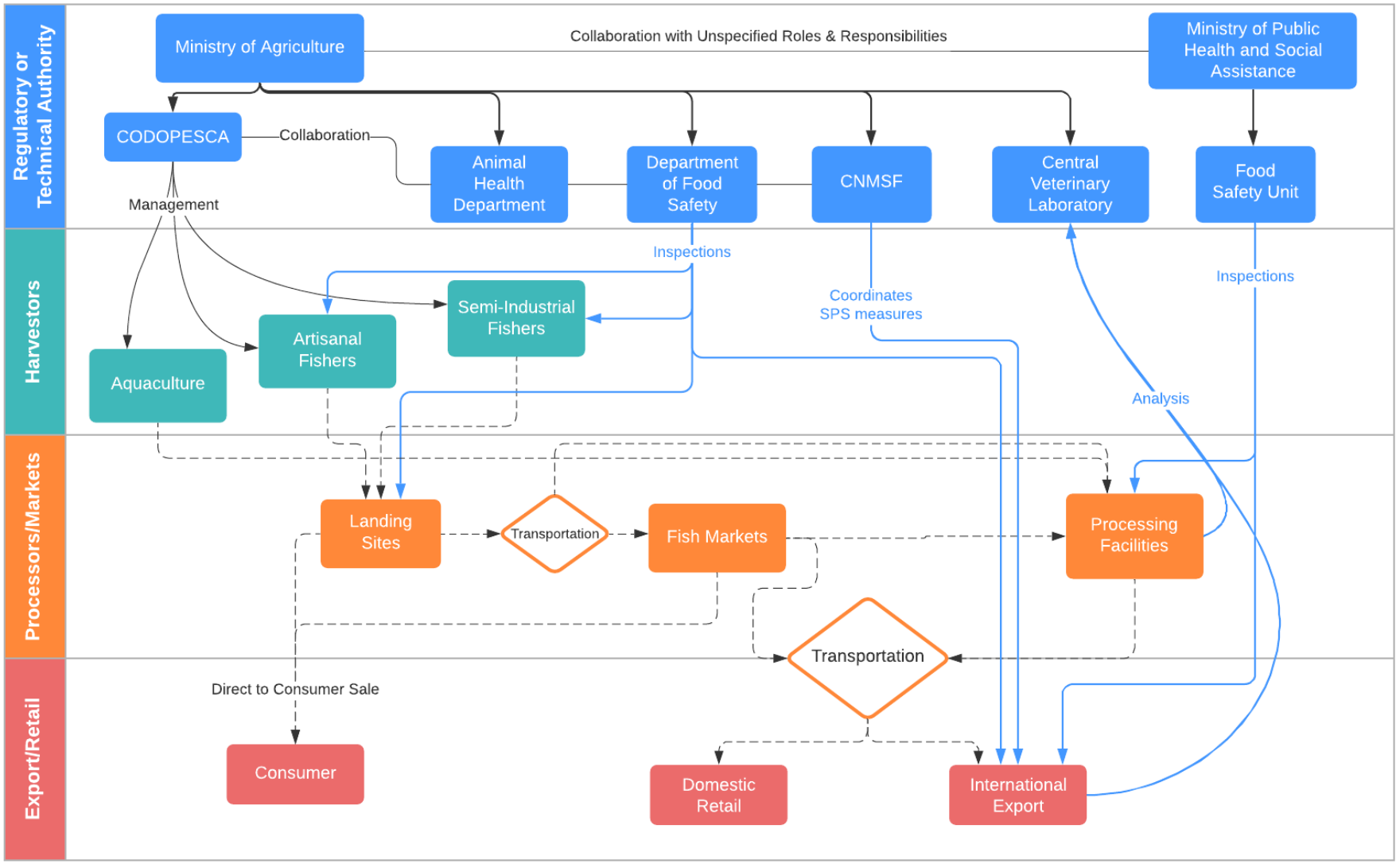
The Department of Food Safety is involved with SPS measures for seafood products up until slaughter, which covers part of the fisheries value chain in Dominican Republic. Specifically, the Department of Food Safety conducts SPS inspections on fishing vessels and at landing sites. The Food Safety Unit of the Ministry of Health is responsible for SPS inspections post-slaughter, which covers the remaining nodes of the fisheries value chain in Dominican Republic. The Food Safety Unit is responsible for conducting SPS inspections at processing facilities. However, due to the small-scale and informal nature of fisheries in Dominican Republic, inspections are not formally conducted and occur on an ad-hoc basis or never.

The Animal Health Department of the Ministry of Agriculture is also involved with SPS measures for seafood products; however, few activities are currently being undertaken due to a lack of trained personal with appreciate expertise working with the Department.

The National Committee for the Application of Sanitary and Phytosanitary Measures (CNMSF) is responsible for coordinating the implementation of international SPS agreements, particularly the World Trade Organization (WTO) SPS Agreement[5], in Dominican Republic. CNMSF, however, is generally focused on agricultural and livestock health rather than seafood products due to the small-scale nature of fisheries in Dominican Republic.

[5] World Trade Organization. (1995). The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement). Retrieved from https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm

The Central Veterinary Laboratory (LAVECEN) of the General Directorate of Livestock (DIGEGA) of the Ministry of Agriculture is the designated laboratory for official control in Dominican Republic. This laboratory performs microbiological and heavy metal analysis on seafood products; however, other analytical tests are not conducted.



blue lines = SPS controls; black = management; dashed lines = movement of fish

Figure 6: Roles and Responsibilities for SPS Measures in Dominican Republic

3.7 Grenada

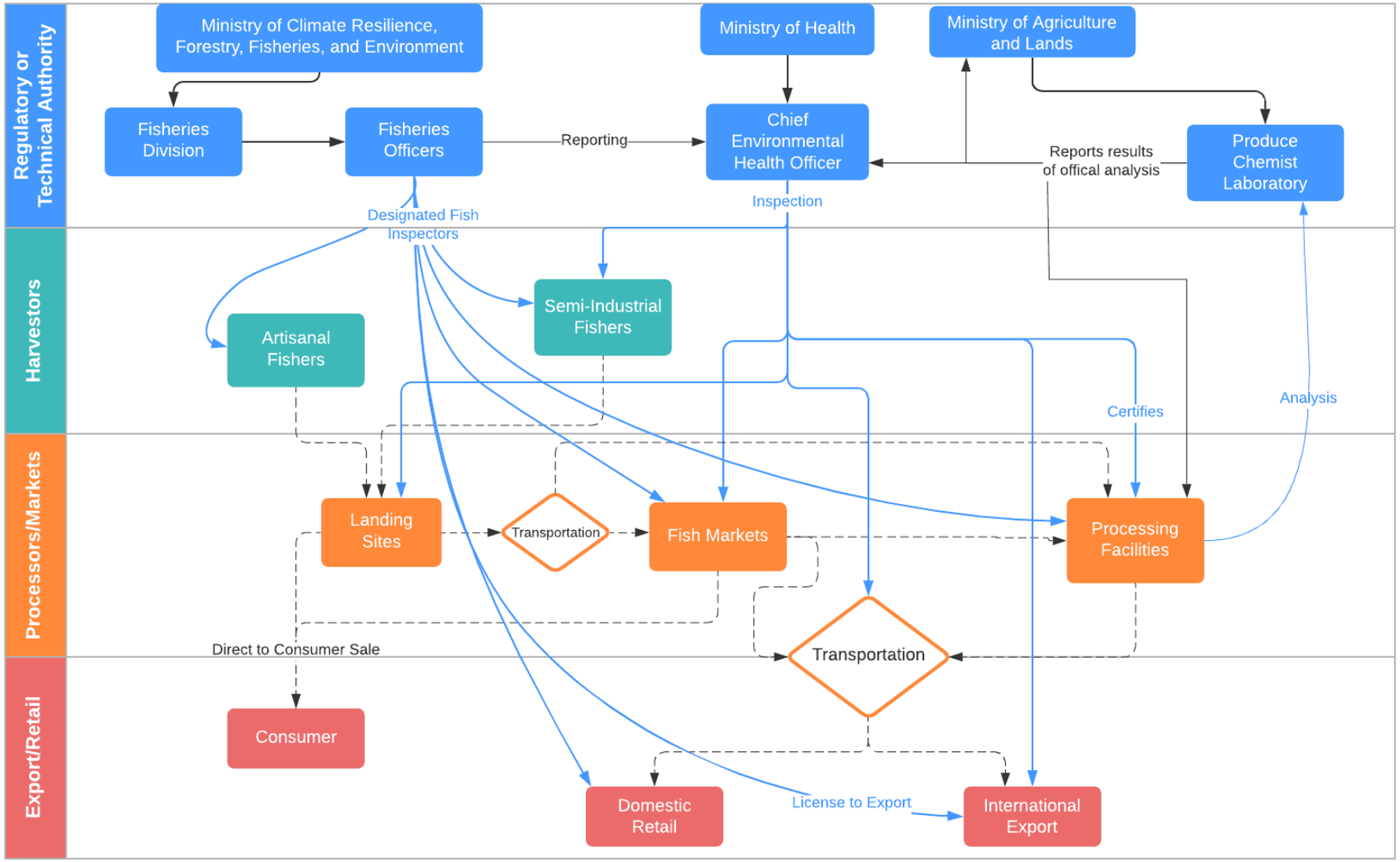
The desktop study and engagement activities identified the following key institutions that are responsible for SPS in Grenada:

- Fisheries Division, Ministry of Climate Resilience, the Environment, Forestry, Fisheries, and Disaster Management
- **Chief Environmental Health Officer, Ministry of Health (CA)**
- Produce Chemist Laboratory, Ministry of Agriculture and Lands
- Bureau of Standards Laboratory

The competent authority for SPS measures in Grenada is the Chief Environmental Health Officer of the Ministry of Health. The Ministry of Health is responsible for carrying out SPS inspections on industrial commercial fishing vessels and at landing sites, fish markets, and processing facilities. These inspections are carried out in collaboration with the Fisheries Division within the Ministry of Climate Resilience, the Environment, Forestry, Fisheries and Disaster Management. Fisheries Officers assist the Chief Environmental Health Officer with inspections at processing facilities and abroad artisanal and industrial fishing vessels; for example, ensuring that fish establishment plants are equipped with HACCP concepts and Sanitation Standard Operating Procedures (SSOPs). The Fisheries Officers are trained with appropriate qualifications and certifications related to SPS. The Fisheries Division assists with training fish vendors that operate in markets in the areas of fish handling, icing, and preservation of fish that are to be sold for human consumption.

While the Fisheries Officers work for the Fisheries Division of the Ministry of Agriculture, Lands, Forestry, Fisheries and Environment, their involvement in SPS regulations results in the Ministry of Health also having responsibility for these officers. As a result of this collaboration, SPS inspections are carried out by both health and fisheries officers, such as inspections for seafood products destined for export. The Fisheries Division issues health certificates for inspected products that are safe for export; the Chief Environmental Health Officer is also responsible for certifying processing facilities with an export licence to international markets, including the EU.

The Produce Chemist Laboratory within the Ministry of Agriculture and Lands is the designated laboratory for official seafood product analysis in Grenada. However, analytical tests conducted at the laboratory are limited due to financial constraints and insufficient sampling across the value chain. The Grenada Bureau of Standards Laboratory conducts microbiological analysis for some food business operators.



blue lines = SPS controls; black = management; dashed lines = movement of fish

Figure 7: Roles and Responsibilities for SPS Measures in Grenada

3.8 Guyana

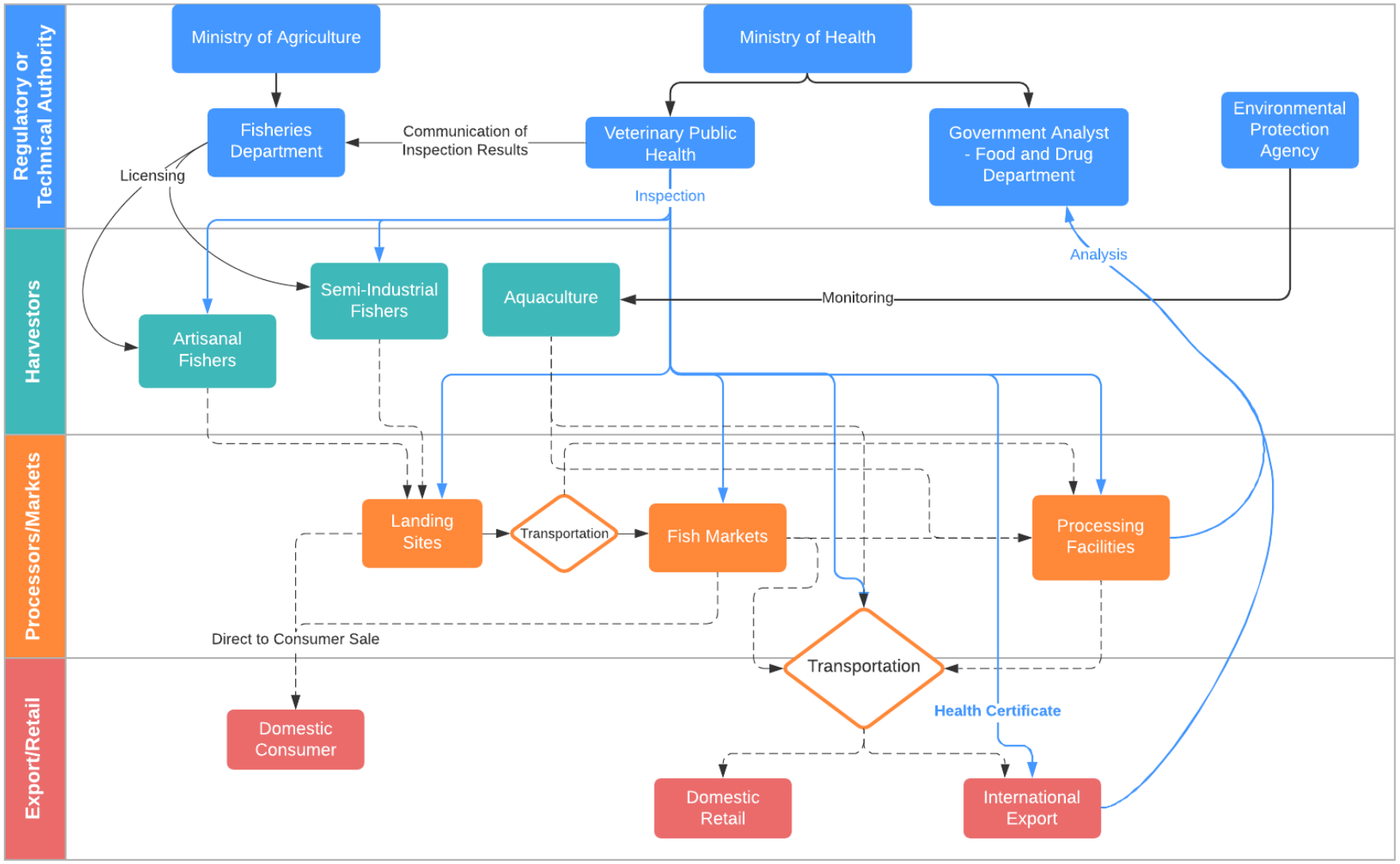
The desktop study and engagement activities identified the following key institutions that are responsible for SPS in Guyana:

- Fisheries Department, Ministry of Agriculture
- **Veterinary Public Health, Ministry of Health (CA)**
- Food and Drug Department, Ministry of Health
- Environmental Protection Agency
- Government Analyst – Food and Drug Department

Veterinary Public Health within the Ministry Health is the competent authority responsible for SPS in Guyana fisheries. Veterinary Public Health inspects and issues licences to artisanal and industrial commercial fishing vessels, landing sites, fish markets, and processing facilities. Health certificates issued from Veterinary Public Health cover both export and import of seafood products. Veterinary Public Health collaborates in some capacity with other Ministries and Departments, particularly with the Government Analyst – Food and Drug Department (GA-FDD). The Environmental Protection Agency is responsible for aquaculture regulations in Guyana through issuance of permits and environmental monitoring.

The Fisheries Department of the Ministry of Agriculture issues fishing licences to artisanal and industry commercial fishers. The Fisheries Department does not have regulatory responsibilities directly related to SPS measures; however, the Fisheries Department provides licences for fishing vessels based on recommendations from Veterinary Public Health following the results of SPS inspections. Despite this collaboration, there is no formal written Memorandum of Understanding (MoU) between the Fisheries Department and Veterinary Public Health. According to the national regulatory framework, Veterinary Public Health can only delegate regulatory responsibility if there is a written agreement in place with other agencies.

There are several laboratories designated for official analysis through the Government Analyst – Food and Drug Department (GA-FDD). GA-FDD is designated by Veterinary Public Health to perform official analysis on seafood samples predominately through their Food Chemistry Laboratory, Food Microbiology Laboratory, and Water Chemistry Laboratory. GA-FDD and associated laboratories operate on the University of Guyana campus, with some independent laboratory spaces designated to the department while other laboratory spaces are shared with the university. Seafood samples are sent to the GA-FDD from Veterinary Public Health, and some samples are processed within Veterinary Public Health through Ministry of Health laboratories as well. In addition, some processing facilities in Guyana perform analysis of microbes and heavy metals in water samples.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 8: Roles and Responsibilities for SPS Measures in Guyana

3.9 Haiti

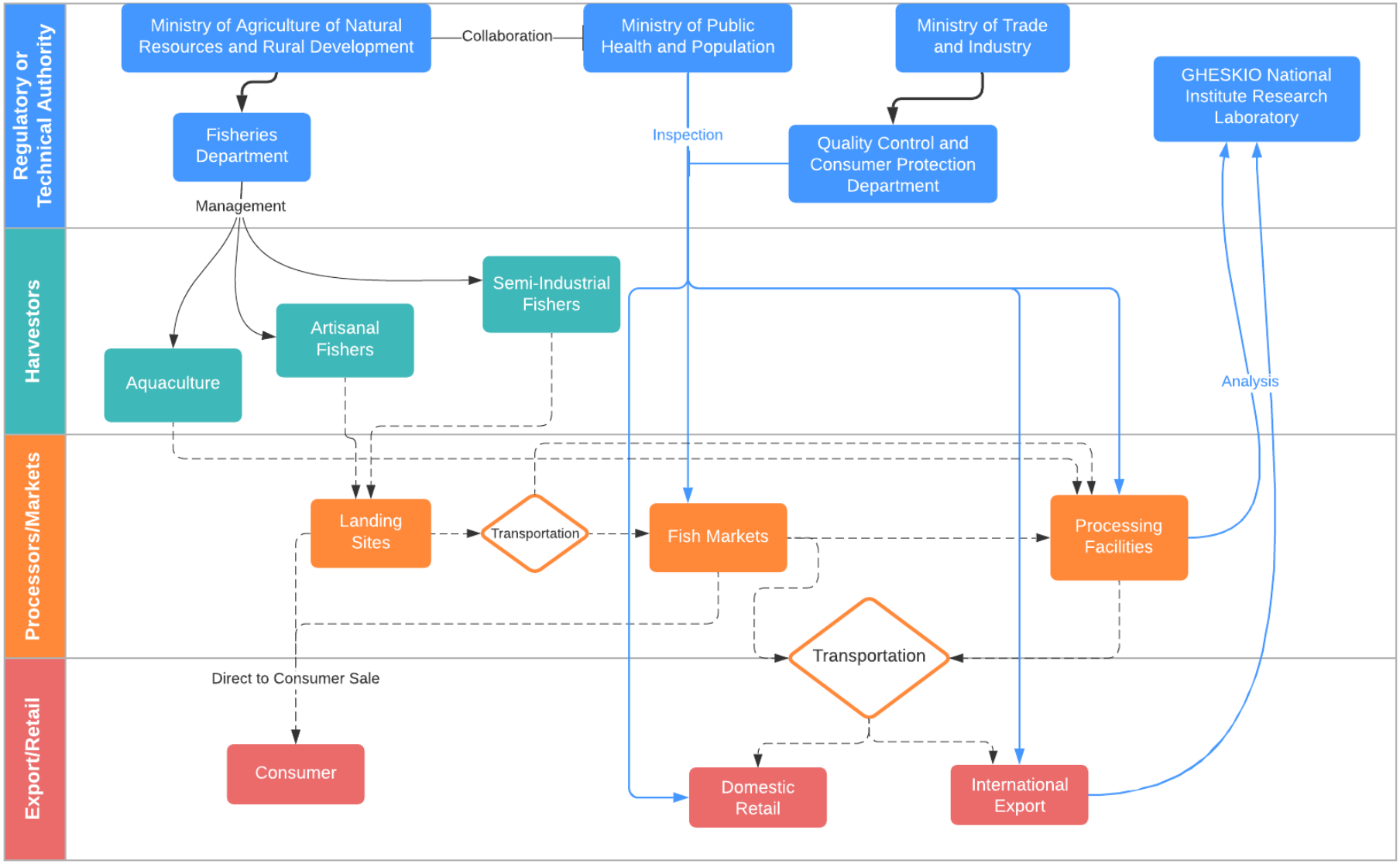
The desktop study identified the following key institutions that are responsible for SPS in Haiti:

- Fisheries Department, Ministry of Agriculture of Natural Resources and Rural Development
- Ministry of Public Health and Population
- Quality Control and Consumer Protection Department, Ministry of Trade and Industry
- GHESKIO National Institute Research Laboratory

Haiti's Ministry of Agriculture and Natural Resources and Rural Development (MARNDR) and Ministry of Public Health and Population (MSPP) collaborate on SPS measures. MARNDR is responsible for developing inspection and control standards for products, establishments, and processes throughout the food production phases. Further, the ministry has authority over the Fisheries Department, which has management authority over aquaculture, artisanal fishers, and semi-industrial fishers. In collaboration with MSPP, MARDNR is responsible for programming and coordination of technical standards.

MSPP is responsible for regulating public health activities related to hygiene and food safety for products of animal and plant origin intended for human consumption. As such, MSPP inspects fish markets, domestic retail, processing facilities, and the export market to ensure food safety and hygienic practices are being met. The ministry also develops technical standards for the inspection and control of animal and plant products in collaboration with MARNDR. MSPP also supports the identification of food poisoning cases occurring in the country through active and passive surveillance.

The Ministry of Trade and Industry (MCI) through the Quality Control and Consumer Protection Department is responsible for ensuring economic production and consumer safety. This department assesses quality and ensures conformity of food products with national and international standards, including those specified by the manufacturer of the product. This department is also subject to inspection by MSPP regarding public health and food safety. Haiti's national laboratory is GHESKIO National Institute Research Laboratory; however, it is unclear whether food sampling occurs at GHESKIO.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 9: Roles and Responsibilities for SPS Measures in Haiti

3.10 Jamaica

The desktop study identified the following key institutions that are responsible for SPS in Jamaica:

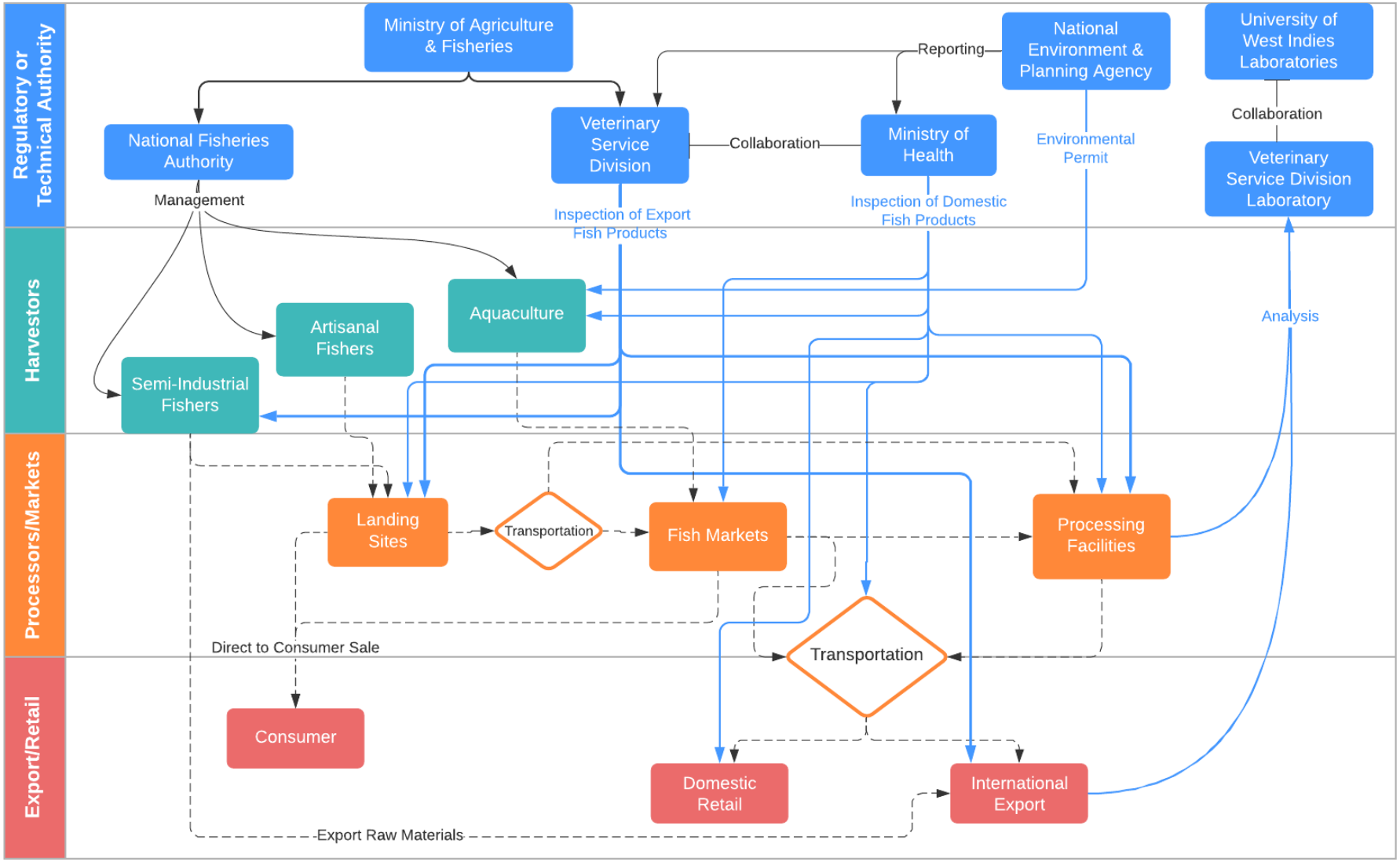
- **Veterinary Service Division, Ministry of Agriculture & Fisheries (CA)**
- **Ministry of Health and Wellness (CA)**
- National Fisheries Authority, Ministry of Agriculture & Fisheries
- National Environment and Planning Agency
- Veterinary Service Division Laboratory
- University of West Indies Laboratory

Two government agencies are responsible for SPS-related measures in Jamaica. The Veterinary Service Division of the Ministry of Agriculture and Fisheries is responsible for inspection of seafood products for export while the Ministry of Health and Wellness is responsible for inspection of seafood products for domestic consumption. The Veterinary Service Division conducts inspections on fishing vessels, and at landing sites, fish markets, and processing facilities that export seafood products. Following inspection, processors are issued health certificates for international export. The Ministry of Health conducts inspections of seafood produced and imported for the domestic market, including fishing vessels, landing sites, fish markets, processing facilities, retail stores, hotels, and restaurants. These inspections are conducted by trained public health inspectors. A MoU exists between the Ministry of Health and Veterinary Service Division to coordinate efforts related to SPS inspections.

The National Fisheries Authority of the Ministry of Agriculture and Fisheries is responsible for management of the fisheries sector, including fisheries management, monitoring of environmental quality, and licensing and registration of fishers and vessels, among others. As such, the National Fisheries Authority is not directly involved with SPS regulations in Jamaica.

The National Environment and Planning Agency is responsible for issuing environmental permits for aquaculture in Jamaica. These activities include the management of Environmental Impact Assessments and environmental monitoring of aquaculture activities and industrial pollution. Findings from these activities are communicated to the Ministry of Health and Veterinary Service Division.

The Veterinary Service Division laboratory is responsible for analysis of official control samples of seafood products and water from processing facilities. This laboratory has the capacity to perform microbiological analysis, testing of pesticides, heavy metals, and marine biotoxins and collaborates with other laboratories of the University of West Indies in circumstances where analytical capacity is lacking. These laboratories are designated to carry out official analysis by the Veterinary Service Division. Since domestic seafood products are not included in the regulatory responsibility of the Veterinary Service Division, the laboratory does not analyze official control samples for these products.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 10: Roles and Responsibilities for SPS Measures in Jamaica

3.11 Saint Lucia

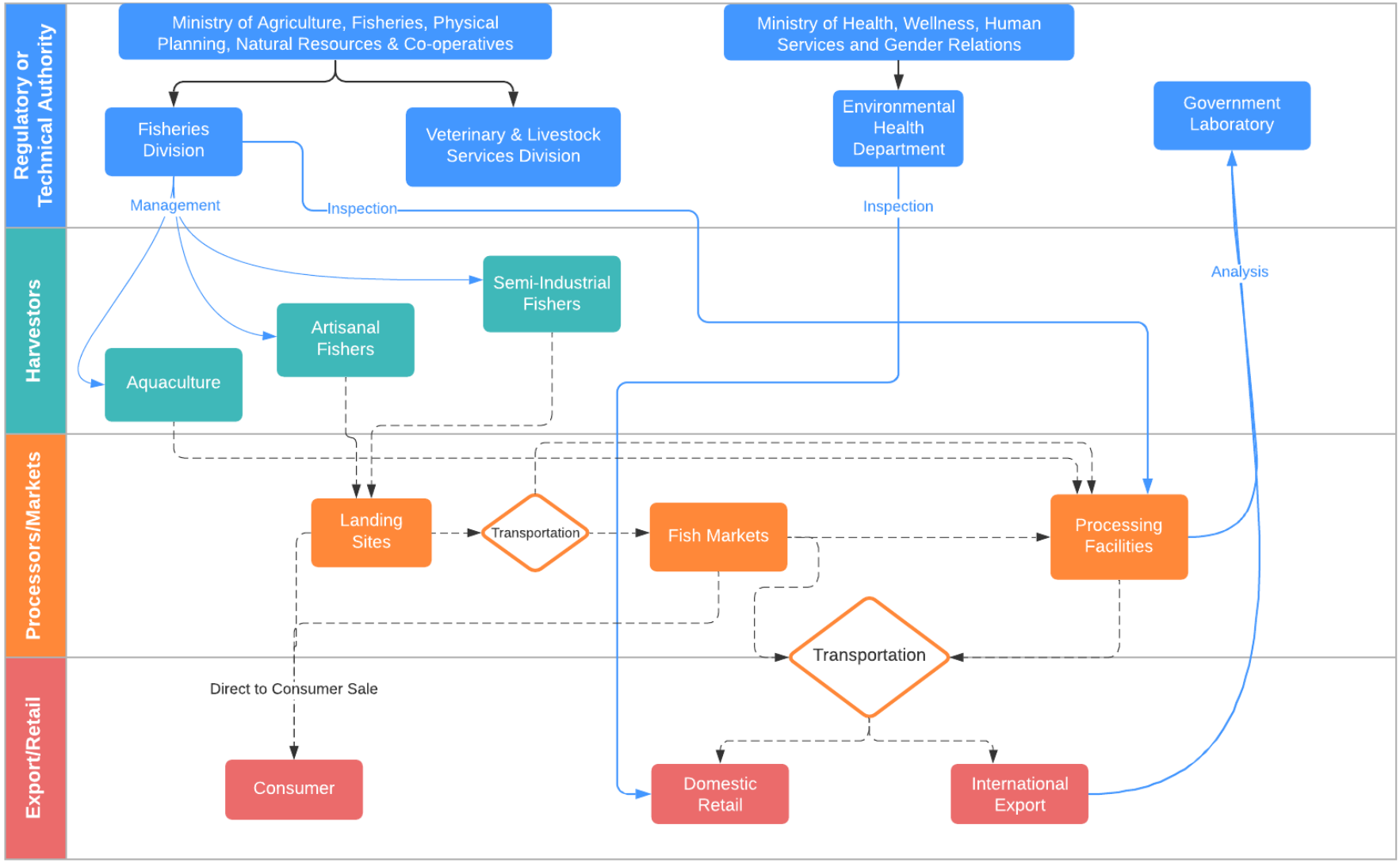
The desktop study identified the following key institutions that are responsible for SPS in Saint Lucia:

- Fisheries Division, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources & Co-operatives
- Environmental Health Department, Ministry of Health, Wellness, Human Services and Gender Relations
- Government Laboratory (Bureau of Standards & Ministry of Health and Wellness)

Based on the legislative review and information gathered from different government agencies, the Fisheries Division of the Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources & Co-operatives is responsible for most SPS-related measures in Saint Lucia fisheries. However, the competent authority for SPS matters in fisheries is unclear. The Fisheries Division conducts SPS inspections on fishing vessels and processing facilities, while the Environmental Health Department of the Ministry of Health, Wellness, Human Services and Gender Relations conducts inspections at retail outlets that sell seafood for domestic consumption. However, fisherfolk and processers based in Saint Lucia report that there is generally minimal to no SPS-related inspections conducted by government agencies. Public policy indicates that SPS standards in fisheries are priority area for development in Saint Lucia through the Ministry of Agriculture, including the construction of infrastructure at landing sites[6].

The Government Laboratories in Saint Lucia are designated for official analysis for seafood products. However, the extent of analysis conducted for SPS samples is unknown.

[6] Government of Saint Lucia. (2018). *Saint Lucia's Sectoral Adaptation Strategy and Action Plan for the Fisheries Sector (Fisheries SASAP) 2018- 2028, under the National Adaptation Planning Process*. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development and Department of Agriculture, Fisheries, Natural Resources and Cooperatives, Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 11: Roles and Responsibilities for SPS Measures in Saint Lucia

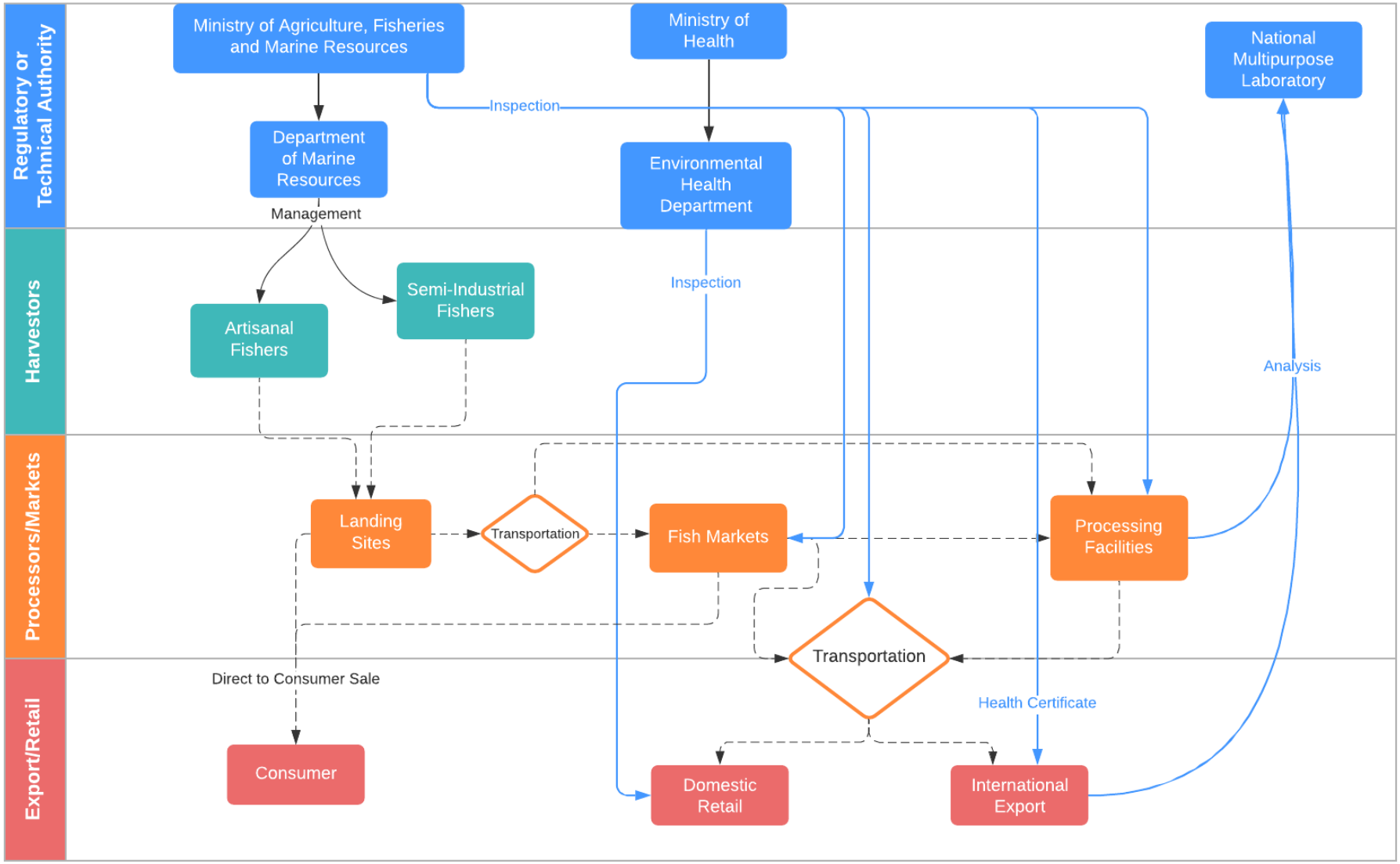
3.12 St Kitts and Nevis

The desktop study identified the following key institutions that are responsible for SPS in St. Kitts and Nevis:

- **Ministry of Agriculture, Fisheries and Marine Resources (CA)**
- Department of Marine Resources, Ministry of Agriculture, Fisheries and Marine Resources
- Environmental Health Department, Ministry of Health
- National Multipurpose Laboratory

The Ministry of Agriculture, Fisheries and Marine Resources is the competent authority responsible for fish health and hygiene for post-harvest activities in St Kitts and Nevis. The Ministry of Agriculture is authorized to issue regulations for fish processing establishments, cold rooms, ice plants, fish transportation vehicles, boats, and landing sites for matters related to SPS. The Ministry of Agriculture implements requirements for health certifications and sanitary certificates for seafood placed on the export market. The Department of Marine Resources (DMR) of the Ministry of Agriculture, Fisheries and Marine Resources is responsible for the management of artisanal and semi-industrial fishers and is authorized by the Ministry of Agriculture to operate a laboratory that conducts SPS-related functions; however, the extent of the collaboration between the Ministry of Agriculture, Fisheries and Marine Resources and the DMR on SPS measures is currently unclear. The Environmental Health Department of the Ministry of Health inspects food establishments one or more times per year and issues Food Handlers Certifications.

The National Multipurpose Laboratory of the St. Kitts and Nevis Bureau of Standards is the designated laboratory for official analysis in St. Kitts and Nevis. Analysis is conducted on samples from processing facilities and seafood products destined for export markets, but the extent and frequency of analysis on SPS samples is unclear. The Ministry of Agriculture has authority to grant the DMR a laboratory designed to support measures related to SPS; however, it is unclear whether a laboratory is currently operating under the DMR.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 12: Roles and Responsibilities for SPS Measures in St Kitts & Nevis

3.13 St Vincent and the Grenadines

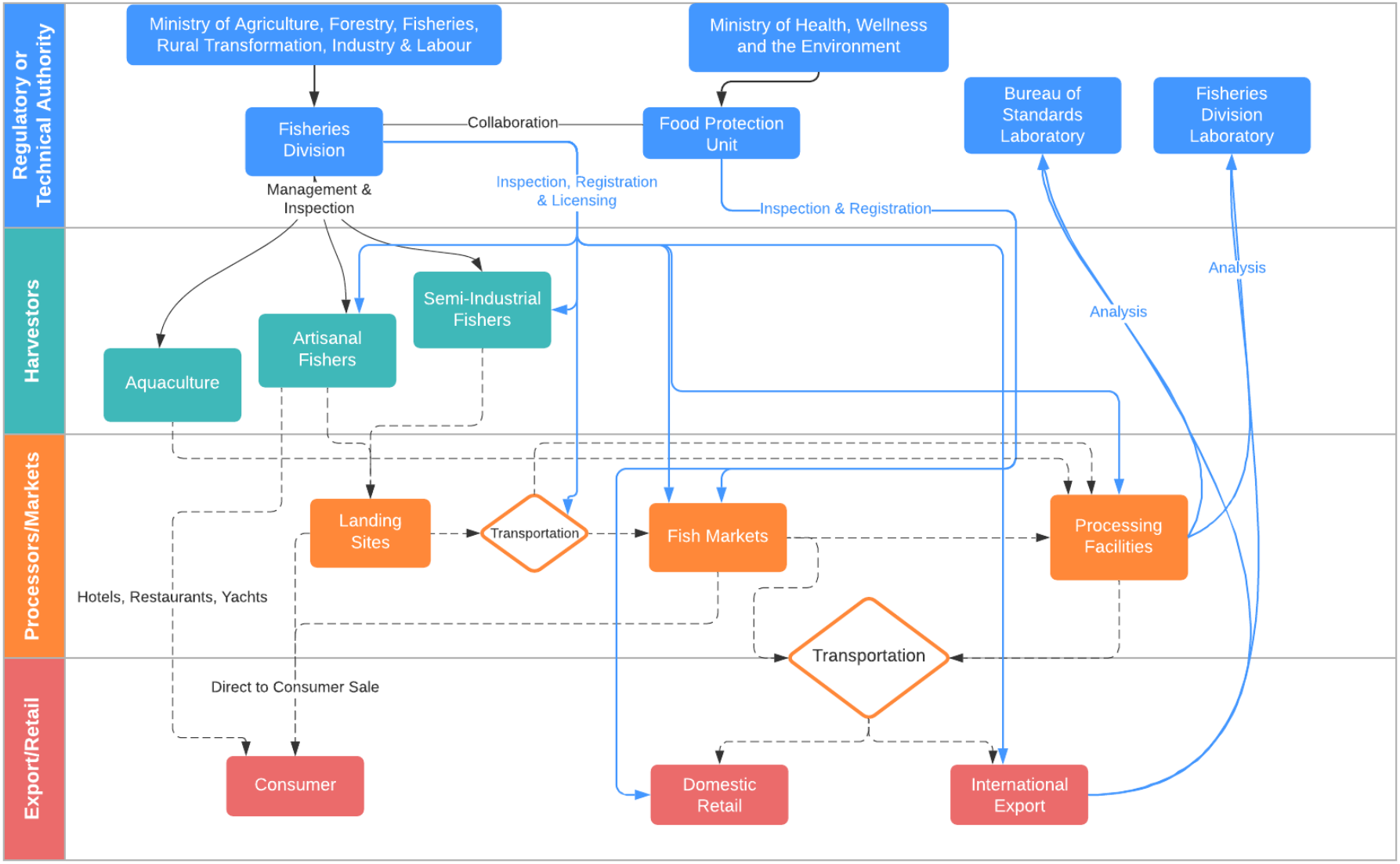
The desktop study and engagement activities identified the following key institutions that are responsible for SPS in St. Vincent and the Grenadines:

- **Fisheries Division, Ministry of Agriculture, Forestry, Fisheries, Rural Transformation, Industry, & Labour (CA)**
- Food Protection Unit, Ministry of Health, Wellness, and the Environment
- Bureau of Standards Laboratory
- Fisheries Division Laboratory

The Fisheries Division of the Ministry of Agriculture, Forestry, Fisheries, Rural Transformation, Industry and Labour is the competent authority for SPS-related measures in Saint Vincent and the Grenadines. The Fisheries Division is responsible for registering, licencing, and inspection for import and export of seafood products in addition to management of the aquaculture industry, artisanal fishers, and semi-industrial fishers. The Fisheries Division conducts inspections for all imported and exported seafood products at various frequencies. Private fish markets that sell seafood products for domestic consumption employ their own inspectors to conduct internal inspections, however, the Fisheries Division also conducts inspections at private fish markets on an ad-hoc basis.

The Ministry of Health, Wellness, and the Environment oversees the Food Protection Unit (FPU) for matters related to consumer safety. The primary objective of the FPU is to enforce regulations regarding sanitary conditions of food establishments and operations to protect consumers from food borne diseases. FPU is responsible for the inspection and registration of food establishments along with certifying food handlers, including fish markets and domestic retail. The Food Protection Unit collaborates with the Fisheries Division to notify each other of infractions and coordinate training and certification of fishers.

There are two laboratories for official analysis in Saint Vincent and the Grenadines. The Fisheries Division performs some microbiological analysis of seafood products at their internal laboratory. While the Bureau of Standards has a separate laboratory for official analysis, the Bureau has been using the Fisheries Division laboratory for the last three years while the laboratory is under construction. A re-opening date for the Bureau of Standards' laboratory is set for 2022, which could be a support for analytical services.



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 13: Roles and Responsibilities for SPS Measures in St Vincent and the Grenadines

3.14 Suriname

The desktop study and engagement activities identified the following key institutions that are responsible for SPS in Suriname:

- **Vis Keurings Instituut, Ministry of Agriculture, Animal Husbandry & Fisheries (CA)**
- Fisheries Department, Ministry of Agriculture, Animal Husbandry & Fisheries
- Bureau of Public Health, Ministry of Public Health
- Vis Keurings Institute Laboratory

The Vis Keurings Instituut (VKI) within the Ministry of Agriculture, Animal Husbandry and Fisheries is the competent authority in Suriname. The VKI works only in fisheries, meaning that there is no overlap with ministry responsibilities for agriculture. The VKI is comprised several departments, including the Inspection Department and the Laboratory Department. The Inspection Department is responsible for carrying out necessary inspections and checks to ensure quality of seafood products based in the ISO 17025 system. As a result, the VKI conducts inspections aboard artisanal and industrial commercial fishing vessels, at aquaculture facilities, landing sites, fish markets, processing facilities, and imports/exports. Additionally, the VKI issues health certificates for export and import of seafood products.

Currently, inspections are conducted by eight fully trained inspectors for 24 processing establishments. Inspections are focused on seafood products for export rather than domestic seafood products due to capacity constraints. Inspections are regularly conducted for processing and export facilities. For fish markets, there is a lack of capacity to investigate local sale of seafood at markets. Opening a sales tent in fish markets requires an application to the Ministry of Trade and Industry, and the VKI will follow up with inspections for these tents as needed. The Bureau of Public Health within the Ministry of Health is responsible for inspections of domestic retail and restaurants, including all cooked seafood products.

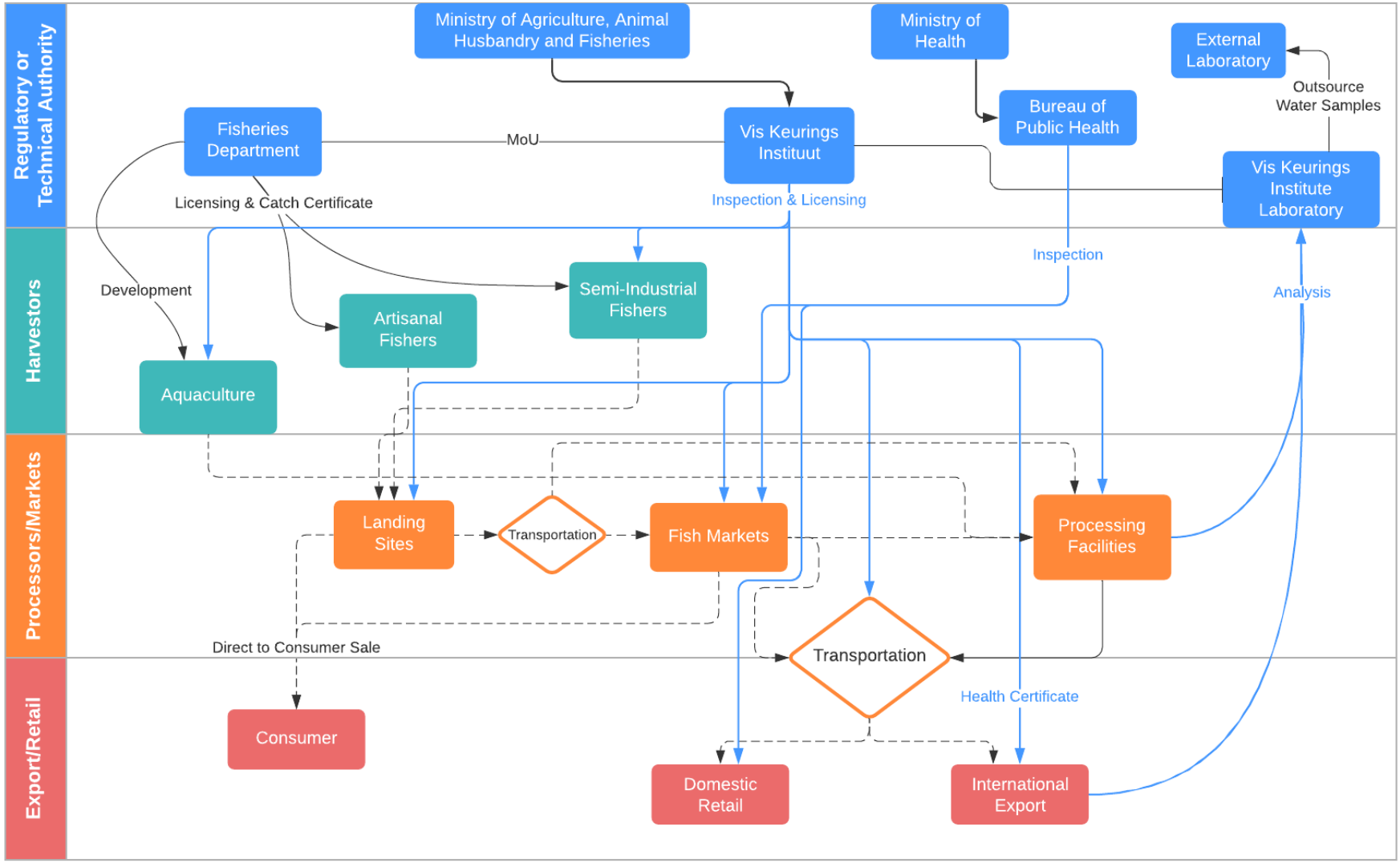
VKI inspectors receive training for their role, including a one-year full time vocation training course called ‘Quality Management in Fishery Sector’, which is required for all inspectors. This training is offered periodically by the Ministry of Agriculture, Animal Husbandry and Fisheries in partnership with the VKI and other organizations when there is a large enough group of people to train and there are adequate funds to support the training course. The training course was last run in 2015 and 2018 and includes subjects such as fish processing techniques, quality and risk management (HACCP), legislation, international standards, storage and perseveration techniques, toxicology and microbiology, and fish biology and hygiene. Upon successful completion of the course, students complete a six-month internship with the VKI to familiarize the students with various inspection tasks.

The Fisheries Department of the Ministry of Agriculture, Animal Husbandry and Fisheries is responsible for the development of aquaculture and issuing of fishing licences and catch certificates to artisanal and industrial commercial fishing vessels. The VKI receives a list from the Fisheries Department of newly licenced vessels, and the Fisheries Department ensures that fishers receive a written list of rules regarding sanitary procedures. There is a MoU in place between the Fisheries Department and the VKI regarding SPS measures, where if the VKI inspects a vessel and finds non-

conformities related to SPS measures, the VKI communicates these results to the Fisheries Department.

The VKI Laboratory Department is the designated laboratory for official analysis in Suriname, which is required for exporting seafood products to the EU. Currently, the VKI Laboratory offers sampling services to organizations, processing facilities, and domestic sale. This laboratory carries out microbiological analysis, chemical analysis (lead, mercury, cadmium, and histamine), and freshness tests in accordance with ISO 17025 standards. Other analytical tests, including water samples, are outsourced to the Central Laboratory within the Ministry of Public Health and laboratories abroad. The VKI Laboratory requires fees from exporters and sellers to conduct these tests; for example, the fee for water sampling is $260 USD. The VKI Laboratory receives seafood samples from processors and exporters monthly, but minimal to no samples come from fish markets.

SPS Stakeholder Mapping - Suriname



blue lines = SPS controls; black lines = management; dashed lines = movement of fish

Figure 14: Roles and Responsibilities for SPS Measures in Suriname

3.15 Trinidad and Tobago

The desktop study and engagement activities identified the following key institutions that are responsible for SPS in Trinidad and Tobago:

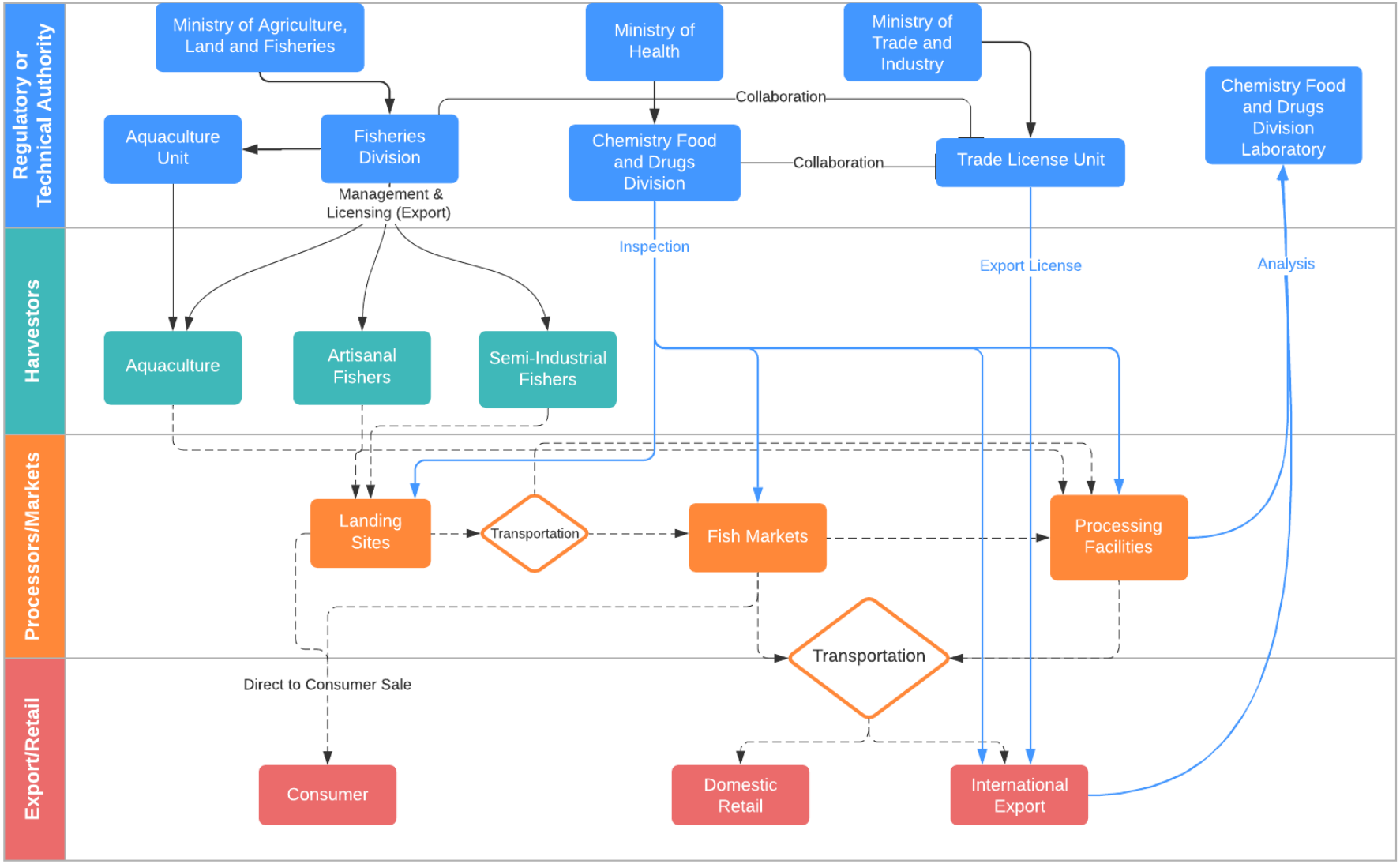
- Fisheries Division, Ministry of Agriculture, Land and Fisheries
- Aquaculture Unit, Fisheries Division
- **Chemistry Food and Drug Division, Ministry of Health (CA)**
- Trade License Unit, Ministry of Trade and Industry
- Veterinary Diagnostic Laboratory

The Chemistry, Food and Drugs Division of the Ministry of Health is the competent authority for SPS controls in Trinidad and Tobago. The Chemistry, Food and Drugs Division conducts SPS inspections once or twice a year at landing sites, fish markets, and processing facilities, but not on fishing vessels. The frequency that SPS inspections are conducted is dependent on work force capacity. Employees with the Chemistry, Food and Drugs Division have previously received HAACP training, however, this training is not typically conducted by local citizens and is dependent on international trainers. In addition, the turnover rate of employees has resulted in current employees not having received the most recent HAACP training.

The Fisheries Division of the Ministry of Agriculture, Land and Fisheries is responsible for the management and licensing of artisanal and industrial commercial fishing vessels and aquaculture facilities. However, the division's involvement in SPS measures is somewhat limited. While the Aquaculture Unit within the Fisheries Division is responsible for management of the aquaculture industry, SPS inspections are currently not being conducted for aquaculture in Trinidad and Tobago. The current level of collaboration between units and ministries is unclear.

The Trade Licence Unit is responsible for issuing export licences for seafood products in Trinidad and Tobago. The Fisheries Division sends recommendation to the Trade License Unit of the Ministry of Trade and Industry regarding export licenses based on fisheries management considerations. Likewise, the Chemistry Food and Drugs Division sends recommendations to the Trade Licence Unit for health certifications regarding export licences for seafood products on an ad-hoc basis.

The Chemistry Food and Drugs Division has their own laboratory, which is the designated laboratory for official analysis in Trinidad and Tobago. The designated laboratory has not been operational since 2015. Seafood samples were previously analyzed at the designated laboratory, however, issues with instruments and other constraints prompted the lab to close. More recently, the Chemistry Food and Drugs Division paid for samples to be analyzed at another laboratory until financial constraints limited the Division's ability to continue this service. As a result, few samples are analyzed with respect to SPS for seafood products in Trinidad and Tobago.



blue lines = SPS controls; black = management; dashed lines = movement of fish

Figure 15: Roles and Responsibilities for SPS Measures in Trinidad & Tobago

CHAPTER 4 VALUE CHAIN PERSPECTIVES ON SPS MEASURES

In general, governance institutions throughout the CARIFORUM have different circumstances that affect their abilities to assure high SPS standards are being maintained. There are similar differences between the various value chain actors[7] across the region. To understand these differences, information collected through the online survey and semi-structured interviews (see Chapter 2) was analyzed to better understand the varying perspectives of SPS-related issues across the value chain.

4.1 Research Overview

As described in Chapter 2, an online survey and semi-structured interviews were conducted to capture information and opinions on SPS measures throughout the fisheries value chain in the CARIFORUM region. A total of 53 respondents completed the online survey, representing 14 countries and seven sector groups. Survey responses indicated similarities and differences regarding perspectives on SPS measures both within and between CARIFORUM Member States and sector groups. In some cases, findings from specific lines of questioning for sector groups in the survey were combined to provide a more robust and general understanding of how various components of SPS measures apply across the fisheries value chain. Information was collected, analyzed, and organized in the following categories:

- Government Agencies, including Competent Authorities;
- Designated Laboratories;
- Harvesting, including fisherfolk and fisherfolk associations;
- Marketing and Processing, including landing sites, processing facilities, fish exporters, restaurants, and retail.

The findings from the survey were augmented through follow-up interviews. Some groups were underrepresented in the survey results and interviews that may be attributed to the ongoing COVID-19 pandemic. As many interviewees noted, staff shortages and value chain issues have been exacerbated throughout the COVID-19 pandemic and this lack of capacity may be associated with the lack of response from specific stakeholder groups and Member States.

4.2 Lessons Learned

Analysis of the findings from the online survey and semi-structured interviews provide insight on some of the needs and strengths of the current SPS regime across the value chains within the CARIFORUM region (see Figure 16). There are clear commonalities in the SPS issues that exist in fisheries across the region. These include barriers to communication, unclear regulatory responsibilities, inconsistent analytical capacities, and unclear compliance and enforcement approaches.

[7] For the purposes of this report, value chain actors include persons or organizations that regulate, handle, or transform seafood across the value chain from harvest to end-market.

SPS Capacity Needs

	Harvesters	Markets & Landing Sites	Processing	Transportation	Retail	Storage & Export	Government
Constraints	• Incomplete knowledge of SPS standards & procedures • Low uptake of SPS standards • Limited time to deal with SPS measures	• Insufficient workspace & tools • Incomplete knowledge of SPS standards & procedures • Inconsistent uptake of SPS standards	• Insufficient trained personnel in food safety • Insufficient SPS equipment • Incomplete knowledge of SPS standards & procedures	• Insufficient SPS equipment • Incomplete knowledge of SPS standards & procedures • Insufficient SPS monitoring	• Inadequate traceability in seafood products • Incomplete knowledge of SPS standards & procedures	• Insufficient SPS documentation from across value chain • Limited access to analysis of products • Incomplete knowledge of SPS standards & procedures	• Insufficient clarity regarding regulatory authority • Insufficient trained inspectors • Weak communication of SPS standards
Needs	• Skills development in basic fish handling and sanitary practices • Awareness training and compliance support	• Skills development in basic fish handling and sanitary practices • Awareness training and compliance support	• Training on safe fish handling and processing methods • Advisory and technical support to enhance SPS compliance	• Access to appropriate cold storage transportation equipment • Advisory and technical support to enhance SPS compliance	• Implementation of traceability systems along the value chain • Increase knowledge of SPS conditions of seafood products	• Access to official analysis of samples • Advisory and technical support to enhance SPS compliance • Record keeping systems	• Identify a single regulatory authority • Access to trained inspectors • Implement SPS public awareness campaign

Figure 16: Summary of SPS Capacity Constraints and Needs along the Value Chain

4.2.1 Communication of SPS Matters

A consistent barrier reported in the 10th EDF SPS Project was how SPS matters were communicated, particularly as it pertains to communication at the institutional level.[8] Barriers to communication at the institutional level can impact how SPS matters are understood by regulators and actors along the value chain, as well as the importance of SPS matters to those involved with fisheries.

Across all Member States, government agencies indicated that SPS matters are important and should be enhanced in their country. Other sectors also agreed that SPS measures are important for fisheries in their country. However, only half of Government Agencies indicated that their department effectively communicates SPS regulations to the fisheries sector, which many attributed to a lack of financial resources.

Government agencies tended to report higher levels of awareness than the harvesting and marketing and processing sectors. As a result, the focus for SPS communication should extend beyond government agencies to encompass the full fisheries value chain. Despite the importance of processing facilities in affecting the SPS outcomes of seafood products across the rest of the value chain, only half have information visibly accessible to employees about SPS measures. Improved communication within the fisheries value chain regarding SPS-related matters could increase the perceived importance and awareness of SPS matters. This can be enhanced by increasing public awareness and the broader societal understanding of the importance of SPS measures, which can then encourage compliance across the fisheries value chain and the adoption of best practices.

While all sector groups were generally aware of SPS measures in their country, some sector groups differed in their awareness of SPS measures of other Member States in the region. Government agencies and marketing and processing were less aware of SPS regulations in other Member States, while harvesters expressed equal awareness of SPS measures in their own countries and others in the region. The fact that there is inconsistency of sector group awareness of national and regional SPS measures suggests that regional communication of SPS measures should be enhanced. This is particularly important because many international consumers (export markets) may not make the distinction between seafood products from different Member States and assume the regional product is the same regardless of the country of origin. This can be mitigated by enhancing regional coordination of communications and awareness of SPS measures amongst countries to build a regional identity for fisheries products across the CARIFORUM region.

Barriers to SPS-Related Communications

Government agencies identified a lack of financial resources as a limiting factor in their ability to communicate SPS regulations. Insufficient financial support could account for the fact that government agencies also noted a lack of technical equipment and infrastructure (resources) limits their ability to communicate SPS regulations to the fisheries sector. Insufficient technical training may also account for a barrier to communication. Value chain actors identified that insufficient training across the value chain accounted for some of the problems related to communication; better educated and informed technical staff can better communicate SPS-related matters. Consistency in

[8] IICA. (2015). Final Report: Cost Benefit Analysis and Impact of Compliance and Non-Compliance with Sanitary and Phytosanitary Requirement for CARIFORUM Countries. 126p.

training within CARIFORUM Member States will also enhance communication capacities since the value chain actors will be able to use common standards and terminology across the region and be better able to share information on SPS-related issues.

Regionalization of SPS-Related Communications

Harvesters and government agencies suggested that communications could be enhanced through coordination by regional organizations. Furthermore, increased coordination of communications by regional organizations could also facilitate regional sharing of technical resources, thus addressing some of the financial burden that SPS measures place on national budgets and increase cost efficiency of services.

4.2.2 Legislation

The review of national legislation in CARIFORUM Member States identified a disconnect between legislative requirements and operational activities in the implementation of SPS measures. In particular, the lack of capacity to implement responsibilities by the legislated competent authority is often assumed by the Fisheries Division because of their involvement in the sector. The competent authorities are defined by SPS legislation that is primarily focused on agricultural products and not seafood products, *per se*. The distribution of responsibility between the competent authorities and fisheries is complicated by the fact that fisheries are managed separately from agriculture. This distribution of responsibility between agencies results in a lack of clarity on SPS requirements across the fisheries value chain.

Legislative instruments should provide a clear regulatory framework for SPS measures in fisheries. As noted in chapters 2-3 of the NEXUS IICA SPS Project Stakeholder and Institutional Analysis Report, many Member States have primary legislation that clearly outlines responsibilities and standards for SPS matters; however, in some instances, these responsibilities are not clearly defined or assigned.

Even when national legislation clearly defines the responsibilities of the component authority, capacity constraints may exist that limit the extent to which these responsibilities are carried out in practice. For example, it was noted in interviews with government agencies that situations exist where legislation clearly defines the veterinary services agency as the competent authority for fisheries SPS regulations in the country, but there are capacity constraints within that agency that limit their ability to fully perform these legislated functions. Accordingly, implementation of legislation must consider capacity barriers that limit the ability of the competent authority to meet their obligations at the national level and across the region. In many instances, the capacity barriers are the result of insufficient budgets.

The issue of competent authority capacity related to insufficient financial resources is shared by other fisheries value chain actors, which inhibits their ability to meet regulatory requirements. While money is a factor limiting value chain actors' capacity, there are other specific capacity barriers in meeting their SPS-related responsibilities. For example, harvesters indicated that the time to deal with SPS measures was the most influential barrier to following SPS regulations. The time to adequately clean vessels and maintain logbooks is not incentivized in the current regulatory framework, particularly for beach-based fisheries. The observed difference between what is legislated and what is happening 'on

the ground' with respect to SPS regulations is also driven by the small-scale nature of fisheries in many CARIFORUM Member States. In Member States with mostly artisanal fisheries with few international exports, there is generally little attention paid to the promotion of SPS best practices for seafood products. Therefore, implementation of legislation must consider that there are capacity barriers that limit the ability of small-scale harvesters to comply with SPS standards.

Value chain actors reported that knowledge of and perceived importance of SPS matters were barriers to comply with SPS regulations. Increasing knowledge of SPS regulations may enable value chain actors to better understand the procedures to ensure safe and healthy seafood products. As such, specific attention on communication of regulations across both regional and national scales may further support uptake of SPS best practices for value chain actors across the region. For instance, increasing knowledge of SPS may be associated with a higher perceived importance of SPS, whether that is due to the health benefits of a safe supply of seafood in the domestic market or greater access to export markets due to compliance with SPS standards. Therefore, legislation and the associated regulations should clearly identify where capacity is needed.

4.2.3 Regulatory Responsibilities

As previously discussed, roles and responsibilities for SPS-related matters in fisheries are not always well defined in legislation, resulting in a situation where there are multiple government agencies that play a role in implementing and enforcing SPS regulations in fisheries. In some Member States, the roles, and responsibilities for SPS are well defined in one department and do not overlap with others. However, most government agencies reported that two or more government departments are responsible for SPS regulations in their fisheries. Multiple government departments responsible for the implementation of SPS regulations in the fisheries sector introduces inefficiencies and the need for coordination between departments. This can undermine effective implementation of regulations.[9] Furthermore, Member States with two competent authorities for fisheries SPS, where responsibilities for import, export, and domestic markets are divided, can result in confusion about regulatory requirements across value chain.[10] Dividing responsibilities between different government departments that do not regularly interact on an operational basis may cause a situation where diverse agencies conduct inspections at different points along the fisheries value chain.

Approaches that involve multiple reporting cycles and formats to meet the requirements of different agencies can make it difficult for fisheries value chain actors to understand and meet regulatory requirements. Furthermore, the involvement of multiple agencies may result in duplication of effort and overlap in SPS-related responsibilities in fisheries and can cause confusion for value chain actors seeking clarity about SPS control systems and standards. Having clearly defined regulatory responsibilities within a single agency is fundamental to the implementation and realization of SPS measures.

[9] IICA. (2015). Final Report: Cost Benefit Analysis and Impact of Compliance and Non-Compliance with Sanitary and Phytosanitary Requirement for CARIFORUM Countries. 126p.

[10] IICA. (2015). Final Technical Report: Technical Support to develop National and Regional environmental monitoring programmes related to SPS for fishery and aquaculture products in CARIFORUM States. CRFM Technical & Advisory Document 2015/06. 129p.

4.2.4 Laboratory Accreditation and Capacity

To access international export markets, countries are required to designate a laboratory to ensure that certain SPS standards in fisheries are being met. Additionally, importing regions often require designated laboratories to meet specific international management standards as part of the seafood export approval process. The most common standard that laboratories hold accreditation to is ISO 17025, which specifies the general requirements for the competence, impartiality, and consistent operation of laboratories. ISO 17025 is required to access several international markets. For example, Article 37(4)(e) of EU Regulations 2017/625 specifies that laboratories must operate in accordance with the standard EN ISO 17025 in order to be designated as an official or designated laboratory by a competent authority. However, many laboratories in the CARIFORUM are not currently accredited to ISO 17025 or another comparable standard.

Most respondents from government agencies supported having a requirement for designated laboratories in their country, and across CARIFORUM, to meet the standards and hold accreditation. Designated laboratories were also supportive of laboratory accreditation, with over half indicating that laboratories should be accredited or working toward ISO 17025 and that there should be regional standard of accreditation.

The general government support for accreditation is consistent with the need to enhance SPS measures in fisheries, particularly those related to export markets. However, there are capacity barriers that limit the ability of designated laboratories to carry out SPS-related functions. Insufficient financial resources may result in a lack of sufficient staff and analytical instruments that can limit the timely analysis of seafood products. Furthermore, difficulties in accessing appropriate training for staff and difficulties in maintaining analytical equipment can exacerbate the difficulties for laboratories to operate properly. These issues have been further compounded by current COVID-19 related supply chain interruptions and delays. Timely analysis by properly trained staff using well maintained equipment is a requirement for accreditation. Loss of accreditation could result in failure to meet international SPS market requirements.

Laboratory Staff Issues

Laboratory staff are an important stakeholder in the operationalization of SPS measures. These staff must be properly trained, often at post-secondary institutions, in order for them to perform their duties. Designated laboratories noted that there is currently a lack of trained staff that limits their ability to carry out SPS-related functions for seafood products. As a result, there is a need to increase the number of laboratory staff across the region. However, laboratories do not necessarily have the financial resources to train staff and do not have access to the educational institutions involved with technical training. In Member States that have specific training requirements for laboratory staff, the current economic environment makes it difficult for individuals to gain access to the formal education and technical training required to work for a designated laboratory. New approaches to training existing staff through workplace training or identifying additional technical laboratory training within regional universities may provide cost-effective means to address these issues.

Laboratory staff training should include training on variety of analytical equipment, laboratory techniques, and protocols. This will ensure that staff are able to use the various equipment and

methods approved within the accredited laboratories in different Member States. As such, the timing, location, and standards of training for laboratory employees are just as important to consider as the frequency of training. These barriers should be addressed to improve operational capacity of designated laboratories, allowing laboratories to achieve accreditation and enhance SPS measures.

There is diverse access to laboratory capacity across the region; some Member States have accredited laboratories while others have no laboratory at all. This highlights the need for standardization, and possibly, regionalization of laboratory services. Exploring potential enhancement and sharing of laboratory services may be an opportunity in the advancement of harmonization of SPS regulations for fisheries in the region.

4.2.5 Compliance and Enforcement Efforts

As previously noted, ensuring that SPS standards and regulatory requirements are well defined in national legislation is critical to the implementation of SPS measures. However, regulators must also ensure that SPS standards are being complied with across the value chain. There may be an incentive for value chain actors who seek access to international markets to voluntarily comply with national SPS standards. In other instances, there are regulatory requirements to monitor and enforce compliance with standards. There is generally a difference in opinion about the level of compliance between government and fisheries value chain actors.

Voluntary compliance is dependent of the self-interest of the value chain actor, for example, processors that export to an international market must voluntary comply with the SPS standards of the market in order to sell their product. Some exporters reported that they have employees that focus specifically on SPS measures, most of whom have specific training related to SPS activities. However, SPS training is often inconsistently applied throughout the fisheries value chain and the region. Increased training at different points of the value chain may improve consistency and increase understanding of SPS-related best practices. There may be a role for regional organizations to coordinate training that informs value chain actors about protocols and actions to maintain adequate SPS standards.

Government inspections are an important process in compliance monitoring and control. The frequency and nature of inspections are dependent on the specific SPS standards established in national legislation and the capacities of government agencies to conduct these inspections. There is uncertainty across the value chain about the level and frequency of government inspections that are currently conducted. Despite this uncertainty, all sector groups agreed that government inspections should be conducted more frequently.

It has been noted by fisheries value chain actors that there have been instances of infractions during government inspections where actors have not complied with SPS regulations. When these infractions were identified, outcomes included temporary closures, warnings, and penalties. However, not all of the infraction outcomes involved a subsequent inspection. These infractions suggest that the fisheries value chain is unaware about SPS measures and the inconsistencies in inspection outcomes suggest that current SPS regulations are not applied uniformly. With respect to compliance, better communication about SPS measures and consistency in enforcement may improve compliance. Value

chain actors emphasized the need to promote compliance activities, which would require strengthening of regional communication of SPS-related best practices.

Value chain actors noted that inconsistent enforcement outcomes and guidance about SPS-related issues in fisheries limit their ability to comply with regulations. Without subsequent inspections, regulatory bodies are unable to verify that corrective actions have occurred. Furthermore, it is unclear what guidance is provided from regulators regarding how actions need to be corrected when infractions occur. In interviews with government agencies, it was noted that guidance to correct SPS-related issues may be outside of the scope of regulatory responsibilities. Clear guidance about SPS standards and corrective actions for SPS-related issues in fisheries may improve the knowledge of value chain actors in fisheries, thus improving their ability to comply with SPS regulations.

In order for regulators to enforce SPS standards and value chain actors to comply with SPS regulations, training on best practices for SPS activities is required. For government agencies, training should focus on verifying compliance with SPS best practices. Furthermore, training for government agencies should be tailored to different nodes of the value chain since fishing vessels and processing facilities have different SPS protocols and regulatory requirements. For value chain actors, training efforts should focus on complying with SPS regulations. There is an opportunity for regional organizations to ensure that training programs of this nature are consistently applied throughout the region, allowing for improved SPS conditions in fisheries and regional access to international markets.

4.2.6 Priorities for SPS Activities

All sector groups prioritized similar activities to enhance SPS measures in fisheries. Training was the highest priority for SPS matters, followed by inspections. Enforcement was consistently ranked as a lower priority for improvements to SPS, which suggests that harmonization measures may be more effective if focused on building capacity for value chain actors to perform self-monitoring activities that can result in higher compliance. Therefore, regional efforts should focus on supporting training for regulators and value chain actors, which will improve regional understanding of the importance of SPS measures in fisheries.

Considering that there are different scales of fisheries operations that focus on different markets (domestic, regional, and international) across the CARIFORUM region, there will necessarily be diversity in national SPS measures. Across the region, there is a priority amongst government agencies to promote export of seafood products and there is consistency in the views that SPS measures should address certification to meet international market SPS standards. This focus supports industrial and semi-industrial fisheries, which may have the financial capacity to meet international standards. However, harvesters also see the importance of export market development, they felt that there should be more focus on site inspections and training that improve SPS conditions in fisheries. Improved SPS conditions at the harvesting level supports both artisanal and semi-industrial fisheries, which have implications for the domestic and international markets.

Lessons Learned

Communication of SPS Matters

- Inconsistent awareness of SPS matters nationally and regionally
- Lack of financial, technical and educational resources limit effective communication
- Regional coordination of communications could address lack of resources

Legislation

- Disconnect between national legislated requirements and operational activities
- Capacity constraints limit Competent Authority's ability to meet obligations
- Capacity constraints limit value chain actors' compliance with regulations

Priorities for SPS Activities

- Training is the highest priority for SPS activities for all sector groups
- Mixed opinion about the importance of certifying fish for export

Regulatory Responsibilities

- Regulatory responsibilities must be clearly defined in legislation
- Institutional complexity may cause overlap in regulatory responsibilities

Laboratory Accreditation and Capacity

- Accreditation of designated laboratories is a high priority
- Lack of analytical equipment and trained personnel limit functionality
- Regional laboratory could address a range of capacity issues

Compliance and Enforcement Efforts

- SPS inspections should be conducted more frequently
- Inconsistent enforcement limits ability for value chain actors to comply
- Training programs and clear guidance during inspections could improve compliance

Figure 17: Lessons Learned Summary

CHAPTER 5 COMMITMENT, CAPACITY AND LEGISLATIVE COMPLETENESS ANALYSIS

CARIFORUM Member States were assessed using a matrix to cross-compare completeness of national legislation, evidence of commitment to the implementation of legislation and associated regulations, and the capacity to undertake SPS-related measures. This comparison identified commonalities, as well as differences, between Member States and where extra effort must made to enhance SPS measures at the national and regional level. This enables the development of a plan of action, referred to as a roadmap (see Section II), for work to be conducted to improve SPS systems and measures that can ensure a safe and healthy supply of fish across the region.

For the purposes of this matrix analysis, the following components were defined through the desktop research and semi-structured interviews:

- **Completeness** represents the extent that national legislation addresses SPS measures and governance (represented on the matrix by the colour intensity)

- **Commitment** represents a Member States' demonstrated adherence to the implementation of the legislation and associated regulations (Y-axis on the matrix)

- **Capacity** represents a Member States' ability (technical, human resource, and financial) to implement good SPS practices (X-axis on the matrix)

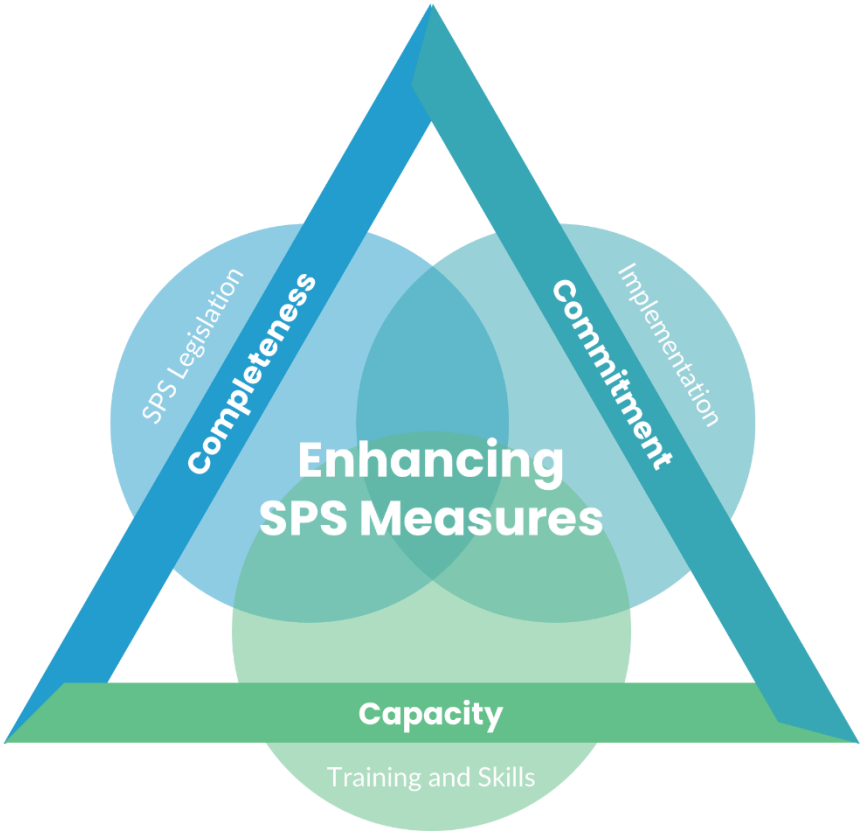


Figure 18: Enhancing SPS Measures Priorities

Indicators for each matrix component were identified, based on desktop research and semi-structured interviews. These indicators were used to assess individual Member States within the matrix. The specific indicators are:

Completeness

- Inclusion of SPS matters in national legislation and regulations
- The extent to which SPS matters are addressed in national fisheries, food safety, health and environment, and trade legislation and regulations

Commitment

- Presence of working groups and organizations dedicated to SPS matters in fisheries
- Evidence of communication about SPS matters across the value chain
- Clearly defined SPS standards in the regulations
- Routine sampling and SPS analysis of seafood products
- Monitoring, control, and surveillance activities related to SPS routinely conducted
- Evidence of corrective action following SPS infractions

Capacity

- Sufficient personnel to implement SPS measures across the value chain
- Access to training and requirements for staff to be trained on SPS measures across the value chain
- Availability of technical resources and equipment across the value chain
- Appropriate financial support for implementation of SPS measures across the value chain

5.1 Scoring Matrix

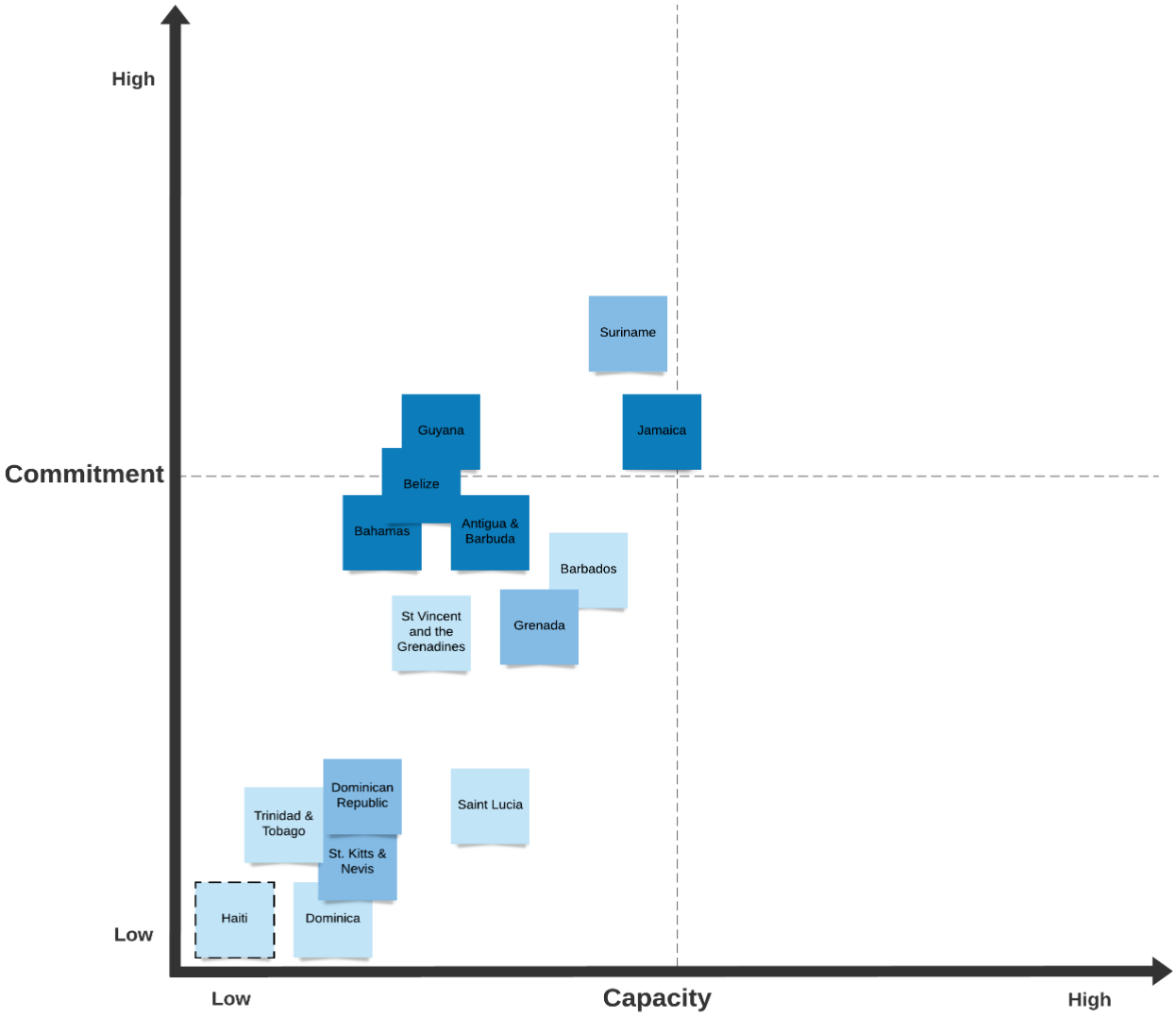


Figure 19: SPS Harmonization Scoring Matrix for CARIFORUM Member States. Dark Blue represents robust legislation, Medium Blue represents moderate legislation, and Light Blue represents incomplete legislation regarding SPS controls and procedures.

5.2 Discussion

The analytical matrix illustrates that Member States are clustered according to their level of completeness, commitment, and capacity regarding fisheries related SPS matters. One cluster, which is comprised of Dominica, Trinidad & Tobago, St. Kitts & Nevis, Dominican Republic, and Saint Lucia, have demonstrated similarly lower levels of commitment and capacity. Another cluster, which demonstrates a somewhat higher level of commitment and capacity, is comprised of St. Vincent and the Grenadines, Grenada, and Barbados. Both clusters are located in the lower left quadrant and have low or medium legislative completeness and that SPS-related legislation should be augmented. A third cluster, which consists of Antigua & Barbuda, Belize, the Bahamas, and Guyana, is characterized by more complete SPS-related legislation and higher levels of commitment to the implementation of this legislation. However, these Member States still face significant barriers in their capacity to implement

SPS measures. Finally, another cluster, which includes Suriname and Jamaica, is characterized by a relatively higher degree of commitment and capacity than the other Member States, however, also require greater support to enhance their capacity.

A few general trends also became apparent during the matrix analysis. Member States that have more complete SPS-related legislation have demonstrated a higher level of commitment. Member States that have higher commitment have, on average, have higher levels of capacity. This suggests that the first step in enhancing SPS measures in the region is to advance the completeness of legislation regarding SPS measures. Then, there are incentives for value chain actors to commit to implementing SPS measures. Accordingly, this will be demonstrated through advanced capacities across the value chain nationally and regionally. However, it is important to note that complete legislation, commitment, and capacity are all required across the value chain in all Member States to achieve successful outcomes for SPS measures in the region.

5.2.1 Commonalities of Legislation

Sanitary and phytosanitary legislation and regulations aim to protect states and their populations "against a range of specified risks to animal, plant and human health, including those arising from additives, contaminants, toxins or disease-causing organisms in food"; SPS measures also aim to ensure food safety and to regulate pests and diseases in agriculture.[11] With respect to CARIFORUM fisheries, SPS measures have two different roles: (1) protecting person and fish health within the territories of individual states (national) and (2) within the territories of their trading partners (international). In this sense, SPS legislation and regulations related to fisheries have three distinct purposes:

1. **National**
    a. National standards - SPS measures uphold good sanitary requirements to help local fisheries markets, increasing food safety for local consumers. These standards apply to all aspects of the fisheries industry, making sure that seafood products are and remain safe along the value chain, from their point of harvest to the consumer.
    b. Import standards - SPS regulations establish a sanitary framework for seafood imports from other states (CARIFORUM and international). These standards protect the local market by ensuring that unsafe food is not allowed to enter the country. It should be noted that this is the reason for the *SPS Agreement*[12]. It is also an important consideration in WTO trade law whereby it addresses the SPS measures that states put in place, since they directly, indirectly,[13] or have the potential to affect international trade.
2. **International**
    a. Export standards - SPS regulations establish a sanitary framework that ensures seafood products from CARIFORUM states meet standards imposed upon imports in external markets regionally and internationally.

[11] Joanne Scott, *The WTO Agreement on Sanitary and Phytosanitary Measures: A Commentary* (Oxford: OUP, 2007), p 1.
[12] *Agreement on the Application of Sanitary and Phytosanitary Measures*, in World Trade Organization, *The WTO Agreements: The Marrakesh Agreement Establishing the World Trade Organization and its Annexes* (Cambridge: CUP, 2017), p 135 [*SPS Agreement*].
[13] Art 1 of the *SPS Agreement* provides: "This Agreement applies to all sanitary and phytosanitary measures which directly or indirectly, affect international trade. Such measures shall be developed and applied in accordance with the provisions of this Agreement."

The CARIFORUM Member States have in place laws and regulations concerned with national and international aspects of SPS measures. However, the focus for the regional harmonization of SPS standards focus on harvest from within CARIFORUM Member States for both domestic and export markets, and not importation of fish from outside the region. The sector-based analysis determined that some stakeholders in the Member States have a strong focus on certifying seafood products for export, while other Member States are less concerned with certification as it relates to the priority areas for SPS measures in their country. For example, the top three CARIFORUM countries in terms of high-value fisheries export, in order of rank, are the Dominican Republic, Guyana and the Bahamas.[14] Accordingly, these Member States focus on maintaining export standards in their SPS measures. However, most value chain actors recognized the importance of SPS measures in fisheries and agree that current SPS regulations should be enhanced in their country, therefore, SPS-related legislation should be designed to achieve the varying intents and purposes of all Members States.

5.2.2 Commonalities of Commitment

The matrix analysis shows that there is a general level of commitment to the implementation of national SPS-related legislation, however, no Member State has exhibited a high level of commitment. This can be attributed, in part, to the lack of clarity in legislation, as discussed above, or the lack of fiscal and human resource capacity that is necessary to implement the legislation. In this sense, demonstrated commitment is dependent on both completeness of legislation and the capacity to implement SPS measures. The research and analysis highlighted the lack of sufficient financial support for implementation of SPS measures and inconsistencies in training of personnel with SPS-related roles and responsibilities. These barriers may be exacerbated by the varying scales in fisheries between artisanal, semi-industrial, and industrial commercial fisheries that exist within the region. Artisanal fisheries may be unable to afford the investment necessary to enhance or monitor SPS condition in their operations. Similarly, economic uncertainties at the national level make it difficult for government to support the fishers, processors, and others along the value chain in meeting their obligations under the legislation.

Clearly, complete SPS-related legislation must consider the appropriate technical, financial, and administration support required to achieve successful SPS outcomes. For example, where national legislation states that seafood products destined for export must be analyzed to ensure it meets certain regulatory SPS standards, there must be sufficient fiscal capacity to cover monitoring staff and the cost of analysis (either by the exporter or regulatory agency), as well as a designated laboratory available to conduct the analysis. This can be costly and may require significant regional investment to ensure that countries are able to meet legislative requirements and ultimately commit to enforcing and monitoring SPS activities in fisheries.

Another factor that may impact commitment to SPS regulations is related to the varying scale of fisheries production within the region. In particular, SPS commitments may be more easily adopted by larger industrial scale fisheries that are focused on export to international markets. However, in artisanal fisheries, the high level of minimum investment that is required to operationalize SPS control systems may be difficult to justify in terms of time and expense to artisanal fishers. A regionalization

[14] See the previous NEXUS IICA SPS Project Stakeholder and Institutional Analysis Report, ibid, Table 2: Fisheries Export Information by Country.

of certain SPS controls may alleviate some of these barriers. Furthermore, artisanal fishers may benefit from sharing SPS-related responsibilities within fisherfolk organizations.

Despite unanimous consensus by all sector groups that SPS regulations are important and should be enhanced across the CARIFORUM region, this does not necessarily mean that there is sufficient monitoring and outreach to fishers regarding requirements for enhancing SPS condition in their operation. This was stated by survey respondents and in semi-structured interviews, where it was noted that regulations are not enforced by government agencies or followed by fishers. This insufficient commitment to enforcement may result in the perception of no benefit in investing in enhancement of SPS condition in fisheries operations (e.g., carrying ice for fishing). Fines and penalties pay result in immediate financial incentive to comply with regulations, however, in the long-term enhancing the SPS conditions in fisheries operations has a financial benefit through market reputation for good quality catch. Government commitment to financial support for SPS monitoring and control systems can very well result in enhanced commitment along the value chain for compliance with regulation.

5.2.3 Commonalities of Capacity

The matrix analysis showed that there is generally a higher level of commitment to implement SPS-related legislation than the capacity to do so. While legislative completeness and commitment refer to the actions of establishing the regulatory framework and standards and then allocating sufficient resources to implement SPS measures, capacity refers to the ability of Member States to undertake the necessary work. In general, Member States with more complete legislation tended to demonstrate higher levels of commitment, and, accordingly, were able to support and maintain higher levels of capacity. Factors such as access to education and general state of the economy can be important to advancing capacity. However, these factors alone are not sufficient to meet SPS requirements set in legislation. A complete legislative framework and a commitment to providing the resources is necessary for capacity to be effectively used. Furthermore, the enhancement of SPS measures is dependent on a willingness and ability for value chain actors to meet regulatory obligations, highlighting the importance of building capacity across the fisheries value chain in all Member States. It is important that after establishing a coherent legislative framework and providing the necessary commitments, efforts be made to meet SPS measures through appropriate training and hiring programs.

The online survey and semi-structured interviews identified the inadequate financial and technical resources as common barriers to enhancing SPS capacity in the fisheries sector across the region. These barriers exist in all Member States, regardless of demonstrated commitment and legislative completeness. Capacity is required at different nodes of the value chain in order to ensure compliance with SPS regulations. This includes monitoring, enforcement, sampling and analysis, fish handling, and general hygiene across the value chain. For example, government and laboratory stakeholders identified that insufficient staff to conduct inspections and available equipment for analytical tests and sampling were the most influential barriers in following SPS regulations. Laboratories also reported that samples are not always available for testing, which could be due to a lack of capacity at other nodes of the value chain to pay for certain services (e.g., testing fees, transportation fees) or a lack of commitment at other nodes of the value chain to provide samples for testing (e.g., lack of routine monitoring or enforcement, lack of incentives). Some fish processing occurs directly at landing

sites, which may lack appropriate storage facilities or other sanitized surfaces. Insufficient infrastructure along the fisheries value chain further reduces capacity to meet SPS standards and as a result, reduces the perceived benefit in providing samples to laboratories for analysis. Each node of the value chain has different financial and technical barriers that affect their ability to meet SPS standards and these barriers have implications for the rest of the value chain to meet their own SPS responsibilities. Therefore, SPS capacity support should address the specific needs for value chain actors in the fisheries sector.

There are additional barriers to enhancing SPS measures in fisheries that may not be immediately addressed by technical and financial support. For example, knowledge about SPS matters in fisheries was a common capacity issue identified by value chain actors, with some fishers not being aware of certain SPS standards, such as cleanliness standards for various areas of a fishing vessel. As discussed, low levels of enforcement and a lack of incentive to invest in SPS controls can exacerbate the influence that knowledge and awareness levels have on overall enhancement of SPS measures. For example, adequate financial resources alone cannot address issues caused by a lack of qualified personnel or supply chain logistics, such as delivery of reagents for analytical testing. As such, financial and technical barriers should be addressed in accordance with one another to ensure all investments receive the highest return on investment.

APPENDIX A: CARIFORUM FISHERIES SPS SURVEY QUESTIONS

Government Agency Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in?
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana
    i. Haiti
    j. Jamaica
    k. St. Kitts and Nevis
    l. Saint Lucia
    m. St. Vincent and the Grenadines
    n. Suriname
    o. Trinidad and Tobago
2. Which of the following best describes where you work? Select one.
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)
    f. Fish processing
    g. Fish exporting
    h. Retail/Restaurant

Section 2: Government agency survey questions

3. Is your department or agency responsible for matters related to SPS-regulation in your country?
    a. Yes
    b. No
    c. Unsure
4. If 3.a – Can you rate how well your department or agency communicates SPS regulations to members of the fisheries sector? [Ranging from poorly to very well]
    a. [Slider scale: poorly, moderately, well, very well]
5. Which of the following aspects of SPS are you involved in? [Select one]
    a. Development of regulations
    b. Monitoring & inspection
    c. Compliance control & enforcement

    d. Extension & training
6. How aware are you of SPS regulations for fisheries in your country? [Ranging from not aware to well aware)
    a. [Slider scale: Not aware, slightly aware, somewhat aware, aware, well aware]
7. How aware are you of SPS regulations for fisheries in other CARIFORUM countries? [Ranging from not aware to very aware)
    a. [Slider scale: not aware, slightly aware, somewhat aware, aware, very aware]
8. What is your perception of the importance of SPS matters? [Select one]
    a. Not important
    b. Somewhat important
    c. Very important
    d. Unsure
9. How many different government departments or agencies are responsible for SPS-related measures in fisheries? [Select one]
    a. 1
    b. 2
    c. 3 or more
    d. Unsure
10. Are you knowledgeable about accreditation (i.e., ISO 17025 or any such standard) for laboratory analysis? [Select one]
    a. Yes
    b. No
    c. Unsure
11. IF 10.a - In your opinion, should designated laboratories be accredited?
    a. Yes
    b. No
    c. If not accredited, laboratories should work towards accreditation
    d. Unsure
12. IF 10.a - In your opinion, should CARIFORUM Member States use accredited laboratories for SPS analysis?
    a. Yes
    b. No
    c. Unsure
13. How do the following barriers influence your ability to communicate SPS regulations? [Likert: no influence, low influence, medium influence, high influence, not applicable]
    a. Financial resources
    b. Technical resources
    c. Knowledge of the SPS regulations
    d. Interest from sector groups
    e. Training and education
    f. Incomplete or inconsistent regulatory measures
14. Rank the importance of the following in terms of communicating SPS regulations to the fisheries sector [1 = most important, 4 = least important]
    a. Regular inspections
    b. Regular enforcement of SPS measures
    c. Training workshops on SPS measures

    d. Formal education on SPS measures
15. How often are inspections conducted on various nodes of the fisheries supply chain? [Likert: Never, once a year, regularly (1+ times per year), ad-hoc (1+ times per year), not applicable]
    a. Fishing vessels
    b. Landing sites
    c. Processing facilities
    d. Fish markets
    e. Transportation and storage (including export facilities)
    f. Retail stores and restaurants
16. How should SPS inspections be changed for the following categories: [Likert: No change, slight increase, moderate increase significant increase, not applicable]
    a. Fishing vessels
    b. Landing sites
    c. Processing facilities
    d. Fish markets
    e. Transportation and storage (including export facilities)
    f. Retail stores and restaurants
17. In your opinion, SPS inspections should be conducted on fishing vessels: [Select one]
    a. Much more frequently than currently conducted
    b. More frequently than currently conducted
    c. The same as currently conducted
    d. Not as frequently as currently conducted
    e. Unsure
18. Should SPS measures be enhanced in your country? [Select one]
    a. Yes
    b. No
    c. Unsure
19. IF 17.a - How significant are financial barriers to enhancing SPS measures for fisheries in your country? [Ranging from not significant to very significant]
    a. [Slider scale: Not significant, somewhat significant, very significant]
20. IF 17.a - How significant is public understanding of the importance of SPS standards to enhancing SPS regulations for fisheries in your country? [Ranging from not significant to very significant]
    a. [Slider scale: Not significant, somewhat significant, very significant]
21. In your opinion, how important is it for the fisheries in your country to export products to international markets? [Ranging from not important to very important]
    a. [Slider scale: not important, somewhat important, very important]
22. Please select the three most important options for improving SPS-related activities in your country:
    a. Training
    b. Inspection manuals
    c. Inspections
    d. Follow-up on infractions
    e. Licensing of vessels
    f. Increased capacity in designated laboratories
    g. Environmental monitoring

h. Education for fishers
i. Clear harmonization of official controls
j. Coordination between government agencies
k. Sanitation on fishing vessels

23. In your opinion, which of the following is the highest priority for SPS regulations in your country? [Select one]
    a. Site inspections
    b. Training inspectors
    c. Certifying fish for export markets
    d. Monitoring general environmental condition
24. In your opinion, rate how strictly SPS regulations are enforced in the fishery in your country: [Ranging from low enforcement to high enforcement]
    a. [Slider scale: low enforcement, medium enforcement, high enforcement]
25. In your opinion, rate the level of compliance with SPS regulations in your country: [Ranging from low compliance to high compliance]
    a. [Slider scale: low compliance, medium compliance, high compliance]
26. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
    b. Unfamiliar
27. If 25.a – Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most important [1] to least important [4]:
    a. Harmonising regulations
    b. Coordinating control systems
    c. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
    d. Delivering SPS workshops and training
28. If 25.a - Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region

Designated Laboratory Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in?
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana

i. Haiti
j. Jamaica
k. St. Kitts and Nevis
l. Saint Lucia
m. St. Vincent and the Grenadines
n. Suriname
o. Trinidad and Tobago

2. Which of the following best describes where you work? Select one.
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)
    f. Fish processing
    g. Fish exporting
    h. Retail/Restaurant

Section 2: Designated laboratory survey questions

3. What is your perception of the importance of sanitary and phytosanitary (SPS) matters? [Select one]
    a. Not important
    b. Somewhat important
    c. Very important
    d. Unsure
4. In your opinion, should there be a regional standard of accreditation? [Select one]
    a. Yes
    b. No
    c. Unsure
5. In your opinion, should designated laboratories be accredited to ISO 17025 or another appropriate standard? [Select one]
    a. Yes
    b. No
    c. Laboratories should work towards accreditation
    d. Unsure
6. Do you promote your services to analyze fish samples to other Caribbean states? [Select one]
    a. Yes
    b. No
    c. Unsure
7. How often does your laboratory receive fish samples for analysis? [Select one]
    a. Once or twice per year
    b. Three or four times per year
    c. Regularly
    d. On an ad-hoc basis
    e. Never

8. Is your laboratory able to process all SPS samples from fisheries inspections on a timely basis? [Select one]
    a. Yes, all the time
    b. Some of the time
    c. No, some samples do not get processed
    d. No, some samples get sent to other laboratories
9. IF 7.b, c, or d - Please rate the influence of the following barriers to the timely analysis of SPS samples. [Likert: no influence, low influence, medium influence, high influence, not applicable]
    a. Insufficient staff
    b. Inconsistency in analytical protocols
    c. Lack of appropriate analytical instruments
    d. Changes in regulation regarding analytical requirements
    e. Samples not delivered or not delivered on time
    f. Contamination during transportation
10. In your opinion, should there be a 'regional' designated laboratory to improve overall SPS monitoring? [Select one]
    a. Yes
    b. No
11. IF 9.a - In your opinion, rank the following roles for a regional designated laboratory to improve overall SPS monitoring: [1 = most important, 4 = least important]
    a. Analyze of samples from all Member States
    b. Supporting individual Member State sampling programs
    c. Ensuring calibration and standardization of analysis by national laboratories
    d. Provide analytical services to Member States within national laboratories
12. Please select the three most important options for improving SPS-related activities in your country: [Select all that apply]
    a. Training
    b. Inspection manuals
    c. Inspections
    d. Follow-up on infractions
    e. Licensing of vessels
    f. Increased capacity in designated laboratories
    g. Environmental monitoring
    h. Education for fishers
    i. Clear harmonization of official controls
    j. Coordination between government agencies
    k. Sanitation on fishing vessels
13. In your opinion, rate how strictly SPS regulations are enforced for fisheries in your country: [Ranging from low enforcement to high enforcement]
    b. [Slider scale: low enforcement, medium enforcement, high enforcement]
14. In your opinion, rate the level of compliance with SPS regulations for fisheries in your country: [Ranging from low compliance to high compliance]
    a. [Slider scale: low compliance, medium compliance, high compliance]
15. In your opinion, how important is it for fisheries in your country to export products to international markets? [Ranging from not important to very important]

b. [Slider scale: not important, somewhat important, very important]

16. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
       Unfamiliar
17. If 15.a - Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most to least important [1 = most important, 4 = least important]
    a. Harmonising regulations
    b. Coordinating control systems
    c. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
    d. Delivering SPS workshops and training
18. If 15.a - Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region

Fisher Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in?
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana
    i. Haiti
    j. Jamaica
    k. St. Kitts and Nevis
    l. Saint Lucia
    m. St. Vincent and the Grenadines
    n. Suriname
    o. Trinidad and Tobago
2. Which of the following best describes where you work? Select one.
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)
    f. Fish processing
    g. Fish exporting

h. Retail/Restaurant

Section 2: Fisher/fisherfolk survey questions

3. Sanitary and phytosanitary (SPS) refers to the practices to ensure fish are safe for human consumption. How aware are you of SPS regulations for fisheries in your country? [Ranging from not aware to well aware]
    a. [Slider scale: not aware, slightly aware, somewhat aware, aware, well aware]
4. How aware are you of SPS regulations for fisheries in other CARIFORUM Member States? [Ranging from not aware to well aware]
    a. [Slider scale: not aware, slightly aware, somewhat aware, aware, well aware]
5. What is your perception of the importance of SPS matters? [Select one]
    a. Not important
    b. Somewhat important
    c. Very important
    d. Unsure
6. How do the following factors influence your ability to deal with SPS regulations? [Likert: no influence, low influence, medium influence, high influence, not applicable]
    a. Communication from regulators
    b. Knowledge about SPS
    c. Uncertainty about who is responsible for SPS controls
    d. The perceived importance of SPS measures
    e. Time to deal with SPS measures
    f. Cost of SPS measures
7. How often are SPS inspections conducted on your fishing vessel? [Select one]
    a. Four or more times per year
    b. Two to three times per year
    c. Once per year
    d. Only on an ad-hoc basis
    e. Never
    f. Unsure
8. In your opinion, SPS inspections should be conducted on fishing vessels: [Select one]
    a. Much more frequently than currently conducted
    b. More frequently than currently conducted
    c. The same as currently conducted
    d. Not as frequently as currently conducted
    e. Unsure
9. Are you aware of any SPS infractions detected by regulators on fishers in your area? [Select one]
    a. Yes
    b. No
    c. Unsure
10. If 9.a – what was the outcome of the SPS infraction? [Select one]
    a. Warning (no penalty), permitted to correct conditions with subsequent inspection conducted
    b. Warning (no penalty), permitted to correct conditions with no subsequent inspection conducted

    c. Fine, permitted to correct conditions with subsequent inspection conducted
    d. Fine, permitted to correct conditions with no subsequent inspection conducted
    e. Temporary closure until conditions are changed
11. In your opinion, which of the following is the highest priority for SPS regulations in your country? [Select one]
    a. Site inspections
    b. Training inspectors
    c. Certifying fish for export markets
    d. Monitoring general environmental condition
12. Please select the three most important options for improving SPS-related activities in your country: [Select all that apply]
    a. Training
    b. Inspection manuals
    c. Inspections
    d. Follow-up on infractions
    e. Licensing of vessels
    f. Increased capacity in designated laboratories
    g. Environmental monitoring
    h. Education for fishers
    i. Clear harmonization of official controls
    j. Coordination between government agencies
    k. Sanitation on fishing vessels
13. In your opinion, SPS regulations in your country should be: [Select one]
    a. More strict
    b. Less strict
    c. The same
    d. Unsure
14. In your opinion, rate how well people follow the SPS regulations for fisheries in your country: [Ranging from low compliance to high compliance]
    a. [Slider scale: low compliance, medium compliance, high compliance]
15. In your opinion, rate how strictly SPS regulations are enforced for fisheries in your country: [Ranging from low enforcement to high enforcement]
    c. [Slider scale: low enforcement, medium enforcement, high enforcement]
16. In your opinion, how important is it for the fisheries in your country to export products to international markets? [Ranging from not important to very important]
    c. [Slider scale: not important, somewhat important, very important]
17. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
    b. Unfamiliar
19. If 17.a - Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most important [1] to least important [4]:
    c. Harmonising regulations
    d. Coordinating control systems

e. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
f. Delivering SPS workshops and training

18. If 17.a - Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region

Landing Site Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in? [Select one]
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana
    i. Haiti
    j. Jamaica
    k. St. Kitts and Nevis
    l. Saint Lucia
    m. St. Vincent and the Grenadines
    n. Suriname
    o. Trinidad and Tobago
2. Which of the following best describes where you work? [Select one]
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)
    f. Fish processing
    g. Fish exporting
    h. Retail/Restaurant

Section 2: Landing site survey questions

3. Sanitary and phytosanitary (SPS) refers to the practices to ensure fish are safe for human consumption. How aware are you of SPS regulations for fisheries in your country? [Ranging from not aware to well aware]
    a. [Slider scale: not aware, slightly aware, somewhat aware, aware, well aware]
4. How aware are you of SPS regulations for fisheries in other CARIFORUM Member States? [Ranging from not aware to well aware]
    a. [Slider scale: not aware, slightly aware, somewhat aware, aware, well aware]
5. What is your perception of the importance of SPS matters? [Select one]

a. Not important
b. Somewhat important
c. Very important
d. Unsure

6. How do the following factors influence your ability to deal with SPS regulations? [Likert: no influence, low influence, medium influence, high influence, not applicable]
    g. Communication from regulators
    h. Knowledge about SPS
    i. Uncertainty about who is responsible for SPS controls
    j. The perceived importance of SPS measures
    k. Time to deal with SPS measures
    l. Cost of SPS measures
7. How often are SPS inspections conducted at your landing site? [Select one]
    a. Four or more times per year
    b. Two to three times per year
    c. Once per year
    d. Only on an ad-hoc basis
    e. Never
    f. Unsure
8. In your opinion, SPS inspections should be conducted at landing sites: [Select one]
    a. Much more frequently than currently conducted
    b. More frequently than currently conducted
    c. The same as currently conducted
    d. Not as frequently as currently conducted
    e. Unsure
9. Are you aware of any SPS infractions detected by regulators at landing sites in your area? [Select one]
    a. Yes
    b. No
    c. Unsure
10. If 9.a – what was the outcome of the SPS infraction? [Select one]
    a. Warning (no penalty), permitted to correct conditions with subsequent inspection conducted
    b. Warning (no penalty), permitted to correct conditions with no subsequent inspection conducted
    c. Fine, permitted to correct conditions with subsequent inspection conducted
    d. Fine, permitted to correct conditions with no subsequent inspection conducted
    e. Temporary closure until conditions are changed
11. In your opinion, which of the following is the highest priority for SPS regulations for fisheries in your country? [Select one]
    a. Site inspections
    b. Training inspectors
    c. Certifying fish for export markets
    d. Monitoring general environmental condition
12. Please select the three most important options for improving SPS-related activities in your country: [Select all that apply]

a. Training
b. Inspection manuals
c. Inspections
d. Follow-up on infractions
e. Licensing of vessels
f. Increased capacity in designated laboratories
g. Environmental monitoring
h. Education for fishers
i. Clear harmonization of official controls
j. Coordination between government agencies
k. Sanitation on fishing vessels

13. In your opinion, SPS regulations for fisheries in your country should be: [Select one]
    a. More strict
    b. Less strict
    c. The same
    d. Unsure
14. In your opinion, rate how well people follow the SPS regulations for fisheries in your country? (Ranging from low compliance to high compliance).
    b. [Slider scale: low compliance, medium compliance, high compliance]
15. In your opinion, rate how strictly SPS regulations are enforced for fisheries in your country? [Ranging from low enforcement to high enforcement]
    d. [Slider scale: low enforcement, medium enforcement, high enforcement]
16. In your opinion, how important is it for fisheries in your country to export products to international markets? [Ranging from not important to very important]
    d. [Slider scale: not important, somewhat important, very important]
17. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
    b. Unfamiliar
18. If 16.a - Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most important [1] to least important [4]:
    a. Harmonising regulations
    b. Coordinating control systems
    c. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
    d. Delivering SPS workshops and training
19. If 16.a - Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region

Fish Processing Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in? [Select one]
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana
    i. Haiti
    j. Jamaica
    k. St. Kitts and Nevis
    l. Saint Lucia
    m. St. Vincent and the Grenadines
    n. Suriname
    o. Trinidad and Tobago
2. Which of the following best describes where you work? [Select one]
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)
    f. Fish processing
    g. Fish exporting
    h. Retail/Restaurant

Section 2: Fish processing survey questions

3. Sanitary and phytosanitary (SPS) refers to the practices to ensure fish are safe for human consumption. How aware are you of SPS regulations for fisheries your country? [Ranging from not aware to well aware]
    a. [Slider scale: not aware, somewhat aware, very aware]
4. How aware are you of SPS regulations for fisheries in other CARIFORUM Members States? [Ranging from not aware to very aware]
    b. [Slider scale: not aware, somewhat aware, very aware]
5. What is your perception of the importance of SPS matters? [Select one]
    a. Not important
    b. Somewhat important
    c. Very important
    d. Unsure
6. Do you have employee(s) that specifically focus on SPS matters? [Select one]
    a. Yes, with training
    b. Yes, with no training
    c. Yes, but only occasionally
    d. No
7. Do you have information visibly accessible to employees regarding SPS matters? [Select one]
    a. Yes

b. No
c. Occasionally
d. Unsure

8. Do your employees receive training on SPS measures? [Select one]
    a. Yes
    b. No
    c. Occasionally
    d. Unsure
9. How do the following factors influence your ability to deal with SPS regulations? [Likert: no influence, low influence, medium influence, high influence, not applicable]
    m. Communication from regulators
    n. Knowledge about SPS
    o. Uncertainty about who is responsible for SPS controls
    p. The perceived importance of SPS measures
    q. Time to deal with SPS measures
    r. Cost of SPS measures
10. How often are SPS inspections conducted at your processing facility? [Select one]
    a. Four or more times per year
    b. Two to three times per year
    c. Once per year
    d. Only on an ad-hoc basis
    e. Never
    f. Unsure
11. In your opinion, SPS inspections should be conducted at processing facilities: [Select one]
    a. Much more frequently than currently conducted
    b. More frequently than currently conducted
    c. The same as currently conducted
    d. Not as frequently as currently conducted
    e. Unsure
12. Are you aware of any SPS infractions that have been identified at processing facilities in your area? [Select one]
    a. Yes
    b. No
    c. Unsure
13. If 12.a – what was the outcome of the SPS infraction? [Select one]
    a. Warning (no penalty), permitted to correct conditions with subsequent inspection conducted
    b. Warning (no penalty), permitted to correct conditions with no subsequent inspection conducted
    c. Fine, permitted to correct conditions with subsequent inspection conducted
    d. Fine, permitted to correct conditions with no subsequent inspection conducted
    e. Temporary closure until conditions are changed
14. In your opinion, which of the following is the highest priority for SPS regulations for fisheries in your country? [Select one]
    a. Site inspections
    b. Training inspectors

c. Certifying fish for export markets
d. Monitoring general environmental condition

15. Please select the three most important options for improving SPS-related activities in your country: [Select all that apply]
    a. Training
    b. Inspection manuals
    c. Inspections
    d. Follow-up on infractions
    e. Licensing of vessels
    f. Increased capacity in designated laboratories
    g. Environmental monitoring
    h. Education for fishers
    i. Clear harmonization of official controls
    j. Coordination between government agencies
    k. Maintenance/hygiene on fishing vessels
16. In your opinion, SPS regulations in your country should be: [Select one]
    e. More strict
    f. Less strict
    g. The same
    h. Unsure
17. In your opinion, rate how well people follow the SPS regulations for fisheries in your country: [Ranging from low compliance to high compliance]
    c. [Slider scale: low compliance, medium compliance, high compliance]
18. In your opinion, rate how strictly SPS regulations are enforced for fisheries in your country: [Ranging from low enforcement to high enforcement]
    e. [Slider scale: low enforcement, medium enforcement, high enforcement]
19. In your opinion, how important is it for fisheries in your country to export products to international markets? [Ranging from not important to very important]
    e. [Slider scale: not important, somewhat important, very important]
20. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
    b. Unfamiliar
21. If 20.a - Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most important [1] to least important [4]:
    a. Harmonising regulations
    b. Coordinating control systems
    c. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
    d. Delivering SPS workshops and training
22. If 20.a - Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region

Fish Broker Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in?
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana
    i. Haiti
    j. Jamaica
    k. St. Kitts and Nevis
    l. Saint Lucia
    m. St. Vincent and the Grenadines
    n. Suriname
    o. Trinidad and Tobago
2. Which of the following best describes where you work? Select one.
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)
    f. Fish processing
    g. Fish exporting
    h. Retail/Restaurant

Section 2: Fish broker survey questions

3. Sanitary and phytosanitary (SPS) refers to the practices to ensure fish are safe for human consumption. How aware are you of SPS regulations for fisheries in your country? [Ranging from not aware to well aware]
    a. [Slider scale: Not aware, slightly aware, somewhat aware, aware, well aware]
4. How aware are you of SPS regulations for fisheries in other CARIFORUM Member States? [Ranging from not aware to very aware]
    a. [Slider scale: Not aware, slightly aware, somewhat aware, aware, well aware]
5. What is your perception of the importance of SPS matters? [Select one]
    a. Not important
    b. Somewhat important
    c. Very important
    d. Unsure
6. Do you have dedicated employee(s) that focus on SPS? [Select one]
    e. Yes, with training
    f. Yes, with no training
    g. Yes, but only occasionally

h. No

7. Do your employees receive training about SPS? [Select one]
    e. Yes
    f. No
    g. Occasionally
    h. Unsure
8. Do you have information visibly accessible to employees regarding SPS matters? [Select one]
    e. Yes
    f. No
    g. Occasionally
    h. Unsure
9. How do the following factors influence your ability to deal with SPS regulations? [Likert: no influence, low influence, medium influence, high influence, unsure]
    s. Communication from regulators
    t. Knowledge about SPS
    u. Uncertainty about who is responsible for SPS controls
    v. The perceived importance of SPS measures
    w. Time to deal with SPS measures
    x. Cost of SPS measures
10. How often are SPS inspections conducted for your business? [Select one]
    a. Four or more times per year
    b. Two to three times per year
    c. Once per year
    d. Only on an ad-hoc basis
    e. Never
    f. Unsure
11. In your opinion, SPS inspections should be conducted at businesses: [Select one]
    a. Much more frequently than currently conducted
    b. More frequently than currently conducted
    c. The same as currently conducted
    d. Not as frequently as currently conducted
    e. Unsure
12. Are you aware of any SPS infractions that have been identified at businesses in your area? [Select one]
    a. Yes
    b. No
    c. Unsure
13. If 12.a – what was the outcome of the SPS infraction? [Select one]
    a. Warning (no penalty), permitted to correct conditions with subsequent inspection conducted
    b. Warning (no penalty), permitted to correct conditions with no subsequent inspection conducted
    c. Fine, permitted to correct conditions with subsequent inspection conducted
    d. Fine, permitted to correct conditions with no subsequent inspection conducted
    e. Temporary closure until conditions are changed

14. In your opinion, which of the following is the highest priority for SPS regulations for fisheries in your country? [Select one]
    a. Site inspections
    b. Training inspectors
    c. Certifying fish for export markets
    d. Monitoring general environmental condition
15. Please select the three most important options for improving SPS-related activities in your country: [Select all that apply]
    a. Training
    b. Inspection manuals
    c. Inspections
    d. Follow-up on infractions
    e. Licensing of vessels
    f. Increased capacity in designated laboratories
    g. Environmental monitoring
    h. Education for fishers
    i. Clear harmonization of official controls
    j. Coordination between government agencies
    k. Sanitation on fishing vessels
23. In your opinion, SPS regulations for fisheries in your country should be: [Select one]
    i. More strict
    j. Less strict
    k. The same
    l. Unsure
16. Does your business export fish to international markets? [Select one]
    a. Yes
    b. No
17. IF 15.a - To the best of your knowledge, how frequently are there unanticipated delays in your product getting to international markets? [Select one]
    a. Always
    b. Often
    c. Sometimes
    d. Rarely
    e. Never
    f. Unsure
18. IF 16.a, b, or c – Do these delays occur during customs checks at international borders? [Select one]
    a. Yes
    b. No
    c. Unsure
19. In your opinion, rate how well people follow the SPS regulations for fisheries in your country? [Ranging from low compliance to high compliance]
    d. [Slider scale: low compliance, medium compliance, high compliance]
20. In your opinion, rate how strictly SPS regulations are enforced for fisheries in your country? [Ranging from low enforcement to high enforcement]
    f. [Slider scale: low enforcement, medium enforcement, high enforcement]

21. In your opinion, how important is it for fisheries in your country to export products to international markets? [Ranging from not important to very important]
    f. [Slider scale: not important, somewhat important, very important]
22. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
    b. Unfamiliar
23. If 22.a - Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most important [1] to least important [4]:
    a. Harmonising regulations
    b. Coordinating control systems
    c. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
    d. Delivering SPS workshops and training
24. If 22.a - Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region

Fish Exporting Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in?
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana
    i. Haiti
    j. Jamaica
    k. St. Kitts and Nevis
    l. Saint Lucia
    m. St. Vincent and the Grenadines
    n. Suriname
    o. Trinidad and Tobago
2. Which of the following best describes where you work? Select one.
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)

f. Fish processing
g. Fish exporting
h. Retail/Restaurant

Section 2: Fish exporting survey questions

3. Sanitary and phytosanitary (SPS) refers to the practices to ensure fish are safe for human consumption. How aware are you of SPS regulations for fisheries in your country? [Ranging from not aware to well aware]
    a. [Slider scale: Not aware, slightly aware, somewhat aware, aware, well aware]
4. How aware are you of SPS regulations for fisheries in other CARIFORUM Member States? [Ranging from not aware to well aware]
    a. [Slider scale: Not aware, slightly aware, somewhat aware, aware, well aware]
5. Please estimate the proportion of your sales to the following international markets: [Likert: 0, under 25%, 25-50%, 50-75%, over 75%]
    a. North America (i.e., United States, Canada, Mexico)
    b. European Union
    c. United Kingdom
    d. Asia (i.e., China, South Korea, Japan, etc.)
    e. Other Caribbean states
    a. Latin America (i.e., South and Central America)
6. Have you experienced refusal from any of the following international markets due to SPS-related matters? [Select all that apply]
    a. North America (i.e., United States, Canada, Mexico)
    b. European Union
    c. United Kingdom
    d. Asia (i.e., China, South Korea, Japan, etc.)
    e. Other Caribbean states
    f. Latin America (i.e., South and Central America)
    g. Other
7. In your opinion, how important is it for fisheries in your country to export products to international markets? [Ranging from not important to very important]
    g. [Slider scale: not important, somewhat important, very important]
8. Are you aware of any international bans on the importation of fishery products related to SPS infractions from your country? [Select one]
    a. Yes
    b. No
    c. Unsure
9. In your opinion, SPS inspections should be conducted at fish exporting businesses: [Select one]
    a. Much more frequently than currently conducted
    b. More frequently than currently conducted
    c. The same as currently conducted
    d. Not as frequently as currently conducted
    e. Unsure
10. Are you aware of any SPS infractions detected by regulators on businesses in your area? [Select one]

a. Yes
b. No
c. Unsure

11. If 10.a – what was the outcome of the SPS infraction? [Select one]
    a. Warning (no penalty), permitted to correct conditions with subsequent inspection conducted
    b. Warning (no penalty), permitted to correct conditions with no subsequent inspection conducted
    c. Fine, permitted to correct conditions with subsequent inspection conducted
    d. Fine, permitted to correct conditions with no subsequent inspection conducted
    e. Temporary closure until conditions are changed
12. In your opinion, which of the following is the highest priority for SPS regulations in your country? [Select one]
    a. Site inspections
    b. Training inspectors
    c. Certifying fish for export markets
    d. Monitoring general environmental condition
13. Please select the three most important options for improving SPS-related activities in your country: [Select all that apply]
    a. Training
    b. Inspection manuals
    c. Inspections
    d. Follow-up on infractions
    e. Licensing of vessels
    f. Increased capacity in designated laboratories
    g. Environmental monitoring
    h. Education for fishers
    i. Clear harmonization of official controls
    j. Coordination between government agencies
    k. Sanitation on fishing vessels
14. In your opinion, rate how well people follow the SPS regulations for fisheries in your country: [Ranging from low compliance to high compliance]
    e. [Slider scale: low compliance, medium compliance, high compliance]
15. In your opinion, rate how strictly SPS regulations are enforced for fisheries in your country: [Ranging from low enforcement to high enforcement]
    g. [Slider scale: low enforcement, medium enforcement, high enforcement]
16. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
    b. Unfamiliar
17. If 15.a - Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most important [1] to least important [4]:
    a. Harmonising regulations
    b. Coordinating control systems

c. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
d. Delivering SPS workshops and training

18. If 15.a - Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region

Retail/Restaurant Survey Questions

Section 1: General Questions for ALL Survey Respondents

1. Which country are you located in?
    a. Antigua and Barbuda
    b. The Bahamas
    c. Barbados
    d. Belize
    e. Dominica
    f. Dominican Republic
    g. Grenada
    h. Guyana
    i. Haiti
    j. Jamaica
    k. St. Kitts and Nevis
    l. Saint Lucia
    m. St. Vincent and the Grenadines
    n. Suriname
    o. Trinidad and Tobago
2. Which of the following best describes where you work? Select one.
    a. Government agency
    b. Designated laboratory
    c. Fisher/fisherfolk
    d. Landing site
    e. Fish broker (intermediary/middleman)
    f. Fish processing
    g. Fish exporting
    h. Retail/Restaurant

Section 2: Retail/restaurant survey questions

20. Sanitary and phytosanitary (SPS) refers to the practices to ensure fish are safe for human consumption. How aware are you of SPS regulations for fisheries your country? [Ranging from not aware to well aware]
    a. [Slider scale: not aware, slightly aware somewhat aware, aware, well aware]
3. How aware are you of SPS regulations for fisheries in other CARIFORUM Member States? [Ranging from not aware to well aware]
    a. [Slider scale: not aware, slightly aware, somewhat aware, aware, well aware]
4. Do you know whether the fish that you sell meet SPS standards? [Select one]

a. Yes
b. No
c. Unsure

5. How concerned are you with the SPS-related condition of the fish you sell? [Ranging from not concerned to very concerned]
    a. [Slider scale: Not concerned, somewhat concerned, very concerned]
6. How concerned are your customers with the SPS-related condition of the fish they purchase [Ranging from not concerned to very concerned]
    a. [Slider scale: Not concerned, somewhat concerned, very concerned]
7. Are you aware of the SPS standards of your suppliers? [Select one]
    a. Yes
    b. No
8. IF 8.a – How important are the SPS standards of suppliers in determining where you purchase domestic fish products?
    a. Very important
    b. Somewhat important
    c. Not important
    d. Unsure
9. In your opinion, SPS inspections should be conducted at retail outlets and restaurants: [Select one]
    a. Much more frequently than currently conducted
    b. More frequently than currently conducted
    c. The same as currently conducted
    d. Not as frequently as currently conducted
    e. Unsure
10. In your opinion, which of the following is the highest priority for SPS regulations in your country? [Select one]
    a. Site inspections
    b. Training inspectors
    c. Certifying fish for export markets
    d. Monitoring general environmental condition
11. In your opinion, SPS regulations in your country should be: [Select one]
    a. More strict
    b. Less strict
    c. The same
    d. Unsure
12. In your opinion, how important is it for fisheries in your country to export products to international markets? [Ranging from not important to very important]
    h. [Slider scale: not important, somewhat important, very important]
13. How familiar are you about the role of regional inter-governmental organizations in SPS in the Caribbean fishery? [Select one]
    a. Familiar
    b. Unfamiliar
14. If 14.a – Please rank the priority for the following roles regarding regional inter-governmental organizations in SPS regulations in the order of most important [1] to least important [4]:

a. Harmonising regulations
b. Coordinating control systems
c. Coordinating and enhancing the availability of technical resources (trained inspectors/designated laboratories)
d. Delivering SPS workshops and training

15. If 14.a – Which of the following is the most significant barrier for regionalization of SPS regulations? [Select one]
    a. Inconsistencies in the extent of national regulations across the region
    b. Inconsistent interest in SPS measures across the region
    c. Inconsistent capacity to implement SPS measures across the region