

**CRFM Technical & Advisory Document Series  
Number 2019 / 07**

**FINAL TECHNICAL REPORT:  
Technical Support to Facilitate Long-term Enhancement of  
Livelihoods and Human Well-being for Eastern Caribbean  
Flyingfish Fisheries**



# **CRFM Technical & Advisory Document - Number 2019 / 07**

## **FINAL TECHNICAL REPORT: Technical Support to Facilitate Long-term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fisheries**

Prepared by

Nexus Coastal Resource Management Ltd.

103-287 Lacewood Dr. Suite 222, Halifax, Nova Scotia, B3M 3Y7, Canada, under contract to the Caribbean Regional Fisheries Mechanism (CRFM)

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CRFM Secretariat  
Belize, 2019

## **CRFM TECHNICAL & ADVISORY DOCUMENT – Number 2019 / 07**

### **FINAL TECHNICAL REPORT: TECHNICAL SUPPORT TO FACILITATE LONG-TERM ENHANCEMENT OF LIVELIHOODS AND HUMAN WELL- BEING FOR EASTERN CARIBBEAN FLYINGFISH FISHERIES**

*@ CRFM 2019 Caribbean Regional Fisheries Mechanism*

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Correct Citation:

CRFM. 2019. Final Technical Report: Technical Support to Facilitate Long-term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fisheries. *CRFM Technical & Advisory Document*, No. 2019 / 07. 154p.

ISSN: 1995-1132

ISBN: 978-976-8293-16-9

Published by the Caribbean Regional Fisheries Mechanism Secretariat,  
Belize and St. Vincent and the Grenadines.

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## EXECUTIVE SUMMARY

This Consultancy takes place under CLME+ Strategic Action Programme Sub-Project #3 and aims to contribute to the delivery of Output 5. Long-term enhancement of livelihoods / human well-being facilitated (O5.1, O5.2, O5.3) under COMPONENT 3 of the main CLME+ Project Document: *“Transition to an ecosystem approach for the Eastern Caribbean flyingfish fisheries demonstrated”*. It has been developed in response to the corresponding calls for action under (a) the CLME+ Strategic Action Programme (SAP), politically endorsed at the regional level in 2013 and (b) the approved Regional Fisheries Management Plan (FMP) for Flyingfish in the Eastern Caribbean.

This Consultancy was conducted in several stages as defined by the Terms of Reference including preparation of an inception report and work plan, desktop research and field visits necessary to produce the project deliverables. It was noted that several challenges had to be addressed during the project implementation including communications, insufficient data, scheduling / timeline difficulties, duplication with other projects and soliciting full Member State participation. NEXUS Coastal Resource Management Ltd, herein referred to as “the consultants” undertook desktop research and data collection that focused on value chain analysis, vulnerability assessment and analysis, socio-economic analysis, livelihood assessment in the fishery, determination of business activity opportunities within the fishery as well as training and capacity building opportunities.

There was the expectation that all project participants would provide data and information necessary for the completion of project deliverables. This was unfortunately not the case and extra effort was needed to identify sources of information and to compile this information directly by the consultants. Based on this information, the consultants-built analysis on the available country-specific and region-specific data as well as data compiled from in-country surveys / interviews. These interviews and surveys were conducted in Grenada, Barbados and Trinidad and Tobago in October 2017, with Member State representatives during the CRFM Fisheries Forum in Montserrat in April 2018, during in-country visits in Barbados and Grenada in July and August 2018 and finally during the Regional Fisheries Technical Meeting in October 2018. All surveys and interview were conducted by the consultant’s team members in accordance with interview guides provided to Member States. Based on the analysis of the findings the following recommendations are offered:

- Member States should enhance collection of data and information related to the full value chain. Accordingly, greater effort should be applied across governments to collect and compile diverse and relevant data and information regarding the social and economic aspects of the fishery;
- Member States should support the continued development of fishers’ organizations and ensure their full participation in enhancement of livelihoods across the value chain; and,
- Promote private sector industry collaboration across and between Member States.

The outputs of the consultancy are provided in Appendices 2, 3, and 4.



Figure 1: Barbados Beach (Credit: Maria Delesalle, NEXUS)



## INTRODUCTION

This Report is submitted by NEXUS Coastal Resource Management Ltd. (the consultants) of Canada, a marine resource consultancy firm established in 1993 and is the Final Report for the Consultancy “Technical Support to Facilitate Long- term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fishery”.

This Consultancy takes place under CLME+ Strategic Action Programme Sub-Project #3 aims to contribute to the delivery of Output 5. Long-term enhancement of livelihoods / human well- being facilitated (O5.1, O5.2, O5.3) under COMPONENT 3 of the main CLME+ Project Document: *“Transition to an ecosystem approach for the Eastern Caribbean flyingfish fisheries demonstrated”*. It has been developed in response to the corresponding calls for action under (a) the CLME+ Strategic Action Programme (SAP), politically endorsed at the regional level in 2013 and (b) the approved Regional Fisheries Management Plan (FMP) for Flyingfish in the Eastern Caribbean. Specifically, the purpose of this contract was to advance the respective processes towards long-term enhancement of livelihoods and human well-being.

The anticipated results of this Consultancy were to provide:

1. Updated management recommendations to enhance livelihoods and human well-being (with due attention to gender equality and youth development issues), in at least three countries participating in the fishery.
2. Feasible options for added value, improved SPS and distribution and marketing identified in at least three countries participating in the fishery.
3. Improved capacity to facilitate enhanced livelihoods and human well-being in at least three countries participating in the fishery by project end.



Figure 2: A Primary Landing Site, Grenada (Credit: Maria Delesalle, NEXUS)

## APPROACH TO ASSIGNMENT

The Consultancy was conducted in several stages as defined by the Terms of Reference. The first stage consisted of the preparation of an Inception Report and work plan that advanced information related to available data and methodology to be used for the implementation of the project. During this phase it was determined that the project would focus on Barbados, Grenada and Trinidad and Tobago (specifically Tobago). This would enable evaluation of the multiple uses of flyingfish (i.e. food, bait, and commercial sale) within the livelihood perspective.

The second stage consisted of desktop research and field visits to compile information for the deliverables in each of the three Work Packages. Data mining consisted of online searches of government reports, academic literature (research studies), international organization reports, grey literature and industry reports. The final stage consisted of roundtable analysis and report preparation.

The consultants' approach to this Consultancy was to ensure that the overall consultancy objectives aligned with the five other consultancies that focused on flyingfish and to contribute to the actual realization of change in the region (understanding fiscal and human constraints).

The consultants employed an honest broker approach to ensure CRFM and Member States received recommendations that addressed the human and fiscal constraints facing their day to day operations while offering tangible recommendations on how best to enhance livelihoods within the flyingfish fishery. These recommendations are based both on expertise and experience in fisheries management as well as international best practices.



*Figure 3: Flyingfish process, Barbados (Credit: Maria Delesalle, NEXUS)*

## COMMENTS ON TERMS OF REFERENCE

Implementing the Terms of Reference (refer to *Annex 1* for more information) resulted in significant technical and practical challenges throughout the lifespan of the Consultancy.

From a practical perspective, these challenges included:

### 1) *Communication*

In the implementation of any project, timely communication is essential in providing project deliverables on time and within budget. However, external communication with Fisheries Divisions can often create unanticipated burdens. Finding the right balance between the consultants' schedules and Fisheries Divisions staff work schedules is not always easy. This was the case experienced in the implementation of this Consultancy. As a result, communications were often inhibited by Fisheries Division staff schedules resulting in delays in accessing available information.

### 2) *Travel and Logistics*

The initial Consultancy design provided budget and time for travel to collect information for specific project deliverables. However, due to the lack of data and information regarding the social and economic aspects of the fishery, additional travel was required to conduct field work and attend unplanned meetings, which resulted in the need to reallocate project funds to cover travel costs and fees.

### 3) *Schedule and Timeline*

The Consultancy schedule and timeline were defined in anticipation that sufficient data and information would be available to the consultants by Member States. Regrettably, this was not the case and as a result, project schedules had to be revisited and adjusted accordingly.

### 4) *Member State Participation*

At the Consultancy onset it was determined that the three countries involved in the project would be Barbados, Grenada and Trinidad and Tobago. However, due to the current state of the fishery and Member State interaction, Tobago was reluctant to provide information needed to meet project needs. As a result, the deliverables focus largely on Barbados and Grenada, with some reference to Tobago.

### 5) *Duplication / Similarity with other Consultancies*

This Consultancy was one of six ongoing consultancies related to the Eastern Caribbean Flyingfish Fishery. Much of the data requirements were similar to other consultancies which largely focus on biophysical aspects of the fishery. Thus, this had a direct impact in the implementation of this consultancies as much of the information provided did not adequately meet the livelihood information requirements. Additionally, the six consultancies were being conducted by multiple consultants and due to the similarity between them, Member State Fisheries Divisions staff were often confused by the purpose / objective of the various consultancies. Similarly, multiple requests for information by the various projects (CLME+ as well as others) resulted in further misunderstanding and consultation fatigue within Fisheries Divisions and amongst stakeholders.



From a technical perspective, these challenges included:

*1) Data and Limitations of Available Information*

It was assumed at the Consultancy onset that the necessary information and data needed to conduct thorough analysis related to livelihood enhancement would be available to the consultants. However, it quickly became apparent that this was not the case. The limitations of accessing usable and up-to-date data and information significantly impact the consultant's ability to conduct rigorous analysis related to project deliverables. Based on this, the consultants revised their approach, which resulted in more effort than the budget allowed in order to provide CRFM with the best possible final products.

*2) Change in Scope*

Due to the reallocation of project funds to cover additional travel costs for data collection and costs of Member State participation at the Regional Fisheries Technical Meeting combined with the limited scope of new business activities, it was determined that the implementation of business activity proposals and associated training deliverable would no longer be required by the consultants. Additionally, it was determined that the heavy presence and impact of sargassum on the state of the fishery limits the business growth potential within the flyingfish fishery.

## **ORGANIZATION AND METHODOLOGY**

The following activities were carried out to in order to prepare the final deliverables associated with this Consultancy.

*1. Research & Data Collection*

The consultants conducted thorough online desktop research for this consultancy, drawing on the latest publications and standards that focused on:

- Value Chain Analysis
- Vulnerability Assessment and Analysis
- Socio-economic Analysis
- Livelihood in Fisheries
- Business Opportunities and Activities
- Training and Capacity Building

Furthermore, this research was augmented by two separate in-country trips to collect data and implement field surveys. The data that was collected during this in-country travel was further augmented with additional online research.

*2. Analysis*

Based on the information collected during desktop research and data collection from in-country travel the consultants facilitated round table analysis and brainstorming sessions within the Consultancy Team. These roundtable discussions are an effective approach for analyzing data and information as they create a space for differing opinions on a topic to emerge and to be discussed in greater detail. Roundtable discussions can be time consuming, however, the benefits of this approach are:

- Space for critical thinking;
- Innovative ideas / approaches emerge;
- Enables broad range of perspectives and input;
- Facilitates collaboration amongst subject matter experts; and,
- Avoids duplication of effort.

### 3. *Report Writing*

Based on the data and information collected and analyzed, the consultants prepared the following reports to meet the deliverables stated in the Terms of Reference:

- Inception Report
- Strategy for Information Products
- Variable Impacts Report
- Engagement Progress Report 1
- Engagement Progress Report 2
- Value Chain Analysis Report
- Business Activity Proposal Report
- Portfolio of Training Materials
- Infographics on benefits of value chain analysis
- Bi-monthly Progress Reports
- Final Technical Report

### **DELIVERY OF TERMS OF REFERENCE**

The following table sets out the required project deliverables, as per the Terms of Reference, and the outputs delivered by the consultants.

<b>Deliverable as per ToR</b>	<b>Consultancy Output</b>
<b>Prepare an Inception Report and Work Plan</b>	An Inception meeting took place via teleconference with CRFM Secretariat staff and the consultants, where a work plan was agreed upon and countries were selected for participation. Based on these discussions the consultants prepared a final Inception Report for review and approval by CRFM.
<b>Updated Management Recommendations to Enhance Livelihoods and Human Well-Being</b>	The consultants research and prepared a report on how variable impacts, such as climate change, global markets, fishing pressures, etc. influence commercial and livelihood fisheries.
<b>A Value Chain Analysis Report in at least three countries participating in the fishery: providing / suggesting feasible options for added value, improved SPS and distribution and marketing identified in at least three countries participating in the fishery.</b>	<p>The consultants prepared to progress reports on engagement with National fisheries Departments, fishing industry representatives and other relevant stakeholders based on the two project field visits.</p> <p>Based on desktop research, data collected during field visits / surveys and roundtables analysis the consultants prepared a Value Chain Analysis Report.</p>
<b>Information Products to Facilitate Awareness Building of Stakeholders on Purpose and Association Benefits of a Value Chain Analysis.</b>	The consultants prepared a strategy for the development of information products that would be best suited for delivery. Based on this, it was determined that infographics to be displayed at Fisheries Divisions and primary landing sites would be the optimal awareness building mechanisms. As such, the consultants, using Piktochart software, prepared three infographics on the purposes and benefits of value chain analysis.

<b>1-2 Business Activity Proposals to facilitate livelihood enhancement, focused either on increasing market or livelihood opportunities from current levels and taking into account gender equality and youth development considerations; developed, implemented and evaluated.</b>	Based on desktop research, stakeholder meetings and in-country surveys, the consultants prepared a Business Activity Proposal Report which highlighted possible business opportunities to enhance livelihoods within the flyingfish fishery. Considering the state of the fishery, it was determined that there is limited opportunity for business development related to harvest increases or product development for enhanced marketing. Furthermore, due to change in project scope and budget reallocation the implementation and evaluation of Business Activities were not undertaken.
<b>1-2 Key Training / Capacity Building Activities implemented during the course of business activity proposal implementation, which will include hands-on training of involved stakeholders in proposed development and implementation, as well as core business and management skills.</b>	Due to the change in project scope and budget reallocation, the implementation of training and capacity building courses were not undertaken. However, the consultants prepared a Manual with template training materials for consideration and use by Member States and a report which summarized past and current training programs / courses that area available to fisheries stakeholders.
<b>Impact Assessment Tools, if / as appropriate to each work package, for CRFM use in follow up work.</b>	The consultants prepared one Impact Assessment Tool Report. Which included 4 assessment tools to mee the deliverables in both this project and the “Technical Support to Enhance Data and Information for Decision Support System”.
<b>Appropriate number of bi-monthly technical activity progress reports.</b>	Progress reports were prepared and submitted to CRFM to note project progress, issues, constraints and mitigations measures. However, not all reports were bi-monthly due to the extended timetable, and lack of significant progress during some periods.
<b>Final Technical Report</b>	This current Report represents this deliverable.

## OVERVIEW OF ACTIVITIES CONDUCTED

The activities involved in this project consisted of desktop research, field visits, roundtable analysis sessions and report writing. The following table highlights the activities conducted with each associated deliverable, as described in the Terms of Reference.

<b>Deliverable as per ToR</b>	<b>Consultancy Output</b>
<b>Preparation of an Inception Report and Work Plan</b>	<ul style="list-style-type: none"> <li>The Consultants participated in a teleconference with CRFM Secretariat staff to discuss project deliverables and work.</li> <li>A final Inception Report was prepared based on this discussion and submitted to CRFM for review and approval.</li> </ul>
<b>Updating Management Recommendations to Enhance Livelihoods and Human Well-Being</b>	<ul style="list-style-type: none"> <li>The Consultants conducted desktop research and field visits to collect data and information on the local flyingfish fishery, livelihoods, value chain and more.</li> </ul>

	<ul style="list-style-type: none"> <li>Based on this research and discussions with local stakeholders (i.e. fishers, processors, buyers, etc.) the Consultants prepared recommendations on ways to enhance livelihoods and human well-being related to EAF management approach in the FMP.</li> </ul>
<p><b>Preparation of a Value Chain Analysis Report in at least three countries participating in the fishery: providing / suggesting feasible options for added value, improved SPS and distribution and marketing identified in at least three countries participating in the fishery.</b></p>	<ul style="list-style-type: none"> <li>The Consultants organized and participated in Field Visits to Grenada, Barbados, and Trinidad and Tobago to understand the various stages of the flyingfish value chains in participating Member States. This involved arranging marketers, buyers, processors, exporters and retailers.</li> <li>The Consultants facilitated a roundtable session focused on value chain analysis to discuss the primary and support that add value to the final flyingfish product and identify opportunities of where value can be added, or costs can be reduced.</li> <li>Based on desktop research, data collected during field visits / surveys and roundtables analysis, the Consultants prepared a Value Chain Analysis Report.</li> </ul>
<p><b>Preparation of Information Products to Facilitate Awareness Building of Stakeholders on Purpose and Association Benefits of a Value Chain Analysis.</b></p>	<ul style="list-style-type: none"> <li>Based on desktop research, the Consultants prepared a strategy outlining the various awareness building tools available to enhance stakeholders understanding of the fisheries value chain.</li> <li>It was determined that infographic reports would be the most appropriate means to build awareness amongst stakeholders, as they can be easily displayed at primary landing sites, markets and Fisheries Divisions.</li> <li>The Consultants prepared three infographic posters and reports to help facilitate awareness building among stakeholders on the associated benefits of value chain analysis using Piktochart software. The infographics were prepared in PDF form allowing them to be easily printed in each of the Member States for distribution.</li> </ul>
<p><b>Preparation of 1-2 Business Activity Proposals to facilitate livelihood enhancement, focused either on increasing market or livelihood opportunities from current levels and taking into account gender equality and youth development considerations; developed, implemented and evaluated.</b></p>	<ul style="list-style-type: none"> <li>The Consultants gathered information on existing and past business activities related to the fishery through desktop research, stakeholder meetings and in-country interviews / surveys (field visits).</li> <li>The Consultants facilitated a roundtable brainstorming and analysis session to discuss possible business activity opportunities based on information of local markets, international markets, market demands, infrastructure (state</li> </ul>

	<p>/ needs), capacity (level of training / skill: needs), and global food trends.</p> <ul style="list-style-type: none"> <li>Based on the desktop research and roundtable session, a Report on Business Activity Opportunities was produced that highlighted possible areas to diversify skillsets / employment in the flyingfish fishery. These livelihood opportunities may also support fisheries management objectives.</li> <li>Due to changes in project scope and budget reallocation, the implementation and evaluation phase of this deliverable was not completed.</li> </ul>
<b>Preparation of 1-2 Key Training / Capacity Building Activities implemented during the course of business activity proposal implementation, which will include hands-on training of involved stakeholders in proposed development and implementation, as well as core business and management skills.</b>	<ul style="list-style-type: none"> <li>Implementation of training and capacity building courses were not delivered due to the change in project scope and budget relocation. However, the Consultants conducted desktop research in order to prepare a report which summarized past and current training programs / courses that are available to fisheries stakeholders. Furthermore, based on potential business development opportunities the Consultants prepared draft course materials and manuals that can be used by Fisheries Divisions or other fisheries organizations. These courses focused on fishers' organizational management, data collection and management and dockside monitoring.</li> </ul>
<b>Designing Impact Assessment Tools, if/as appropriate to each work package, for CRFM use in follow up work.</b>	<ul style="list-style-type: none"> <li>The Consultants facilitated a roundtable discussion to identify indicators and questions to support CRFM in conducting future impact assessments as they relate to project objectives. The indicators and questions selected were designed in a manner whereby CFM staff should have easy access to the information needed to conduct the impact assessment.</li> <li>The Consultants prepared an Impact Assessment Tool Report, which included four assessment tools to meet the deliverables in both this project and the "Technical Support to Enhance Data and Information for Decision Support System".</li> </ul>
<b>Preparation of Interim technical activity progress reports</b>	<ul style="list-style-type: none"> <li>Interim progress reports were prepared and submitted to CRFM to note project progress, issues, constraints and mitigations measures.</li> </ul>
<b>Preparation of Final Technical Report</b>	<ul style="list-style-type: none"> <li>This current report represents this deliverable.</li> </ul>

## CONSULTANCY INFORMATION, MOBILIZATION ACTIVITIES AND APPROACHES

The Consultancy activities were defined by the template within the Terms of Reference and Consultancy agreement. There was the expectation that all project participants would provide data and information necessary for the completion of project deliverables. This was unfortunately not the case and extra effort was needed to identify sources of information and to compile this information directly by the Consultants. Based on this information the Consultants built analysis on the available country-specific and region-specific data as well as data compiled from in-country surveys / interviews.

### **Mobilization of Data**

Early in the project, the Consultants requested information and data related to livelihoods, income, the value chain, etc. from the Member States. Subsequently, survey questionnaires were sent to Member States for their review and approval. It was intended that these surveys would later be implemented by Fisheries Divisions staff. In addition to these surveys, the Consultants planned field surveys / interviews to augment the data that was provided by Fisheries Divisions.

### **Approaches**

Once the information and data were compiled the Consultants facilitated inhouse roundtable discussions within the technical team. These roundtable sessions involved the following:

- Preparation of interview guides and in-country survey instruments
- Vulnerability Assessment
- Value Chain Analysis
- Business Activity Proposals

### *Unforeseen and Unanticipated Issues*

Despite advanced planning and internal discussions between the client and the Consultants several unforeseen and unanticipated issues surfaced during the implementation that resulted in delays in project output delivery which required additional effort and modification of project schedules, activities and outputs. These include the following specific elements which are discussed below:

#### *Insufficient Data*

Based on information from past reports the Consultants had assumed that there had been sustained effort to collect, compile and analyze data across landing sites. Regrettably, this was not the case and gaps in data sets as well as deteriorating availability of data resulted in the need for the Consultants to reexamine the approach to data acquisition for the analysis. This involved diversifying the number and nature of the contact points within each Member State to collect useful and anecdotal information to inform the value chain analysis.

#### *Limited Capacity*

An important component of the project was the implementation of in-country surveys / interviews. As stated above, the original intent was for Fisheries Divisions staff to directly conduct these surveys. However, due to staff shortages and increased workloads it became apparent that Fisheries Divisions were not going to take on this responsibility. As a result, the Consultants had to redirect project resources to cover travel costs and time for Consultancy personnel to conduct interviews/surveys with key stakeholders.



## *Coordination*

It was assumed at the project inception that Member States were collaborating and coordinating in the overall flyingfish fishery, including sharing data and collaborating on post-harvest utilization of the resource. Regrettably, political differences and economic competition at the harvester level result in less than optimal collaboration. As a result, not all Member States were willing to provide the data and information regarding the social and economic aspects of the fishery necessary for a comprehensive review and assessment of the fishery. This created additional work for the Consultants related to communications and efforts to identify alternative sources of information necessary to complete the assignment.

## **Consultancy Reports**

The following technical reports were provided in accordance with the Terms of Reference:

- Inception Report (see Annex 2)
- Variable Impact Report (see Annex 4)
- Engagement Progress Reports (see Annex 3)
- Value Chain Analysis Report (see Annex 4)
- Business Activity Proposal Report (see Annex 4)
- Portfolio of Training Materials (see Annex 4) and
- Awareness Building Infographics (see Annex 4)

Due to the project planning and implementation difficulties (outlined above), it was not possible to provide these reports in accordance with the timetable in the Terms of Reference and Inception Report, and most reports were provided in accordance with a revised Consultancy Agreement

## **INCOUNTRY MEETINGS AND ACTIVITIES OVERVIEW**

The Consultants participated in four in-country field visits to facilitate stakeholder meetings, field surveys and meet with Fisheries Division staff to gather data and information related to livelihoods and the value chain of the flyingfish fishery. It is important to note that the resources used for this travel was pooled from resources from NEXUS' other CRFM Project "Technical Support to Enhance Data and Information Management for Decision Support System".

The Consultants' field visits consisted of the following:

### *1. Barbados, Grenada and Trinidad and Tobago – stakeholder Meetings and Data Collection.*

*Trip Purpose:* To meet with representatives of National Fisheries Department, fishing industry (including harvesters, processors, vendors, etc.) and other relevant stakeholders involved in the fishery to collect information on flyingfish value chain, data collection and management systems. Socio-economic data (i.e. employment, earnings, etc.), fishing practices, livelihoods and more.

*Trip Duration:* 10 October – 26 October 2017.

### *2. Montserrat – Caribbean Fisheries Forum*

*Trip Purpose:* To participate as an observer at the 16<sup>th</sup> Meeting of the Caribbean Fisheries Forum and to meet with representatives of National Fisheries Departments to discuss project deliverables, project surveys, timelines and accessing relevant National data and information

*Trip Duration:* 15 April – 20 April 2018.

3. *Barbados and Grenada – Stakeholder Meetings, Survey Implementation and Data Collection*

*Trip Purpose:* To meet with representatives of National Fisheries Department, fishing industry (including harvesters, processors, vendors, etc.) and other relevant stakeholders involved in the fishery to collect information on data collection and management systems, gender issues, socio-economic data (i.e. employment, earnings, etc.), fishing practices, livelihoods and more. Additionally, the project team conducted several surveys that focused on livelihoods and gender roles.

*Trip duration:* 28 July – 11 August 2018.

4. *Barbados – Special Meeting of the Joint CRFM/WECAFC Working Group on Flyingfish in the Eastern Caribbean*

*Trip Purpose:* Participation in the Special Meeting of the Joint CRFM/WECAFC Working Group on Flyingfish in the Eastern Caribbean to provide project overview and update as well as to contribute to technical discussions.

*Trip Duration:* 01 October – 05 October 2018.

Additionally, our output / recommendations were presented at the Regional Consultation on Flyingfish Management in the Eastern Caribbean in Saint Lucia in May 2019 and at the 17<sup>th</sup> Meeting of the Caribbean Fisheries Forum in St. Kitts and Nevis in March 2019.

Based on the above, the Consultants prepared interview guides to help guide the conversations to gather information on data collection processes, data management, the flyingfish fishery, fishing activities, local and international markets, importing, exporting, and socio-economic components (i.e. employment, livelihoods, income, etc.).

The following provides a summary of the types of questions that were asked during discussions with harvesters and processors (as an examples).



*Figure 5: NEXUS Engagement with a Local Fisher, Grenada*  
(Credit: Maria Delesalle, NEXUS)

### **Harvester Interview Guide:**

1. Tell me about your business and how it works.
  - (a) How many days per week do you fish?
  - (b) How many hours per day?
  - (c) How much do you typically catch in a day?
  - (d) Where do you fish?
2. What dictates what you catch?  
Nature / opportunity / buyers / customers?
3. Where do you land your catch?
4. Who buys your fish? (larger firms, small firms, wholesalers, exporters, retailers, direct to consumers, etc.)
5. How much do you sell your fish for?
  - (a) Who decides the price?
6. How much does the price change? (day to day, week to week, month to month, etc.)
7. Describe the relationships you have with the people who buy your fish (who determines what to catch, product specifications, prices and amount purchased?).
8. Do you promote and market your fish?
9. How strong is the market for your fish right now?
  - (a) How have things changed over the last year / 5 years / 10 years?
10. How much money do you make in a season from flyingfish alone?
  - (a) How much do you keep (profit) after all costs are accounted for?
  - (b) How does this compare to other jobs / businesses?
11. What are the major challenges in harvesting flyingfish?
12. How could the fishery be improved?
13. What equipment / supplies do you purchase in order to fish?
14. Are there any regulatory requirements in harvesting flyingfish? License? Reporting? Data Collection?
15. How do you keep track of information about your catch (size, number, weight, income, expenses, taxes, location of catch)?
16. Has there been anything done to improve flyingfish products over the years?
17. How much does it cost to enter the fishery?

18. Does harvesting flyingfish provide you with enough working days per year to make a living?
  - (a) Do you need to supplement your flyingfish income with other species / work?
  - (b) Would you say the income you receive from the flyingfish fishery is enough to cover your basic needs / expenses?

### **Processors / Buyers Interview Guide**

1. Tell me about your business and how it works.
  - (a) What species do you process?
  - (b) What percentage of your total throughput is flyingfish? By volume or price?
2. How do you procure flyingfish? Who do you buy from?
3. How much influence/control do you have over what species are harvested sold?
4. How much do you buy per year?
5. How much do you pay per kilo?
  - (a) Who decides the price?
  - (b) How much does price vary? By day/week/month/season?
6. How much do you sell flyingfish for per kilo?
7. What is your gross margin on flyingfish products?
8. Describe the relationships you have with the people who buy your fish (who determines what to catch, product specifications, process, and amount purchased?)
  - (a) What are buyers looking for (quality, size, volume)?
  - (b) How much control do you have?
9. Who do you ship processed product to?
10. How do you promote and market your fish?
11. How strong is the market for your product/services right now?
  - (a) Next year?
  - (b) How have things changed over last year / 5 years / 10 years?
  - (c) What trends do you see?
12. Who are your major competitors?
13. How has industry changed over the past 10 years?
14. How much money do you make in a year from flyingfish alone?
  - (a) How much do you keep / profit after all costs are accounted for?
  - (b) How does this compare to living costs?/ other jobs?
15. What are the major challenges in processing flyingfish?
16. How could the fishery/ processing be improved?
17. Do you own any fishing vessels?
18. What equipment / supplies do you purchase in order to process?
19. What are your total operating costs per year? Gross profit?
20. Do you have problems sourcing certain equipment or materials?
  - (a) What materials / equipment?
  - (b) What's the problem?
21. Is the current equipment or materials an impediment to growth?
  - (a) How?
  - (b) What kind of equipment or machinery could improve your business?
  - (c) What are your major needs /gaps / challenges in materials / equipment?
22. How could flyingfish processing be improved?
23. What regulatory requirements govern processing flyingfish?
24. Do the fish you process and sell have to meet any standards or certification requirements?
  - (a) Quality?
  - (b) Food safety?
25. Who sets these standards and requirements?

26. Does anyone help you to conform to these standards and requirements? Does anyone enforce them?
27. Are there any challenges in this area?
28. External pressures on how you work / sell / fish?
  - (a) Government
  - (b) International
29. What other species do you process / sell?
  - (a) What percentage does each product represent in terms of your gross revenue?
30. Has there been anything done to improve flyingfish products over the years?
  - (a) Quality programs?
  - (b) Is there anything that could / should be done?
31. How big is your workforce?
  - (a) Is it fulltime?
  - (b) Seasonal?
  - (c) Demand-driven?
32. How are they paid?
33. Are people generally willing and available to work? How do you find / hire them?
34. Do you or does anyone else provide training?
35. What is your biggest challenge when it comes to hiring / retaining labour?
36. How much does it cost to enter the industry?
37. Did you need to borrow / save money to start up?
38. Where do you go when you need money for your business?
39. Do you get credit from equipment / materials suppliers?
40. Do you have need for additional financing at the moment?
41. What sources (formal or informal) have you approached for loans, and what have been the key problems?
42. What % of your income comes from processing and selling flyingfish?
43. Does processing flyingfish provide you with enough working days per year to make a living?
  - (a) Do you need to supplement your flyingfish processing income with other species / work?
  - (b) What do you do?
44. Is processing flyingfish a worthwhile way to make money?
45. Would you say the income you receive from the flyingfish fishery is enough to cover your basic needs / expenses?
  - (a) Does it allow you to do all the things you need / want to do?
  - (b) Are you or your household at risk of not being able to make ends meet if there was a downturn in the flyingfish fishery?
46. What would happen to your ability to make ends meet if you were unable to process flyingfish?
  - (a) Resources disappeared?
  - (b) Equipment broken?
47. Do you like your job / industry?
  - (a) What do you like most / least?
  - (b) Is there anything you'd rather be doing?

## CONCLUSIONS AND RECOMMENDATIONS

The multiple reports attached to this document as Appendices 4 provide considerable insight into the state of the fishery as it relates to the social and economic importance within Member States and means to enhance livelihoods and human well-being within the Eastern Caribbean flyingfish fishery. Based on the information provided in these reports the following general recommendations are provided.

The multiple projects on the flyingfish fishery management provided lessons that should be considered in future projects of this nature and in management of the fishery in general. These include:

### 1) **Consultancy Related Lessons**

- Multiple consultancies on a common theme can lead to administrative overburden and duplication that reduces project efficiency. In future, operating multiple projects on a common theme may be better pooled as a single initiative.
- Enhancing involvement of fishers and fishery organizations in project design and development may promote greater participation of fishers in project implementation. Enhanced fisher participation in future projects can address data shortages and cost effectively provide much needed information for successful consultancies.

### 2) **Fishery Related Lessons**

- While the project focuses specifically on the flyingfish fishery at the national and regional level, the nature of fish harvesting in the region is not conducive to a siloed approach and that a more holistic integrated management approach to fisheries in general should be taken for projects.
- Climate change should be imbedded as a priority issue in the sub-regional fisheries management plan for flyingfish and fisheries in general, to ensure the protection of sustainable livelihoods.
- There are limits to growth in the fishery and as a result, the development of flyingfish fishery should carefully consider rationalization and best use of the resource to promote economic well-being and food security instead of expanded use and consumption.
- Scarcity of fishery data is a common issue facing many government fisheries managers. This affects government decision making, fisheries management planning, commercial and livelihood fishery operations and business development. Greater attention is needed across all sectors of the fishery to collaborate in the improvement of data availability.

## **Recommendations**

The following recommendations are offered that will contribute to the enhancement of livelihoods and human well-being in the flyingfish fishery in the Eastern Caribbean.

### 1) ***Mandatory Socio-economic and Value Chain Data Collection***

Member States should enhance collection of data and information related to the full value chain. It has been noted in other reports from the CLME+ / SP3: Eastern Caribbean Flyingfish Projects that greater emphasis is needed by Member States to collect catch and landings data, however, a similar emphasis is needed to collect information on the social and economic metrics of the flyingfish fishery (such as employment, income, market value, etc.). This information is important



for both management purposes and to promote investment opportunities in the continued sustainable development of the flyingfish fishery.

The current state of information regarding all aspects of global fisheries is one where there is clearly need for improvement. It is understood that robust resource management systems include local populations, particularly those whose culture and traditions evolved within the ecosystem. Experience from the millennium ecosystem assessment suggests that improved long-term environmental, social and economic data provides a basis for improved science, policy and decision making, particularly if there is an interoperability, multi-functionality and harmonization with local communities and industry that enable co-production of knowledge. This is particularly relevant in meeting the United Nations Sustainable Development Goals 13 and 14. Mobilizing local knowledge through a standardized monitoring program over an increased range of environmental conditions and ecological (including social and economic) components in the marine environment can provide valuable insight for science, policy and decision making that can have a positive long-term impact on the sustainable use and management of the broader ecosystem within the region. Accordingly, greater effort should be applied across governments to collect and compile diverse and relevant data and information regarding the social and economic aspects of the fishery to support responsible decision making.

**2) *Development, Promotion and Support for Fisher Organizations***

Fishers represent the foundation of the economic activity within the regional flyingfish fishery. If fishers are successful in sustaining their livelihoods, then the products they land become the basis for the full range of activities and livelihoods across the whole value chain. Accordingly, it is important that focus on the business of harvesting flyingfish be maintained and supported by governments. This can involve enhancing the role of fishers and fishers' organizations in non-consumptive aspects of the fishery including data collection, monitoring, and analysis, which can contribute to fishers' livelihoods. Therefore, there should be a high priority for regional organizations and Fisheries Division to invest in and support the continued development of fishers' organizations through training and investment in new ventures related to data collection, reporting, business skills (numeracy skills, administrative skills, organizational governance etc.). In addition to creating alternative employment and incomes within fishing communities, these skills can contribute to better decision-making at the community level related to economic performance and sustainability thus protecting livelihoods and promoting greater collaboration across the value chain (fishers, regulators, marketers, processors, and exporters).

**3) *Promote Dockside Monitoring and Electronic Monitoring***

Government fisheries managers and the fishing industry should give serious consideration to the development and implementation of a dockside monitoring program. In addition to promoting compliance within the industry with agreed upon fisheries management measures, dockside monitoring and electronic monitoring systems can provide up-to-date robust data that is needed to protect the long-term interest of government and industry. Furthermore, these programs and initiatives can promote employment diversification within the fishery.

**4) *Harmonize national flyingfish value chains***

It was noted that the flyingfish fishery is significantly different between Member States. However, it is a common resource and as a result, the industries within each Member State have an impact with those in other Member States. This can create potential issues that can undermine the sustainable livelihoods derived from the shared resource. This emphasizes the need to harmonize

national flyingfish fishery value chains so there is a common overall sustainable livelihoods approach through which all Member States can mutually benefit.

5) ***Promote Industry Collaboration amongst Member States***

Promoting collaboration and cooperation between Member States can lay the foundation for a more robust regional fishing industry that can sustain diverse livelihoods within Member States. This would take into account that flyingfish are currently used for different purposes but there is potential for diversification so that all Member States benefit from all the potential uses of the catch (i.e. food consumption/security, bait for high valued large pelagics, commercial processing for local, tourist and export marketing). Furthermore, regional cooperation amongst industry players can create new opportunities for business development on matters such as dockside monitoring, electronic at-sea monitoring, and export/tourist marketing. This can lead to diversification of livelihoods within the industry sector and reduce barriers for inter-governmental collaboration in management.

## ANNEX 1: TERMS OF REFERENCE

### CLME+ Sub-Project #3: EAF for the Eastern Caribbean Flyingfish Terms of Reference

#### Consultant Services

#### Technical Support to Enhance Data and Information Management for Decisions Support

## 1.0 INTRODUCTION

In view of the significance of the Eastern Caribbean four-wing flyingfish commercial fisheries, the CRFM, in collaboration with WECAFC and with support provided during the corresponding case study under CLME Project (GEF ID 1032), developed and finalized a Sub-regional Management plan (Sub-regional FMP) for Flyingfish in the Eastern Caribbean. The plan takes into account the relevant provisions of two key CRFM instruments, the Agreement on the Establishment of the Caribbean Community Common Fisheries Policy (CCCFP), and the 2010 Castries (Saint Lucia) Declaration on Illegal, Unreported and Unregulated (IUU) Fishing. The Sub-regional FMP was endorsed by the 15<sup>th</sup> Sessions of WECAFC, by the Caribbean Fisheries Forum in April 2014, and by the CRFM Ministerial Council in May 2014, following extensive consultation with stakeholders at both the national and regional levels, and is now cleared for voluntary, regional implementation by CRFM Member States. The general management objectives outlined in the Sub-regional FMP are (a) sustained flyingfish resources (biological objective), (b) optimal use of flyingfish resource for long-term benefits (socio-economic objective) and (c) sustained ecosystem health (ecological objective).

A specific sub-strategy relating to flyingfish fishers was included under Strategy 5 of the CLME+ Strategic Action Programme (SAP). Sub-Strategy 5A of the SAP aims to enhance the governance arrangements for implementing an ecosystem approach to flyingfish fisheries in the CLME+ region. Under this sub-strategy, a number of short-term (0 - 5 years) and medium-term (6 - 10 years) actions were agreed upon.

- |                      |  |
|----------------------|--|
| 5A.1 [Short]         | Strengthen the FAO-WECAFC and CRFM sub-regional arrangements for the assessment and management of the flyingfish fisheries including the establishment of a decision-making capacity for management. |
| 5A.2 [Short]         | Establish and operationalize a formal agreement between the CRFM and France on the management of the flyingfish fisheries;   |
| 5A.3 [Short, Medium] | Operationalise and strengthen an integrated, sub-regional Decision Support System (DSS) for the flyingfish fisheries (in coordination with the large pelagics arrangements);                         |
| 5A.4 [Short, Medium] | Strengthen the FAO-WECAFC and CRFM capacity to develop, adopt and implement management and conservation measures for the flyingfish fisheries (full policy cycle implementation);                    |
| 5A.5 [Short, Medium] | Implement the CRFM/FAO-WECAFC Sub-Regional Management Plan for Flyingfish Fisheries in the Eastern Caribbean;  |
| 5A.6 [Short, Medium] | Develop and implement education and awareness building initiatives to improve understanding and enhanced stakeholder commitment and participation in decision-making in the flyingfish fisheries.    |

The Sub-Project of which this consultancy is a part, aims to contribute to the delivery of Output 5. Long-term enhancement of livelihoods/human well-being facilitated (O5.1, O5.2, O5.3) under COMPONENT 3 of the main CLME+ Project Document: *“Transition to an ecosystem approach for the Eastern Caribbean flyingfish fisheries demonstrated”*. It has been developed in response to the corresponding calls for action under (a) the CLME+ Strategic Action Programme (SAP), politically endorsed at the regional level in 2013 and (b) the approved Regional Fisheries Management Plan (FMP) for Flyingfish in the Eastern Caribbean.

This Consultancy seeks contribute to fostering long-term human well-being of the (direct and indirect) stakeholders of the Eastern Caribbean flyingfish fishery by providing technical support to facilitate long-term enhancement of livelihoods and well-being for flyingfish fisheries.

The UNOPS will provide general oversight for the action. The CRFM is responsible for providing technical supervision, leadership and coordination to execute the activities related to this action.

**THE CONSULTANT:** NEXUS Coastal Resource Management Ltd

## **2.0 OBJECTIVE**

To advance the respective processes towards long-term enhancement of livelihoods and human well-being

## **3.0 SCOPE OF WORK**

The Consultant will work under the general direction of [personnel assigned to supervise] to improve stakeholder access to data and information of relevance to application of the EAF assessment and management of eastern Caribbean flyingfish and improved availability of data and information to the global community; and, strengthen the Ecosystem Approach to Fisheries (EAF) information and knowledge base.

The scope of work covers all activities necessary to accomplish the Expected Results stated. The main tasks / activities are as follows:

### ***Work Package 1***

- (a) In at least three countries participating in the fishery, develop and / or update, as appropriate, EAF management recommendations that incorporate socio-economic information obtained from the activities to Enhance data and information management for decision support to the Eastern Caribbean flyingfish fishery by year 3 • This should incorporate outputs of activities to strengthen EAF information and knowledge base, as well as recommendations for enhancement of the livelihoods, e.g. improvement of the conditions of work of fishers and processors and value-chain problem solving system, to reduce and eliminate IUU fishing practices, to reduce possible impacts of present fishing strategies on long-term flyingfish recruitment, and to improve resilience to climate change and climate variability impacts.

### ***Work Package 2***

- (a) Carry out a value chain analysis in at least three countries participating in the fishery: identifying feasible options for value addition, improved SPS and distribution and marketing (with the view to incorporation of the information obtained during the analysis, into updated sub- regional FMP) (by year 3).

- (b) Facilitate awareness-building of stakeholders on purpose and associated benefits of a value chain analysis, through the development of appropriate / agreed information products; in at least three countries participating in the fishery (by year 3).

### ***Work package 3***

- (a) In at least three countries participating in the fishery by sub-project end, the consultant will develop, implement and evaluate 1 - 2 business activity proposals to facilitate livelihood enhancement, focused either on increasing market or livelihood opportunities from current levels, and taking into account gender equality and youth development considerations (by year 3).
  - These proposals should be mindful of, and based on, the identification of feasible options for value addition, consequent upon the value chain analysis
- (b) The consultant will also support implementation of 1 - 2 key training / capacity building activities during the course of business activity proposal implementation, which will include hands-on training of involved stakeholders in proposal development and implementation, as well as core business and management skills. These activities will take place in at least three countries participating in the fishery by sub-project end.

### ***General***

- (a) Prepare an inception report and work plan.
- (b) Prepare impact assessment tools, if / as appropriate to each work package, for CRFM use in follow up work
- (c) Prepare bi-monthly technical activity progress reports (which shall be annexed with relevant travel documentation).
- (d) Prepare a final technical report, taking into account comments provided by the CRFM Secretariat.

The report would at least contain the following sections: Acknowledgements; Abbreviations and Acronyms; Executive Summary; Introduction; Approach to the Assignment; Comments on Terms of Reference; Organization and Methodology; Delivery of Terms of Reference; Description of Activities Carried Out; Project Mobilization; Report summaries of National Missions (where appropriate); Reporting; Comments and Conclusions; Recommendations (including lessons learned); Annex 1 - Terms of Reference; Annex 2 - Inception Report and work plan; Annex 3 - Detailed Mission Reports; Annex 4 - Consultancy Products, namely: programme reports; updated EAF management recommendations, including recommendations for enhancement of the livelihoods, improvement of the conditions of work of fishers and processors and value-chain problem solving system; report of value chain analysis, including associated stakeholder consultations; business activity proposal document(s); business proposal implementation and evaluation report(s); reports on stakeholder training / capacity building activities with indication of gender balance; portfolio of training materials; impact assessment tool(s); awareness products and proposals; project final technical report; project final financial report; other agreed reports.

- Drafts of each product are to be reviewed by the CRFM, prior to finalization

## **4.0. EXPECTED RESULTS**

- (1) Updated management recommendations to enhance livelihoods and human well-being (with due attention to gender equality and youth development issues), in at least three countries participating in the fishery.

- (2) Feasible options for added value, improved SPS and distribution and marketing identified in at least three countries participating in the fishery
- (3) Improved capacity to facilitate enhanced livelihoods and human well-being in at least three countries participating in the fishery by project end

## **5.0 DELIVERABLES**

- 1. An inception report and work plan
- 2. Updated Management recommendations to enhance livelihoods and human well-being (with due attention to gender equality and youth development issues), incorporating socio-economic information obtained from the activities to Enhance data and information management for decision support, in at least three countries participating in the fishery
- 3. A value chain analysis in at least three countries participating in the fishery: providing / suggesting feasible options for added value, improved SPS and distribution and marketing identified in at least three countries participating in the fishery
- 4. Appropriate / agreed information products to facilitate awareness-building of stakeholders on purpose and associated benefits of a value chain analysis
- 5. 1 - 2 business activity proposals to facilitate livelihood enhancement, focused either on increasing market or livelihood opportunities from current levels, and taking into account gender equality and youth development considerations; developed, implemented and evaluated
- 6. 1 - 2 key training / capacity building activities implemented during the course of business activity proposal implementation, which will include hands-on training of involved stakeholders in proposal development and implementation, as well as core business and management skills
- 7. Impact assessment tools, if / as appropriate to each work package, for CRFM use in follow up work
- 8. Appropriate number of bi-monthly technical activity progress reports
- 9. Final technical report as outlined above

## **6.0 ROLES AND RESPONSIBILITIES**

The CONSULTANT is responsible for execution of the main ACTIONS and accomplishing the Expected Results and Deliverables as outlined above.

In the conduct of the assignment the KEs will be supported by the CRFM Secretariat, which will provide overall guidance on implementation of the contract. The CRFM Secretariat will assign two (2) staff (fisheries experts) who will work closely with the team at all times. The CRFM Secretariat will also assist in the circulation of documents for regional-level review and facilitate the finalization of all documents produced.

The CONTRACTING PARTY, through the CRFM Secretariat in Belize and St. Vincent and the Grenadines, will provide the following assistance to the CONSULTANT in a timely manner:  
[agreed-upon assistance to be provided by CRFM Secretariat]



## **7.0 REPORTING**

The CONSULTANT will prepare an inception report, progress reports and final reports. The progress reports will be submitted bi-monthly over the contractual period. The final technical report should include methodologies used to deliver the various outputs, with lessons learned and recommendations for follow up action, and include final technical deliverables in publisher- ready format. The report should be produced in Microsoft Word for Windows format and submitted electronically to the CRFM Secretariat.

## **8.0 LOGISTICS**

All logistical arrangements pertaining to travel by the CONSULTANT and workshop participants are the responsibility of the CONSULTANT.

## **9.0 DURATION**

The assignment will require 20 months, for the period 1 August 2017 to 30 April 2019.

## **ANNEX 2: INCEPTION REPORT**

### **1. INTRODUCTION**

This Inception Report is provided to the CRFM in accordance with the Terms of Contract dated 28 July 2017. This Report builds upon the initial Proposal submitted by NEXUS, the terms of reference included in the Contract, and the deliberations of the Inception Meeting between representatives from NEXUS and the CRFM Secretariat which was held by teleconference on 08 August 2017.

This Report is intended to provide an overview of the activities, outputs and schedules for the Consultancy. It is, however, understood that changes to the project may be deemed appropriate due to unforeseen demands on the CRFM Secretariat or Fisheries Divisions participating in the Consultancy. Any such changes will be documented and appended to this Report, which will be included in all relevant Bi-monthly Progress Reports.

### **2. CONSULTANCY CONSIDERATIONS**

During our discussions on the inception call and meetings on existing projects, NEXUS identified several components for consideration:

1. NEXUS will work to identify linkages and opportunities to streamline project activities throughout this project and other existing flyingfish projects;
2. NEXUS will develop a strategy to consolidate engagement activities with stakeholder groups to optimize project budget and minimize stakeholder fatigue; and,
3. CRFM will introduce NEXUS to national ministry-level contacts for this project. NEXUS suggests that this could be undertaken through an introduction letter, similar to the one requested on the Blue Earth / NEXUS project.

### **3. SUCCESSFUL CONSULTANCY VISION**

Based on feedback provided during the inception call, NEXUS has identified the following components for a successful project. These are:

1. Enhancing the management regime for flyingfish taking into consideration components outside of the biological needs of the fishery. Equally as important the need to examine and include the human component (social, economic, and political- small p) is essential for the successful management of the fishery.
2. Identify means of adding value to the fishery – particularly in ensuring gender equity and youth development.
3. Ensure that management recommendations and final reports identify means of optimizing livelihoods and building capacity.

### **4. PROJECT MANAGEMENT**

#### **4.1 Overview**

The following three project deliverables (illustrated in the graphic below) will be completed to meet the outlined objectives of providing technical support to facilitate long-term enhancements of livelihoods and human well-being for Eastern Caribbean flyingfish fisheries.

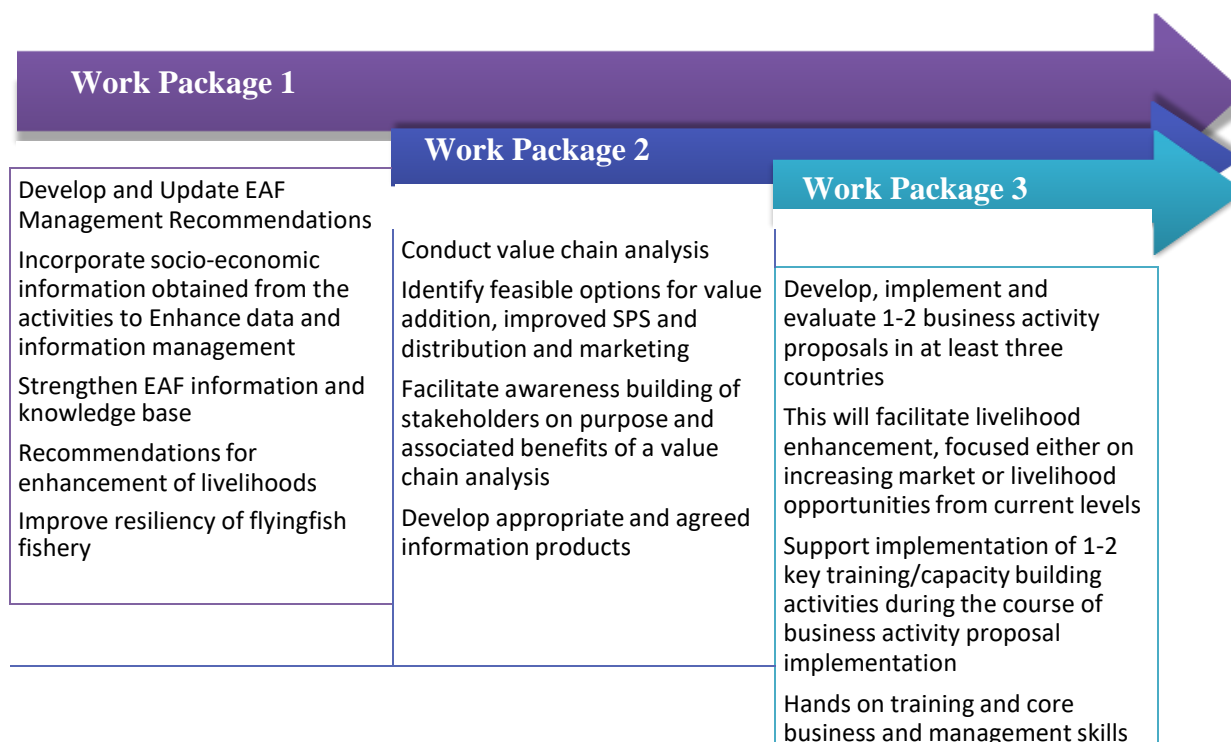


Figure 1: Consultancy Deliverables Overview

**Approach:** NEXUS intends to take a development assistance approach to the implementation of this project. While the overall goal is to provide detailed reports for each Work Package, the team will ensure open and transparent communication with national fisheries division staff to ensure the individual divisions can acquire knowledge and insight of the processes involved in conducting the work. This can enhance understanding and use of the project outputs within each national jurisdiction and enhance the capacity of the fisheries division to support the effective management of their fisheries data.

## 4.2 Management & Communication

### 4.2.1 Consultancy Management

The roles and responsibilities for each of the Team members are clearly identified, as explained below.

**Manager:** The Consultancy Manager, Chris Milley, will be a single point of contact for the CRFM. The Consultancy Manager will set in place the overall QA / QC plan for the Service Agreement and will ensure that it is being followed by all Team members. The Consultancy Manager will also have responsibility for resolving any problems that cannot be solved by the appropriate Consultancy Leads and will act as a “sounding board” for CRFM regarding overall Team performance.

**Consultancy Leads:** Consultancy Leads will retain day-to-day operational responsibility for all individual projects, including expert support and technical support, schedule, and quality. Internally, the Consultancy Leads report to the Consultancy Manager.

**Consultancy Experts:** Will be responsible for completing individual assigned tasks within predefined targets of schedule, budget, and quality. The Consultancy Experts will report to the Consultancy Leads.

**Technical Support personnel** – The Technical Support personnel will be responsible for gathering the required information and performing assigned tasks under the supervision of the Consultancy Manager or assigned Consultancy Experts. The Tech Support personnel also report to the Consultancy Managers.

#### 4.2.2 Communications

NEXUS will communicate with CRFM through a single contact in NEXUS – Mr. Chris Milley (Consultancy Manager). Mr. Milley will be available to CRFM by phone (902-441-6104), or email ([cmilley@nexuscoastal.com](mailto:cmilley@nexuscoastal.com)) or Skype (nexuscoastal). Mr. Milley is well versed in the challenges associated with managing interdisciplinary teams and is intimately familiar with the various resources that NEXUS can call upon. All project communication between NEXUS and CRFM will be through the project manager and the CRFM project manager, however, individual team members may be in direct communication with CRFM staff on a project specific matter from time to time.

Additionally, many of the project tasks will involve direct communication with fisheries staff from participating nation states. Due to budgetary limitations, most of these discussions will be conducted via telephone, or through virtual meetings (using platforms such as Skype). However, where opportunity may be presented through other regional activities or project that bring key persons together (regional workshops, meetings or conferences), the NEXUS Team will endeavor to arrange face-to-face workshops or roundtable meetings. The following table provides an overview of the types of communication that will occur throughout the duration of the project.

*Table 1: Communication Strategy*

Communication Type	Objective of Communication	Medium	Frequency	Audience	Owner
<b>Inception Call</b>	Introduce the project and discuss project objectives and management approach	Conference Call (phone or Skype)	Once	<ul style="list-style-type: none"> <li>• Consultancy Manager</li> <li>• Consultancy Administrator</li> <li>• CRFM</li> </ul>	Consultancy Manager
<b>Consultancy Team Meeting</b>	Review status of the project with the team	Conference Call (phone or Skype); In person (when possible)	As needed	<ul style="list-style-type: none"> <li>• Consultancy Team</li> </ul>	Consultancy Manager
<b>Meetings with CRFM</b>	Review status of project and discuss mitigation measures for project issues	Conference call; Email; In person (when possible)	As needed	<ul style="list-style-type: none"> <li>• Consultancy Manager</li> <li>• Administrator</li> <li>• CRFM</li> </ul>	Consultancy Manager
<b>Monthly Consultancy</b>	Report on the status of the project to management	Conference call; Email	Monthly	Consultancy Team	Consultancy Manager
<b>Consultancy Status Reports</b>	Report the status of the project including activities, progress and issues	Email	Bi-monthly	CRFM	Consultancy Administrator & Consultancy Manager

### 4.3 Outputs and Deliverables

The NEXUS Team will provide the following deliverables within the budgetary scope of the project. The following diagram provides an overview of the key reports (deliverables) and their associated components.

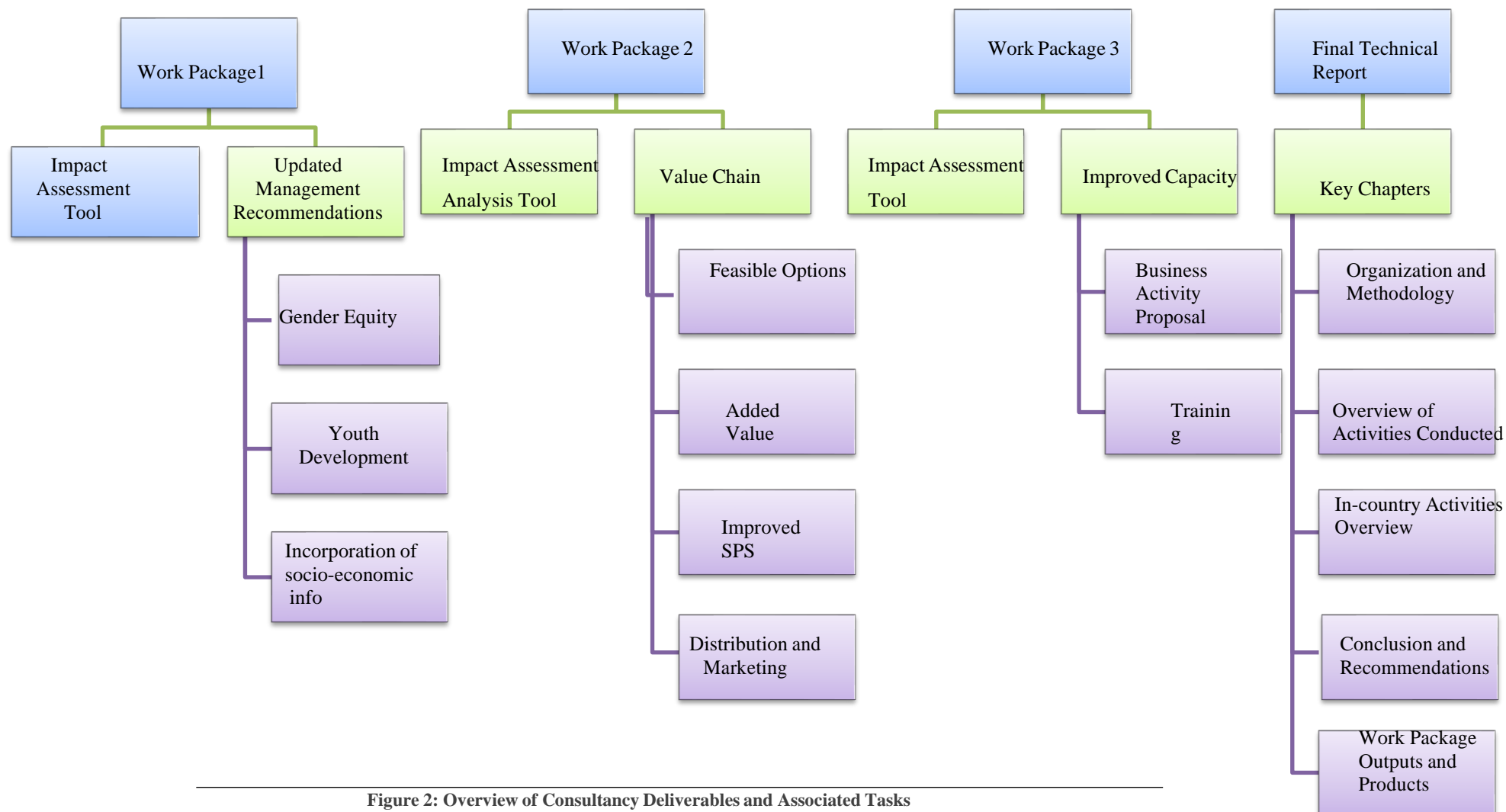


Figure 2: Overview of Consultancy Deliverables and Associated Tasks

### **Work Package 1:**

1. Work Package 1 (WP 1) will include developing and / or updating, as appropriate, EAF management recommendations. The recommendations will consider socio-economic information obtained from the activities in NEXUS' ongoing activities to enhance data and information management for decision support to the Eastern Caribbean flyingfish fishery.
2. The recommendations will consider outputs that aim to enhance livelihoods, which may include but are not limited to:
  - (a) Improvement of the conditions of work of fishers and processors;
  - (b) Value-chain problem solving system;
  - (c) Reduce or eliminate IUU fishing practices;
  - (d) Reduce possible impacts of present fishing strategies; or,
  - (e) Improve resilience to climate change.

### **Work Package 2:**

1. Work Package 2 (WP 2) will include a value chain analysis of the flyingfish fishery in three countries participating in the fishery (i.e. Barbados, Trinidad and Grenada).
2. Facilitate awareness building among fishery stakeholders to demonstrate associated benefits of value chain analysis through information products.

### **Work Package 3:**

1. Work Package 3 (WP 3) will develop, evaluate and implement 1 - 2 business activity proposals to facilitate livelihood enhancement.
2. Additionally, NEXUS will support the implementation of 1 - 2 training / capacity building activities.

### **Final Technical Report:**

1. Final Technical Report will provide summaries of the key considerations in Work Package 1, 2 and 3 as well as additional recommendations regarding enhance data and information management and fisheries management planning for the flyingfish fishery in Eastern Caribbean.

## **4.4 Risks to Consultancy Deliverables**

NEXUS understands that during the project, unforeseen circumstances might occur that may impact the project schedule. NEXUS will maintain effective communication with CRFM to identify and mitigate any potential issues throughout the project to ensure the project objectives continue to be met. NEXUS has identified the follow as potential risks:

- Weather events impacting travel, availability of personnel and/or general business operations;
- Potential barriers to timely communications with Fisheries staff (staff travel, vacations, competing workloads);
- Inaccessibility of information on a timely basis/ lack of updated information; and,
- Changes in key contacts (staffing changes).

The NEXUS Consultancy Team will take an adaptive approach for this project to ensure schedules and outputs can benefit from opportunities that may arise from time to time. These opportunities may include



other ongoing initiatives in the region such as other projects in member countries, regional meetings/workshops, or conferences. NEXUS will discuss with the CRFM project lead any prospects identified to see if the project could benefit from collaboration with other ongoing activities.

#### **4.5 Target States**

The following four target States (illustrated in the map below) have been selected to be the focus of the project to provide technical support to support to facilitate long-term enhancements of livelihoods and human well-being in the Eastern Caribbean flyingfish fishery:

1. Barbados
2. Trinidad and Tobago
3. Grenada

In addition to the target countries, NEXUS we will also communication with Martinique, Saint Vincent and the Grenadines, and Saint Lucia to provide them with project updates, and if they are willing, to share their experiences. This will increase the potential benefits of the project to a wider area within budgetary limitations.

### **5. APPROACH TO WORK**

#### **5.1 Project Management and Client Liaison**

Client liaison will be extensive and ongoing throughout the project. The Consultancy Manager (Chris Milley) will ensure that effective and clear communication is maintained in keeping with the Terms of References. Bi-monthly status reports will be provided to CRFM representatives commencing at the end of every second month after the contract start-date. The purpose of the status reports will be to summarize project progress including:

- Status of project;
- Services provided;
- Remaining deliverables; and
- Identify any issues or concerns that may affect specific deliverables and suggested mitigative measures.

#### **5.2 Work Package 1**

The requirement for Work Package 1 (WP 1) is to develop and / or update EAF management recommendations in at least three countries participating in the flyingfish fishery. This will be based on NEXUS' ongoing work to enhance data and information management for decision support to the Eastern Caribbean flyingfish fishery. Specifically, NEXUS will incorporate socio-economic information provided by member states to ensure there is a better understanding of the socio- economic situation of fishers, fisher families and fishing communities. This will include information to provide insight into lost opportunities to enhance the fishery and investigate the economic and social benefits of participating in the fishery along the value chain (from harvester to market).

Accordingly, NEXUS will undertake the following tasks to complete WP 1.

##### ***Task 1: Research and Information Gathering***

The NEXUS Team will conduct research and gather appropriate bio-economic, social economic and culturally relevant information on the Eastern Caribbean flyingfish fishery as well as information on other small pelagic fisheries in other jurisdictions (such as eastern United States and Atlantic Canada). This will

be a desktop based activity whereby the NEXUS Team will gather relevant information from a variety of sources including: research papers, journal articles, government reports, international agency reports, newspapers, and more.

### ***Task 2: Analysis***

The NEXUS Team will analyze the gathered research and information to determine the following:

- Improvement of conditions of work of fishers and processors
- Value-chain problem solving system;
- Lost opportunities;
- Ways to reduce and eliminate IUU fishing practices;
- Reduce possible impacts of present fishing strategies on long-term flyingfish recruitment;
- Improve resilience to climate change; and,
- Identify ways to enhance livelihoods.

In addition, the NEXUS Team will compare the Eastern Caribbean flyingfish fishery to other small pelagic fisheries in other jurisdictions, such as, eastern United States and Atlantic Canada. Analyzing the experiences in other jurisdictions will provide insight and understanding on how variable impacts such as climate change, global markets, fishing pressures, etc. influence commercial and livelihood fisheries. This will involve collecting bio-economic and social information on technologies employed, including fleet and processing and identifying lessons learned.

### ***Task 3: EAF Management Recommendations***

The NEXUS Team will update the EAF management recommendations based on the research and analysis completed in Tasks 1 and 2 and after WP 2 and 3 are complete. This is important as valuable information is likely to become apparent during the completion of WP 2 and 3, which will be relevant for updating the EAF Management Recommendations.

### ***Task 4: Impact Assessment Tool***

The NEXUS Team will scope and prepare an overview of indicators and reference points which can be used to assess the impacts of updating the EAF management recommendations to incorporate socio-economic information. These indicators will contribute to the assessment tool which can be used by the CRFM in future assessment of the EAF management of regional and member state fisheries.

## **5.3 Work Package 2**

The NEXUS Team will carry out a value chain analysis in (at least) three countries participating in the eastern Caribbean flyingfish fishery for WP 2. In addition, NEXUS will also facilitate awareness building among stakeholders through the development of information products. The fundamental goal of a value chain analysis is to identify which activities have the greatest contribution to the value of the fishery and which can be enhanced or altered to provide greater competitive advantage to those involved in the fishery.

The specific tasks associated with WP 2 are as follows:

### ***Task 1: Research and Information Gathering***

The NEXUS Team will conduct desktop research to gather all readily available information regarding the flyingfish fishery to support a value chain analysis.

### ***Task 2: Engage with National Fisheries Departments and Fishing Industry Representatives***

The NEXUS Team will engage with National fisheries departments, fishing industry representatives and other relevant stakeholders to obtain additional information that will be useful for the value chain analysis.

NEXUS is aware that each Member State, and each community have differences make boiler plate approaches to engagement possibly ineffective. NEXUS undertakes to ensure effective engagement by developing location-specific engagement strategies that may employ multiple engagement tools. This activity will require extensive travel, which will be conducted in association with other ongoing Nexus (and Blue Earth) projects in the region. This will ensure cost effective delivery of the project and ensure collaboration across multiple CRFM flyingfish projects.

### ***Task 3: Value Chain Analysis***

The NEXUS Team will undertake a value chain analysis on the flyingfish fishery in the three target countries. The process will involve identifying the primary and support activities that add value to the final product and then analyze these activities to determine ways to reduce costs or increase opportunities.

Put very simply, the Eastern Caribbean flyingfish value chain is the sum total of activities that are performed to harvest, process, market, and distribute flyingfish products, including whole fish (sold as food or used as bait), processed fillets and other cuts, and value-added niche products, such as roe. Value chains can be analyzed at the level of the firm or sector. Where identifying key differences in firm-level competitors' value chains can often identify competitive advantages between companies, sector-level value chain analysis can uncover potential productivity and processing improvements, buying and distribution efficiencies, and value-add opportunities that broaden product markets and industry-level returns. The following figure demonstrates the fundamentals of a generic value chain:



Figure 3: Value Chain Analysis (Source: <https://www.smstudy.com/Article/what-is-value-chain-analysis>)

In many ways, the Eastern Caribbean flyingfish fishery involves a complex value chain, which may be difficult to map and analyze for reasons that include:

- The number of small fishing enterprises and vessels.
- The generally informal and part-time nature of labour force.
- The number and geographic dispersion of relatively isolated landing sites/buying locations with limited, if any, dockside monitoring. <sup>[1]</sup><sub>SEP</sub>
- The number of independent buyers and the complex web of formal and informal transactions between vessel and processor / shipper.
- The nature of processing obtaining raw material from many vessels / buyers within and outside the region and also from outside the region.

These factors create analytical challenges that are made more difficult when taking into account the differences in the development, focus (i.e. value-add and export vs. bait fishery), harvesting effort, data collection, and regulatory structure in each of the three countries under consideration.

At its core, value chain analysis is employed to understand an industry's value chain activities (described above) and identify and measure the margin generated at each step in the chain. Margin is the difference between the cost of performing activities and the total value produced at each level of the chain. Increasing harvesting efficiency and value-added processing are examples of approaches to increase margin at specific points along the value chain. Value chain analysis involves identifying approaches to increase margin where possible.

Value chain analysis is performed to identify two potential sources of competitive advantage: cost and differentiation. Cost-based analysis involves identifying the operating and capital costs associated with activities at each level of the value chain, understanding what drives cost and how it has changed over time, and looking for opportunities for the industry to become more cost-efficient. Differentiation-based analysis focuses more on identifying existing and potential ways in which value chain activities and/or products are unique and can command a premium. Producing unique value-added products or superior service to harvesters are examples of potential differentiation advantages.

It was agreed during the inception meeting that both perspectives will be held in the analysis on this project.

### **Detailed Approach to Value Chain Analysis**

The NEXUS Team will complete an analysis of the Eastern Caribbean flyingfish value chain through the execution of the following activities:

1. **Incorporate information and data related to value chain structure collected and analyzed in Task 1 and 2.** – All data and information gathered and analyzed in Task 1 and 2 will be incorporated in the value chain analysis. It is anticipated that existing reports on the Eastern Caribbean flyingfish industry will help provide context and a general overview of the value chain, but detailed analysis will require consultation with industry participants and other stakeholders.
2. **Identify key industry participants and stakeholders** – in collaboration with the CRFM and the relevant fisheries authorities in each country, the Team based on ongoing projects will identify an initial set of key flyingfish industry participants and stakeholders in each country. Where possible, participants and stakeholders will be contacted ahead of in-country visits to introduce the project and project team and establish points of contact in order to arrange meetings and interviews.
3. **Develop consultation materials and interview / discussion guide** – while it is anticipated that interviews will tend toward informal and open-ended, we will develop an interview guide designed

to provide structure to discussions and ensure all required data is collected. Draft interview guides and other consultation materials will be provided to the project steering committee for input and approval before they are employed.

4. **Conduct in-person interviews** – NEXUS team members will conduct interviews in each of the three countries with industry participants and stakeholders at every level of the flyingfish value chain, depending on availability and willingness to participate.
5. **Conduct value chain analysis** – data collected during participant and stakeholder consultations will be used to map the value chain in each country and conduct cost- and differentiation-based analysis to identify opportunities to enhance livelihoods and human wellbeing for the Eastern Caribbean flyingfish fishery. Value chain analysis will involve:
  - (a) **Mapping the product flows:** the movement of live flyingfish from vessel and point of landing to buyer; from buyer by to processors / shipper facilities; and from processor / shipper to exporter.
  - (b) **Identifying support activities** including procurement, technology development, human resources, and infrastructure (including data and information systems).
  - (c) **Estimating costs** – key costs and cost drivers will be estimated at each step in the chain.
  - (d) **Identifying value-add activities** – identifying any transformation to various product forms at any step in the value chain.
6. **Identify value chain opportunities** – value chain analysis will culminate in the identification of opportunities to:
  - (a) Improve value chain logistical and cost efficiencies.
  - (b) Increase or enhance value-added activities at each step along the chain.
  - (c) Optimize resource use, including raw materials and human capital.
  - (d) Develop new businesses related to flyingfish value chains in each country.

#### ***Task 4: Develop Information Products.***

The NEXUS Team will develop appropriate and agreed upon information products to help facilitate awareness building among stakeholders of the associated benefits of the value chain analysis. These products will be prepared in the most socially / culturally appropriate format, which may include web-based materials, brochures, newsletters, pamphlets, social media, etc.

#### ***Task 5: Facilitate Awareness-Building among Stakeholders***

The NEXUS Team will work closely with CRFM staff and National Fisheries Departments to identify the most appropriate means of facilitating awareness building on the purpose and associated benefits of a value chain analysis with fishery stakeholders in the three target countries.

As noted above travel expenses will be shared with other ongoing projects to ensure cost effective delivery of services.

#### ***Task 6: Update Sub-Regional FMP***

The NEXUS Team will update the sub-regional FMP with all relevant information obtained from the value chain analysis.

### ***Task 7: Impact Assessment Tool***

The NEXUS Team will scope and prepare an impact assessment tool with appropriate indicators and reference points to assess the effectiveness of the value chain analysis and stakeholder awareness building activities. These indicators will form the basis of a tool which can be employed by the CRFM in future review and evaluation of the sub-regional FMP.

## **5.4 Work Package 3**

The NEXUS Team will work closely with National Fishery Departments to develop, implement and evaluate business activity proposals based on the accepted international development principles and approaches.

### ***Task 1: Business Activity Proposals***

The NEXUS Team will develop, implement and evaluate 1 - 2 business activity proposals in at least three countries participating in the fishery. The objective of these business activity proposals will be to facilitate livelihood enhancement. The NEXUS Team will use information gathered and analyzed from WP-1 and WP-2 to inform the development of these proposals. It will be important to ensure that gender equity and youth development are considered in the identification and development of these business opportunities. Business activity proposals will be developed and evaluated using the following opportunities analysis framework.

#### ***Opportunities Analysis***

Opportunities analysis is an analytical approach driven by a set of questions that identify key issues related to business development. These questions serve to take the analyst through all important steps of investigation when examining the commercial potential of a new or expanded business activity. The questions also ensure all appropriate baseline information is collected during business activity development. Some of the key questions for each element of the analysis are summarized below:

#### **1. Industry Overview**

- (a) What is the sector or business' history in the Eastern Caribbean and elsewhere?
- (b) At what stage is the sector or business in its life cycle? Infancy, growth, maturity, steady-state, or decline?
- (c) What is the sector or business' prospects for the future? Based on what information?

#### **2. Market Structure and Labour Dynamics**

- (a) How many competitors currently operate in the Eastern Caribbean in this sector?
- (b) Who works in the sector? How large and ready is the labour force?

#### **3. Product Markets and Outputs**

- (a) Where are the locations of greatest market concentration? Are there major geographic differences in saturation intensity?
- (b) Who are the customers and why do they buy the product? Are there meaningful differences between types of customers?
  - (c) What are the basic determinants of demand?
- (d) What is the growth profile of the market? Is the market becoming more specialized? More diverse in terms of customers or products?
  - (e) Are companies developing new value-added products?

- 4. Marketing**
  - (a) What are the means and methods of marketing the product? Are market channels well organized or underdeveloped?
  - (b) What makes a product competitive in the industry?
- 5. Competition**
  - (a) What are the trends in market standing among the various producing areas?
  - (b) Who and where are the competitors? Are their geographic limits to competition? Is the focus of competition local, regional, national, or international? What role do imports play in the marketplace?
  - (c) What is the trend in the use of substitutes?
- 6. Physical Resources**
  - (a) How significant are economies of scale and what is the minimum entry size?
  - (b) What are the key inputs, cost variables and cost trends? Have costs been rising or falling?
- 7. Capacity and Operating Characteristics**
  - (a) What scale capital investment is required for entry for expansion? Are there any major barriers to entry and exit?
  - (b) What level of operating costs will be incurred? Do these vary significantly with scale of operation or by location in the country?
  - (c) Are there physical constraints to production, processing plants or marketing?
  - (d) What are the costs associated with higher value-added production facilities?
- 8. Key Success Factors and Strategic Forecasts**
  - (a) What are the keys to being successful in this sector: that is, what does a producer have to be sure of doing right in order to succeed?
  - (b) What are the constraints on the ability of current producers to expand production?
  - (c) What are the future trends in consumption and production of sector products, end uses, supply / demand substitutes, cost of production, transportation and handling, marketing, pricing, and the impact of environmental concerns?

In answering any of these questions, it is critical to ensure that gender equity and youth development are considered.

### ***Task 2: Training and Capacity Building Activities***

The NEXUS Team will work closely with CRFM and National Fisheries Departments to develop and facilitate 1-2 key training / capacity building courses during the implementation of the business activity proposals. This will involve two members of the NEXUS Team traveling to the three targets in the fishery to deliver these courses. The courses will focus on working with local stakeholders involved in the flyingfish fishery to develop and implement business proposals as well as offer training in core business and management skills.

### ***Task 3: Impact Assessment Tool***

The NEXUS Team will scope and prepare an overview of indicators and reference points which can be used to assess the effectiveness and success of the business activity proposals and the training and capacity building activities. These indicators will form the basis of a tool which can be employed by the CRFM in future review and evaluation of the enhancement of livelihoods related to the flyingfish fishery.

## **5.5 Final Technical Report**

During the ongoing implementation of the Consultancy, NEXUS will provide draft copies of products from each of the above Tasks (WP 1, WP 2 and WP 3) to the CRFM for review and comment. Final versions of each product will be submitted with the necessary revisions.

Upon completion of the project, NEXUS will prepare an overall Consultancy Report. This report will compile all the project results and provide an overall summary of the Consultancy. Specific proposal-oriented products will be compiled in the final report as a standalone guidance document (i.e. separate annex) which can facilitate CRFM's efforts to secure ongoing support for additional data management and reporting initiatives.

Subject to further discussion with the CRFM Secretariat, this document will include the following Table of Contents:

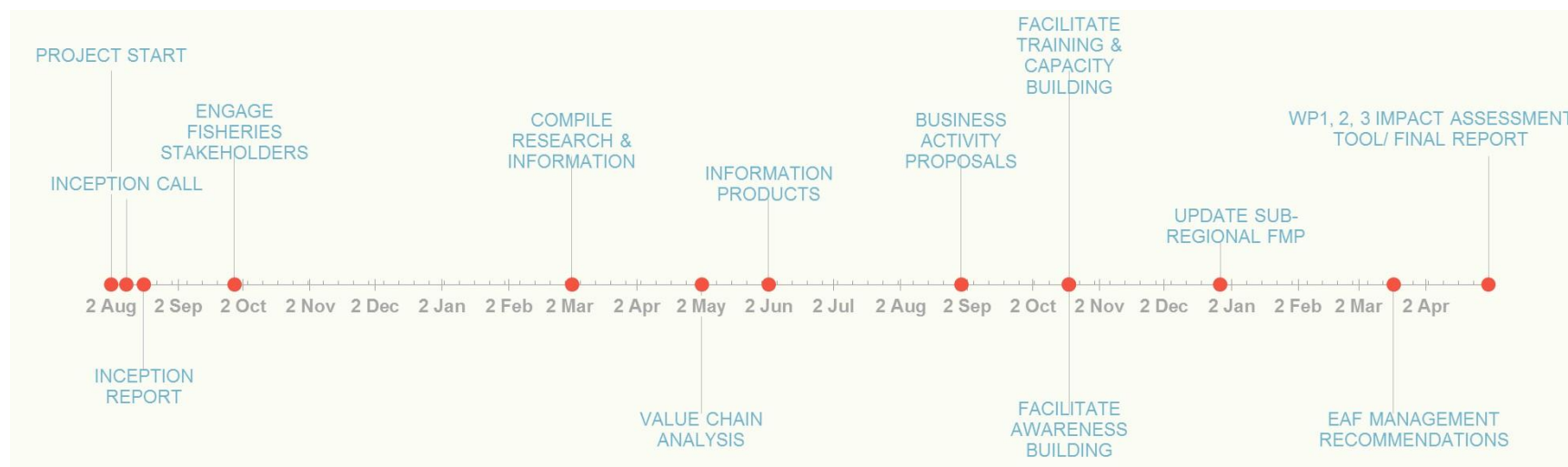
- I. Acknowledgements;
- II. Abbreviations and Acronyms;
- III. Executive Summary
- IV. Introduction;
- V. Approach to the Assignment;
- VI. Comments on Terms of Reference;
- VII. Organization and Methodology;
- VIII. Delivery of Terms of Reference;
- IX. Overview of Activities conducted;
- X. Consultancy information mobilization activities and approaches;
- XI. In-country meetings and activities overview;
- XII. Comments and Conclusions and Recommendations;
- XIII. Annex 1 - Terms of Reference;
- XIV. Annex 2 -Inception Report;
- XV. Annex 3 - Mission Reports;
- XVI. Annex 4 – Consultancy Outputs and Products (by work package)

A project final financial report and other agreed upon reports will be provided as stand-alone reports.



## Appendix A: Timeline Year 1, 2 & 3

The following provides an overview of the estimated timeline to complete the activities associated with this project.



Activity	Timeline
Consultancy Start	1 August 2017
Inception Call	8 August 2017
Inception Report	16 August 2017
Engage Fisheries Stakeholders	September 2017
Value Chain Analysis	May 2018
Information Products	June 2018
Business Activity Proposals	September 2018
Facilitate Awareness Building	October 2018
Facilitate Training and Capacity Building	October 2018
Update Sub-Regional FMP	January 2019
EAF Management Recommendations	March 2019
WP1, 2 and 3 Impact Assessment Tool and Final Technical Report	30 April 2019

## Appendix B: Detailed Work Plan

The following provides a breakdown of the project work plan and schedule.

Technical Support to Facilitate Long-term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fisheries Key Outputs		2017					2018					2019				
		Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct
		In Country Meetings										Call with CRFM				
<b>Consultancy Inception</b>																
1. Participate in Inception Call	Inception Call															
2. Prepare Inception Report and Consultancy Work Plan	Inception Report															
<b>Work Package 1:</b>																
1. Research and Information Gathering	Desktop Research; Phone Calls;															
2. Analysis of Information Gathered	Analysis															
3. EAF Management Recommendations	Update EAF Mngt Recommendations															
4. Impact Assessment Tool	Assessment Tool															
<b>Work Package 2:</b>																
1. Research and Information Gathering	Desktop Research; Phone Calls;															
2. Engage with National Fisheries Dep. & Fishing	Engagement strategy; calls / face-face															
3. Value Chain Analysis	In person meetings; value chain															
4. Develop Information Products	Information products															
5. Facilitate Awareness-Building among Stakeholders	Engage Stakeholders / CRFM															
6. Update Sub-Regional FMP	Update FMP															
7. Impact Assessment Tool	Assessment Tool															
<b>Work Package 3</b>																
1. Develop 1-2 Business Activity Proposals	Business activity proposals															
2. Develop and Facilitate Training and Capacity	Training Activities															
3. Impact Assessment Tool	Assessment Tool															
<b>Reports</b>																
1. Inception Report	Inception Report															
2. Bi-Monthly Progress Reports	Progress Reports															
3. Final Impact Assessment Tools for WP 1, 2 and 3	Assessment Tool															
4. Final Technical Report	Technical Report															

## ANNEX 3: MISSION REPORTS

### **ENGAGEMENT PROGRESS REPORT**

#### **SECTION I: STAKEHOLDER ENGAGEMENT**

The NEXUS Consultancy Team organized a trip to set up meetings with key fisheries stakeholders in Barbados, Trinidad and Tobago and Grenada. The purpose of this trip was to meet with representatives of National Fisheries Departments, fishing industry and other relevant stakeholders involved in the fishery. The Consultancy Team prepared an interview guide (described below) to help guide the conversations and gather information on data collection, data management, fishery, fishing activities, markets, import / export, and socio- economic components (employment, livelihoods, etc.)

#### **Travel itinerary**

The following table describes the team's travel itinerary over the course of time travelling to the three countries.

<b>Date</b>	<b>Location</b>	<b>Activity</b>
<b>10 October 2017</b>	Halifax to Barbados	Travel Day
<b>11 October 2017</b>	Barbados	Meetings
<b>12 October 2017</b>	Barbados	Meetings
<b>13 October 2017</b>	Barbados	Meetings
<b>14 October 2017</b>	Barbados	Meetings / Research Day
<b>15 October 2017</b>	Barbados to Trinidad	Travel Day
<b>16 October 2017</b>	Trinidad	Meetings
<b>17 October 2017</b>	Trinidad	Meetings
<b>18 October 2017</b>	Trinidad and Tobago	Meetings and Travel
<b>19 October 2017</b>	Tobago	Meetings
<b>20 October 2017</b>	Tobago	Meetings
<b>21 October 2017</b>	Tobago to Grenada	Travel Day
<b>22 October 2017</b>	Grenada	Meetings / Research Day
<b>23 October 2017</b>	Grenada	Meetings
<b>24 October 2017</b>	Grenada	Meetings
<b>25 October 2017</b>	Grenada	Meetings
<b>26 October 2017</b>	Grenada to Halifax	Travel Day

## **Interview Guide**

The Consultancy Team used the following outline to guide the conversation held with key fisheries stakeholders.

- General introduction and discussion of project objectives.
- Review of data and information needs for project outcomes.
- Discuss matching project outcomes with Division work plans.

Discussions regarding data and information needs were guided by the following:

### **Data:**

- Number of harvesters / enterprises.
  - o Number of vessels.
  - o Annual landings (volume and value).
- Number of buyers / brokers
- Number of processors / facilities.
  - o Annual throughput
  - o Annual sales
  - o Employment

### **Markets**

1. How does the flyingfish fishery work?
  - (a) When does the season start and end?
  - (b) How many days per week do people fish?
  - (c) How many hours per day? From when to when?
  - (d) Who decides when the season starts/ends?
  - (e) How much is typically caught in a day/ month/ year?
    - (i) Most?
    - (ii) Least?
  - (f) Where does the fishery take place?
2. What dictates what is caught?
  - (a) Nature / opportunity
  - (b) Buyers / customers
  - (c) How does that work?
3. Describe the value chain from dockside to retail.
  - (a) To whom are fish sold and how? (large firms, small firms, wholesalers, exporters, retailers, direct to consumers, etc.)?
  - (b) What percentage goes to each?
  - (c) How much do fish currently sell for (per kilo)?
  - (d) Who decides the price?
  - (e) How much does price change from day to day, week to week, month to month?
  - (f) Where do fish go once bought?
    - (i) Processing
    - (ii) Direct to retail
    - (iii) Other

## SECTION II: BARBADOS

### Stakeholders

NEXUS Team members were able to meet with the following stakeholders shown in the table below.

Contact Name	Position	Organization
Christopher Parker	Fisheries Officer (Data)	Barbados Fisheries Division
Kyle Harris	General Manager	Morgan's Fish House
Stephen Willoughby	Acting Chief Fisheries Officer	Barbados Fisheries Division

Additional stakeholders that NEXUS reached out to include:

- Ocean Fisheries – Warren Industrial Park
- Kyle Harris, Morgan Fish House
- Sherlock King, Manager of Markets
- BARNUFO – Vernal Nichols, Small Scale Processor
- Dennis Lesley, vessel cost
- Jacob Fisheries
- James Inc.
- David Lanza, Trinidad Seafoods

### Summary

Information collected from the meetings held with stakeholders from Barbados have been organized into the following categories: data, fishery / value chain and livelihoods and are summarized below.

#### Data:

- Data is collected at primary landing sites (fish markets) but not at the smaller landing sites
- Maintain a vessel registration database
- Most data collection stopped with the introduction of FIRMS
- Fisheries Division collects landings per vessel per day
- Collect daily catch data at all landing sites
  - Officers at various landing sites record landings
  - No obligation for fishermen to report anything – Department is working on that -
    - Want to introduce a logbook
    - Electronic reporting is ideal
  - Want to develop a vessel monitoring system – monitor their location / movement

#### Fishery / Value Chain:

- The majority of flyingfish and other catch is landed by ice boats, at primary markets where they can access ice facilities
- Ice boats account for most of flyingfish landings
- Day boats do not carry ice onboard
  - This can greatly impact the quality of the fish, but fishermen get the same price

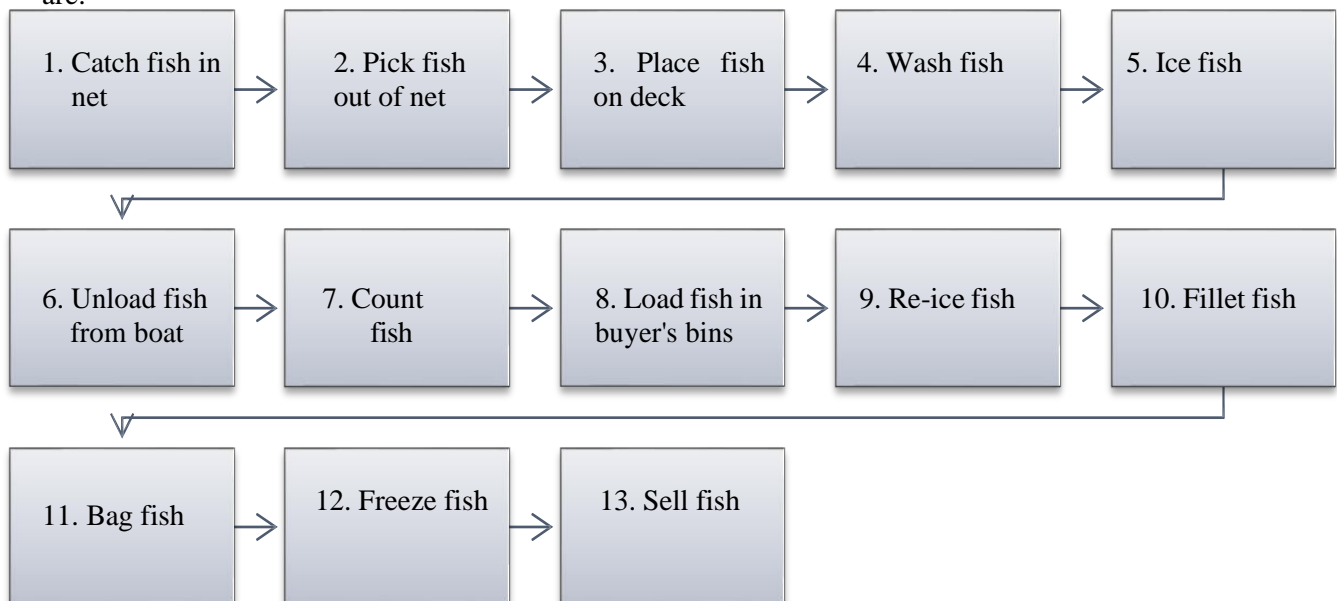
- Fillets can be sold from \$0.60 up to \$3.00 (Bdos)
  - Depending on market (rum shop vs. hotel vs. export)
  - Price is currently high due to low catches
- Theory is that poor landings are due to influx of sargassum (seaweed) in the region
  - Not necessarily that there are fewer fish, but they tend to stay under the sargassum making it impossible to catch them
- When fishermen land at a primary landing site, they must report their landings to a market representative so that a toll can be calculated.
  - Markets are the primary landing sites, there is minimal processing before direct sales to consumers.
  - Toll is levied as a fee based on landings which is used to cover maintenance and operation of costs of the facility (but actually goes into general government revenues).
  - The Department calculated toll to be roughly 15% of landed value, which seemed quite high (possible livelihood enhancement factor)
- The Department record majority of fish being landed, and infrequent surveys are conducted to try and estimate leakage (IUU).

#### Livelihoods:

- Fish Plant:
  - Morgan's Fish House operates from a new facility that was designed and outfitted for the sole purpose of processing fish and manufacturing fish products
  - Workers are paid per fish filleted:
    - 18 - 21 cents to bone flyingfish
    - 6 - 800 fish cut per day per person
    - \$108 min - \$168 max
  - Flyingfish small percentage of overall annual production is flyingfish
    - Bought 300,000 fish this year
    - Bought 1.8 million previous year

#### Key Findings

The General Manager of Morgan's Fish House described the 13 steps in the processing of flyingfish. They are:



The Department's approach to management is based on the need to protect the assets that fishermen bring into industry:

- Resource (fish) – must ensure it's protected;
- Physical assets (boats, infrastructure) – take care of and improve these;
- Social (relationships) – between fisheries managers and fishermen;
- Human – training, skills to develop and share, local knowledge; and
- Finance – improve access to financing and encourage savings and investment.

### **SECTION III: TRINIDAD AND TOBAGO**

#### **Stakeholders**

NEXUS Team members were able to meet with the following stakeholders listed in the table below.

<b>Contact Name</b>	<b>Position</b>	<b>Organization</b>
<b>Carlyle Jordan</b>	Advisor to the Secretary of Fisheries	Tobago Food Production Forestry and Fisheries
<b>Esther Tobias-Clarke</b>	Fisheries Officer	Tobago Food Production Forestry and Fisheries
<b>Roy Jacob</b>	Owner	Jacob Fishing Enterprise Tobago
<b>Elizabeth Mohammed</b>	Fisheries Officer	Trinidad Fisheries Division

Additional stakeholders that NEXUS reached out to include:

- Department of Maritime Resources and Fisheries;
- Garth Ottley, Chief Fisheries Officer;
- Yates Processing Plant;
- Southwest Tobago Association – flyingfish
- Claudette Niro, Comston Seafood
- Terrence Holmes, Extension Officer
- Earle Nichol
- Loxley Jack, Director of Marketing Department
- Junior Quashie, All Tobago Fisherfolk Association

#### **Summary**

Stakeholder feedback from the meetings held in Trinidad and Tobago have been organized into the following categories: data, fishery / value chain and livelihoods. The following summarization is based on the limited discussions held.

#### **Data:**

- 1980s officers collected flyingfish data at each of the three major landing beaches – processed in Excel
- Department collects data on:
  - Gear data
  - Whether FADs are used

- Catch (volume)
- Species
- General data collection sheet includes:
  - Area caught
  - Date
  - Species
  - Price at landing site
- Data Chain
  - Fishers do not require license to operate so there is no requirement to report / collect data
  - Catch is brought in
  - Collectors go out in the evening and collect fish or call fisher and get it later
  - Processors / buyers not obliged to report on what fish is purchased
  - All data has to be generated by the Fisheries Department itself
- Fishermen are receptive / willing to collect data
  - Not much resistance
  - Fishermen are cautious because of taxes
- Tobago – data collection officers collect data on fishermen, fish landings, boats
  - Data captured on flyingfish has not been analyzed – in raw form

#### Fishery / Value Chain:

- Generally, fishers sell fish directly to the public on the beach, but bulk of the fish is purchased by processors
- Tobago – no designated landing sites
- All value added goes to the processor not fishermen
- Five processing facilities have close over the past decade
- General lack of supply of flyingfish
- The product that is supplied is of poor quality due to dayboat (no ice) fishing or improper handling techniques
- Lack of skill employees to process flyingfish in plants
- Fishers often take fish from market and sell on roadside – more familiar way for Tobagans to buy fish
- In Tobago there are 39 fish landing sites
- Tobago fishing enterprise identified fish meal being a value-added product
- The price for flyingfish is determined by Barbados price for flyingfish

#### Livelihoods:

- Income diversification
  - Fishers also might be involved in agriculture, government job
- Young people are interested in fishing but are getting selective about which species to fish
  - Fishing is considered employer of last resort
  - Fishery is open access – everyone has a constitutional right to fish
- Socio-economic status of fishers – wide range
  - “Poverty at the small scale”
  - “Millionaires at the large scale”
- Sustainable livelihood means diversification
  - Need ability to fish multiple species
- Fishing is socially and economically important to Tobago
  - Flyingfish in particular is culturally important to Tobago



- There are 1500 to 2000 people (registered) working in the fishery
- Good livelihood for people if resource is available but needs to be managed properly
  - Work with exporters to manage fishery

### **Key Findings**

One of the issues identified during interviews is a general lack of expertise to interpret and analyze the data that is collected. It was noted that the relationship between Fisheries Officers and fisherfolk is not positive. This is a result of fishers historically not wanting to report or provide data in fear that they may be taxed. This fear is slowly changing.

Interviewees recognized the inconsistencies of how data is collected and managed within the Fisheries Division. Firstly, the data that is collected is not properly tracked and stored. It often comes in paper form and is not processed or analyzed. Secondly, the Fisheries Division does not use a standardized computer model for processing/analyzing data and does not have any in-house expertise capable of handling the data that is collected. Finally, the Fisheries Division in Tobago has little direct linkage to Trinidad, identifying that there is a need for integration and support between the two.

Owner of local fishing enterprise stated that they stopped processing flyingfish in 2012 due to lack of supply. They noted that the size and distribution of flyingfish is decreasing.

## **SECTION IV: GRENADA**

### **Stakeholders**

NEXUS Team members were able to meet with the following stakeholders shown in the table below.

<b>Contact Name</b>	<b>Position</b>	<b>Organization</b>
<b>Crafton Isaac</b>	Chief Fisheries Officer	Grenada Fisheries Division
<b>Unknown</b>	Longline Fisherman	Grenada
<b>Melvin Bernard</b>	Tuna Fisherman/ Boat Owner	Grenada
<b>Norbert</b>	Owner	Nordem Seafoods (Processing), Grenada
<b>Johnny</b>	Manager	Southern Fishermen's Association, Grenada

Additional stakeholders that NEXUS reached out to include:

- James Ince, Spice Isle Fish House Group

### **Summary**

Stakeholder feedback from the meetings held in Grenada have been organized into the following categories: data, fishery / value chain and livelihoods. These are summarized below.

### Data:

- The Fisheries Division used to employ data managers (wrote software to monitor fishery)
  - There are no data collectors due to lack of funding to support personnel
- Fisheries Division has no way of calculating abundance of flyingfish due to lack of data
- Fishermen think “reporting catch is a waste of time”

### Fishery / Value Chain:

- Lack of national level support and investment in fishery
  - Lack of economic / political value
- Flyingfish fishery is seen as a supporting fishery to the longline fishery
  - Flyingfish is not a primary food source in Grenada
  - Also declining in importance as a bait fish
- Fishermen note that the size and distribution of flyingfish is changing
  - One interviewee recently observed a large school of flyingfish off of Puerto Rico - had not previously seen them that far north
- Tuna attracted to flyingfish
  - When flyingfish is not available fishermen import squid and herring
- Fishermen don't ship fish to export markets directly.
  - Processors that meet export requirements are only ones that can export.
- Grenada Southern Fishermen's Association
  - Exports are Yellow fin tuna, snapper to the United States and Canada and are viewing the UK as a potential destination.
    - 500,000 lbs. of yellow fin per year.
    - Export everything that makes grade.
    - Buy for \$3 USD / lb.
    - Sell for \$7 USD / lb.
  - Serve the local marketplace with Fresh, Frozen, Salted Fish, Smoked Fish,
    - Packaged Flyingfish filet that are sold to Hotels, Restaurants, Supermarkets and Shops.
    - Now in the process of introducing a bacon substitute made from smoke fish as an addition to the already mentioned list of activities.
  - They import bait (sardines?) to catch flyingfish to use as bait in tuna

### Livelihoods:

- Fishers aren't presently targeting flyingfish but want the right to have access in case the opportunity arises
- Substantial small-scale fisheries that target pelagics
- Fulltime fishing – earning 80% of income from fishing. Fishery supports:
  - 3,000 persons directly – all fleets.
  - 270 longliners.
    - Class 1 – small boat modified locally, light reel, 50-150 hooks.
    - Class 2 – pirogues with small cabin, fibreglass, two outboards, locally built.
    - Class 3 – deep sea, 7 days to two weeks, inboard engines, 50-60 feet.
  - Plus cleaning, vendors, gear suppliers, fuel, boat builders.
  - 3 main processors for export.
    - Plus salting, small scale.
    - Processing sometimes done by extended family of fishermen.
  - 4 major boat builders

- Few smaller boat builders.
- 12 in total.
- Fishermen want fish handling course
  - Better quality, more revenue per fish.
  - One boat brought 90 tuna in, only 10 passed export / buyer inspection.
  - With proper handling – 34 / 36 passed once
- Local Fish Exporter forced to shut down operations since they were losing money due to poor quality (handling) of tuna
  - Tuna caught were not passing quality standards of buyers / export markets.
  - Government should be helping out on quality because they have a big stake in industry.
    - Employment, export revenue / foreign currency, political, social.
  - Employed 21 people fulltime, year-round.
    - Used to have 14 women boning FF alone.
    - Had to stop because couldn't get fishermen to catch FF.
    - Had to scale down to 5 due to quality problems.
- Bait in the tuna / dolphin fishery is a major problem.
  - Flyingfish and jacks used for bait being depleted and “no one is keeping track / taking stock”.
  - Nordem has a bait program (imported) planned but no money to execute.
  - One problem is net mesh size – too small so catching young fish.
  - Jacks are depleted and also getting too small.
  - Used to use straw and another flotsam to attract and catch FF.
    - Catch the fish and the eggs stay on flotsam.
  - Now, use small mesh nets to catch fish.
    - Eggs stay on nets and dry up and die on beach.

### **Key Findings**

The Consultancy Team had the opportunity to speak to local longline and tuna fishermen who described their use of flyingfish. Typically, they would catch 400 to 500 flyingfish daily to use as bait. They described that they do not sell flyingfish, they only catch it to use as bait for other pelagic species. They noted that flyingfish tend to be the most plentiful in May and June.

Interviewees described the gear that they use to catch flyingfish. Ten years ago, the government regulated the mesh size of the nets used to catch flyingfish. The fishermen described how they used to catch 50-90 grains of flyingfish with that mesh size and now they catch 10 or none at all. Other stakeholders in the industry believe that the mesh size is too small so young juvenile fish are being caught and not able to mature and reproduce. These stakeholders want the government to intervene and regulate mesh size and minimum fish size to catch.

The fishermen noted that there are no current requirements to report catch. One interviewee said he couldn't see the point of this and thinks of it as a waste of time. This inconsistency in stakeholder opinion further demonstrates some of the barriers for accurately assessing the current status of the fishery.

### **SECTION V: OVERVIEW**

During the course of the interviews held with fisheries stakeholders the Consultancy Team noted a number of key findings that need to be considered.

- Focusing on data collection in one species does not have real value compared to an overall data collection program.

- Flyingfish data collection cannot be separated from other species. This creates potential political / economic / social issues.
- Data are not currently being collected in all places, not readily available, not processed/analyzed, not tracked.
  - No data on fishery biology (abundance, distribution, etc.), fishery (number of fishers, number of vessels, catch, etc.), economics (exports, percentage of market, market price, etc.), socio-economics (demographics, employment, gender roles, etc.)
- Lack of uniformity / consistency in contacting representatives in Fisheries Departments
  - Personal email addresses instead of department email addresses
- Regional data sharing is difficult
  - Not all fishery staff are in favor of sharing – issues of national political will
- Sustainability Issue (Grenada as example)
  - Spending money to buy bait to catch flyingfish that is then used as bait to catch larger pelagics is not economically or environmentally efficient.

## **ENGAGEMENT PROGRESS REPORT #2**

### **SECTION I: STAKEHOLDER ENGAGEMENT**

The NEXUS Consultancy Team organized a trip to meet with key fisheries stakeholders in Barbados, Trinidad and Tobago and Grenada. The purpose of this trip was to meet with representatives of National Fisheries Departments, fishing industry (including harvesters, processors, vendors, etc.) and other relevant stakeholders involved in the fishery. Additionally, the purpose of the trip was to conduct surveys to obtain stakeholder feedback and information on gender issues related to the fishery, data collection, livelihoods, fishing practices and more. The Consultancy Team prepared two surveys that would be distributed during their trip referred as the Gender Survey and Livelihoods Survey.

#### **Travel Itinerary**

The following table describes the team's travel itinerary over the course of time travelling to two of the three countries. Unfortunately, the project team was not able to visit all three countries during this trip due to the availability of Fisheries Division staff.

<b>Date</b>	<b>Location</b>	<b>Activity</b>
<b>28 July 2018</b>	Halifax to Grenada	Travel Day
<b>29 July 2018</b>	Grenada	Planning Day
<b>30 July 2018</b>	Grenada	Meetings with Fisheries Division
<b>31 July 2018</b>	Grenada	Meetings with Fisheries Division
<b>1 August 2018</b>	Grenada	Research Day
<b>2 August 2018</b>	Grenada	Conduct Surveys
<b>3 August 2018</b>	Grenada	Conduct Surveys
<b>4 August 2018</b>	Grenada to Barbados	Travel Day
<b>5 August 2018</b>	Barbados	Planning Day
<b>6 August 2018</b>	Barbados	Research Day
<b>7 August 2018</b>	Barbados	Meeting with Fisheries Division
<b>8 August 2018</b>	Barbados	Meeting with Fisheries Division and Conduct Surveys
<b>9 August 2018</b>	Barbados	Conduct Surveys
<b>10 August 2018</b>	Barbados	Conduct Surveys and Meeting with Fisheries Division

Date	Location	Activity
11 August 2018	Barbados to Halifax	Travel Day

## SECTION II: SURVEY DESIGN

The Consultancy Team used the following surveys to gather information from relevant stakeholders within the fishing industry including harvesters, vendors, processors, sellers, and buyers.

### Gender Survey

1. What is your gender?
2. What area of the fishery are you involved in?
3. What are the traditional male roles in the fishery?
4. What are the traditional female roles in the fishery?
5. How are male youth involved in the fishery?
6. How are female youth involved in the fishery?
7. What do men own related to the fishery?
8. What do women own related to the fishery?
9. Who makes the decisions in each of the following categories (regulatory management, business management, where and when to fish, processing fish and selling fish)?
10. How are most of the decisions made in each of these categories? (By the government, as a group / committee, as a business, as a family or individually).
11. Who are the primary beneficiaries of these decisions? (Men, women, or both)
12. In your opinion, are current fishery policies / regulations gender blind, gender aware, gender neutral or unsure?
13. Do you think gender roles in the fishery are changing, remaining constant but need to change or remaining constant without need to change?
14. What barriers do you think there are preventing gender diversity in the fishery?
15. What opportunities are there to increase gender equity in the fishery?
16. What should we do to make sure everyone is able to benefit from the fishery?

### Livelihoods Survey

#### Fishers:

1. What is your primary reason for fishing flyingfish?
2. Are you a vessel owner?
3. If no, are you directly employed by the vessel owner?
4. If not, do you lease the vessel from the vessel owner?
5. Do you need to have a license to fish?
6. If yes, do you have a license?
7. What are the conditions of having a license? If any?
8. If no, does the captain have the license?
9. Do you think there should be licenses for the flyingfish fishery?
10. How many hours do you fish per trip?
11. How many trips do you fish per week?
12. How many months per year do you fish?
13. Which part of the island do you fish?
14. What species of fish do you catch?

15. What type of gear do you use to fish?
16. How much flyingfish do you typically catch per trip?
17. How much do you sell your flyingfish catch for at the market?
18. How much do you earn fishing (either per day / per week / per month / per year)?
19. What portion of your income comes from selling flyingfish?
20. How much does it cost you (fuel, labour, supplies) to fish per day?
21. Does the sale of your catch cover all your costs to fish?
22. If no, how do you cover your costs?
23. Do you hire helpers?
24. If yes, how much do you pay them per day?
25. Do you have another job?
26. What portion of your total income (from all jobs) comes from fishing?
27. Do you use flyingfish for bait?
28. If you buy flyingfish for bait, how much do you spend on it?
29. If you aren't able to catch flyingfish for bait, how much would you have to pay for it?
30. What are your major challenges for catching flyingfish?
31. Do you like your job?
32. If yes, what is the best part of the job?
33. If no, why not? Buyer:
  - (a) How many days per week do you buy / sell flyingfish?
  - (b) How many weeks per year do you sell flyingfish?
  - (c) How much do you buy flyingfish for?
  - (d) How much flyingfish do you buy?
  - (e) How much do you earn buying / selling flyingfish?
  - (f) How much does it cost you to be a buyer / seller?
  - (g) Who do you sell flyingfish to?
  - (h) How much does it cost to be a buyer / seller?

Processor:

1. How much do you buy flyingfish for?
2. What percentage of flyingfish do you value added process?
3. How much flyingfish do you buy?
4. Who do you sell flyingfish to?
5. How much do you sell flyingfish for?
6. How much flyingfish do you export?
7. Where do you export flyingfish to?
8. What percentage of your annual revenue comes from selling flyingfish products?
9. How many people work in your plant?
10. How many people work with flyingfish?
11. How much are plant worker paid?

Cleaner:

1. How much do you get paid to clean flyingfish?
2. How often do you clean flyingfish per week?
3. How many months a year would you clean flyingfish?
4. Do you clean other fish besides flyingfish?
5. If yes, what species?
6. How old were you when you learned to clean flyingfish?
7. Who taught you to clean flyingfish?

8. Do you have another job?
9. If yes, what percentage of your income comes from being a cleaner?

Consumer:

1. Where do you buy your flyingfish?
2. Do you prefer to buy flyingfish whole to prepare yourself or buy it cleaned?
3. If you buy it whole, do you pay to have it cleaned or clean it yourself?
4. If you pay to have it cleaned, how much do you pay?
5. How often do you buy flyingfish per month?
6. How often do you go to buy flyingfish and aren't able to get it?
7. How much do you usually pay to buy flyingfish?
8. How much are you willing to pay to buy flyingfish?

### **SECTION III: MEETINGS AND SURVEY IMPLEMENTATION**

The following is a summary of the meetings that were held with Fisheries Division staff and key stakeholder groups within the fishery, including harvesters, processors, vendors, consumers, and buyers. In addition to the meetings, a total of 32 livelihood and 21 gender surveys were completed in person.

Grenada Fisheries Division Meeting Notes:

- Fishermen do not provide catch data – only landings data
- Data is compiled by fisheries staff at landings site – not all data is collected
- Vessels are registered once – inspected annually
- The vessel is licensed annual to fish, not the individual fishermen
- Same rules regardless of vessel size
- Law says there must be two people on the vessel at all times
- There is no fine for fishing without a license or for only having one person on a vessel
- There is no national logbook
- Market Staff collect data sheets which are handwritten
- Discrepancies due to handwriting
- Issues – people use same numbers when the fishery staff know that this is not the case
- Fishermen set the price
- The data collector/ market staff fill in a weekly log
- No tracking of harvester data after initial data entry
- All data is kept in excel documents
- Interest in establishing a database to link data vessel registry to landings
- All annual summary data numbers are inflated by 1.4 or 1.75 percent to account for underreporting

Fisheries Cooperation Meeting Notes:

- Co-op stores imported bait to use when flyingfish / jacks are not available
- \$5 - \$10,000 per month income per boat on average
  - ½ of earnings goes to boat
  - Rest is shared among the crew
- Bait is roughly \$80 per case (25 lbs.)
  - Use an average of \$800 to \$900 of bait per trip
- Noted that it has been about 2 years since they saw flyingfish in area



## Barbados Fisheries Division Meeting Notes

- Questions posed:
  - How do we track fish from boat to processor?
  - Idea being discussed was card swipe by fisher at weigh station.
- Need to update database to include multiple databases. Management plan must deal with how fishermen deal with natural assets (fish), physical assets (boats/gear), human assets (skills / training), social assets and knowledge assets
- Reporting catch based on compliance promotion not enforcement

## **TRAINING COURSE UPDATE REPORT**

### **1. Report Status**

As part of the Technical Support to Facilitate Long-term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fisheries project it was intended that training would be provided in capacity building courses during the implementation of business activity proposals.

Due to the reallocation of project funds to cover additional travel for data collection and costs of Member State participation at the Regional Fisheries Forum combined with the limited scope of new business activities, it was determined that the implementation of business activity proposals and associated training deliverable would no longer be required from NEXUS.

NEXUS has however provided a portfolio of past and current training courses available for the fisheries sector to support continued training in the flyingfish fishery.

This update is provided for clarity for audit purposes.

## **BUSINESS PROPOSAL UPDATE REPORT**

### **1. REPORT STATUS**

As part of the Technical Support to Facilitate Long-term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fisheries project NEXUS provided a report on business activity proposals. In light of the current state of the flyingfish fishery it was noted that there is limited prospect for significant investment in new business opportunities. However, it was noted that privatization of some aspects of fisheries management process, particularly related to monitoring and data collection, could provide scope for new businesses.

Due to the reallocation of the project funds to cover additional travel for data collection and costs of Member State participation at the Regional Fisheries Forum combined with the limited scope of new business activities, it was determined that this deliverable would be no longer required from NEXUS.

This update is provided for clarity for audit purposes.

## **ANNEX 4: CONSULTANCY DELIVERABLES**

### **VARIABLE IMPACTS ASSESSMENT REPORT: FLYINGFISH FISHERY**

This Report has been published separately as CRFM Technical & Advisory Document Number 2019 / 06.

### **VALUE CHAIN REPORT: FLYINGFISH FISHERY**

This Report has been published separately as CRFM Technical & Advisory Document Number 2019 / 04.

## **SUB-REGIONAL FMP RECOMMENDATIONS REPORT (SUMMARY)**

### **1. REPORT STATUS**

As a result of multiple projects involving modification and recommendations to the Sub-Regional Fishery Management Plan (ECFF-FMP) for the Eastern Caribbean Flyingfish Fishery it was concluded that it would be advantageous for all inputs to be consolidated into a single report. Thus, the recommendations for the Sub-Regional FMP were completed and provided to CRFM via project partners Blue Earth Consulting (ERG). This report provides a summary of the information prepared by NEXUS Coastal Resource Management Ltd. (NEXUS) and ERG presented in the Eastern Caribbean Flyingfish Fisheries Management Plan 2020-2025.

This separate document is provided for completeness in NEXUS' project deliverables.

### **2. OVERVIEW**

The general management objectives underlying the ECFF-FMP have not changed since the previous 2014 version. The general objectives represent the basic pillars of an ecosystem approach to fisheries management: (a) sustained flyingfish resources (biological objective), (b) optimal use of the flyingfish resource for long-term benefits (socio-economic objective) and (c) sustained ecosystem health (ecological objective). These actions should, whenever possible, consider the precautionary approach to fisheries management and co- management strategies. Additional consideration should also be given to other management controls to not exclude them from the management plan.

The 2019 Draft ECFF-FMP acknowledges the importance of social and economic aspects of the fishery, however, does not address these factors from a culturally relevant livelihood perspective. Employment differs from a livelihood in that a livelihood refers to any and all means of securing the necessities (food, water, shelter and clothing) of life. Employment may be part of a livelihood<sup>1</sup>. A livelihood is made up of the capabilities, activities and assets (including both material and social resources) that contribute to a means of living<sup>2</sup>. Given these considerations, the 2019 ECFF-FMP should include the following:

- Social benefits and economic benefits are addressed as separate and distinct aspects of the fishery in the ECFF-FMP. This can undermine a livelihood approach to fisheries management. Sustainable livelihoods can be protected through training and diversification of the fisher's income activities to enable multi-species harvesting and increase participation in multi-sectoral activities (such as, tourism, data collection, marketing, value added processing, etc.).
- While the ECFF-FMP deals with the social status and well-being of fishers as an important factor and makes note of the relatively high poverty of fishing families, it does not link biophysical capacity of the fishery with livelihood strategies. The ECFF-FMP should address poverty alleviation in fishing families through a sustainable livelihood strategy, which integrates biological, social, and economic considerations to create income diversification and not just address income based on employment in the capture fishery alone. This should involve:
  - Development and harmonization of the elements of national flyingfish value chains across the region so there is a common approach to the harvest and use of flyingfish.
  - Investigating ways to enhance returns to harvesters through quality management and training programs.

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<sup>1</sup> Beaufort Regional Environment Assessment Cumulative Effects Framework, 2015

<sup>2</sup> [https://mrag.co.uk/sites/default/files/fmspdocs/fmspbrief4\\_livelihoods.pdf](https://mrag.co.uk/sites/default/files/fmspdocs/fmspbrief4_livelihoods.pdf)

- Promoting regional collaboration which builds on the positive experiences in each Member State and to share these experiences with others (such as leveraging the skill and experience of the flyingfish fishery in Barbados to build capacity in other countries about process and marketing flyingfish).
- Investing in training to improve efficiency at every level of the value chain.
- Promoting and supporting business diversification through use of fishers' organizations and private sector companies in fisheries management activities, such as dockside monitoring, electronic monitoring, value added branding, administration of fisher organizations, etc.
- Supporting income diversification through the collection and processing of data critical to value chain analysis at every step across the value chain to ensure relevant and up-to-date information is available to support decision-making regarding investment in job creation activities.
- Similarly, ensuring landing site tolls collected from flyingfish harvesters is re-invested in market infrastructure and training that increases the efficiency and effectiveness of the market element of the value chain.
- Promoting intergenerational transfer of livelihoods through training and promoting ocean literacy amongst all demographics.
- Protecting climate resiliency of the flyingfish fishery through enhancement of flyingfish value chain into broader regional policy development and planning around climate change adaptation and the Blue Economy.

Continued involvement of national focal points in the local stakeholder consultative process will strengthen Member States' work to implement the ECFF-FMP. This should consider enhancements to the livelihood aspects of the plan before it is submitted to the Ministerial Council for endorsement at the WECAFC level. National focal points should make special reference to the livelihood aspects of the plan when it is provided to local stakeholders for their feedback.

Furthermore, recommendations were offered regarding the general approach to updating the ECFF-FMP. These included:

1. The ECFF-FMP should be structured as a "go-to" document where managers, fishers, and other persons interested or involved in the fishery can easily find the management objectives (including social, economic and livelihood objectives), rules, regulations and status of the flyingfish fishery.
2. That Fisheries Divisions should be augmented and strengthened so that they have the necessary capacity to undertake social and economic research and data collection as set out in the management plan.
3. The fiscal realities of the Member States, capacity within Fisheries Divisions and the trends in fisheries (resulting from economic and climate impacts) should be factors in reviewing and updating the ECFF-FMP.
4. The ECFF-FMP should be structured to clearly identify the objectives (social and economic policy and priorities) are at the onset and that the primary focus of the document should be the management process and not biophysical state of the fishery.

### **3. CLOSING**

It is clear that the efforts to update the ECFF-FMP is an ongoing process. The current iteration as presented by ERG / NEXUS is a benchmark in the advancement of a coherent management plan for the Eastern Caribbean flyingfish fishery. As a result, it is important that Member States continue to collaborate with

the CRFM to maintain an ongoing review process that will ultimately support the sustainable utilization of the resource and promotion of sustainable economies.

## **STRATEGY FOR INFORMATION PRODUCTS**

### **SECTION I: DOCUMENT OVERVIEW**

The purpose of the Information Products Strategy is to help facilitate awareness building among stakeholders of the associated benefits of the value chain analysis of the flyingfish fishery in the Eastern Caribbean. This strategy will target stakeholder groups along the value chain in Barbados, Trinidad and Tobago and Grenada.

This document divides the strategy into two key sections. They are:

#### **1. Information Products**

This section provides an overview of various types of information products that can be used for the purposes of this project.

#### **2. Implementation Strategy**

This section describes the strategy for distributing the information products in each of the targeted countries. Each country may require a different approach, based on their needs or use of area.

### **SECTION II: INFORMATION PRODUCTS**

This strategy is built upon the principles of adaptability and flexibility to ensure effective communication with all audiences and circumstances. Accordingly, Fisheries Division should employ multiple information products and dissemination tools for this project and in follow up work. These include:

- Infographics and public newsletter and Bulletins
- Reports
- Webinar
- Social media

Each of these tools are described in greater detail in the sub-sections below.

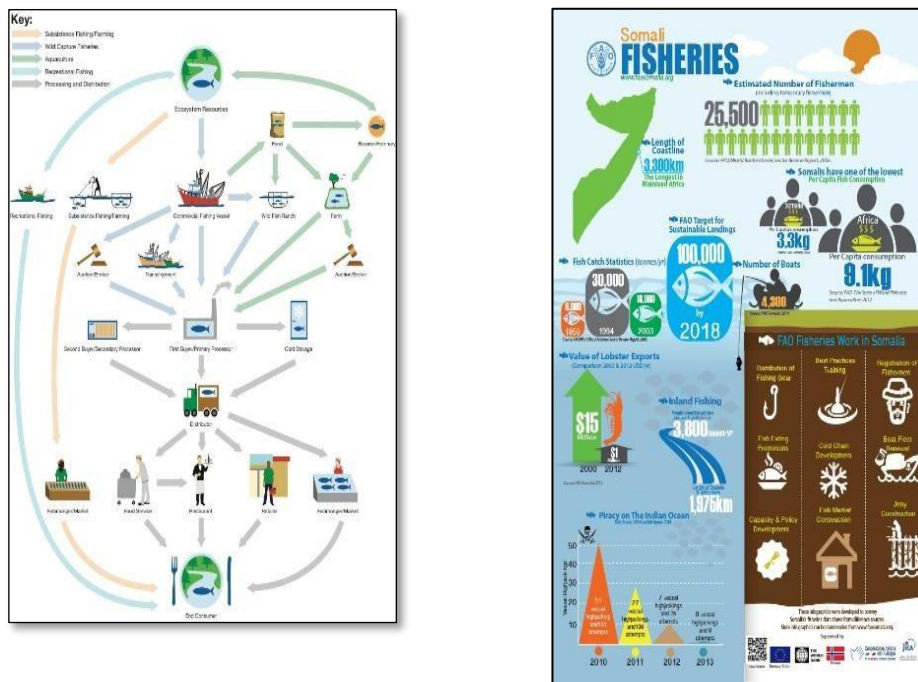
In order to ensure success, it is essential that attention be paid to selecting the most appropriate information product for each targeted stakeholder group. Not all tools will be effective for every group. Therefore, consideration should be made to match the purpose of engagement, nature of the stakeholder group, and nature of the information product to determine which products best match the situation.



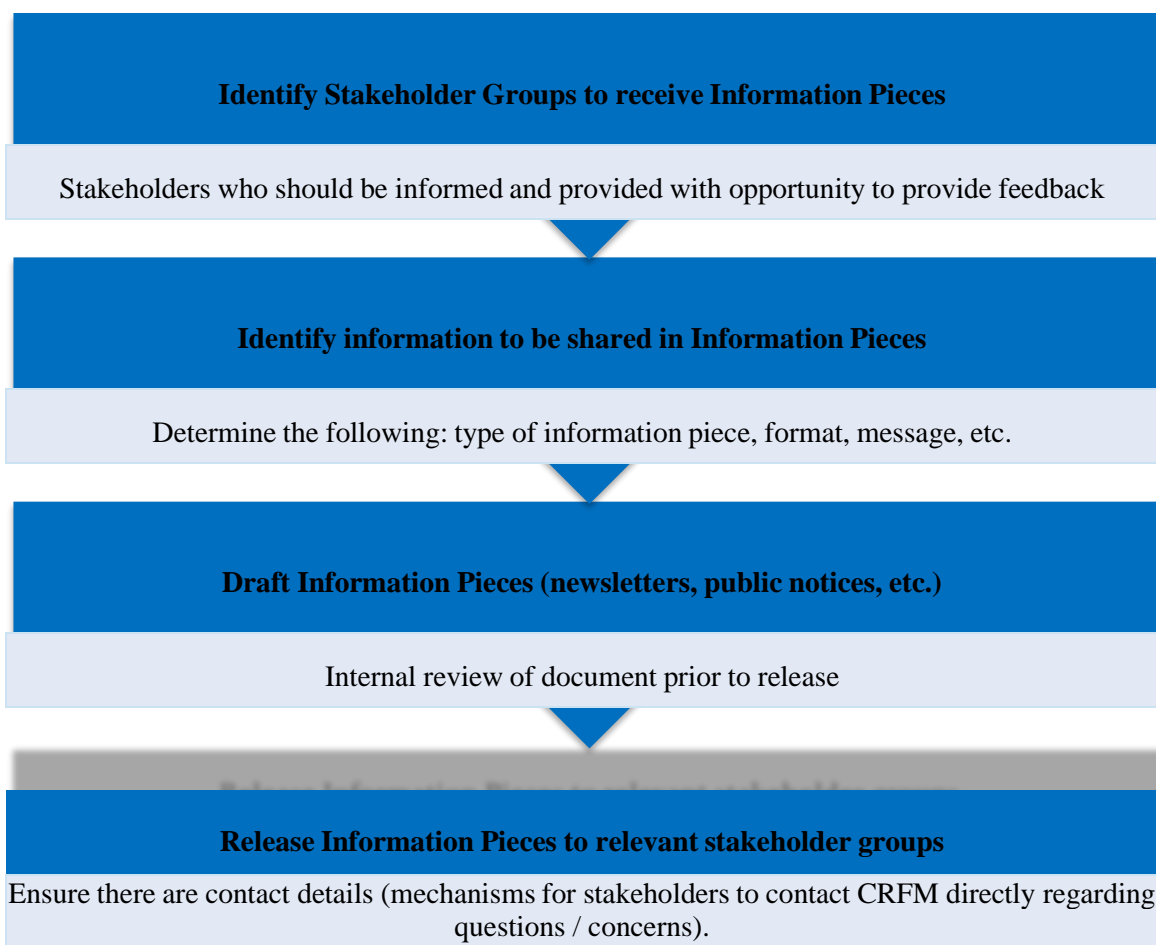
## INFOGRAPHICS IN PUBLIC INFORMATION PRODUCTS

Infographics are effective tools to engage and share information with stakeholders through the use of graphic visual representations of information, data or knowledge. The format of infographics is intended to share and present information quickly and clearly. Through the utilization of graphics, the information is presented in a way that enhances the human visual system's ability to see pattern and trends. This is extremely useful when depicting information about a value chain and linkages between users along that chain.

The following images provide examples of the types of infographics that can be produced to create awareness building among stakeholders. It is important to note that the infographics produced for this project will be based on the results of the value chain analysis and other research gathered.



The infographics, with additional information, can be presented through public information products (notices, posters, newsletters, brochures etc.), which are an effective means to inform the general public. Materials should be crafted to include appropriate language and terminology specific to the stakeholder audience, with appropriate graphics and illustrations. These materials can be targeted through distribution via inclusion in stakeholder group newsletters, mailing lists or targeted emails. The following illustration provides the four key steps in engaging stakeholders through information materials.



## REPORTS

To support the information products (i.e. infographics) it may be useful to develop additional more comprehensive reports. A report, being a more traditional paper-based platform, is an effective means of relaying information regarding a certain topic or event in a way that is concise, factual and relevant to the target audience. Due to the technical nature of the topic of value chain analysis, reports (i.e. summary reports, reports focusing on one aspect of the supply chain, etc.) can be a very effective way of communicating the material to the target audience.

## WEBINAR

Preparing a webinar for interested stakeholders may be an effective means of continuing the awareness building process around value chains. Webinars are likely a useful tool for follow up work after the lifespan of this project.

This online platform turns a presentation into a real-time conversation, which would allow CRFM/ the Consultancy Team to engage with multiple stakeholders spread throughout the region. In order to implement an effective and engaging webinar it is important to consider the following<sup>3</sup>.

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<sup>3</sup> LogMeln Inc. (2018). <https://www.gotomeeting.com/webinar/what-is-a-webinar>



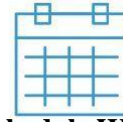
### **Set a Clear Objective**

You'll be more successful if you have a clear goal in mind. What are you trying to accomplish?



### **Understand Audience**

What are your attendees' pain points? What topics might resonate with them? Use those insights towards developing your webinar.



### **Schedule Webinar**

Determine the best day and time to host a webinar to reach as many stakeholders as possible.



### **Promote Your Webinar**

Use email, social channels and your own network to get the word out.



### **Build Presentation**

Give your audience bite-size learnings they can apply.



### **Rehearse**

Make sure you practice your delivery as well as test your technical setup.

It is important to understand the limitation of webinars as this is an online seminar platform it requires access to a reliable internet source. This may limit your target audience as some stakeholders may not have access or a computer or the internet.

## **SOCIAL MEDIA**

Social media such as Facebook, WhatsApp, Twitter and Instagram can facilitate the creation and sharing of information, ideas, and other forms of expression via virtual communities and networks. Despite recent attention of the security of personal information with some social media platforms, they remain a useful form of public communication and interaction through applications.



Much like webinars, social media provides a means for Fishery Divisions to share, co-create, discuss and modify information on Value Chains with stakeholders through web-based technologies such as desktop or lap top computers, tablets and cell phones. This real-time interaction between the Fishery Division and stakeholders can greatly increase the reach, frequency, interactivity, usability, immediacy and permanence of the engagement process. It is a particularly useful communication tool to reach for youth and adolescents who have grown up in a much more technology-based society.

It is important to understand the limitations of this platform, elderly audiences may not be as comfortable or familiar with this type of communication. Similar to the webinar platform it does require the user to have access to a computer or phone that has internet connect. As a result, this could limit the target audience for these information materials.

### SECTION III: IMPLEMENTATION STRATEGY

The NEXUS Team will prepare information products for distribution among stakeholders in consultation with the Member State Fishery Divisions and based on the information gathered and the results of the value chain analysis. A key feature of these products will be use of infographics, designed to depict the flyingfish fishery value chain, illustrating all the chain links from harvest to consumer. The objective of illustrating each component of the value chain is so that stakeholders have a better understanding of the supply chain and how decisions at each level can impact not only the direct link but stakeholders further ‘up’ or ‘down’ the supply chain.



*Sample Infographic*

Additionally, the infographic will include information to illustrate the process involved for producing low quality flyingfish products (i.e. bait) and high quality flyingfish products (i.e. flyingfish for food). The purpose of this is to illustrate each of the streams as well as the measures a stakeholder group could take to move from the low-quality stream to the high-quality stream. This can help educate stakeholders so they can have a better understanding of the ways they can increase their productivity or increase their opportunity to create more revenue.

It will be important to ensure that each infographic is customized to reflect the value chain in each of the targeted countries. Each of the countries involved in this project use flyingfish for different purposes, which impacts the value chain analysis. Prior to release NEXUS will share the draft information products with each Member State Fisheries Department so they may provide feedback on the information and format of the materials. Once final approval is received NEXUS will coordinate with Fisheries Department Staff in each of the targeted countries to distribute the materials through the agreed upon platform (i.e. newsletter, poster, bulletin, etc.)

## **TRAINING MATERIALS**

### **1. OVERVIEW**

It has been noted that there is limited scope for business development for the use and marketing of flyingfish catch due to the current state of the resource and its habitat, there is limited scope for new enterprise development that supports the flyingfish fishery management. These opportunities are increased when other fishery resource sectors are included.

To support business development the CRFM has commissioned the development of training materials related to the identified business opportunities, specifically the enhancement of fisher organizations and implementation dockside monitoring.

The following provides basic curriculum and course outlines for:

1. Fisher Organizations Training Materials
  - (a) Module 1: Organization Management
  - (b) Module 2: Data Collection
2. Dockside Monitoring Training Materials
  - (a) Module 1: Dockside Monitoring

### **2. FISHER ORGANIZATION TRAINING MATERIALS**

#### **2.1 Course Description**

The success of Fisher Organizations is related to the institutional capacities for governance and administration, bookkeeping, and performance to meeting their mandates. Often, organizations form to provide advocacy support for fishers' interests, however, the lack of administrative capacities undermine their ability to fulfill their objectives and responsibilities.

New organizations often do not understand the importance of good governance systems. As a result, little attention is paid to the organizational structure and administrative responsibilities necessary to protect the organization such as, accounting procedures, transparency, and adapting to unanticipated changes in the fishery. Furthermore, the members of the organization should be aware and fluent in the organizational governance processes and the organizations purpose. Therefore, fishers' organizations should be able to provide their membership with information and training to enhance their knowledge and awareness of financial management, legal processes, and general fisheries management activities. This includes fishers' awareness of the importance of good data to ensure they can track their financial performance and contribute to sustainable fisheries management. Finally, globally fisher organizations are increasingly involved in the collection of fishery data. This collaborative management between government and fishers highlights the need for organizations to better understand the reasons for, and activities related to, data management including collection, storage, and analysis.

This training course provides a general overview of the relevant subject matter necessary for organizations to better plan their operations and to identify areas where additional skills development is needed. This course also provides organizations with an introduction to the principles and processes of data management so they may better participate in this important function in fisheries management.

This course is delivered through participatory methods that enable trainees to co-learn through structured modules involving short formal lessons that support roundtable discussions, small group brainstorming exercises and workshop approaches.

## **2.2 Training objective**

1. To promote good governance of Fisher Organizations in the Eastern Caribbean.
2. To promote Fisher Organizations role in data management, including collection, storage, and analysis through training and awareness building.
3. To provide Fisher Organizations with information that can be useful in promoting sound business management skills amongst fishers.

## **2.3 Learning Outcomes**

1. Obtain an understanding of governance processes, tools and structures that can be used within Fisher Organizations.
2. Acquire an understanding of the importance for the ethical and accurate collection and management of fisheries data.
3. To become familiar with business management skills necessary to promote successful fishing enterprises amongst Fisher Organization members.

## **2.4 Modules**

The following modules will be delivered through a formal presentation by the instructor and various roundtable exercises.

### ***2.4.1 Module 1: Organization Management***

The following topics will be covered in the module on organization management:

- Introduction to the training course
- Lesson 1: Introduction to Fisher Organizations
- Lesson 2: Roles & Responsibilities
- Lesson 3: Governance Structures
- Lesson 4: Accountability & Risk Management
- Lesson 5: Board Development
- Lesson 6: Running an Effective Board Meeting
- Lesson 7: Board Evaluation
- Lesson 8: Daily Operations
- Lesson 9: Managing Change

#### ***2.4.1.1 Introduction to the Training Course***

**Objective:** Participants develop a clear understanding of the course objectives; agree on training rules and training schedule.

**Estimated Duration:** 1.5 hours

#### **Trainer Course Materials Overview:**

- Formal Opening
- Participant Introductions and what they expect from the training course

- Explain objective of the training course
- Introduction to Lessons and how the training will be conducted
- Open to questions
- Ask participants to propose rules (trainer can suggest additional rules) until all are in agreement.

**Sample PowerPoint Slides:**



2.4.1.2 Lesson 1: Introduction to Fisher Organizations

**Objective:** Participants understand the role and responsibilities of Fisher Organizations

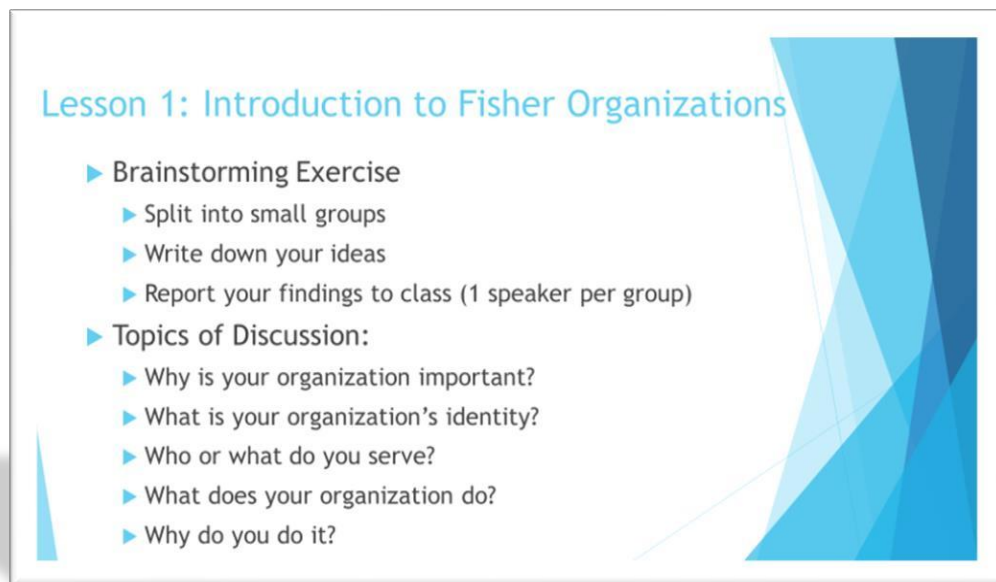
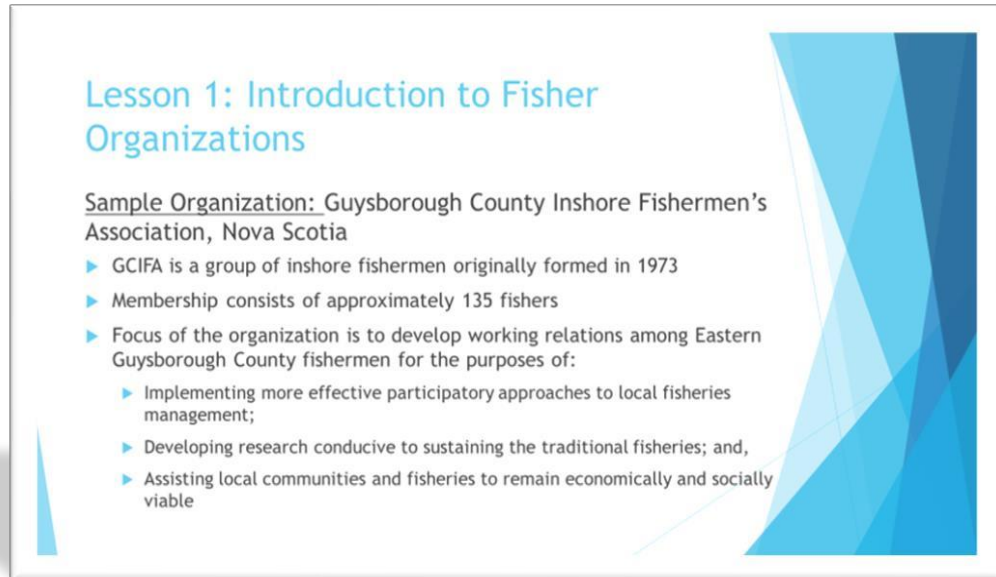
**Estimated Duration:** 1.5 hours

**Trainer Course Materials Overview:**

- Trainer provides overview of Fisher Organization experience in other countries
- Brainstorming exercises to discuss:
  - Why is your organization important?
  - What is your organization's identity?
  - Who or what do you serve?
  - What does your organization do?
  - Why do you do it?



### Sample PowerPoint Slides:



#### 2.4.1.3 Lesson 2: Roles and Responsibilities

**Objective:** Participants understand the various roles and responsibilities of the Board, Executive Officers and Members at Large

**Estimated Duration:** 2 hours

## Trainer Course Materials Overview:

- Differences between governance, management, and operations
- Overview of Roles and Responsibilities of Board Members and Staff
  - Executive Officers – Chair,
  - Vice-Chair, Secretary,
  - Treasurer
  - Board Members
  - Members at large

## Sample PowerPoint Slides:

### Lesson 2: Roles & Responsibilities

#### ▶ Activities of an organization:

- ▶ Governance: the board develops policies that give overall direction to the organization
- ▶ Management: the board takes actions and makes decisions to ensure that there are sufficient and appropriate human and financial resources for the organization to accomplish its work
- ▶ Operations: These are the activities related to the delivery of services or programs of the organization

### Lesson 2: Roles & Responsibilities

#### ▶ Executive Officers

- ▶ Chairperson - chairs board meetings; responsible for conduct of board meetings and of board members; sets and follows agendas; often a signing authority on legal and financial documents
- ▶ Vice-Chairperson - fulfills duties of chairperson in his/her absence
- ▶ Secretary - takes accurate minutes of board meetings; keeper of board bylaws, policy statements and board correspondence;
- ▶ Treasurer - accounts for and reports on the funds, budget and expenditures of the organization, often a signing authority on financial documents
- ▶ Executive officers may be elected and/or appointed by the board as a whole or by the broader organizational membership. These positions may also be rotating positions throughout the term of a board.
- ▶ The number of board members required to be in place on an organization's board is specified in the organizations bylaws
- ▶ The Board is also responsible for hiring senior staff members, such as an Executive Director or Manager

#### 2.4.1.4 Lesson 3: Governance Structures

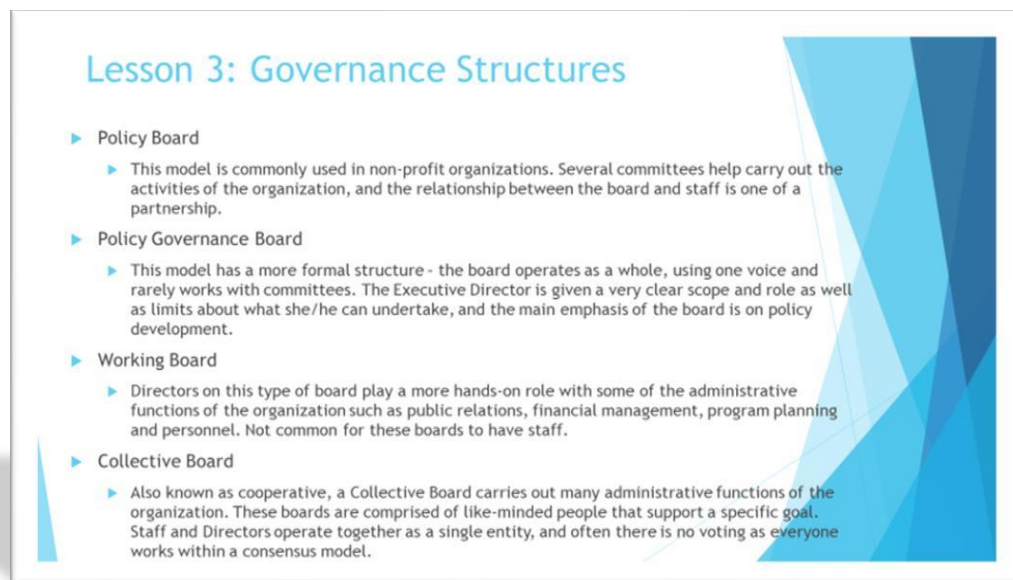
**Objective:** Participants understand the different types of governance structures for organizations and think about what type of structure would best meet their needs.

**Estimated Duration:** 3 hours

#### **Trainer Course Materials Overview:**

- Governance structures
  - o Policy Board
  - o Policy Governance Board
  - o Working Board
  - o Collective Board
- Brainstorm Exercise
  - o Which decisions does the board want to make and which does it want to delegate?
  - o How much involvement does the board want to have in the operations of the organization?
  - o How will the reporting relationship between the board and the staff be defined and communicated?

#### **Sample PowerPoint Slides:**



### Lesson 3: Governance Structure

- ▶ Brainstorming Exercise
  - ▶ Split into small groups
  - ▶ Write down your ideas
  - ▶ Report your findings to class (1 speaker per group)
- ▶ Topics of Discussion:
  - ▶ Which decisions does the board want to make and which does it want to delegate?
  - ▶ How much involvement does the board want to have in the operations of the organization?
  - ▶ How will the reporting relationship between the board and the staff be defined and communicated?

#### 2.4.1.5 Lesson 4: Accountability & Risk Management

**Objective:** Participants have an understanding of the importance of bylaws, the duties of directors and managing risk / liabilities through insurance

**Estimated Duration:** 1.5 hours

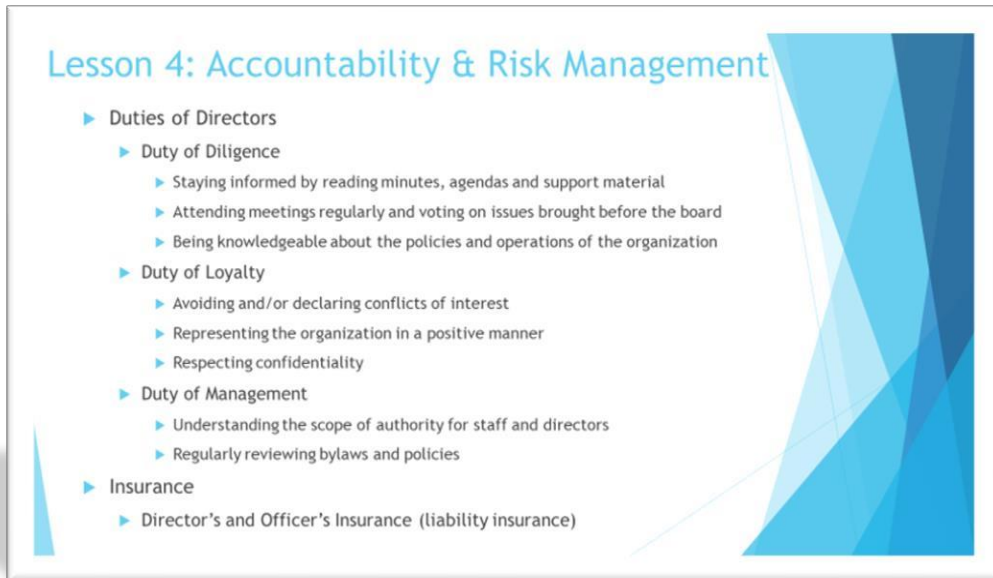
**Trainer Course Materials Overview:**

- Trainer provides overview of bylaws, duties of directors, and insurance

**Sample PowerPoint Slides:**

### Lesson 4: Accountability & Risk Management

- ▶ Bylaws - the laws that enable an organization to carry out their activities effectively and efficiently
- ▶ The framework for bylaws should include:
  - ▶ The organization's purpose
  - ▶ Description of membership
  - ▶ Description of board composition and governance structure
  - ▶ Terms of office for board members
  - ▶ Number of meetings held by the board, including Annual General Meetings
  - ▶ Description, title and responsibilities of Executive Directors
  - ▶ The election and voting process
  - ▶ Details about quorum
  - ▶ Filling board vacancies
  - ▶ Removal of Directors
  - ▶ Senior staff positions



#### 2.4.1.6 Lesson 5: Board Development

**Objective:** Participants have an understanding of the various cycles involved in board development, from recruitment to succession planning.

**Estimated Duration:** 2.5 hours

#### **Trainer Course Materials Overview:**

- Overview on the cycle of board development
  - Recruiting board members
  - Holding elections
  - Orientation and training
  - Succession planning

## Sample PowerPoint Slides:



### 2.4.1.7 Lesson 6: Running an Effective Board Meeting

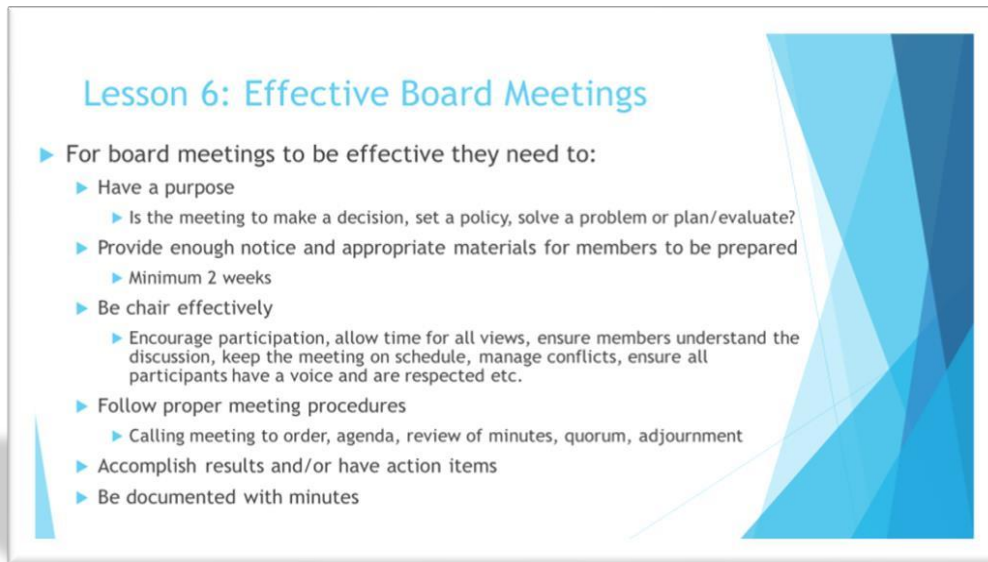
**Objective:** Participants understand how to facilitate an effective board meeting.

**Estimated Duration:** 4 hours

#### **Trainer Course Materials Overview:**

- Trainer provides overview of how to run an effective board meeting
- Board Meeting Simulation
  - Everyone is assigned a specific role with individual positions on topic in agenda
  - agenda is presented and used to discuss specific topic
  - Regroup to discuss successes and difficulties

## Sample PowerPoint Slides:



### Lesson 6: Effective Board Meetings

- ▶ For board meetings to be effective they need to:
  - ▶ Have a purpose
    - ▶ Is the meeting to make a decision, set a policy, solve a problem or plan/evaluate?
  - ▶ Provide enough notice and appropriate materials for members to be prepared
    - ▶ Minimum 2 weeks
  - ▶ Be chair effectively
    - ▶ Encourage participation, allow time for all views, ensure members understand the discussion, keep the meeting on schedule, manage conflicts, ensure all participants have a voice and are respected etc.
  - ▶ Follow proper meeting procedures
    - ▶ Calling meeting to order, agenda, review of minutes, quorum, adjournment
  - ▶ Accomplish results and/or have action items
  - ▶ Be documented with minutes



### Lesson 6: Effective Board Meeting

- ▶ Board Meeting Simulation
  - ▶ Everyone is assigned a specific role within the meeting (i.e. Chair, Vice-Chair, Secretary, Member at Large, etc.)
    - ▶ Depending on size of group 2 simulations may be organized simultaneously
  - ▶ An agenda is presented to guide the simulation
  - ▶ Regroup to discuss the successes and difficulties of running an effective board meeting

### 2.4.1.8 Lesson 7: Board Evaluation

**Objective:** Participants understand the importance of the evaluation process and how to complete an evaluation.

**Estimated Duration:** 2 hours

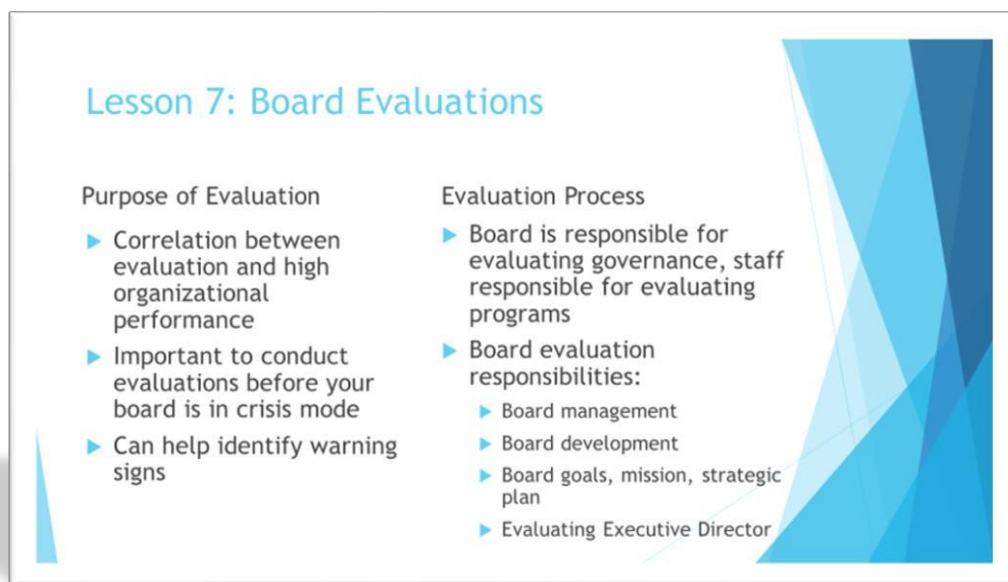
#### **Trainer Course Materials Overview:**

- Trainer provides an overview of:
  - Purpose of evaluation



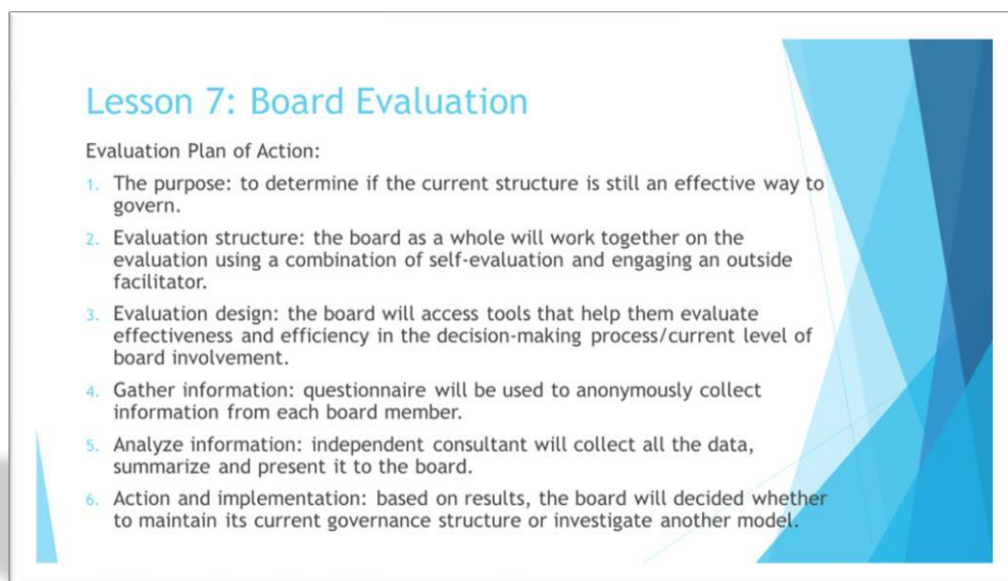
- Evaluation process
- Evaluation Questions

### Sample PowerPoint Slides:



**Lesson 7: Board Evaluations**

<p><b>Purpose of Evaluation</b></p> <ul style="list-style-type: none"> <li>▶ Correlation between evaluation and high organizational performance</li> <li>▶ Important to conduct evaluations before your board is in crisis mode</li> <li>▶ Can help identify warning signs</li> </ul>	<p><b>Evaluation Process</b></p> <ul style="list-style-type: none"> <li>▶ Board is responsible for evaluating governance, staff responsible for evaluating programs</li> <li>▶ Board evaluation responsibilities:               <ul style="list-style-type: none"> <li>▶ Board management</li> <li>▶ Board development</li> <li>▶ Board goals, mission, strategic plan</li> <li>▶ Evaluating Executive Director</li> </ul> </li> </ul>
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**Lesson 7: Board Evaluation**

**Evaluation Plan of Action:**

1. The purpose: to determine if the current structure is still an effective way to govern.
2. Evaluation structure: the board as a whole will work together on the evaluation using a combination of self-evaluation and engaging an outside facilitator.
3. Evaluation design: the board will access tools that help them evaluate effectiveness and efficiency in the decision-making process/current level of board involvement.
4. Gather information: questionnaire will be used to anonymously collect information from each board member.
5. Analyze information: independent consultant will collect all the data, summarize and present it to the board.
6. Action and implementation: based on results, the board will decide whether to maintain its current governance structure or investigate another model.

### 2.4.1.9 Lesson 8: Daily Operations

**Objective:** Participants understand the types of activities that may be involved in their daily operations.

**Estimated Duration:** 2 hours

**Trainer Course Materials Overview:**



- Brainstorm Exercise – Organization Activities
  - What do you see as your organizations job?
  - What do you see as being the role of your board?
  - Name three key board responsibilities.

**Sample PowerPoint Slides:**



2.4.1.10 Lesson 9: Managing Change

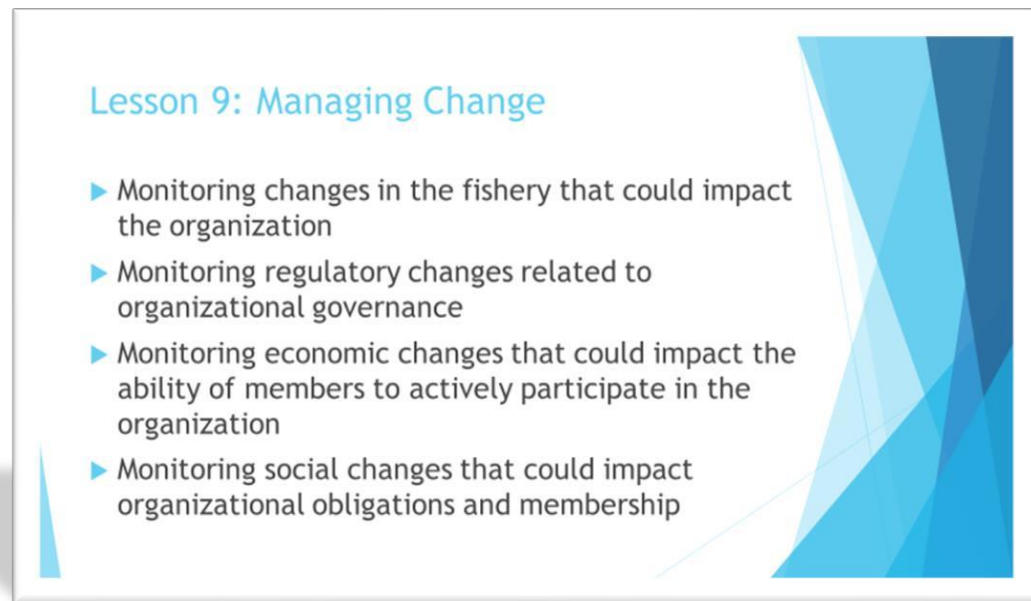
**Objective:** Participants have an understanding of how to manage change in the fisheries.

**Estimated Duration:** 1.5 hours

**Trainer Course Materials Overview:**

- Trainer facilitates roundtable discussions on:
  - Monitoring changes in the fishery
  - Monitoring regulatory changes
  - Monitoring economic changes
  - Monitoring social changes

### Sample PowerPoint Slides:



#### 2.4.2 Module 2: Data Collection

The following topics will be covered in the module on data collection:

- Introduction to the training course
- Lesson 1: Why collect data
- Lesson 2: What to collect
- Lesson 3: How to collect data
- Lesson 4 National data collection systems
- Lesson 5: Roles in data collection
- Lesson 6: Reporting

##### 2.4.2.1 Introduction of Training Course

**Objective:** Participants develop a clear understanding of the course objectives; agree on training rules and training schedule.

**Estimated Duration:** 1.5 hours

#### **Trainer Course Materials Overview:**

- Formal Opening
- Participant Introductions and what they expect from the training course
- Explain objective of the training course
- Introduction to Lessons and how the training will be conducted
- Ask participants to propose rules (trainer can suggest additional rules) until all are in agreement.

## Sample PowerPoint Slides:



### 2.4.2.2 Lesson 1: Why Collect Data

**Objective:** Participants understand the need for data collection; the use of data in fisheries management; and the role Fisher Organizations play in data collection.

**Estimated Duration:** 2 hours

#### **Trainer Course Materials Overview:**

- Implement brainstorm session with participants
  - Break into small groups and use brainstorm techniques to obtain ideas from the participants about why data is needed
  - Rules:
    - ✓ Give idea in one short sentence
    - ✓ One idea per card
    - ✓ Write clearly and large
    - ✓ Report back in plenary
    - ✓ Provide summary PowerPoint Presentation on why data should be collected, focusing on three main topics: national policies, fisheries management, and regional/international requirements.

## Sample PowerPoint Slides:

### Lesson 1: Why Collect Data

- ▶ Why do we collect data? Data are needed to make rational decisions, and to evaluate performance in relation to objectives. In this lesson objectives of data collection will be discussed and put in the framework of overall policy objectives.
- ▶ Brainstorming Exercise Instructions
  - ▶ Split into small groups
  - ▶ Use cards to write out your ideas (one idea per card, make it clear)
  - ▶ Report your findings to class (1 speaker per group)
- ▶ Topic: In your opinion, why is it important to collect data?

### Lesson 1: Why Collect Data Summary

- ▶ Data are need to make rational decisions for:
  - ▶ Development of national policies
  - ▶ Evaluation of the fisheries performance in relation to management objectives
  - ▶ Fulfilling regional requirements
  - ▶ Fisheries Management
    - ▶ Evaluation of fisheries activities
    - ▶ Impact fishing effort has on fish stock size
    - ▶ Identifying optimal level of exploitation - understanding sustainable yield
    - ▶ Understanding impact on local livelihoods

#### 2.4.2.3 Lesson 2: What to Collect

**Objective:** Participants understand what data they should collect and how the collected data can be used by Fisheries Divisions in fisheries management.

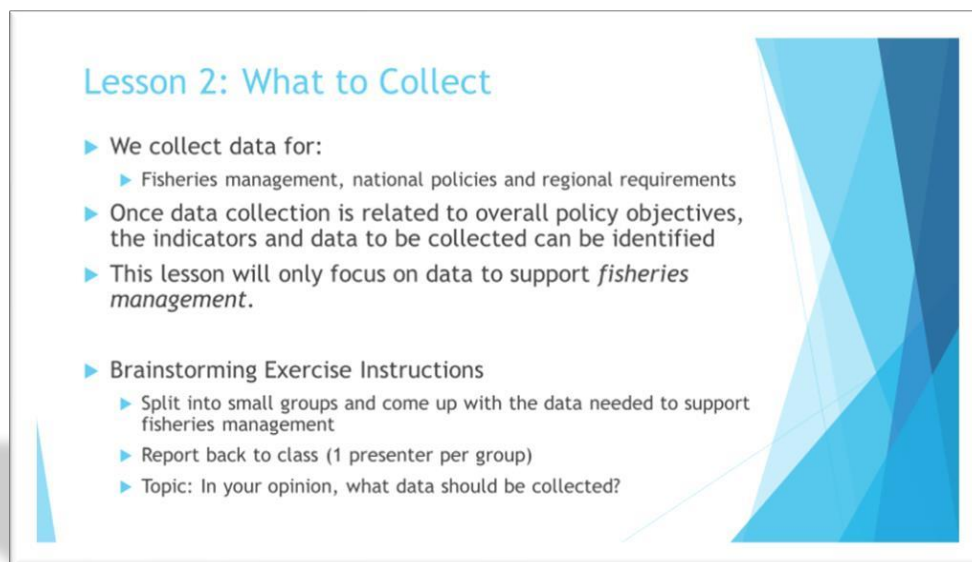
**Estimated Duration:** 2 hours

#### **Trainer Course Materials Overview:**

- Implement brainstorm session with participants to identify the data needed for fisheries management

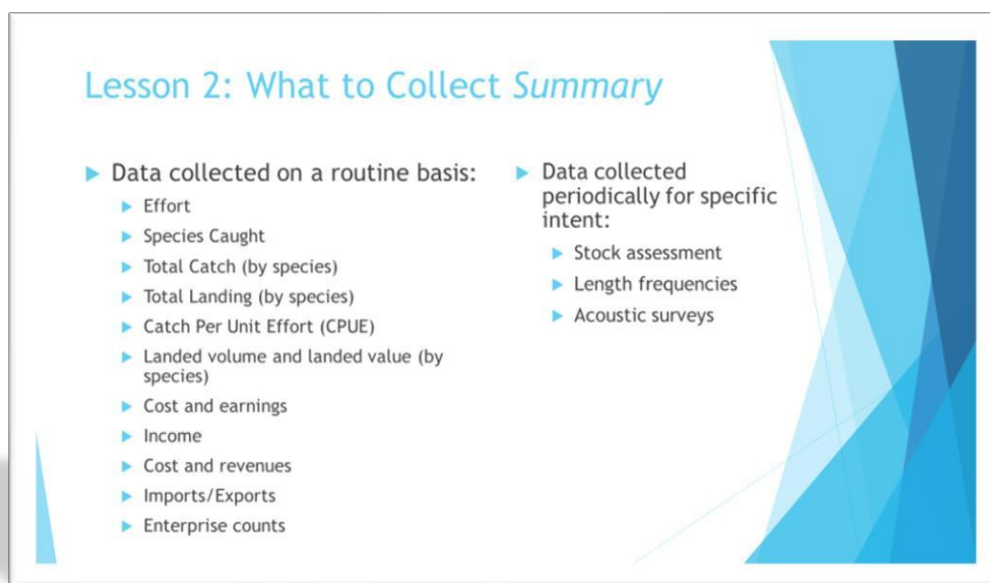
- Break into small groups and use brainstorm techniques to obtain ideas from the participants about what data should be collected
- Rules:
  - ✓ Give idea in one short sentence
  - ✓ One idea per card
  - ✓ Write clearly and large
  - ✓ Report back in plenary
  - ✓ Provide summary PowerPoint Presentation on what data should be collected
- Data needed for fisheries management
- Routine data collection
- Ad hoc data collection for research projects

### Sample PowerPoint Slides:



## Lesson 2: What to Collect

- ▶ We collect data for:
  - ▶ Fisheries management, national policies and regional requirements
- ▶ Once data collection is related to overall policy objectives, the indicators and data to be collected can be identified
- ▶ This lesson will only focus on data to support *fisheries management*.
- ▶ Brainstorming Exercise Instructions
  - ▶ Split into small groups and come up with the data needed to support fisheries management
  - ▶ Report back to class (1 presenter per group)
  - ▶ Topic: In your opinion, what data should be collected?



## Lesson 2: What to Collect Summary

<ul style="list-style-type: none"> <li>▶ Data collected on a routine basis:               <ul style="list-style-type: none"> <li>▶ Effort</li> <li>▶ Species Caught</li> <li>▶ Total Catch (by species)</li> <li>▶ Total Landing (by species)</li> <li>▶ Catch Per Unit Effort (CPUE)</li> <li>▶ Landed volume and landed value (by species)</li> <li>▶ Cost and earnings</li> <li>▶ Income</li> <li>▶ Cost and revenues</li> <li>▶ Imports/Exports</li> <li>▶ Enterprise counts</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▶ Data collected periodically for specific intent:               <ul style="list-style-type: none"> <li>▶ Stock assessment</li> <li>▶ Length frequencies</li> <li>▶ Acoustic surveys</li> </ul> </li> </ul>
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## Lesson 2: What to Collect Summary

### ► Discussion questions:

- What is fishing effort?
- How is fishing effort measured?
- How is fishing effort calculated?
- How is fishing effort used in fisheries management?

### ► Answers:

- Activity level is related to number of active boats, and on how many days the active boats go fishing in a month or the number of fishing days

### 2.4.2.4 Lesson 3: How to Collect Data

**Objective:** Participants basic statistical concepts and that samples need to be collected according to statistical protocols so as to obtain reliable data and to reduce the risk of bias.

**Estimated Duration:** 2 hours

#### **Trainer Course Materials Overview:**

- Introduction by Trainer explaining the difference between census and sampling
- Discussion of sampling strategies and methods

#### **Sample PowerPoint Slides:**

## Lesson 3: How to Collect Data

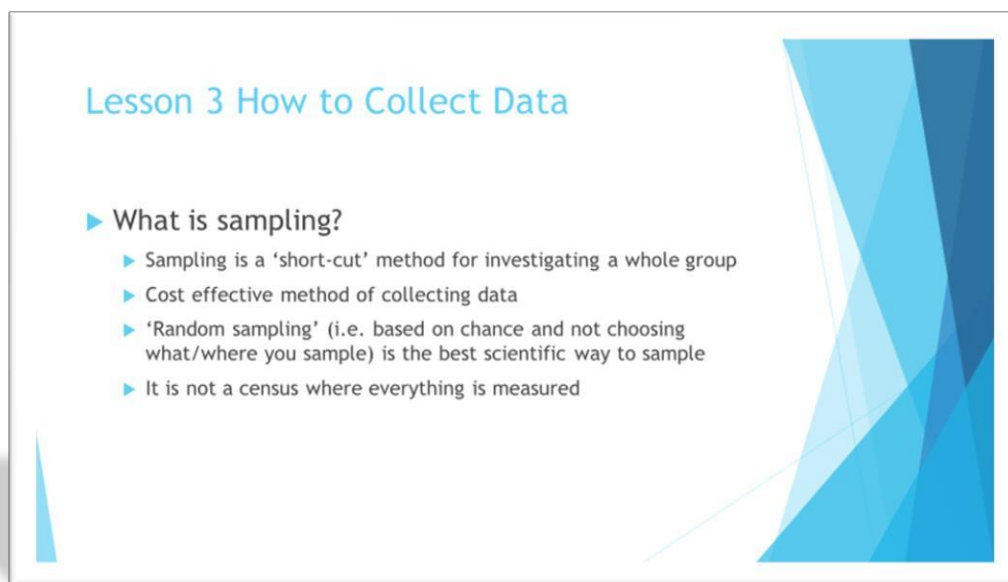
Once we know what data is needed, the strategy and methods of data collection can be determined. A major topic to address is the sustainability of data collection as often funds and human resources are limited. This can be enhanced through collaboration between Fisher Organizations and Fisheries Managers.

### Exercise: Full Census Vs. Sampling

- Area 1: 100 hectares, 20 boats, 1 landing site, well trained staff and unlimited funds
  - How do you monitor for most accurate results?
- Area 2: 35,000 square km, 30,208 boats, 634 landing sites, limited staff and limited funds
  - How do you monitor for most accurate results?

### ► Conclusion:

- Area 1: small area, limited number of boats, you can cover completely:
  - Full Census
- Area 2: Large area, large number of landing sites, large number of boats
  - Sampling is essential



#### 2.4.2.5 Lesson 4: Different Components of the National Data Collection Systems

**Objective:** To ensure that Participants have a clear understanding of how the national data collection system is structured

**Estimated Duration:** 2.5 hours

#### **Trainer Course Materials Overview:**

- Begin with group discussion about participants knowledge of national data collection system
  - Open discussion
  - Discuss merits and problems
- Provide PowerPoint Presentation on national data collection system and structure
  - who is responsible, how often is data collected, who collects data, how is data stored, etc.
- End with group discussion on the role of Fisher Organizations within national data collection system – leads into the focus of the next lesson.

#### **Sample PowerPoint Slides:**

## Lesson 4: National Data Collection Systems *Summary*

- ▶ In this lesson the National data collection system of the country in which the training is being held will be presented and discussed. Specifically, if they have data collection protocols/regulations and a designated data collection system.

### 2.4.2.6 Lesson 5: Roles in Data Collection

**Objective:** Participants get a clear picture on their roles and responsibilities in the data collection system.

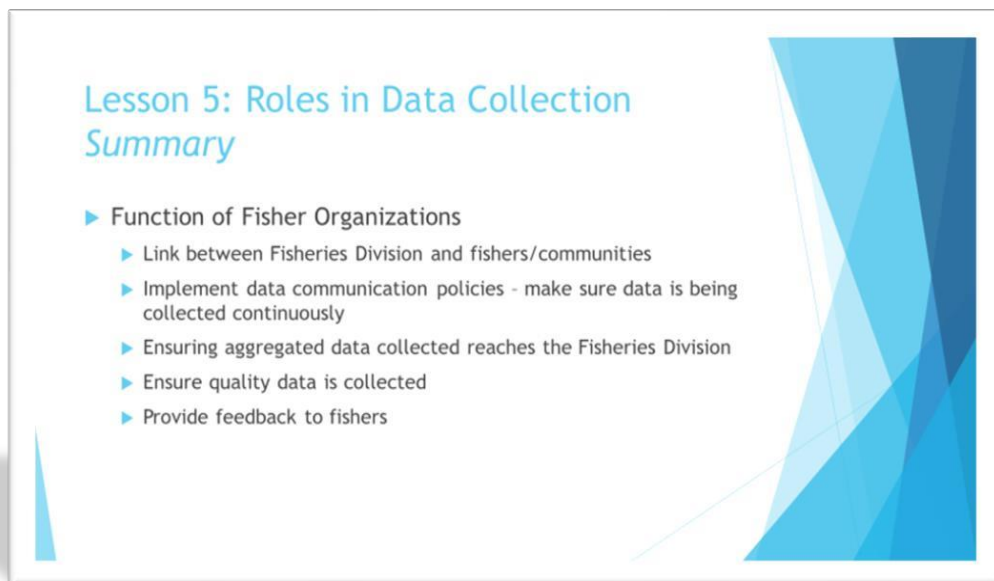
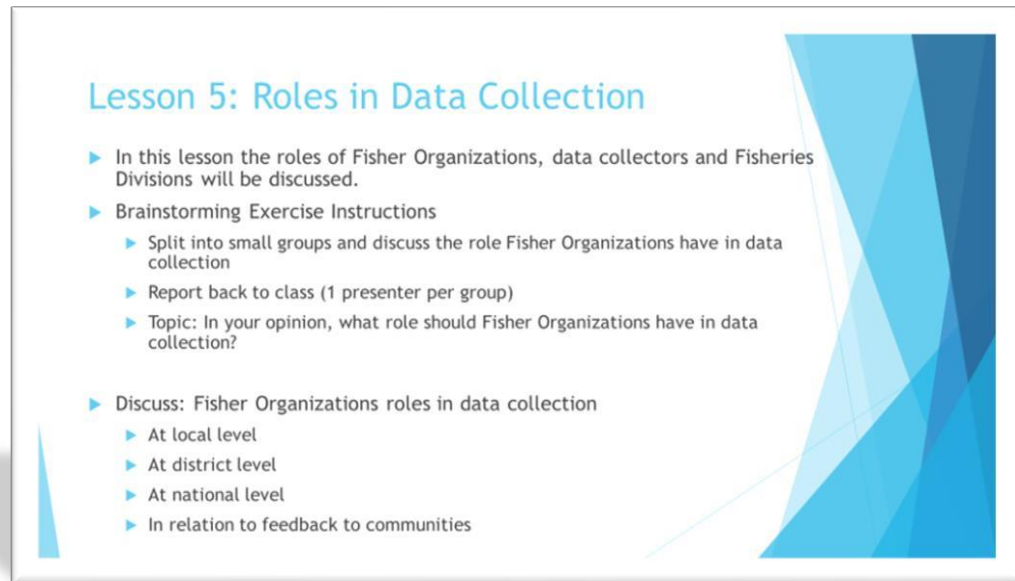
**Estimated Duration:** 1.5 hours

#### **Trainer Course Materials Overview:**

- Implement brainstorm session with participants address the following questions:
  - How do you see your role in data collection?
  - What specific function do you have?
- Break into small groups and use brainstorm techniques to obtain ideas
- Report back in plenary
  - Use flipchart to create a complete list of functions with emphasis on data collection.
- Provide summary PowerPoint Presentation on fisher organizations roles.



### Sample PowerPoint Slides:



#### 2.4.2.7 Lesson 6: Reporting

**Objective:** Participants know their responsibilities in data reporting and understand data flow from landing site to Fisheries Divisions.

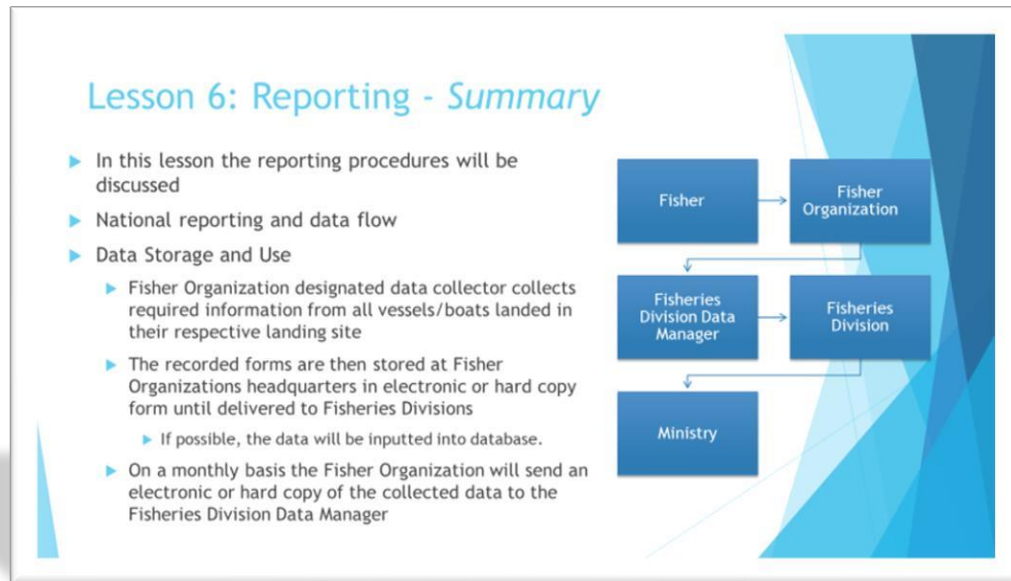
**Estimated Duration:** 1.5 hours

#### **Trainer Course Materials Overview:**

- Introduction to National reporting and data flow
- Open discussion

- Small groups describe their understanding of how the system works
- List problems
- Compare and discuss
- Final Summary PowerPoint Presentation

### Sample PowerPoint Slides:



## 3. DOCKSIDE MONITORING TRAINING MATERIALS

### 3.1 Course Description

Dockside monitoring is increasingly being used as a means to encourage government and private sector collaboration in the implementation of data collecting and monitoring for fisheries management purposes. In some cases, new companies have evolved that have expanded into other sectors thus providing high quality sustainable employment and income. In some instances, dockside monitoring contracts are issued by government, while in other instances dockside monitoring works directly for fishing companies. This has had the effect of reducing administrative and financial burden for fisheries data collection from the government so that the resource sector directly finances this important activity.

This course provides an overview of this industry to interested entrepreneurs with an understanding of this business opportunity. The course will examine the fundamentals of dockside monitoring, processes involved in training and implementation as well as initial investment requirements.

### 3.2 Training Objective

1. To promote collaboration between private sector and government in data collection and management.
2. To provide entrepreneurs with information that can be useful in promoting dockside monitoring as a business opportunity.

### 3.3 Learning Outcomes

1. Obtain an understanding of dockside monitoring processes, investment requirements and training that can be used to promote effective data collection.
2. Acquire an understanding of the role of private enterprise in the ethical and accurate collection and management of fisheries data.

### **3.4 Module**

#### ***3.4.1 Module 1: Dockside Monitoring***

The following topics will be covered in the module on dockside monitoring:

- Introduction to the training course
- Lesson 1: What is dockside monitoring?
- Lesson 2: What is the business case for dockside monitoring
- Lesson 3: Initial Investment – Equipment and Human Resources
- Lesson 4: Training Requirements for Dockside Monitors
- Lesson 5: Reporting

##### **3.4.1.1 Introduction to the training course**

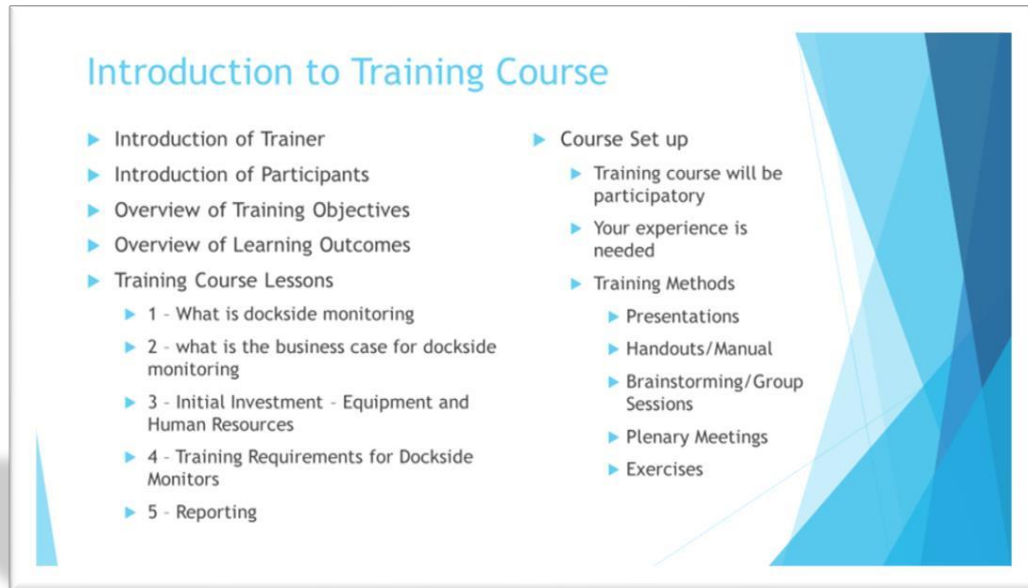
**Objective:** Participants develop a clear understanding of the course objectives; agree on training rules and training schedule.

**Estimated Duration:** 1.5 hours

Trainer Course Materials Overview:

- Formal Opening
- Participant Introductions and what they expect from the training course
  - Explain objective of the training course
  - Introduction to Lessons and how the training will be conducted
  - Ask participants to propose rules (trainer can suggest additional rules) until all are in agreement.

**Sample PowerPoint Slides:**



### 3.4.1.2 Lesson 1: What is dockside monitoring

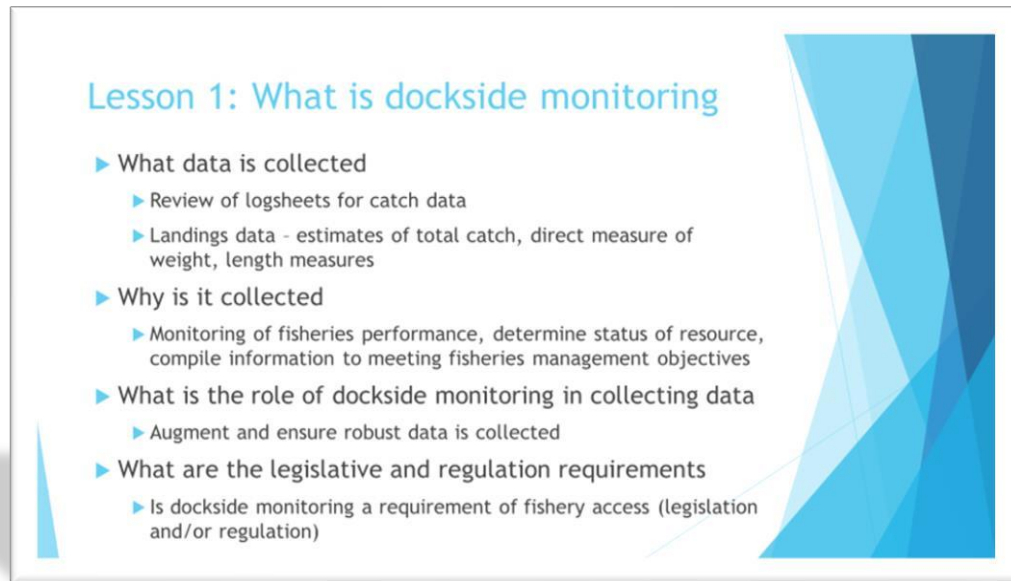
**Objective:** Participants have a general understanding of dockside monitoring.

**Estimated Duration:** 1 hour

**Trainer Course Materials Overview:**

- Trainer provides overview of fisheries data collection and dockside monitoring
  - What data is collected & why is it collected
  - What is the role of dockside monitoring in collecting data
  - What are the legislative and regulation requirements

### Sample PowerPoint Slides:



#### 3.4.1.3 Lesson 2: What is the business case for dockside monitoring

**Objective:** Participants to understand how revenue can be generated for dockside monitoring companies.

**Estimated Duration:** 1 hour

#### **Trainer Course Materials Overview:**

- Trainer will provide an overview of income sources for dockside monitoring
  - Government supported enterprise
  - Industry supported enterprise
  - Fee generation through combined government collaboration
  - Fees for monitoring the offloading of international catch
  - Fees generation through international contracts (intergovernmental organizations and multinational companies)

### Sample PowerPoint Slides:

## Lesson 2: What is the business case for dockside monitoring

- ▶ Government supported enterprise
  - ▶ Government contract to provide services directly to Fisheries Division
- ▶ Industry supported enterprise
  - ▶ Contracts with fishing companies to collect corporate performance data
- ▶ Fee generation through combined government collaboration
  - ▶ Government subsidized contracts with fishing companies/orgs are a means to ensure reporting requirements are being met
- ▶ Fees for monitoring the offloading of international catch
  - ▶ Fees provided by distant water fishing companies to collect data on catch for trans-shipment
- ▶ Fees generation through international contracts (intergovernmental organizations and multinational companies)
  - ▶ Contracts with Intergovernmental agencies to collect data for scientific research

### 3.4.1.4 Lesson 3: Initial Investment – Equipment and Human Resources

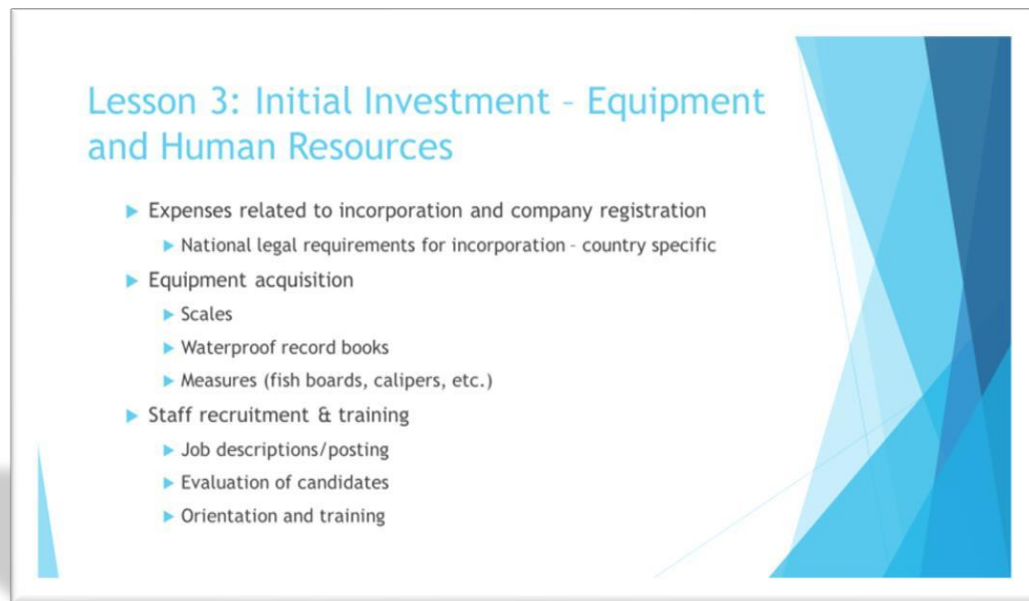
**Objective:** Participants have an understanding of the initial investments needed for starting a dockside monitoring business.

**Estimated Duration:** 1 hour

#### **Trainer Course Materials Overview:**

- Trainer provides an overview of equipment and human resources needed for initial investment
  - Expenses related to incorporation and company registration
  - Equipment acquisition
  - Staff recruitment & training

### Sample PowerPoint Slides:



#### 3.4.1.5 Lesson 4: Training Requirements for Dockside Monitors

**Objective:** Participants have an understanding of the specific training requirements for dockside monitoring staff

**Estimated Duration:** 2 hours

#### **Trainer Course Materials Overview:**

- Trainer provides overview of training requirements:
  - Species identification
  - Fishery regulations
  - Data collection techniques
- Use and operation of scales and measures
- Catch estimates ○ Reporting requirements ○ Workplace safety

## Sample PowerPoint Slides:



### 3.4.1.6 Lesson 5: Reporting

**Objective:** Participants have an understanding of the reporting obligations for various clients.

**Estimated Duration:** 1 hour

#### **Trainer Course Materials Overview:**

- Trainer provides an overview of reporting requirements for dockside monitoring programs
  - Quality assurance / quality control for standardized data collection
  - Government data collection requirements and format
  - Fishing enterprise data collection requirements and format



## Sample PowerPoint Slides:

### Lesson 5: Reporting

- ▶ Quality assurance/quality control for standardized data collection
  - ▶ Corporate data collection standards and protocols
  - ▶ Verification processes
  - ▶ Audit procedures
- ▶ Government data collection requirements and format
  - ▶ Report requirements by government clients for data collection
  - ▶ Based on legislation/regulation
  - ▶ Confidentiality
- ▶ Fishing enterprise data collection requirements and format
  - ▶ Report requirements by fishing enterprise clients for data collection
  - ▶ Based on economic indicators
  - ▶ Confidentiality

## **TRAINING MANUALS**

### **1. MANUAL 1: BOARD GOVERNANCE GUIDE<sup>4</sup>**

#### **1.1 Board Roles and Responsibilities**

The board of directors of an incorporated, non-profit organization is legally responsible for the governance of the organization. Within that mandate is the expectation that the board will develop, implement and monitor policies that will allow the organization to carry out its work. A board is elected by, and accountable to, its membership. While a board may appoint staff and/or committees to carry out specific work related to its policies, programs and services, the board is ultimately responsible for meeting organizational outcomes.

There are limitless resources available that define key roles and responsibilities of boards. While details vary from resource to resource, there are some broad-based philosophies that are consistent.

Collectively, the board must:

- Determine a governance model and ensure that appropriate organizational policies and structures are in place
- Participate in the development of a mission and strategic plan for the organization
- Hire and ensure that an effective senior management team is in place (i.e., Executive Director)
- Maintain effective partnerships and communication with the community, the organization's members and its stakeholders
- Maintain fiscal responsibility, including raising income, managing income, and approving and monitoring annual budgets
- Ensure transparency in all communication to members, stakeholders and the public
- Evaluate the organization's work in relation to a strategic plan
- Evaluate the work of the board of directors, ensuring continuous renewal of the board, and plan for the succession and diversity of the board

Individually, each board member must:

- Act in the best interests of the organization
- Understand the roles and responsibilities of being a board member
- Be familiar with the organization's bylaws, policies and procedures, strategic plan, mission, etc.
- Ensure he / she avoids conflicts of interest including operating in the best interest of the organization not in self-interest or the interest of a stakeholder group
- Respect confidentiality policies that pertain to membership and board discussions
- Keep informed about the organization's financial activity and legal obligations
- Bring his/her own skills, experience and knowledge to the organization
- Attend board meetings regularly and arrive prepared for meetings
- Support board decisions once they have been voted on

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<sup>4</sup> The following materials have been adapted from various international sources, particularly the *Community Literacy of Ontario's Board Governance Resource Guide (2014)*.  
[www.communityliteracyofontario.ca/wp/wp-content/uploads/2014/07/Board-Governance-Manual-June-2014.pdf](http://www.communityliteracyofontario.ca/wp/wp-content/uploads/2014/07/Board-Governance-Manual-June-2014.pdf)

Ideally, when joining a board (or perhaps before deciding to join) one should learn the:

- Governing structure the organization operates under
- Roles, responsibilities, and functions of the board within the governing structure
- Job description for board members
- Measurement and standard by which board members are evaluated

While the level and detail may vary from board to board, overall, effective board members are continuously:

- Governing
- Leading
- Recruiting
- Supporting
- Planning

A board's role and responsibilities are defined based on three different activities of organizations:

1. **Governance:** The board develops policies that give overall direction to the agency.
2. **Management:** The board takes actions and makes decisions to ensure that there are sufficient and appropriate human and financial resources for the organization to accomplish its work.
3. **Operations:** These are the activities related to the delivery of services or programs of the organization. (The degree to which this occurs depends on the board governance structure.)

### ***1.1.1 Executive Officers***

Depending on the governance structure of the organization executive officers will vary. Some examples of executive officer positions include:

**Chairperson (or president):** Chairs board meetings; responsible for conduct of board meetings and of Board members; sets and follows agendas; the spokesperson for the organization to the public; often a signing authority on legal and financial documents.

**Vice-chairperson (or vice-president):** Fulfills duties of the chairperson in his / her absence.

**Secretary:** Takes accurate minutes (or reviews minutes taken by staff) of board meetings; keeper of board bylaws, policy statements and board correspondence; maintains database and accurate contact information of current board of directors. (Depending on the board's governance structure, some or all of these functions may also be assigned to staff with the secretary providing more of a support or oversight role.)

**Treasurer:** Accounts for and reports on the funds, budget and expenditures of the organization; often a signing authority on financial documents.

Although not as common, some boards also have a past chairperson (or past president) as an executive officer whose role may be to mentor and support the current chairperson. Some boards may also decide to have a shared leadership model with co-chairs taking turns chairing the meetings rather than having a chair and vice- chairperson.

Executive officers may be elected and/or appointed by the board as a whole or by the broader organizational membership. These positions may also be rotating positions throughout the term of a board.

When these positions exist, the board, as a whole, needs to define the executives' functions and decide on the amount of authority each title brings with it.

The number of board members required to be in place on an organization's board is specified in the organization's constitution and bylaws. This number can be changed with the approval of the board and the membership. Criteria around representation of stakeholders and clients are also laid out in an organization's constitution although in some cases there may be guidelines imposed by a funder.

A general rule of thumb for non-profit organization board composition is a minimum of five board members and ideally no more than 11. It is also recommended that a board have an odd number of members so that ties when voting may always be broken.

### ***1.1.2 The Pros and Cons of Small and Large Boards***

<b>Small boards</b>	<b>Large Boards</b>
<ul style="list-style-type: none"> <li>• Easier consensus on difficulty or challenging issues</li> <li>• Less or no need for committees</li> <li>• Less or no need for executive members or an 'inner board'</li> <li>• Requires board to function together in all decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Increase chances for greater diversity on the board</li> <li>• Increase opportunities for greater representation of the community or specific target groups of the community</li> <li>• Easier to establish quorum at board meetings</li> <li>• Opportunity for committees and for board members to specialize or hone skills</li> </ul>

When seeking out stakeholders and/or clients of the organization to hold designated board positions it's important to have specific job descriptions and roles clearly identified. For example, is the person representing / speaking on behalf of, or voting on behalf of a stakeholder agency or as an individual?

Boards may also choose to develop a policy in terms of client representation on a board. Before deciding whether clients or consumers will have a designated seat, boards should ask:

1. What will the board and organization gain from their presence and perspective?
2. What challenges, if any, does their participation create for the board and organization?

The answers to these questions will assist the board in making a decision and allowing for supports if needed. For example, it would be very important to have the input of a young person on a board that has a mission to serve youth, but it also may be necessary to appoint another board member to be mentor and support to this young person. To use another example, literacy organizations that have an adult with low reading levels on their may need to provide help with reviewing agendas and minutes prior to a meeting.

### ***1.1.3 Board / Staff Relations***

One of the key responsibilities of board members is to hire a senior staff member to ensure effective management is in place. In most cases in non-profit organizations that means hiring the Executive Director (also may be known at the Chief Executive Officer, Administrator, Manager, etc.). From there, the Executive Director (ED) hires other staff.

The ED is the link between the board and other staff, and the board communicates its directives or human resource policies to other staff through the ED. Board and committee meetings are usually the place for the board and ED to communicate, share information and decide on work related to the organization. The ED

is usually considered an 'ex-officio' member of the board, meaning he / she attends board meetings, participates in discussion, and receives and provides reports but has no vote.

Whether a board is preparing to hire an ED or conduct a performance appraisal of a current ED it's important to clearly define the role, responsibilities and expectations of both the board and the ED.

Depending on the governance structure of the organization the relationship between the ED, other staff, the Chairperson of the board, and other board members will vary. However, the board is responsible for ensuring:

Development of the ED job description which includes areas of authority, a summary of responsibilities and the communication and reporting protocols between the board and the ED:

- Interviewing, hiring and providing training opportunities for the ED
- Conducting evaluation and performance appraisals of the ED on a regular basis

Depending on the circumstances related to hiring, an outgoing ED or external expert may also be called upon to play a role in this process. Either way, the board is ultimately responsible for making the final decision.

Board members are often asked to sign agreements as part of their responsibility on the board. These reflect the organization's policies. A breach of an agreement is often grounds for a board member's termination. Examples of such agreements include:

- **Confidentiality and / or Privacy Agreement**-Board member is asked to respect the confidentiality of information gained as a result of serving on a board such as client information, personnel, membership, finances, etc.
- **Conflict of Interest**-Requires a board member to declare if he/she has a personal interest in an area that is of interest to the organization. Being in a conflict position does not automatically disqualify a board member, but not disclosing the conflict can lead to a breach of the agreement.
- **Code of Conduct**-Boards may develop codes of conduct that cover everything from communication protocols, use of expense accounts, dress codes and language used at board meetings. Generally, non-profit organizations with volunteer board members are less formal on conduct rules; however, there may be overall rules and expectations about respect for the organization and other members. Any such rules are often included as part of a board member's job description.
- **Competition**-This applies more to individuals who in their working life may be involved in the same line of business as the organization for which they are also a board member. It protects the organization from people who may gain inside information, or skills and experience, from serving on a board and then use that knowledge and information to compete with the organization to offer services.

#### ***1.1.4 Creating a Mission and Vision***

One of the board's key responsibilities is to define the mission of the organization. The mission, or purpose, is the reason the organization exists. The mission informs the organization's values, objectives, policies and procedures. The board, its committees, its staff and its members work to achieve the mission while ensuring the organization works with integrity, transparency, efficiency and accountability.

The following items to consider when developing a mission statement:

- What is the organization's vision of its future?
- What will distinguish the organization from similar organizations?
- How do the organization's values relate to its vision?
- What results and / or benefits can the members or clients of the organization expect?

### **1.1.5 Activity**

Many boards decide to hold retreats, focus groups, or other professional development events to help them define the roles and responsibilities of their boards and directors and evaluate their performance. These events can also serve as a platform for further governance development such as creating a mission statement, drafting job descriptions and designing a strategic plan.

The following questions can be extremely effective in generating discussion and can be used as a template, they are:

1. What do you see as your board's job?
2. What do you see as not being a role of your board?
3. Name three key board responsibilities.
4. What does your board do well? Not so well?
5. How do you provide board orientation, training and ongoing support?
6. What are your strategies for board recruitment and succession planning?
7. How does board evaluation happen in your agency?
8. What tools and resources have helped your board be more effective?
9. What are your tips for effective board meetings?

## **1.2 Governance Structure**

The Board of Directors represents the membership of the organization. The board sets in place policies, procedures, values and long-term planning to meet the mission of the organization. The board does this through a governance structure or model. The structure a board decides to implement will dictate not only the policies of the organization but also such things as the relationship between staff and the board, and the role and use of committees.

While it is the board's responsibility to determine the governance structure, activities of the organization are carried out by board members, staff, and committees. There is no single right structure for all non-profit organizations, and it may be necessary to change models over time. What can often dictate how a board chooses to govern is the experience of board members and staff, past experiences within an organization, how the organization wants to deliver its programs and services, and how the board views power and authority within the organization.

The activity provided at the end of this section takes boards through an exercise to help them decide which governance structure is best suited to their organization. However, there are three key questions to ask to help you decide upon a governance model:

1. Which decisions does the board want to make and which does it want to delegate?
2. How much involvement does the board want to have in the operations of the organization?
3. How will the reporting relationship between the board and the staff be defined and communicated?

Governance structures can be put into two basic categories: policy boards and administrative boards. Policy governing boards develop policy and hire an Executive Director to implement the policy whereas

administrative governing boards play a more hands-on role in managing the organization with the support of committees and staff.

Within these two broad categories of governance, there are four common types of board models:

1. Policy Board: Sometimes referred to as Management-Team Board, this model is commonly used in non-profit organizations. Several committees help carry out the activities of the organization, and the relationship between the board and staff is one of a partnership.
2. Policy Governance Board: This model has a more formal structure. The board operates as a whole, using one voice and rarely works with committees. The Executive Director is given a very clear scope and role as well as limits about what she / he can undertake, and the main emphasis of the board is on policy development. For a more complete definition of the Policy Governance Board Model, visit [www.carvergovernance.com/model.htm](http://www.carvergovernance.com/model.htm).
3. Working Board: Directors on this type of board play a more hands-on role with some of the administrative functions of the organization such as public relations, financial management, program planning and personnel. It's not uncommon for these boards to not have any staff
4. Collective Board: Sometimes known as a cooperative or coalition, a Collective Board also carries out many administrative functions of the organization. These boards are comprised of like-minded people that support a specific goal. Staff and directors operate together as a single entity. There is not usually an Executive Director, and often there is no voting as everyone works within a consensus model.

No particular structure fits every organization but, organizations governed by a board should have at least three basic elements:

1. A board capable of providing objective oversight
2. An independent nominating committee to ensure the appropriate succession of the board
3. An audit committee, whose primary responsibility is to report whether the organization is in compliance with the laws, rules, regulations and contracts that govern it

It is recommended that after selecting its governance structure, the board seeks training to understand the model and the roles of the board within that model. Ongoing training is also important as a refresher to board members and as orientation to new members.

### ***1.2.1 Role of Committees***

The number and type of committees an organization has is often related to the governance structure it operates under. A policy-governance model tends to carry out work as a whole and has very few committees. Other types of boards may have several committees charged with carrying out the work of the organization.

There are generally three types of committees within an organization-standing, ad hoc and advisory.

Standing committees have specific areas of concern that they monitor, report on and provide advice about to the board on an ongoing basis. Examples of standing committees are:

- Executive Committee
- Personnel Committee
- Finance Committee
- Nominating Committee
- Outreach Committee

- Fundraising Committee
- Communications Committee
- Events Committee
- Training Committee

A recent trend in some non-profit organizations is having a Governance Committee. Sometimes this encompasses or replaces the Nominating Committee and its duties including reviewing bylaws, planning board development, and monitoring the board's governance structure.

Standing committees are more common within boards with an administrative/policy model and usually include one or more board members on the committee, along with staff support. While policy-governance boards rarely have standing committees, they often still have a nominating committee responsible for recruiting new board members.

Ad hoc committees are formed by boards for time-limited, specific purposes. When the purpose or goal of the committee has been accomplished, the committee disbands.

Boards sometimes make the mistake of establishing committees that may not be needed or keeping committees going after they have outlived their need. Before establishing an ad hoc committee a board should determine whether the work may be better done by the board as a whole, by staff or by an individual board member. Similarly, boards should evaluate the work of standing committees on a regular basis to ensure the committee still has a purpose and is working effectively.

In order to function effectively, committees need:

- A clear role and purpose
- Terms of reference
- A chairperson
- An appropriate number of members suited to the role of the committee
- A mechanism to report back to the board
- A way to evaluate their work

### ***1.2.2 Bylaws***

Every organization should have its own bylaws. An organization that is not incorporated may refer to its governing documents as a constitution rather than bylaws. A constitution provides an overview of the organization's purpose, mission and objectives. It often provides the framework for the Letters Patent required when an organization applies for incorporation status.

An incorporated organization must have bylaws that comply with the requirements of incorporation legislation. The bylaws are literally the laws that enable organizations to carry out their activities effectively and efficiently. Boards that do not review their bylaws may sometimes find themselves working against them, therefore putting the organization at risk. Bylaws can only be amended by a board of directors, and changes must be approved by the general membership (however this is defined).

It is often difficult to find samples and templates for developing bylaws as they are unique to each individual organization. Good sources of templates are from other like-minded non-profit organizations.

The standard framework for bylaws however, is fairly generic and should include:

- The organization's purpose



- A description of the membership
- A description of the board composition and governance structure
- Location of head office
- Terms of office for board members
- Number of meetings held by the board, including Annual General Meetings
- Special meetings and in-camera meetings
- The number and a brief description of any standing committees and the process for appointing a committee chairperson
- Description, title and responsibilities of Executive Directors (if applicable)
- The election and voting process
- Details about quorum
- Filling board vacancies
- Removal of directors
- Senior staff positions

### ***1.2.3 Policies and Procedures***

Policies and procedures in essence are the instructions for how an organization and its board and staff adhere to its governance structure, governing documents and regulations. The policy tells an organization what to do, and the procedure tells how to do it. Each policy should have a procedure, and together these documents will direct board and staff on making decisions and working within certain limitations.

The first step, and often the hard work, is in the development of policies and procedures. Fortunately, once a template is established it's easier to develop new policies as they arise. The governance model of an organization will dictate how the development of policies and procedures unfolds, but often the development of policies falls to the board and the development of procedures to the Executive Director.

It is the board's responsibility to develop, monitor and amend policies as well as to ensure that decisions are made and actions are taken that comply with policies and follow proper procedures. Regular review and revision of policies is good practice and is often conducted by a committee for board discussion and approval.

### ***1.2.4 Activity***

This activity will help you identify where you agree and disagree on the areas of authority of the board and Executive Director. It starts by listing a number of activities that must be undertaken in a successful organization. Add any activities that are specific to your organization; then use the activities to guide discussion and clarify your expectations of the board / ED relationship. The result will be the basis for a governance structure tailored to your own organization.

At a board meeting:

1. Hand out the list of major organizational activities undertaken by your organization to all board members and the ED.
2. Allow about 15 minutes for each person to mark in which column the decision or activity belongs.
3. Compile the answers on a master sheet, showing how many responses were put in each column.
4. Review the distribution of answers, noting the items on which:
  - (a) there is consensus
  - (b) there is a diversity of opinion
  - (c) the consensus of the board is different from the response of the ED

5. Discuss the items in categories b and c until you reach an agreement among the board and between the board and Executive Director.

### **1.3 Board Development**

Board development is a cycle that includes:

- Recruiting board members
- Holding elections
- Providing ongoing support and recognition
- Providing board orientation and training
- Succession planning

#### **1.3.1 Recruitment**

Recruitment is a key part of the organizational development cycle. Recruiting is not just about how, but who and what - who do you want on your board and what skills and qualities are you seeking to help govern your organization. Recruitment should be an ongoing process for boards so that ideally when it's time to select new members organizations have a pool of skilled, appropriate and diverse individuals to draw from.

While some organizations have recruiting protocols similar to hiring paid staff such as advertising and interviewing, others keep the process more informal. Regardless of the approach, boards at a minimum should:

- Assess their needs in terms of skills, experience and diversity
- Have clear board job descriptions
- Have an application and screening process

Some boards have specific requirements in terms of representation. Some non-profit and community organizations may have bylaws that specify representation based on gender, culture, geography and / or age. Boards may also have designated seats for clients. During the recruiting process, boards need to ensure that any designated positions or representatives are covered. Regardless of what interests and organizations your board members represent, they are expected to act in the best interests of your organization.

Other attributes boards look for when recruiting are related to skills. For example, a board may want to have someone experienced in finance and accounting or public relations and marketing. Professional, such as accountants and lawyers who hold volunteer positions on a board can be valuable because of the expertise they bring, but it's important not to treat this as free access to services and advice.

When recruiting members, boards will also want to take into consideration personal characteristics. These characteristics are often listed in the job description and can include:

- Dedication
- Ability to make a time commitment
- Good judgment
- Strong communication skills
- Compassion and respect for others
- Willingness to learn
- Ability to work well with others
- A sense of wider community and passion for the mission of the organization

Past experience on other non-profit boards can also be an asset. Once you know what you need on the board, compare that to what you currently have and what you expect to have in the near future. Recruitment efforts should then focus on the gaps.

Some organizations hold open houses where they provide information about what the organization is about and how people can get involved. Having a package of materials (both in print form and on your website) to distribute to prospective board members (and also ready for those who may contact you looking to get involved!) can help with recruitment efforts. It can include items such as a:

- Links to your organization's website and social media accounts
- Board member job description
- Brochure, pamphlet, or links to online information about the organization
- Information about board time commitment, meetings, committees
- Copy of the most recent annual report
- Copy of recent newsletter or e-communique of the organization
- Links to your website and social media accounts
- Orientation and development opportunities
- List of other board members
- Board member application form

### ***1.3.2 Elections***

The role of selecting new board members usually falls to the nominating committee of the board. Even in policy-governance structured organizations with few or no committees, a nominating committee often exists. Some boards have replaced a nominating committee with a governance committee. In both situations, the work focuses on identifying gaps and recruiting skilled individuals.

Nominating committees should work throughout the year, not just as board vacancies and Annual General Meetings approach. The committee is responsible for identifying potential candidates to fill vacancies and any gaps identified. Ideally, more candidates are recruited than there are positions available so that an election, rather than acclamation, occurs. In this instance it's important that candidates are aware of the nominating and election process and that just because they have been recruited doesn't mean they will automatically be elected or appointed to the board.

The nominating committee usually prepares a slate of candidates that is presented to members at an Annual General Meeting for voting. Members cast their votes for the candidate(s) of their choice, and the board is formed. This process is always the responsibility of the membership, the board and the nominating committee although staff may be asked to play a supporting role. The nominating and election process can sometimes be an awkward one for non-profit organizations, especially if no one is experienced or familiar with the procedures.

### ***1.3.3 Orientation***

Orientation occurs when a new member joins a board, and training occurs throughout the term of the board. Both are important for sustaining members' interest and contributing to a healthy organization.

Orientation may take the form of a meeting or workshop complemented by a manual or guidebook. Whatever the format, it is more than just reviewing the organization's policies. It includes discussion about the values and mission of the organization, details about governance and bylaws, information about committees, and getting familiar with the organization's office and staff.

Each board member should be given his or her own copy of a board member orientation manual. As well, the manual could be posted online for easy access. It could also be the basis for an informal orientation process. Ideally, orientation should occur prior to a member's first meeting, but realistically this often occurs at some point during the first few months of a new term. It may be led by staff or senior board members and can be beneficial to returning members as well.

An orientation manual will contain a variety of resources but should at a minimum contain:

- The organization's mission statement
- A history of the organization
- A description of the board's governance structure and operations
- Meeting dates and format
- Links to the organization's social media accounts
- Board member job descriptions
- Bylaws
- Policies and procedures, especially related to board meetings and directors
- The most recent copy of the organization's strategic plan
- The most recent copy of the organization's budget and other financial information such as core funders
- A list and description of the board's committees and their terms of reference
- Information about membership
- Minutes of recent meetings and the last AGM
- Contact information for each director and staff (including any personal social media accounts, if desired)
- Forms related to board members such as expense forms

#### **1.3.4 Activity**

Have your current board members develop your board recruitment materials. Devote a special meeting (or part of a meeting) to the board development process each year. Use the following questions and format adapted from *How to Be a Winning Board* (by the Alberta Association of Rehabilitation Centres) to understand the benefits of being a board member.

Ask current members the following questions:

1. What attracted you to become a board member with the organization?
2. What do you find most rewarding about your role on the board?
3. How can the board make board roles more attractive to both current and prospective board members?
4. What things make you feel valuable as a board member?
5. What activities do you feel are appropriate for you to be involved in on the board?
6. What activities do you think aren't appropriate?

Record the answers (you may consider having board members complete these questions privately and then present the collated data to the whole board). Encourage group discussion about the items. Write up the results in a summarized format. The results will be useful for promoting positive benefits of being involved on the board but also to help identify improvements that could encourage greater participation from current members.

## 1.4 Effective Board Meeting

Incorporated organizations are required by law to have members' meetings. This often translates into an Annual General Meeting (AGM) of the full membership and regular, more frequent meetings of the board of directors. The number of meetings a board holds in a year is outlined in its bylaws, but it's often monthly or bi-monthly although it's not unusual to only meet quarterly. Board members attend and vote at board meetings.

Other members of the organization or special guests may be welcome to attend board meetings but usually as invited visitors with no vote. The Executive Director attends board meetings as well as an ex-officio (or non-voting) member of the board.

Just because meetings are a necessary and legal part of board governance doesn't mean that they can't also be an enjoyable and productive part of the governance cycle. For board meetings to be effective they need to:

- Have a purpose
- Provide enough notice and appropriate materials for members to be prepared
- Be chaired effectively
- Follow proper meeting procedures and respect the time of board members
- Have clear supporting documents such as an agenda, minutes and other reports
- Ensure all participants have a voice and are respected
- Include some social interaction and networking time
- Accomplish results and/or have action items
- Be documented with minutes

### 1.4.1 Meeting Purpose

The usual purposes of board meetings are to:

- Make decisions
- Set policy
- Solve problems
- Plan and evaluate

These may not all occur at every meeting, but satisfied board members will leave a meeting having at least learned something or accomplished something. While boards are legally required to meet, it's equally important to value the time of the volunteer members or risk losing them. Meetings may, in some circumstances, be replaced with other actions such as memos, emails or conference calls. Although technology may be able to replace the need for some meetings, it is important that meetings still be held in accordance with organizational bylaws.

*Meeting Option Matrix*

Criteria	Options		
	No Meeting – Take Personal Action	Communicate or Meet Selectively	Convene a Group Meeting
Available time	Only you are available	Few people are available	All are available
Full understanding of subject	Only you need to understand	Some others must understand	All others must understand

### ***1.4.2 Meeting Preparation***

The role of planning and preparing for board meetings usually falls to the chairperson and the Executive Director. The extent to which each is involved is dictated by the organization's governance structure. For example, the chairperson of a hands-on administrative board may prepare the agenda after getting some input from the Executive Director while a policy- governance chair may meet with the Executive Director prior to a meeting to determine board issues versus staff issues and then plan an agenda around only the board issues.

The key to preparation is for everyone to be clear about the role they play and what needs to be done prior to the meeting. Examples include:

- Adequate notice has been provided to board members in a format that has been previously agreed upon (i.e., two weeks prior to the meeting all board members are emailed a reminder and package).
- Copies of all documents needed prior to the meeting are distributed to members or are available on an organizational Wiki (agendas, past minutes, correspondence, proposed policies, committee reports, etc.).
- Facility space is booked or confirmed along with any equipment that may be needed for the meeting (i.e., flipchart, LCD projector, coffee machine).
- Arrangements for food and refreshments are confirmed (if applicable).
- Special guests (if applicable) have been confirmed and arranged to appear at an agreed upon time on the agenda.

Key questions be considered prior to a board meeting including:

1. What is the agreed upon purpose of the meeting? (to train, inform, plan, decide?)
2. What are the desired outcomes from the meeting?
3. What materials are needed to facilitate the meeting? Who will handle them? (agenda, handouts, visual aids, etc.)
4. Are additional resource people needed? (who, who will contact them)
5. What activities can best be used to achieve the stated goal? (brainstorming, survey, discussion, etc.)
6. How much time will be needed to deal with the issues? (agenda should be planned with time frames when possible)
7. What background information needs to be circulated to the participants?
8. Where could the meeting most effectively take place?
9. Who will be responsible for room arrangements, refreshments, clean up, etc.?
10. What form of minute taking will be most effective?

### ***1.4.3 Effective Chairing***

The chairperson is ultimately responsible for ensuring that meetings stay on track, timelines are respected, everyone's voice is heard, and goals are accomplished. Most organizations have an elected chairperson in place for a term that is outlined in the organization's bylaws. However, some organizations have a rotating chair, appointing someone different from the board as a whole at each meeting. In either case it's important to have a clear job description of what is expected.

During meetings, the chair should:

- Encourage participation by all board members
- Allow time for all views and sides of an issue to be heard and discussed before a vote

- Ensure members understand the discussions and terms of an issue by asking for clarification when necessary
- Summarize discussions before voting or moving on to the next item
- Keep the meeting on schedule by adhering to the agenda and keeping board members on topic
- Manage conflicts that arise during the meeting
- Ensure decisions are made clearly and explicitly (by vote or consensus) so that there is no room left for misunderstanding or misinterpretation
- Read or call for motions, call for votes on an issue, ensure votes are counted and recorded in the minutes (if required)
- Ensure that the recorder of minutes reflects attendance, motions and votes

On some boards the chairperson does not vote unless there is a tie, but this would be clearly laid out in the organization's bylaws.

One thing most volunteers will agree on is the importance of meetings starting and ending on time. While everyone has a responsibility for ensuring this happens by reading material beforehand and staying on track with discussion, it is the chair's role to call the meeting to order, move through the agenda as per timelines, and adjourn the meeting. Waiting for a late board member disrespects those who made the effort to arrive on time, and keeping people long after a meeting should have ended disrespects everyone's time.

Of course, common sense should always play a role. If half the board is missing and you know traffic was bad then it makes sense to wait an extra few minutes if everyone present agrees. Similarly, if a topic generated more discussion than was planned the chair should ask whether the group wants to stay later or stick to the end time and defer other items to a future meeting.

It should be noted that when the chairperson is not able to attend a meeting, the vice- chair or other designated board member will assume the above duties and responsibilities.

#### ***1.4.4 Meeting Procedures & Quorum***

There are certain procedures common to board meetings such as:

- Calling the meeting to order
- Reviewing and approving an agenda
- Ensuring there is a recorder and having minutes taken
- Reviewing and approving minutes from previous meeting
- Calling for motions, a seconder and voting on items when appropriate
- Adjournment

Further to that, the board's governance structure and bylaws will dictate other aspects expected at meetings such as committee reports, staff reports and open discussion/networking time. For a board meeting to be considered legal in terms of its governance and incorporation status there needs to be quorum. Quorum represents the minimum number of voting board members who need to be present at a meeting for decisions to be made. The number defined for quorum is stated in the organization's bylaws but is generally the majority, or half plus one. For example, a board of ten may have quorum set as six which means at least six board members must be in attendance for the meeting to be called to order.

When quorum is present the chair can call the meeting to order. When quorum is not met a meeting cannot be called to order nor can any decision be made, issues voted on or minutes taken. A record should be kept that showed the meeting was cancelled due to quorum not being met.

### Explanation of Motions Template:

Type of Motion	Purpose of Motion	Requires Second	Requires Discussion	Can be Amended	Vote Required
To table	To clear floor for more urgent business / set aside	Yes	No	No	Majority
To amend	To improve motion	Yes	Yes	Yes	Majority
To refer to	To allow more careful committee	Yes	Yes	Yes	Majority
To limit or extend discussion to certain time	To provide more or less time for discussion	Yes	No	No	2/3
To call for the vote	To end discussion immediately and vote	Yes	No	No	2/3
To raise a question or privilege	To bring up an urgent matter due to undesirable conditions	No	No	No	Majority
To recess	To secure a rest	Yes	Yes	Yes	Majority
To adjourn	To end the meeting	Yes	No	Yes	Majority
To rise to a point of order	To enforce rules or call attention to rule violation	No	No	No	Majority
To appeal ruling made by Chair	To determine attitude of assembly on ruling made by Chair	Yes	Yes	No	Majority
To suspend rules temporarily	To allow special action not possible within the rules	Yes	No	No	2/3
To withdraw motion	To prevent vote or inclusion in minutes	No	No	No	Majority
To object to consideration of a motion	To prevent wasting time on an unimportant decision	No	No	No	2/3
To rescind	To repeal motion	Yes	Yes	Yes	Majority
To ratify	To approve previous action taken	Yes	Yes	Yes	2/3

#### 1.4.5 Agendas & Reports

One of the best ways to hold effective meetings is to put thought into the agenda, distribute it prior to the meeting, and then stick closely to it during the meeting. Ideally agendas should note:

- Topics / issues to be covered at the meeting



- Action required for each topic / issue (i.e., information only, discussion, decision)
- The person responsible for leading the discussion or providing information
- A timeline associated with each item

Some organizations, in keeping with their governance structure, have standing items that appear on the agenda such as a report from the governance or nominating committee. Some organizations ensure there is time at every meeting to discuss the organization's strategic plan and succession plan, especially in relation to goals achieved related to the plans. It can also be helpful to include the organization's mission statement on the agenda as a constant reference and focus.

Most boards in an effort to be effective and efficient will avoid one-way communication, i.e., having someone read a report or present information that requires no discussion or action. An Executive Director who reads through a list of activities that have occurred since the last meeting or a fundraising committee representative who reads committee meeting's minutes is not only inefficient but can be tedious and boring. It's more appropriate to include the reports and any updates in the board package and have members read it beforehand.

The chair should acknowledge the reports during the meeting and ask for any specific questions, concerns or further discussion; otherwise reports should receive no further attention at the meeting.

The same can apply to correspondence. Many organizations receive a large quantity of information between board meetings. The board package sent prior to the meeting can include a list of the correspondence and copies (if feasible and warranted). Members who want to look at the information can do so prior to or after the meeting, but time is not devoted to correspondence at the meeting unless board input is needed.

#### **1.4.6 Minutes**

The long-standing debate about meeting minutes is deciding how much information to include. It is a challenge to be able to reflect the intent of an action item without providing all of the nitty-gritty discussion details. The key is to realize that minutes are legal documents of the organization, but they are also intended to be read in the future, often by people who weren't at the meeting. While it's important that all motions, decisions and action items are recorded, it's equally important that there be some context to how the decisions were made.

At a minimum, minutes need to include:

- The date and location of the meeting
- Members who were present for voting
- Motions put forth, the mover and seconder
- Amendments to motions
- The outcome of the motion (whether it was carried or not) and record of the vote including dissenters and those who voted in abstention or by proxy

The responsibility of recording and distributing minutes is usually given to an appointed or elected officer of the board called a secretary. On some boards, responsibility for taking minutes is delegated to staff and the minutes are then reviewed and approved by the secretary. As well, some boards that don't have executive positions may appoint the secretary on a rotating basis or may delegate the responsibility to a staff person.

Minutes and action items should be distributed to board members as soon as feasible after the meeting. At a minimum they should be distributed to the board to provide enough time for members to review them prior to the next meeting. At each meeting there needs to be time allotted to raise questions, clarify items or make amendments to the previous meeting's minutes. Ideally, the minutes should have been read and reviewed prior to the meeting, eliminating the need to read through them at the meeting. Any board member who requires assistance in reading and reviewing the minutes should have the opportunity to do so prior to the meeting.

Once the minutes are approved by a vote of the board they become part of the official record of the organization. A copy of all minutes should be kept in one location along with a back-up copy. Many boards get the secretary (and sometimes the chair) to sign an official copy of the minutes. Board members should receive their own copy of minutes including any amendments.

#### ***1.4.7 Annual General Meetings***

In addition to regular board meetings, organizations hold general meetings. These are often referred to as Annual General Meetings (AGMs) because one must be held no later than 18 months after incorporation and annually thereafter. Often, there are government requirements that there must be no more than 15 months between Annual General Meetings.

General meetings include the broader membership of the organization and board members. Every member in good standing of an organization is entitled to vote at general meetings, and those not able to attend may vote by proxy (through another member who is present). Membership criteria and eligibility are set out in an organization's bylaws. The current board of an organization runs the general meeting. There are agendas and minutes taken, similar to a board meeting, but there are differences in some procedures including voting methods, notice of meetings, conflict of interest and quorum. Herb Perry's *Call to Order: Meeting Rules and Procedures for Non-Profit Organizations* provides details on the differences in procedures between board meetings and general meetings.

- Items usually addressed at general meetings include:
- Presentation of an annual report of the board of directors
- Nominations and elections of new directors
- Presentation of the financial statements of the past fiscal year (usually by the organization's treasurer or auditor)
- Appointment of auditor for the next fiscal year
- Amendments, changes or additions to the organization's bylaws

#### ***1.4.8 Activity***

The topic of board evaluation will be covered more fully in the next section, but the activities suggested below are some ways to gain input on the effectiveness of your board meetings. At the same time, the results can feed into the larger board evaluation process.

Boards can take a formal or informal approach to gaining feedback about their meeting effectiveness. Informally, once or twice a year (depending on how often the board meets) a simple survey can be handed out to directors asking questions like:

- What do you like best about board meetings?
- What do you like least about board meetings?
- Are you satisfied with the items that are usually on the agenda?
- What could be done to encourage more discussion at the meetings?

- Is the timing and location of meetings convenient for you?
- What changes would you suggest to make meetings more effective and productive for you?

## **1.5 Board Evaluation**

In the previous sections, the importance of strong and effective governance has been emphasized. If the board does not evaluate, however, all the good work it does can be in vain. Both for-profit and non-profit organizations need to evaluate their work as a way to be accountable and transparent to their stakeholders. It's a task that is often overlooked or under-rated in the non-profit field. Non-profit boards may feel they don't have the expertise or knowledge to carry out evaluation, or they may tackle it only when faced with an organizational crisis or at the special request of a third-party such as a funder.

Board evaluation is a key part of the board governance structure and is different from an evaluation of programs and services. Boards need to take ownership and control over their evaluation. To evaluate effectively a board first needs to ensure that there are benchmarks in place, many of which have been touched upon in previous sections such as:

- Having clear board job descriptions
- Hiring competent senior staff
- Having a strategic plan
- Having a strong chairperson
- Holding effective board meetings
- Adopting a governance structure that fits with the culture of the organization.

## **1.6 Purpose of Evaluation**

Board evaluation is linked with planning and is directly tied to achieving the outcomes and results outlined in the board's strategic plan. While it's important to not wait until your board is in crisis mode before doing an evaluation, an evaluation can bring to light warning signs that your board is getting off track.

The correlation between evaluation and high organizational performance states that, among other things, a high-performance organization is more likely to have:

- Competent board and staff leadership
- Board engagement in strategic planning
- A customer and results focus
- Positive relationships with key stakeholders
- Good financial stewardship
- Effective and efficient use of resources
- Clear lines of accountability
- Good meeting management
- An organizational culture that encourages good teamwork, respect for organizational norms, values staff, and encourages excellence
- Low levels of internal conflict
- Perceived legitimacy and credibility

As noted above, one of the main drivers for board evaluation is often an accountability expectation by funders. However, it's also important for the board to evaluate its work to provide accountability to individual board members, staff, clients, its membership and the broader community it serves. If done properly, it also is an effective way to gain feedback and learn how to improve its work.

Organizations that work within a performance management system understand that evaluation is a key part of measuring effectiveness, efficiency and client satisfaction.

### ***1.6.1 Evaluation Process***

The evaluation process looks at what the board has achieved and how it has achieved it. The board is responsible for evaluating the areas that pertain to governance. Staff or independent consultants are usually responsible for evaluating programs and services. The board's area of evaluation responsibilities include:

- Board management (meetings, roles of individual directors, committees, etc.)
- Board development (recruitment and orientation process, governance structure)
- Board goals, mission and strategic plan
- Evaluating the Executive Director

Some tasks may happen more regularly, such as evaluating board meetings and checking in with work related to the strategic plan, while other areas such as evaluating the ED may occur on an annual basis. Boards may choose to hire an independent consultant to assist with evaluation, but it is the board's responsibility to decide on the process and to ensure that the evaluation is implemented and the results reviewed.

United Way Canada's board development guide suggests a six-step process:

1. Decide on the purpose of the evaluation
2. Set up an evaluation structure
3. Prepare the evaluation design
4. Gather information
5. Analyze information
6. Action and implementation

For example, using this suggested six-step process, a board who decided it needed to evaluate its current governance structure could develop the following plan of action:

1. The purpose: To determine if the current structure is still an effective way to govern.
2. Evaluation structure: The board as a whole will work together on the evaluation using a combination of self-evaluation and engaging an outside facilitator.
3. Evaluation design: The board will access tools that help them evaluate effectiveness and efficiency related to the board decision-making process, the current level of board involvement of daily organizational operations, and the relationship of authority between the board and staff.
4. Gather information: A questionnaire for individual board members and senior staff will be used to anonymously collect information, and a focus group will be facilitated with the board as a whole.
5. Analyze information: An independent consultant will collect all the data, summarize and present it to the board as a whole.
6. Action and implementation: Based on the results presented to the board, the board will decide whether to maintain its current governance structure or to investigate another model that fits more with the culture of the organization based on the information collected. The board will agree on any action steps to take.

### ***1.6.2 Evaluation Questions***

Organizations can choose a variety of tools to conduct evaluations and gather information including surveys and questionnaires, self-assessment tools, personal interviews and focus groups.

Board members should conduct self-assessments regularly. This can include a brief check- in after each meeting along with a more comprehensive one annually or at the end of a term. An annual self-assessment may be kept confidential for the member's own personal growth and development goals, or it may be collected by the chairperson or board development committee so that a broader perspective can be gained about possible board training needs. A self-assessment can include items such as:

- The percentage of meetings attended over the year (or term)
- The satisfaction level of meeting preparation
- The satisfaction level of meeting participation
- Personal strengths and weaknesses
- The success level of meeting the criteria laid out in the board job description

Items that a board will want to look at when evaluating its work as whole include:

- How it operates within its mission, goals and bylaws
- Board members' understanding of their roles and responsibilities
- Board job descriptions
- The work of committees and their terms of reference
- The composition and structure of the board
- Risk management policies and safeguards
- Recruitment and orientation practices
- Evaluation procedures for senior staff and individual board members
- Accomplishments and actions taken that relate to the organization's strategic plan
- Board and organizational communication

### **1.6.3 Activity**

Board Evaluation Checklist:

- 1 – Not happening, development needed
- 3 - Ok, development may be needed
- 5 – Excellent, no development needed at this time
- DK – Don't Know
- NA – Not applicable

Rating	Performance Indicator
	Board has the minimum number of members according to the bylaws.
	Majority of board completes at least a two-year term.
	Competent board and staff leadership.
	Roles of the board members are clearly defined and respected.
	Board members provide support for staff to carry out their roles.
	Staff provides support for board members to carry out their roles.
	Majority of board attends meetings.
	Committees complete tasks in an effective and timely way.
	Committees report to the board at least twice per year.
	Board's nominating process ensures that the board remains appropriately diverse.

Rating	Performance Indicator
	Each board member has a board manual (or access to board information online) and can locate required information.
	New board members are oriented to the organization.
	New policies are discussed and approved before they are implemented.
	Policies are reviewed at least annually and updated as needed.
	Agenda and materials are given to board members with time for review before meetings.
	Board prepares for meetings by reading background material.
	Board engages in strategic planning at least every two years.
	High degree of agreement and support on values and mission.
	Good financial stewardship, budgets and reports are reviewed, understood and approved by board.
	Familiarity with business plan.
	Clear lines of accountability are in place.
	Sufficient board independence from management to make objective decisions.
	Good meeting management is in place.
	Commitment to board self-evaluation and development.
	Constructive dispute resolution process in place.
	Organizational culture that encourages good teamwork.
	Organizational culture that encourages excellence.
	Low levels of internal conflict.
	Good balance between stability and flexibility, innovative and adaptive responses to change.
	Process for handling urgent matters between meetings in place.
	Conflict of interest policy is in place and complied with by board and staff.
	Perceived legitimacy and credibility in the community.
	Positive relationships with key stakeholders.
	Board members are clear about who is the official spokesperson for the organization.
	Effectiveness of the board and committees is evaluated annually.
	Effectiveness of the board meetings is evaluated after each session.
Comments / Concerns / Suggestions for improving the board:	

## **2. MANUAL 2: DATA COLLECTION<sup>5</sup>**

### **2.1 The Training Manual**

The training of Fisheries Data Collectors (FDCs) (the trainees) will be done through senior staff of the Fisheries Divisions (FD) (trainers) and will cover the following topics:

- Introduction to the training course
- Module 1: Why collect data
- Module 2: What to collect;
- Module 3: How to collect data
- Module 4: National data collection systems
- Module 5: Roles in data collection
- Module 6: Reporting
- Module 7: Training of enumerators

The training will be participatory to ensure that FDCs draw on their own experience, to which they can relate the training. This is reflected in the setup of the manual. For each module there are three sections in the manual:

1. The section for the trainers explaining the training objective and techniques for the module. (trainers manual)
2. The section distributed beforehand to FDCs with some information on the module (FDCs manual Part 1)
3. The section to be distributed after the training module is finished, providing background, theory and other information (FDCs manual Part 2).

#### *The Training Method*

As stated above, the training will be participatory to ensure that FDCs draw on their own experience, to which they can relate the training. The exercises and questions are designed to get people to think, draw on their experience and learn from each other. These are supplemented by the material provided by the trainers.

The training will consist of presentations, hand out of printed material, plenary group discussion and working group sessions using card storming techniques

### **2.2 Opening Course**

Opening • Trainers material

Objective: The trainees (District Fisheries Officers) develop a clear, common understanding of course objectives; agree on training rules and training schedule

Estimated duration: 1.5 hours

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<sup>5</sup> The following materials have been adapted from various international sources, particularly the Training Course for District Fisheries Officers Fisheries data collection and analysis, Tanzania.  
[http://www.unuftp.is/static/files/short\\_courses/Data\\_collection\\_KenTanz09/Data%20Collectio%20training%20manual%20Tanzania%20final%20sep%202009%20.pdf](http://www.unuftp.is/static/files/short_courses/Data_collection_KenTanz09/Data%20Collectio%20training%20manual%20Tanzania%20final%20sep%202009%20.pdf)

#### Training Technique:

- Course opening
- Formal opening
- Ask the FDCs to introduce themselves and say what they expect from the training course
- Explain objective of the training course (PP)
- Introduction to the modules and how the training will be conducted i.e.: using PowerPoint material, card storming techniques or printed handouts

Plenary questions on above FDCs are asked to propose rules. Trainer can then suggest others leading to agreement by the FDCs. (Flipchart and we ask the participants to define the rules).

Suggestion: At the beginning of each course, participants should agree on a list of rules for the conduct of the course, which is a set of points about behaviour and practices during the sessions. These may include points such as:

- All participants should be punctual.
- The trainers and participants should all ensure that the training workshop keeps to time so that all of the material is covered. Participant should appoint a timekeeper.
- Participants must stay at the workshop and not come in and out, which would mean they would miss important points and disrupt the training.
- There must be breaks and each day should finish on time, so that participants have time to rest and recover
- All participants must listen to and respect each other's views.
- Mobile phones switched off during training sessions.
- Participants should contribute to the discussion
- Participants should wear casual clothing during course
- If needed participants could select a course leader who will act as a mediator between trainers and FDCs
- No sleeping during the training

### 2.3 Module 1: Why Collect Data

**Objective:** FDCs understand the need for data collection and the use of data in fisheries management and policy development

**Estimated duration:** 1.5 hours

#### Training Technique:

- Why collect data
  - Start directly with card storming, explain card storming technique
  - Card storming: Break into small groups and use card storming technique to obtain the ideas from the participants about why data are needed.
- As part of the activity FDCs should discuss what is meant by the articles of the Code of Conduct in Boxes 5 and 6.
- Plenary: Groups report back. The trainer groups the cards of the FDCs in the three main topics:
  - (i) National Policies
  - (ii) Fisheries Management
  - (iii) Regional / International requirements



- Discuss the three topics

Material Background:

- Do you know the Code of conduct for responsible fisheries?
- Do you know what a fish stock is?
- Do you know what could be the impact of fishing on a fish stock?

In this module we discuss why you are collecting data and will use for the first time the card storming technique

#### Box 1: Card storming Technique

FDCs are organized into small groups; each group is given a pile of A5 cards and asked to write ideas, issues or suggestions, using one card for each of these.

There are 3 rules:

1. Clearly state one idea in a sentence
2. Write one (1) idea per card
3. Write clearly and large

The cards will be posted up on a board for everyone to see.

The cards / ideas will then be sorted into categories and further explored in small group and whole group discussion.

- Ask the FDCs if they can name some National policies for which data of the fisheries sector is important

Fisheries management

- Ask FDCs why we need fisheries management
- Search for topics as:
  - Stock size are limited
  - Fishing effort has impact on stock size
  - There is optimal level exploitation
  - Fishing beyond the sustainable level can result in reduced fish catches
  - Emphasize long-term sustainability

Regional / international requirements

- Ask FDCs to give example

Fill in gaps - Summing up

## 2.4 Module 2: What to Collect

Objective: The FDCs understand what they have to collect, and how the collected data can be used in fisheries management.

- Estimated duration: 1.5 hours
- Training Technique: What to collect for fisheries management
- Introduction using PP

Card storming: Break into small groups and ask the FDCs to list the data needed for Fisheries management. Group the cards following:

- Effort (Collected or calculated)
- CPUE (Collected or calculated)
- Species
- Total catch (note calculated, not collected)
- Stock assessment, length frequencies, acoustic surveys
- other data

Plenary: In discussion with FDCs, group data for routine data collection and that for ad hoc research projects.

- Effort (Collected or calculated), routine
- CPUE (Collected or calculated), routine
- Species, major species, routine
- Total catch (note calculated, not collected), routine
- Stock assessment, length frequencies, acoustic surveys, ad hoc
- other data, ad hoc

Summary: Training emphasize on routine data collection: Fishing effort, Total catch, CPUE Objective: The FDCs understand what they have to collect, and how the collected data can be used in fisheries management.

In this module we will only discuss fisheries data needed for the development of fisheries management plans.

We do this through card storming, and you are requested to write down on your cards what kind of data is needed for fisheries management

### 2.4.1 Module 2A: Trainers material · What is needed to estimate fishing effort

Objective: The FDCs understand what is effort and what data is needed to estimate fishing effort

- Estimated duration: 1.5 hours
- Training Technique: What is needed to estimate fishing effort

Plenary session: Take the cards for effort from the previous card storming of Module 2A. Ask FDCs:

- What is fishing effort?
- What is needed to estimate fishing effort?
- How is fishing effort used for informing fisheries management decisions? Trainer: Through plenary group discussion followed by traditional lecture

- Structural fleet data or capacity: frame survey, vessel register, register of fishing licenses etc.
- Data used to calculate effective fishing effort measured as number of trips, number of vessels active per day, boat activity coefficient (BAC) or gear activity coefficient (GAC).
- Try to explain that at small landing site no of active boats is easy to see, So, fishing effort= No of active vessels\*no of fishing days
- In large water body / or large landing site, where you cannot follow all boats you need to use Boat Activity Coefficient. Then fishing effort = Fishing capacity \*BAC\* no of fishing days, whereby BAC = No active boats sampled / Fishing capacity If formula fishing effort = fishing capacity \*activity level or
- Fishing effort = Fishing capacity \*BAC\* no of fishing days, is understood then distribute exercises,

Go through exercises, discussion

In the previous module you identified the data needed for fisheries management. Fishing effort was considered to be one of the data needed for fisheries management

First questions to be addressed by you:

1. What is fishing effort?
2. What is needed to estimate fishing effort?
3. How is fishing effort used for informing fisheries management decisions?

Use the information you identified for fishing effort in the previous module to answer these questions

#### Box: Fishing effort exercise

##### Example 1

- Small landing site
- Total numbers of Pirogues at selected Landing Site from frame survey: 35
- Average number of fishing days per month: 27
- It is possible to monitor all Pirogues and the average number of Pirogues active per fishing day is 31

Calculate the fishing effort for this example

(837 Pirogue fishing days)

##### Example 2

- Large Landing site
- Total number of Pirogues: 1200
- Average no of fishing days per month: 27

It is not possible to monitor all Pirogues, and 120 Pirogues were sampled of which 90 were active.

Therefore, boat activity coefficient (BAG) =  $90/120 = 0.75$

Calculate the fishing effort for this example

(24300 Pirogue fishing days)

#### **2.4.2 Module 2B: Trainers material · Catch per Unit of Effort (CPUE)**

Objective: The FDCs understand what data is needed to estimate CPUE.

- Estimated duration: 1.5 hours
- Training Technique: What is needed to estimate CPUE?
  - Introduction Take the information from Module 2 A
  - In small groups,
    - ✓ Ask participants if they know what is CPUE
    - ✓ Ask participants for examples of CPUE
    - ✓ Ask the participants “what are the best measures of CPUE?”

Groups report back to plenary. Discussions

- Ask the participant why we need CPUE (Total catch estimation and fisheries management)
- Boat based CPUE versus Gear based CPUE

CPUE and Fisheries management will be covered in Module 2E Summary using PP: How CPUE can be used as an index on stock size

Use the information you identified for CPUE in the previous module 2A to answer these questions.

Exercise Catch per Unit of Effort

##### Exercise 1

- Pirogue 1      10 kg / day
- Pirogue 2      5 kg / day
- Pirogue 3      10 kg / day
- Pirogue 4      5 kg / day

What is the average Catch per boat per day?

$$\begin{aligned}\text{CPUE} &= (\text{catch Pirogue 1} + \text{catch Pirogue 2} + \text{catch Pirogue 3} + \text{catch Pirogue 4}) / \text{No Pirogues sampled} \\ &= (10 + 5 + 10 + 5) / 4 = 7.5 \text{ kg / day}\end{aligned}$$

##### Exercise 2

- Pirogue 1      7 kg / day
- Pirogue 2      12 kg / day
- Pirogue 3      6 kg / day
- Pirogue 4      10 kg / day
- Pirogue 5      5 kg / day

What is the Catch per unit of effort? CPUE = ?

### Exercise 3

- Pirogue 1      5 kg / day
- Pirogue 2      10 kg / day
- Pirogue 3      8 kg / day
- Pirogue 4      10 kg / day
- Pirogue 5      5 kg / day

What is the Catch per unit of effort? CPUE = ?

### Exercise 4

- Pirogue 1      50 kg / week
- Pirogue 2      50 kg / week
- Pirogue 3      60 kg / week
- Pirogue 4      30 kg / week
- Pirogue 5      70 kg / week
- Pirogue 6      100 kg / week

What is the Catch per unit of effort? CPUE = ?

### Exercise 5

- vessel 1      20 kg / fishing trip
- vessel 2      35 kg / fishing trip
- vessel 3      40 kg / fishing trip
- vessel 4      50 kg / fishing trip
- vessel 5      10 kg / fishing trip

What is the Catch per unit of effort? CPUE = ?

### **2.4.3    Module 2 C: Trainers material · Total catch**

**Objective:** FDCs should be able to calculate total daily, monthly and annual catch from boat- based and gear- based CPUE

- **Estimated duration:** 1.5 hours
- **Training Technique:** Total catch

Introduction, using PP: How to calculate total catch

- Traditional lecture on Total catch
- Check if FDCs understand the boat and gear activity coefficients (BAC and GAC) concepts.
- Check that FDCs do not confuse boat-based CPUE and gear-based CPUE

FDCs work in pairs on exercises for calculation of total catch by species. Include examples with errors for FDCs to identify.

Go through exercises, discussion

## Exercises

Small landing site:

- Suppose the following data was collected from selected landing site in January 2009; Total numbers of Pirogues from frame survey = 180
- Number of fishing days in January 2009 = 31
- Average number of active Pirogues on a day = 175
- Average CPUE = 6.8 kg/day

What is the total catch for January 2009? (36,890 kg )

To estimate the total catch an entire district:

- Total number of fishing boats in selected coastal area = 3,200 Pirogues (F=3,200) is spread over 16 landing sites,
- Number of fishing days in January 2009 = 31,
- one landing site sampled with 97 out of 100 Pirogues active
- CPUE = 6.93 kg/boat/day (calculated average)
- What is the total catch for January 2009?

(666,832 Kilograms or 667 tonnes)

Total catch by species:

In the above landing sites the species composition was as followed

*small landing site#1*

<u>Species name</u>	<u>Species composition (%)</u>	<u>Total catch by species</u>
Flyingfish	37	
Jacks	22	
Dolphinfish	15	
Others	26	

*small landing site #2*

<u>Species name</u>	<u>Species composition (%)</u>	<u>Total catch by species</u>
Flyingfish	15	
Jacks	38	
Dolphinfish	22	
Others	25	

Calculate the catch by species and fill the form

## 2.5 Module 3: How to Collect Data

**Objective:** By the end of Module 3: FDCs understand basic statistical concepts and that samples need to be collected according to statistical protocols so as to obtain reliable data and to reduce the risk of bias.

- Estimated duration: 30 minutes
- In an introduction the trainer explains the objectives of the two modules

3A: Basic Statistical methods and concepts

**Objective:** The FDCs understand the basic statistics of data collection

3B: Sampling techniques and dealing with potential problems

**Objective:** The FDCs realize what can go wrong at various stages of the data collection process

### 2.5.1 Module 3 A: Trainers material • Basic Statistical methods and concepts

**Objective:** The FDCs understand the basic statistics of data collection

Estimated duration: 2.5 hours

Training Technique: Basic statistical methods and concepts

- Provide the example of "reef area", 100 hectares, 20 boats, 1 landing site. Unlimited funds. Ask "what would be best way to monitor this reef?" - to get the most accurate result.
- Short discussion with partner, followed by discussion in plenary

FDCs in small groups: Hand out fact sheet of general fishing area and ask if the same method can be used. If not, why not? Ask to list reasons why not.

=> Conclusion: Sampling is needed

After this short introduction card storming on major issues followed by plenary discussion. Major issues through traditional lecture

- Stratification
- Sample size, minimum sample size 30 crafts, per type, per month

Summary on Major strata and Minor strata and sampling table

### 2.5.2 Module 3B: Trainers material - How to sample and dealing with potential problems

**Objective:** The FDCs realize what can go wrong at various stages of the data collection process

Estimated duration: 2.5 hours

Training Technique: Monitoring techniques and dealing with potential problems Card Storming:

- Break into small groups.

- List problems leading to inaccurate data Plenary: Discuss problems and make a complete list

Card Storming: The same groups.

Ask what problems can be solved and how.

Plenary: Discuss solutions to problems and make a list. Summing up and filling in gaps, using PP.

## **2.6 Module 4: National Data Collection Systems**

To be developed based on the country in which the training is being implemented.

## **2.7 Module 5: Roles in Data Collection**

**Objective:** The FDCs get a clear picture on their roles and responsibilities in the data collection system.

Estimated duration: 1.5 hours

Training Technique: Roles of FDCs and enumerators in data collection

- Introduction
- Card Storming: Break into groups. How do you see your role as FDCs? What specific functions do you have?
- Plenary Flipchart, Create a complete list of functions, with emphasis on data collection
- Plenary: Discuss list and roles in general

## **2.8 Module 6: Reporting**

**Objective:** The FDCs know their responsibilities in data reporting and understand data flow from landing site to HQ.

Estimated duration: 1 hour

Training Technique: National reporting

- Introduction to National reporting and data flow
- Plenary: Each group describes their understanding of how the system works. List problems, compare and discuss.

### **2.8.1 Module 6A: Trainers material · Storage and use of data**

**Objective:** The FDCs know how to store and use data at District level

Estimated duration: 1 hour

Training Technique: Storage and use of data

- Introduction to Storage and use of data



- Group discussions: Split into groups say two or three. Each group will discuss on storage and use of data
- Plenary: Each group describes their finding and understanding on storage and use of data
- List problems encountered during the process, compare the presentation from different groups and discuss.
- Summing up

## 2.9 Supporting Material for Module 1

### 2.9.1 *Data needs for national policies*<sup>6</sup>

Fisheries policies. It is essential to have adequate data to formulate a useful policy for the whole fisheries sector. Fisheries policies should address the fishery sector as a contributor to the food supply and economy at local and national levels, and as a critical component of the ecosystem. Hence, data collection should cover as far as possible all aspects of a fishery, from the natural resources, their exploitation, the needs of local consumers, to industry and trade.

Food security is an over-riding concern for natural living resources policymakers, planners and administrators, especially in many developing countries. Fish may be the major source of animal protein for many communities. It is essential to be able to quantify the dependence on fish as a food source, so that policies and management ensure sustainable use and sufficient access for dependent communities.

Fisheries contribution to the economy. For national and local policymaking and planning, it is essential to describe the contribution of fisheries to the economy. If managed effectively, fisheries are able to generate substantial economic benefits for the national and local economies. Assessments of the economic contribution of fisheries need to take into account the generation of income for the local community, of returns to the broader community and of foreign exchange from export earnings. Various countries also obtain revenue from charging fees to non-national fishing boats for access to the resource within their Exclusive Economic Zone (EEZ).

Fisheries impact on the ecosystem. Fisheries reduce wild fish populations, decreasing the population sizes below that of the unexploited stock. This may not only affect the exploited population but also the interrelated resources. It is therefore important to monitor changes in the fish community as well as the exploited stock, to ensure the ecosystem is not damaged by the fishery. Catch, effort, discards and biological data are required to monitor the direct effects of exploitation, and fisheries-independent methods and environmental monitoring may also be necessary to track all ecological changes. For inland fisheries, the creation and loss of habitat is often a determining factor in production. Seasonal and long term changes in the area of flooding need to be monitored alongside fishery activities to account for different factors influencing fish stocks. In some cases, special environmental monitoring may be necessary where an inland or marine fishery may cause significant changes to the underlying habitat. This is of special concern for conservation as habitat change is the primary cause of species

The purpose of collecting data is to gather information to inform decisions regarding activities aimed at fulfilling policy objective and for monitoring policy implementation. Thus, data collected should be determined by what the policy objectives are. Below are some examples of policy objectives, and information requirements relating to them. However, only a part of this information is collected by enumerators at landing sites.

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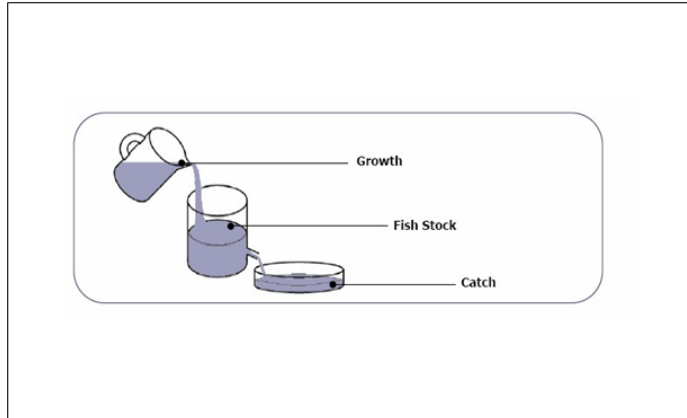
<sup>6</sup> Adapted from: Guidelines for routine collection of capture fishery data (FAO Fisheries Technical Paper 382. FAO 1999)

Water jug concept (from ParFish) – see image below

We can imagine a fish stock as a bucket of water, where water is being poured in the top (growth and reproduction of the fish stock) and a tap is taking water out of the bottom (natural mortality and fish catch).

Using the water jug concept to explain fish stock dynamics

The key is that, for a stock that is being fished, the greater the number of fish, the more will be added by reproduction.



### **3. MANUAL 3: DOCKSIDE MONITORING MANUAL<sup>7</sup>**

#### **3.1 Monitoring an Offload to a Dealer**

1. If the vessel is issued a Dockside Monitoring Waiver:

The DSM vendor, when confirming that the trip end hail has been received, must notify the vessel they are receiving a DSM Waiver. The vessel operator must provide copies of all VTRs and dealer receipts for the trip to the Sector Manager (SM), or SM designated third party, within 24 hours of offloading.

2. If the vessel is selected for Dockside Monitoring coverage:

- (a) The vessel may land, but no offloading may commence until the Monitor is present.

NOTE: If a vessel begins offloading or offloads the catch completely before the Monitor arrives the Monitor will report immediately to their provider.

NOTE: If any portion of the catch is offloaded without a Monitor present, the offload cannot be a complete DSM event, even if a dealer report / tally sheet is available.

- (b) Vessels offloading at more than one dealer or facility must have a Monitor present during the offload at each location.
      - (i) The DSM provider is responsible for logistics and coordination of all DSM activities.
    - (c) Upon meeting the vessel at the offloading site, the Monitor must:
      - ✓ Collect copies of all VTRs corresponding to the trip, with all information completely filled out by the vessel operator (no blocked cells).
      - ✓ Record whether or not the scales are certified by the dealer's state.
      - ✓ Observe and record whether ice and box weights are tared by the dealer before the catch is added. If the scale is not tared the monitor will record the weight of the ice and box from the dealer and record that weight in their report.
      - ✓ Ask the captain whether all catch has been offloaded, and whether any is being retained for personal use. The Monitor must record the captain's estimate of weight of each species being retained for home use or retained on the vessel and record the reason(s).

NOTE: The monitor is not required to board the vessel. The captain will inform the monitor that all fish have been offloaded. If for some reason the monitor suspects all catch has not been offloaded, when told Dockside Monitoring Program that it was, record the situation in the COMMENTS and report to you provider.

- ✓ Either the Monitor or dealer must record the weight of offloaded fish, by species (and market category, if culled), in a report. This report must be signed by the Monitor and the dealer. The Monitor must keep a copy of the signed report.
- ✓ Provide accurate and complete data to the SM, and / or DSM provider, within 24 hours of the completion of the DSM event.
- ✓ Send copies of the VTR(s), the dealer receipt(s) if separate from the Monitor's report, and the Monitor's report to the SM and / or DSM provider.
- ✓ Keep a copy of his / her report, which must be electronically stored by the DSM vendor.

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<sup>7</sup> This material was adapted from various international sources, including JAVATEC and NOAA Fisheries Service

### 3.2 Monitor an Offload to a Truck

1. Each sector must specify in its operations plan the remote offloading facilities where sector members will be allowed to offload catch to trucks. The DSM vendor will provide all information to the Monitor concerning remote locations and roving events.
2. Offloading of landings to trucks and subsequent weigh out of landings at all dealer facilities are considered separate (in terms of individual monitors) but conjoined (in terms of fishing trip) events. If a trip is selected for DSM and will offload to a truck, the trip must have a Roving Monitor (RM) present to witness all offload activities, as well as a Dockside Monitor (DM) present at each dealer that receives the fish to certify weigh-out of all landings. The RM and DM may be the same or different individuals.

NOTE: The DSM provider is responsible for logistical support and coordination of operations.

3. If the landings are weighed by a representative of a certified dealer in front of the RM before being loaded into the truck, the event must follow the protocol for offload at a dealer (See Offloading to a Dealer), and a complete DSM event will ensue.
4. If the landings are not weighed by a representative of the receiving dealer in front of the RM before being loaded into the truck, all requirements of DSM when offloading to a dealer will apply (except weight and dealer-receipt records), and the additional requirements of this section will also apply.
5. Additional requirements:
  - (a) Dockside Monitor
    - ✓ All fish must be weighed in the presence of a DM at the receiving dealer(s) when the truck offloads.
    - ✓ Sign and collect a copy of the dealer report/tally sheet OR generate a Dockside Monitoring Weigh-out Report signed by the monitor and the dealer.
    - ✓ Submit all paperwork to the DSM provider
  - (b) Roving Monitor
    - Upon meeting the vessel at the offloading site the RM must:
      - ✓ Collect copies of all VTRs corresponding to the trip, with all information completely filled out by the vessel operator (no blocked cells).
      - ✓ If there are no scales at the offload site, record the number of totes of each species and the captain's estimate of the weight of each species in each tote.
      - ✓ Ask the captain whether all catch has been offloaded, and whether any is being retained for home use. The RM will record the captain's estimate of weight of any species being retained for home use or retained on the vessel and record the reason(s).
      - ✓ Record all offloaded catch, by species (and market category, if culled), in a report, unless the driver creates such a report or manifest that the RM may use. This report shall be signed by the RM, and the RM shall keep a copy of the signed report.

NOTE: The driver's manifest is similar to a Dockside Monitor collecting the dealer report / tally sheet.

NOTE: Regardless of if a DSM event is fully completed by a Roving Monitor, all totes must still be tagged appropriately by the RM. This will help avoid confusion at the receiving dealer and mark the catch as being properly monitored.

- (c) Ensure that each tote is tagged with appropriate identifying information, including but not limited to:
  - ✓ Serial number of first VTR page filled out for that trip
  - ✓ RM ID number
  - ✓ Tote number
  - ✓ Species
  - ✓ DSM event complete? Yes or No

NOTE: The DSM provider is responsible for supplying tote tags to monitors

- (d) Send copies of the VTR(s), driver manifest(s) if separate from the RM's report, and the RM's report to the DSM provider
- (e) DSM provider will keep a copy of the RM's report, which must be electronically stored.

NOTE: The DSM provider is responsible for matching all corresponding paperwork/reports from all parts of the offload and weigh out of the vessel's catch.

### **3.3 Responsibilities of a Dockside Monitor**

#### **3.3.1 Criteria for a Complete Dockside Monitoring Event**

1. The Dockside Monitor and / or Roving Monitor must witness the offload of the entire catch
2. The Monitor must witness the weighing of the entire catch
3. The Monitor must obtain a copy of the VTR from the vessel captain

NOTE: In a roving event, the RM will collect the VTR(s) from the captain

4. The Monitor must obtain a copy of the dealer report/tally sheet and sign the original OR Generate and complete a Dockside Monitoring Weigh-out Report as provided by the Dockside Monitoring (DSM) vendor
5. The Monitor's data must be available to the Northeast

### **3.4 Reporting Requirements**

The Monitor may collect a copy of the dealer report or official tally sheet. The Monitor must sign the dealer's original copy and obtain a copy. If necessary, a photocopy of the signed dealer report is acceptable.

NOTE: Signing the dealer report/tally sheet is signifying that all catch has been accounted for on the dealer's report / receipt properly and that the entire offload was witnessed by the Monitor according to NMFS protocols.

NOTE: A combination of the dealer report / tally sheet and a Dockside Monitoring

## Weigh-out Report

If there is no available Dealer Report then a Dockside Monitoring Weigh-out Report is completed.

The Monitor must fill out a separate Dockside Monitoring Weigh-out Report for each dealer involved in the offload process. Your provider must supply all monitors with an appropriate Dockside Monitoring Weigh-out Report. All Dockside Monitoring Weigh-out Reports should contain the following fields:

### **3.4.1 Identifying Information:**

1. Date Landed AND Date of Weigh-out
2. Monitor ID
3. Offload Time
  - Offload start time
  - Offload end time
  - Total offload time
4. Vessel Information
  - Vessel Name (can be found on the Vessel Trip Report (VTR) or is usually located on the bow or stern of the vessel)
  - USCG DOC. Or STATE REG. NO (also referred to as the Hull Number, which can be found on the VTR, collected from the vessel operator, or is usually located on the side, or wheelhouse of the vessel)  
NOTE: Some vessels will have letters in their hull number (MS1234)
  - Permit Number (can be found on the VTR or collected from the vessel operator)
  - VTR Number (located in the upper right of the VTR)
5. Dealer Information
  - Dealer Name
  - Dealer Number: This is the federal permit number issued to a dealer by the NMFS Northeast Regional Office
6. Sector Information
  - Sector Name (should be obtained by your provider or can be collected from the vessel operator)
  - Port Landed

### **3.4.2 Scale Information:**

1. Scale Certified? Yes or No

This can be obtained by asking a dealer or the presence of a certification sticker.

‘YES’ Check off or circle ‘Yes’ and record the certification date.

‘NO’ If the scale is not certified, the expiration date is expired, or the certification information is not known or not available for the MONITOR to see, the Monitor will still witness the offload and record the reason for selecting ‘NO’ in the COMMENTS section of your Dockside Monitoring Weigh-out Report.

2. Certification date

If the scale has been certified, record the date shown on the certification sticker or as documented in the dealer's records.

3. Dealer Box Weight Used?

If the scale is not tared or the monitor does not witness the scale being tared, record the ice + box weight tare estimate. This can be obtained from the dealer.

4. Dealer Box Weight (lbs.)

Record the Dealer Box Weight in whole pounds. This information is obtained from the dealer. Many dealers use an established 'standard box weight'.

Example: Acme Dealer adds 14 lbs. / tote, as a form of taring their scale.

**3.4.3 Offloading Fish:**

Have all fish been offloaded? Yes or No

1. YES'. Check off 'Yes'.

2. If 'NO,' record in the COMMENTS section:

- (a) Species
- (b) Weight estimate obtained from the vessel captain
- (c) Reason fish are not being landed (i.e. offloading remainder of catch at a different dealer or on a different day)

NOTE: If you see a tote of fish that has been offloaded but has not been weighed, record the species and estimated weight on your Dockside Monitoring Weigh-out Report and comment as to why the fish was not weighed. It is the monitor's responsibility to account for all catch whether or not it's properly weighed or recorded by other parties.

NOTE: If the captain or crew are keeping fish for personal consumption, the monitor will report the species and estimated weight on their Dockside Monitoring Weigh-out Report. Even if the monitor does not witness the retained fish leave the vessel, that specific portion of the catch will be considered 'offloaded.'

NOTE: A monitor's role does not include any type of enforcement. If fish are not weighed properly the monitor will observe and describe on a Sector Incident Report.

3.4.3.1 Catch Information:

1. Species Name (Common Name)

- Record the Species
- See Appendix F: Species List (Common Name)

2. Market Category

- Record the Market Category. This can be obtained by the dealer.
- See Appendix B: Market Category

3. Total Weight Recorded From the Scale
  - By Species and Market Category
  - This is the number that is displayed on the scale after a tote has been filled or completed.
  - Round to the nearest whole pound
4. Number of Totes Weighed
  - Record the total number of totes weighed for a particular Species and Market Category
5. Catch Destination
  - This is defined as where the catch is after sorting. This can also include fish discarded at the docks (i.e. discarded due)

#### 3.4.3.2 Names and Signatures:

The Dockside Monitor Weigh-out Report is a report that is generated by the monitor.

1. The Monitor must print their ID number and sign the Dockside Monitoring Weighout Report.
2. If a Monitor cannot obtain a copy of the Dealer report / tally sheet, a representative of the Dealer must print their name and sign the Dockside monitor Weigh-out Report.

The Dealer Report is a report generated by the dealer.

1. If a copy of the dealer report / tally sheet is obtained, the Monitor must sign the original copy.

Signing the dealer report / tally sheet is signifying that all catch has been accounted for on the dealer's report / receipt properly and that the entire offload was witnessed by the Monitor according to NMFS protocols.

NOTE: A monitor may generate their own Dockside Monitor Weigh-out Report and obtain a copy of the Dealer Report / Tally Sheet.



## **PORTFOLIO OF FISHERY-RELATED TRAINING MATERIALS**

### **Report Overview**

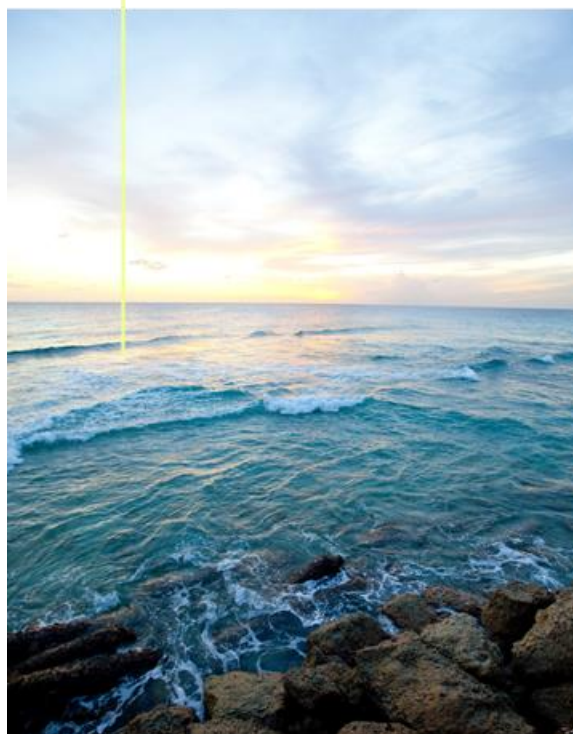
This project, "Technical Support to Facilitate Long- term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fisheries", has focused on measures to enhance livelihoods and human well-being. Training can be beneficial to all sectors of the fishery and all stages of the value chain.

Understanding the types of training programs and workshops that have been available to fishery sector profiles is important in order to determine where future efforts should be focused.

### **Training**

There have been no training programs delivered specifically for this project, however, there are academic and international institutions that have offered ongoing training programs to interested stakeholders that are applicable to the flyingfish fishery. This has included numerous training workshops previously held on a variety of different topics including: fisheries management, governance, policy, business / administration, safety at sea and more. Many of these workshops could be useful for future training activities for organizations and agencies involved in across the fisheries value chain.

Often the level of education is a prerequisite to being hired in fishery management or fishery enterprises, however, as in many workplace environments additional focused training can be beneficial in enhancing skills and capacity. This is particularly important for maintaining livelihoods and careers.



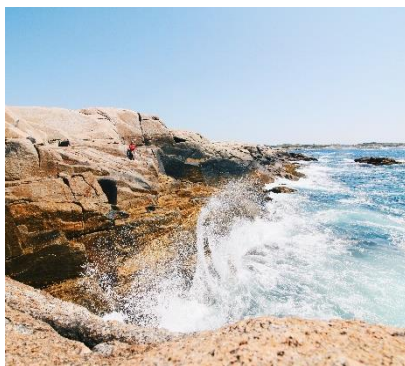
## Governance. Policy. Planning.

Governance, policy and planning training courses and workshops have been conducted understanding the concepts and approaches to fisheries and to promote oceans governance. Additionally, workshops and training courses can offer participants insights on the challenges that face fisheries governance and explore ways to strengthen their capacity to address these challenges. Some examples are illustrated below. Several fisheries management staff from Member States have been involved with one recurring course, offered annually by the International Oceans Institute.



## Training Courses.

### Featured Course: IOI Training Workshop on Ocean Governance, Policy, Law & Management



**Duration:** 2 Month

Residential Program in May -  
July offered every year  
in Nova Scotia, Canada.

**Module 1:** Orientation and  
Introduction

**Module 2:** Ocean Sciences

**Module 3:** Integrated

Coastal and Ocean  
Management

**Module 4:** Law of the Sea  
and Principled Ocean  
Governance

**Module 5:** Fisheries and  
Aquaculture

**Module 6:** Communications  
and Negotiation

**Module 7:** Maritime Security

**Module 8:** Marine  
Transportation

**Module 9:** Energy

**Module 10:** International  
Round Table and Conclusion

## Previous Workshops

Workshops	Description	Location
Oceans Economies and Trade Strategies Workshop	National stakeholder workshop held in February to gather sectoral economic and trade data and information on Barbados' oceans economy.	<b>Barbados</b>
Workshop on Mainstreaming Climate Change Adaptation, Disaster Risk Management and Stewardship into Fisheries Governance	Climate Change Adaptation in the Fisheries of Anguilla and Montserrat Project	<b>Anguilla</b>
Capacity building Workshop for the Caribbean region for National Biodiversity Strategies and Action Plans	Secretariat of the Convention on Biological Diversity - mainstreaming of biodiversity and the integration of climate change	<b>Trinidad and Tobago</b>
Regional Training and Trainers Workshop for Mentors	19 mentors from 17 countries and 5 resource persons participated in the fisherfolk mentors' workshop	<b>Saint Lucia</b>
Final Regional Training of Trainers Workshop for Fisherfolk Mentors	Implemented by CANARI in partnership with CERMES and others. The goal of the project is to improve the contribution of the small-scale fisheries sector to food security in the Caribbean.	<b>Anguilla</b>

## Fisheries Management.

Training workshops and courses have been beneficial to many senior fisheries staff. Enhancing understanding of the processes in fisheries management can have similar benefits across the value chain. Past workshops and training courses have covered a range of topics including management approaches, conservation measures and scientific analysis. In particular, the Caribbean Fisheries Exchange Program has been noted as a success amongst Member State Fisheries Officers.



## Training Courses.

Featured Course: Caribbean Fisheries Exchange Program



**Description:** Caribbean Fisheries Exchange Program through Florida Sea Grant provides an extended training opportunity to Gulf and Caribbean-based fisheries professionals.



### Training Topics:

1. Hazard vulnerability and risk assessment
2. Community-based fisheries co-management
3. Data collection and analysis methods
4. Learning GIS

**Program is in its seventh year has hosted participants from Dominica, St. Kitts and Nevis, Jamaica, Antigua and Barbuda and Trinidad and Tobago**



Previous Workshops

Workshops	Descriptions	Locations
Regional Fisheries Workshop: Investing in Blue Growth	Discussed fisheries issues under the Theme "Investing in Blue Economic Growth".	Grenada
Fisheries Law and Management Training Workshop	18 senior fisheries officers and marine management experts from 10 member countries of the CRFM participated in the workshop.	Australia
Climate Change Adaptation in the Eastern Caribbean Fisheries Sector	Hosted by CC4Fish focused on increasing resilience and reduce vulnerability to climate change impacts in the Eastern Caribbean Fisheries Sector.	Barbados
Basic Fishermen Training Course	BFTC has run for 12 years with the goal to develop the necessary competencies and skills in fisheries to enable fishers to optimize the potential of the fishing industry.	Dominica
Climate Change Adaptation and Disaster Risk Management and Fisheries Management Plans	Hosted by CANARI and UWI - CERMES for policymakers, fisheries managers, fisherfolk and other key stakeholders	Anguilla and Montserrat

## Previous Workshops

Workshops	Descriptions	Locations
Regional Workshop on Marine Protected Areas as a tool for responsible fisheries and sustainable livelihoods	Attended by 55 participants including representatives from government fisheries departments, environmental agencies, fisherfolks, research institutes, etc.	<b>Barbados</b>
Training Workshop on Management Communication and Advocacy for Fisherfolk Organisations	Organized by CRFM/ CTA to enhance the capacities of leaders and managers of primary and national fisherfolk organisations and the regional network of national fisherfolk organisations.	<b>Saint Lucia</b>
Biodiversity and Protected Areas Management Programme	Representatives from government agencies and civil society organisations with mandates for and active engagement in terrestrial protected areas management.	<b>Trinidad and Tobago</b>
Strengthening Organisation and Collective Action in Fisheries	Present findings from in-depth case studies and recommend actions for strengthening organizations and collective action in small-scale fisheries. Hosted by CERMES.	<b>Barbados</b>
Training Manual for Management, Communication and Advocacy for Fisherfolk Organisations	Focused to enhance the capacities of leaders and managers of primary and national fisherfolk organizations and the regional network of national fisherfolk organizations.	<b>Saint Lucia</b>

**Business. Entrepreneurship. Leadership.**

Business and entrepreneurship is an often overlooked aspect of fisheries management. Workshops that focus on business, entrepreneurship and leadership can strengthen fishing livelihoods along the value chain ensuring individuals have access to the appropriate knowledge and skills to make sound management and business decisions. The Barbados Career Development Institute is an example of a program that offers these types of valuable courses.



**Training Courses.**

Featured Course: Barbados Career Development Institute



**Description:** Business and Leadership Division highlights the fields of study that can be undertaken in the discipline of Business Studies to aid in professional and personal development.



*Business Administration*  
6 Month Certificate Course

*Front Office Management*  
4 Month Certificate Course

*Legal Office Assistant*  
6 Month Certificate Course



*Small Business Management*  
5 Month Certificate Course

*Organizational Management*  
16 Week Certificate Course

*Change Management*  
2 years Associate Degree



### **Certificate Training Session**

Caribbean Tourism Organization offering workshops on either "Impact of Disruptors on the Caribbean Tourism Industry - Trends to Watch" or "Developing the Framework for Service Quality Improvements".

### **Bahamas**

### **Empowering Rural Women through Improving Livelihoods**

UN Women funded four 1-day training workshops to establish network of women in small businesses based on use of natural resources.

### **Trinidad and Tobago**

### **Third Regional Workshop for the Caribbean Fisherfolk Action Learning Group**

Goal is to improve the contribution of the small-scale fisheries sector to food security in the Caribbean by building the capacity of regional and national fisherfolk organization networks to participate in governance.

### **Antigua and Barbuda**



## Portfolio of Training Courses

### Safety and Security at Sea.

Operational Safety, Safety at Sea and Security training is fundamental for anyone working in the fishing sector, particularly those working at sea. Training often focuses on safety equipment, navigation, personal survival techniques, fire prevention, and more, thus ensuring livelihoods are protected for all participants. A particularly beneficial training program in the region is offered through the Caribbean Fisheries Training and Development Institute in Trinidad and Tobago.



### Training Courses.

#### Featured Course:

#### Caribbean Fisheries Training and Development Institute



**Description:** located in Trinidad and Tobago.

Courses offered:

Seaman Class IV Training  
Engineering Rating Category II  
Efficient Deckhand  
Proficiency in Survival Craft  
Medical First Aid



Certificate of Proficiency in Survival Craft  
Advanced Fire Fighting  
Basic and Advanced First Aid  
Coastal Navigation  
Outboard Motor  
Maintenance & Repairs  
Boat Master Category III and II



Emergency Crown  
Management and Control on Board Passenger Vessels  
Net mending  
Basic Navigation and Sea Survival  
Ship and Port Security  
Oil, Gas, Chemical Tanker Safety

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## **Training of Trainers Workshop for Fisheries**

### **Extension Officers**

**CTA / CRFM workshop to enhance their skills to provide better information, advisory and training services to primary and national fisherfolk organizations.**

### **St. Vincent and the Grenadines**

## **Regional Workshop on Safety at Sea in Artisanal and Small-Scale Fisheries**

Thirty-seven Latin American experts, as well as experts from Sweden and representatives of FAO and the Latin American Organization for Fisheries Development participated. The workshop was developed through joint cooperation between the Fishing Technology Service of FAO and OLDEPESCA.

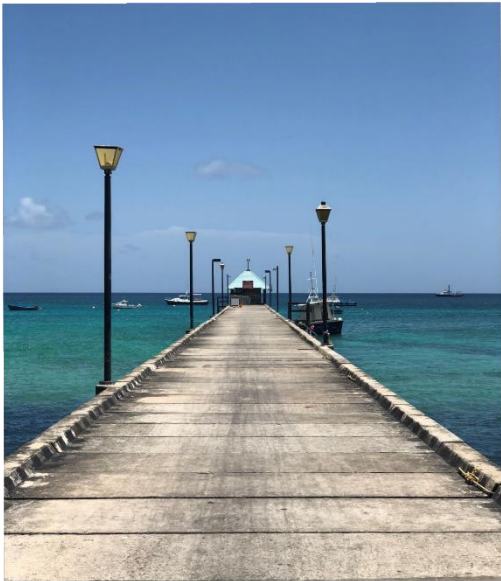
### **Peru**



Portfolio of Training Courses

Monitoring. Control. Surveillance. Enforcement.

Monitoring, control and surveillance (MCS) are fundamental tasks within fisheries operations and management. MCS contributes to the knowledge required to make good decisions and to ensure the resource is being utilized sustainably. Workshops and training courses on fisheries monitoring, surveillance and enforcement expose participants to the skills and methods used in catch monitoring methods and data collection methods to ensure fisheries regulations are being enforced. Specialized MCS courses can be streamlined for all aspects of the value chain, including processing and export marketing.



Training Courses.

Workshops	Description	Location
Fisheries Prosecution and Interdiction	Three-week training course for CARICOM border control officers focusing on fisheries prosecution and fisheries enforcement standard operating procedures border control officers focus	Barbados
Workshop on Implementing FAO Agreement on Port State Measures to Combat IUU Fishing	93 Participants from 25 countries to discuss 2009 FAO Agreement on Port State measures to combat illegal, unreported and unregulated fishing.	Trinidad and Tobago
Socio-Economic Monitoring	Training workshops were conducted in each country to explain the SocMon Caribbean methodology for collecting and analyzing basic socio-economic data useful for coastal management.	Barbados. Dominica. Grenada. St. Vincent. Nevis.

## Portfolio of Training Courses

### Data Collection. Analysis. Management.

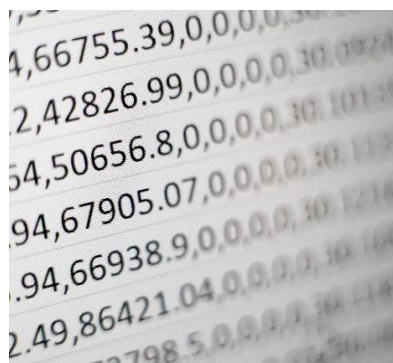
Training across the value chain on data collection, record keeping and analysis can greatly enhance management and protect the integrity of the value chain. Data collection can also provide significant income and employment opportunity. Workshops and training courses in data collection, analysis and management have been conducted to ensure participants are thoroughly trained in data collection procedures, including record keeping, analysis. Examples of these types of workshops are featured below.



### Training Courses.

#### Featured Workshop:

#### Expanding Marine Data Aggregation and Analytic Tools Mapping Ocean Wealth Project



**Description:** Held in May 2019 in Saint Lucia.

35 natural resource professionals representing 10 countries and 30 agencies gathered to attend an ecosystem services workshop.

- Five countries in the Eastern Caribbean using methodologies developed under its Mapping Ocean Wealth initiative, and to develop training and resources to improve data access for decision-makers.

- The workshop was designed to improve participants' understanding of ecosystem services and how to incorporate ecosystem services data into policy, coastal master planning, and marine spatial planning.



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## Previous Workshops

Workshops	Description	Location
Data Preparation Workshop – Shrimp and Groundfish Fisheries	Workshop focused on shrimp and groundfish fisheries of the North Brazil large marine ecosystems facilitated by FAO.	Barbados
Statistics Workshop	Facilitated by FAO, WECAFC and CRFM	Barbados
Regional Workshop on Recreational Fisheries Statistics	FIRMS-WECAFC facilitated workshop bringing together 38 representatives from 13 Caribbean countries.	Bahamas
Marine Data Management Workshop for the Caribbean Region	Hosted by OECS which aims to facilitate better use of marine data across sectors, thereby enhancing the economic return of the investment in data collection.	Saint Lucia
Data Workshop	13 countries, 2 overseas territories of the EU and 4 regional organizations to strengthening national data collection and regional sharing through FIRMS.	Barbados

## Future Workshops and Training Courses

The following provides an overview of four key subject areas where future efforts could be focused related to workshop and training course development and execution.

### **Data Management.**



Training that focuses on data collection procedures, data collection technologies, data analysis, database management, etc.

### **Administration.**



Training that focuses on book-keeping, record keeping, business management, financial tracking, etc.

### **Fisheries Management.**



Training that focuses on fisheries management approaches and principles, reviewing national fisheries management objectives and how to revise fisheries management plans.

### **Value Chain.**

Training that focuses on diversifying products, data collection along the value chain, product handling, accessing export markets, targeting new clientele / markets, etc.

## Fisheries Related Educational Programs

The following provides additional information on academic education programs that may be of interest for individuals currently working in or want to enter into the Caribbean fisheries sector.

### C.E.R.M.E.S.



CERMES is a department within the Faculty of Science and Technology on the UWI Cave Hill Campus offering MSc in Natural Resource and Environmental Management, MSc in Renewable Energy Management and Research Degrees (MPhil, PhD).

### M.A.P



The Marine Affairs Program at Dalhousie University is a Masters degree program that seeks to develop marine management professionals by building on extensive global-to-local marine management networks.

### Centre for Marine Science

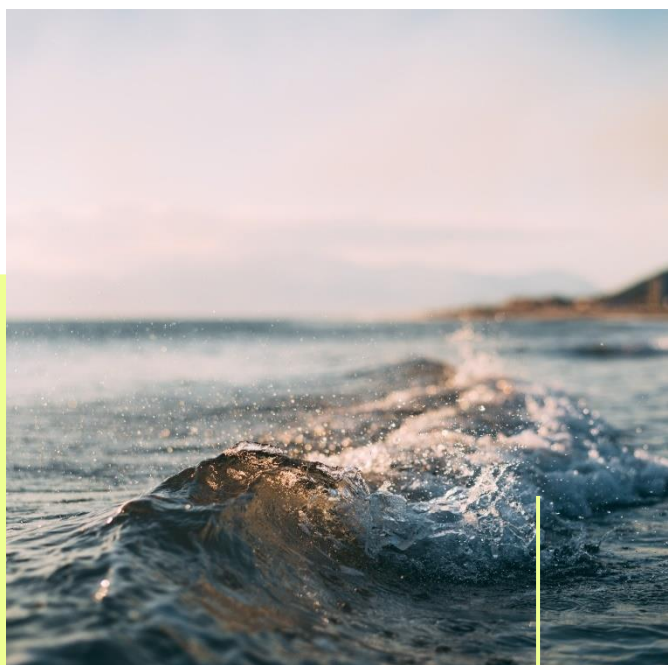


The Centre for Marine Sciences is hosted at UWI's Mona Campus where they conduct and facilitate research in the marine environment of Jamaica and the wider Caribbean.

### C.M.U.



The Caribbean Maritime University was originally established to train professional seafarers through innovation and technology and to provide quality maritime education and related technical and vocational training.



### Contact Information:



[secretariat@crfm.int](mailto:secretariat@crfm.int)

**www**  
[www.crfm.int/](http://www.crfm.int/)



AWARENESS BUILDING REPORT

# Eastern Caribbean Flyingfish

# Value Chain



501-223-4443



[secretariat@crfm.int](mailto:secretariat@crfm.int)

# Value Chain

Fisheries value chain at its highest level is the sum total of activities that are performed to harvest, process, market and distribute seafood products.

## Eastern Caribbean Flyingfish Value Chain



### Harvesters

- Use small inshore dayboats or larger iceboats



### Markets

- Harvesters land their catch at principal or secondary landing sites
- Flyingfish is purchased directly at the markets by local vendors



### Processors

- Process fish into variety of frozen filleted products for wholesale to restaurants, hotels, food service companies, and retail grocery stores



### Brokers

- Brokers purchase flyingfish products for export market



### Retailers

- Restaurants, hotels and local grocery stores also procure flyingfish from local markets and processors in fresh, frozen and breaded product forms



### Consumer

- Consumers purchase flyingfish directly from markets, processors, brokers or retailers

## Major Cost Drivers

Climate Change  
Global Seafood  
Markets

- Labour Markets
- Natural Disasters
- Global Energy
- Markets

## Major Operating Costs

- Energy / Fuel
- Labour
- Financing

## Value-Added Activities

- Harvester - introduction of iceboats
- Markets - providing ice and minimal processing
- Processors - transformed into fresh, frozen and cooked seafood products
- Retail - Selling wide range of culinary preparations

## Potential Value-Added Enhancements



### Harvesters

- If price premiums were available for higher-quality flyingfish, properfish handling would become a value-added strategy
- Currently, processors / vendors pay the same price regardless of size or quality



### Markets

- Consumer demand for seafood products from sustainable, environmentally responsible fisheries  
Traceability and certification are the means by which producers and
- processors can provide the assurance that their catch meets these standards



### Processors

- Production of nutraceuticals and food and agricultural inputs derived from seafood by products  
Human consumption of fish oil as a nutraceutical and functional food has been steadily increasing with projections of over 700,00 tons by 2025





# Value Chain



## What you need to know about fisheries value chain.

1.

The value chain is the sum total of activities to harvest, process, market and distribute seafood products.

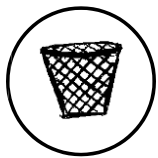
2.

Value chain analysis helps identify competitive advantages between companies and uncover potential productivity and processing improvements, buying and distribution efficiencies and value-added opportunities.

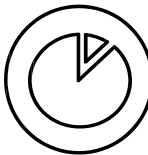
3.

Value-added margin is the difference between the cost of performing activities and the total value produced at each level of the chain.

Flyingfish is a culturally and commercially valuable fishery in the Eastern Caribbean



Flyingfish is an important food fishery and used as commercial bait.

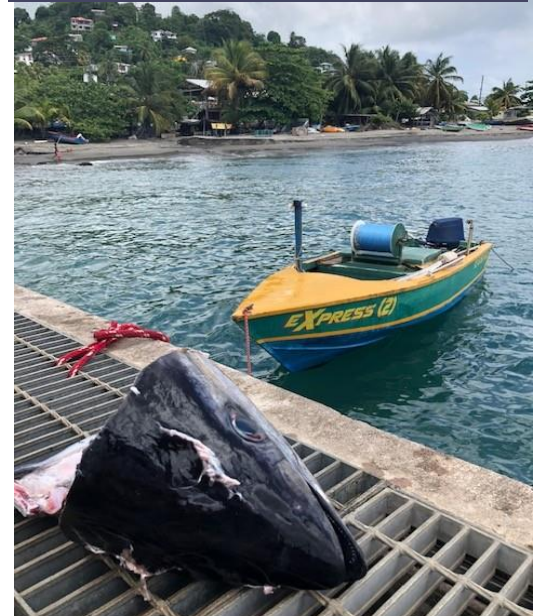


Historically, in Barbados flyingfish accounted for approximately **two-thirds of all fish landings**.



**There is a rising importance** of other target species in the market, such as tuna and dolphinfish

## Flyingfish



The Eastern Caribbean flyingfish fishery stock is shared by Barbados, Dominica, Grenada, Martinique (France), Saint Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. Of the three key species of flyingfish, the four-winged flyingfish is the most sought-after species, accounting for approximately 99% of the commercial harvest.

# Key Findings



Historically, in Barbados flyingfish have accounted for approximately two-thirds of landings of all fish species. Landings have fluctuated, with volumes peaking in the late 1980s and ranging between 400 to 2,000 tonnes over the past decade.

*Barbados - Flyingfish*

In Grenada, the local market for flyingfish had disappeared and virtually all flyingfish harvested by Grenada fishing fleets are used as bait in other pelagic fisheries.

*Grenada - Flyingfish*



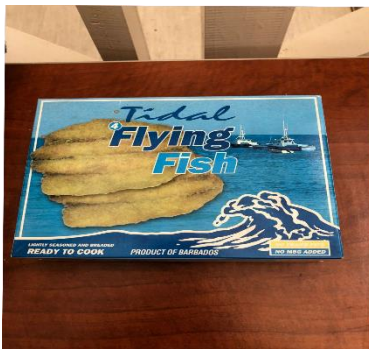
**Harvest**



**Market**



**Process**



**Broker**



**Retail**



**Consumer**

# Key Findings

The importance of doing value chain analysis is identifying the costs at each step of the value chain. Through this analysis stakeholders can see what influences the fishery and understand how to increase value at each stage of the chain. The following summarizes known variables that impact the value chain and associated benefits of completing value chain analysis.



## Known Variables

There are a variety of variables that can potentially impact the flyingfish fishery value chain, these include:

- Global Seafood Markets Global
- Energy Prices
- Climate Change
- Natural Disasters
- Labour Market
- Local and Regional Politics
- Labour Availability

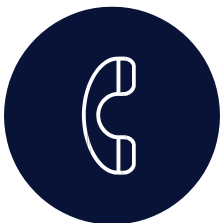


## Benefits

Benefits of value chain analysis include:

- Competitive Advantage Identify
- Cost Drivers and Cost Savings
- Identify Differentiation Advantages
- Logistical efficiencies
- Change cost structures
- - reduction in operating costs & efficiency gains

## GET IN TOUCH WITH US



(501) 223-4443



Belize City, Belize



[secretariat@crfm.int](mailto:secretariat@crfm.int)



[facebook.com/CarFisheries](https://facebook.com/CarFisheries)

The CRFM is an inter-governmental organization whose mission is to “Promote and facilitate the responsible utilization of the region’s fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region”. The CRFM consists of three bodies – the Ministerial Council, the Caribbean Fisheries Forum and the CRFM Secretariat.

CRFM members are Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago and the Turks and Caicos Islands.

#### **CRFM Headquarters**

[secretariat@crfm.int](mailto:secretariat@crfm.int)

Tel: (501) 223-4443 - Fax: (501) 223-4446  
Belize City - Belize

#### **Eastern Caribbean Office**

[crfmsvg@crfm.int](mailto:crfmsvg@crfm.int)

Tel: (784) 457-3474 - Fax: (784) 457-3475  
Kingstown - St. Vincent & the Grenadines

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