CARIBBEAN REGIONAL FISHERIES MECHANISM

Finfish value chains - Lessons from the Eastern Caribbean Flyingfish Fishery and other considerations

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"Better care for a better care – building a creative fisheries sector"

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The Eastern Caribbean flyingfish fishery exists within the western tropical Atlantic Ocean and is recognized as among the most important small pelagic species in the Eastern Caribbean.

The Eastern Caribbean flyingfish fishery stock is shared by Barbados, Dominica, Grenada, Martinique (France), St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago.

In addition to being an important food fishery, flyingfish is an important foraging species for a number of larger pelagic species such as tuna. A number of Member States harvest the species to use as commercial bait.

The commercial flyingfish fishery is highly seasonal occurring between December and June and is largely based on the seasonal availability of the species.

CLME/SP3-FF/EOI-ELW/01/17 – Technical Support to Facilitate Long-term Enhancement of Livelihoods and Human Well-being for Eastern Caribbean Flyingfish Fisheries

VALUE CHAIN REPORT: FLYINGFISH FISHERY

PREPARED FOR: CARIBBEAN REGIONAL FISHERIES MECHANISM

Caribbean Regional Fisheries Mechanism

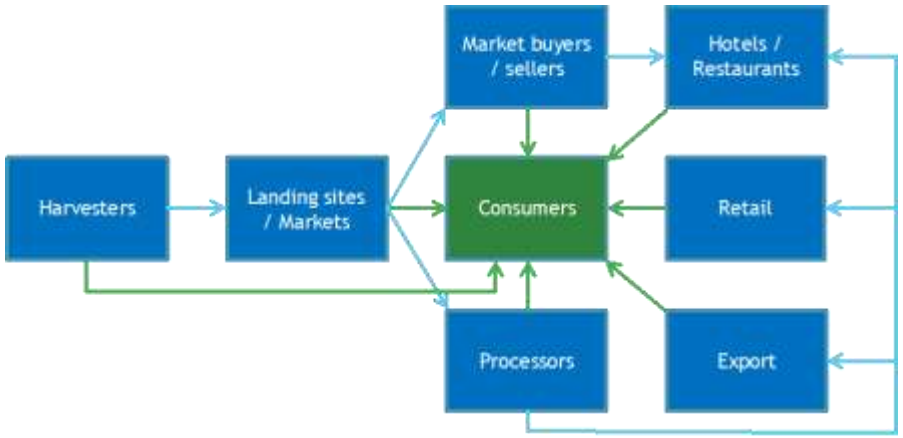
CLME+: Catalyzing Implementation of Strategic Action Programme for the Sustainable Management of shared Living Marine Resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems

NEXUS Coastal Resource Management Ltd. | March 2019

Data Collection

Data for the value chain analysis was collected from three main sources:

1. **<u>In-person interviews</u> - key stakeholders in harvesting countries were identified and interviewed by the Study Team over the course of a three-week consultation in October 2017. Stakeholders included harvesters, marketers, processors, and Fisheries Division personnel. All interviews were conducted using a standardized interview guide designed to structure but not constrain open discussions.**
2. **<u>Past flyingfish fishery reports and data</u> – although recent data on the Eastern Caribbean flyingfish fishery was generally not available, considerable research was produced through the 1990s and early 2000s. While this data cannot be relied upon to assess the current state of the fishery, it provided important historical perspective and context.**
3. **<u>Online review of business websites</u> – recent market-related data (i.e. product prices, business activity) was gathered through a search of local business websites.**



Flyingfish Fishery Value Chain, Barbados

The value chain analysis was conducted at the level of the flyingfish fishery – from harvesting to retail sales, and it should be noted that flyingfish value chains are different for each Member State.

The value chain in Barbados is the most complex, as it reflects the importance of the species as a food and export-oriented fishery. The value chain simplest in Grenada, where flyingfish are used almost exclusively as bait in other large pelagic fisheries, such as tuna.

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

Data:

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

Flyingfish Landed Weight, Barbados 1950 to 2016

Markets

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?

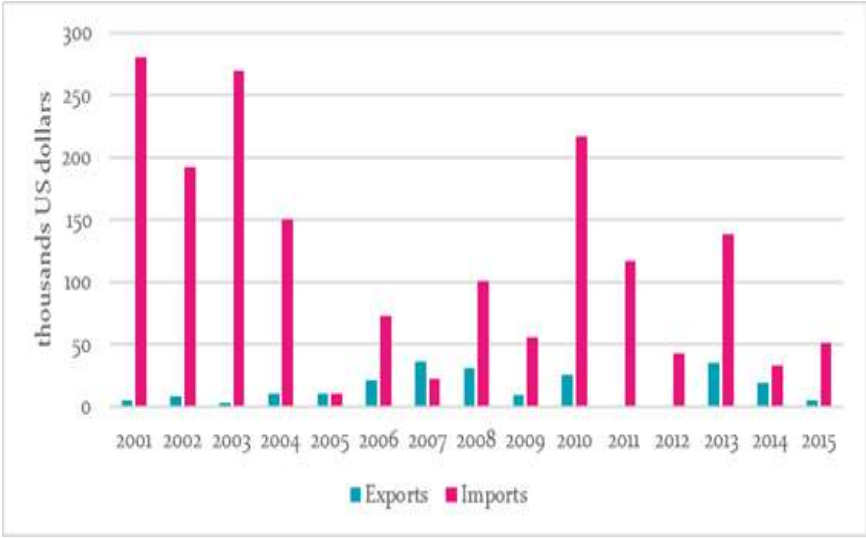
d. Who decides when the season starts/ends?

e. How much is typically caught in a day/ month/ year?

   i. Most?

   ii. Least?

f. Where does the fishery take place?



Flyingfish Trade, Barbados 2001 to 2015

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?**

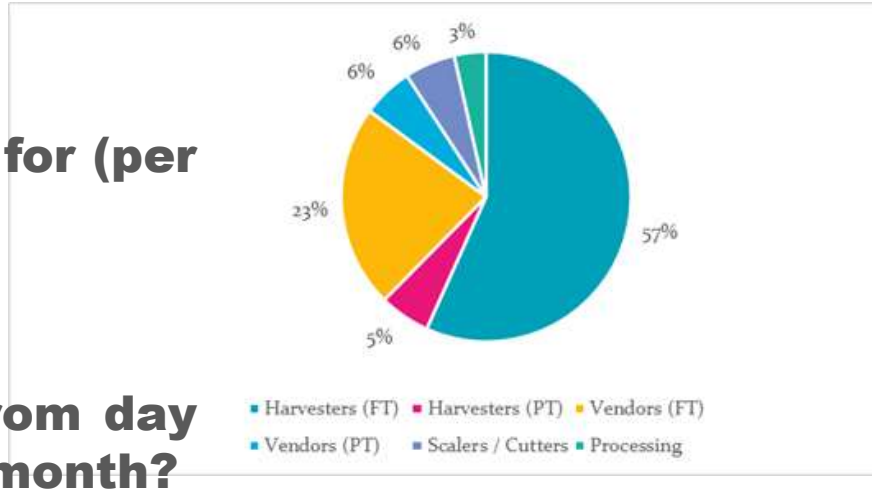
e. **How much does price change from day to day, week to week, month to month?**

f. **Where do fish go once bought?**

   i. **Processing**

   ii. **Direct to retail**

   iii. **Other**



Distribution of Flyingfish Fishery Employment, Barbados 2017

Constraints and Challenges

In order to conduct a thorough value chain analysis, key data must be available. Full value chain analysis of the Eastern Caribbean flyingfish fishery required data that was challenging to source. Specifically:

- **Labour market characteristics for fishery industry / occupation, including gender considerations**
- **Landed volume and value**
- **Cost and earnings of harvesters**
- **Income (individual and/or household) for all occupations related to the fishery and support activities**
- **Costs and revenues associated with marketing, processing, distributing, and retailing**
- **The number of people employed in all occupations related to the flyingfish fishery**
- **Total imports and exports of the fish**
- **Enterprise counts**

Much of this data was unavailable through Member States' Fisheries Divisions and statistical agencies and was gathered through a small sample of stakeholders and from past reports and data sets.

Recommendations

1. **Develop and harmonize the elements of the value chains across the country (or even regionally) so there is a common approach to the harvest and use of the fish.**

Fish value chains may differ between parts of the country:

One area may have a more complex value chain that begins with an active commercial harvest and ends in value-added products processed for local and export markets.

While other areas may have value chains that involved commercial harvests and value-added processing for, primarily, export markets, these value chains are virtually non-existent today.

Specific attention should be paid to developing market infrastructure and strategies to increase awareness of and demand for finfish among international tourists, as a means to bring in foreign currency.

Development of value chains will depend on an abundant finfish biomass which should be supported by national fisheries management objectives. In order for development to be possible and sustainable, these objectives must be incorporated in any development initiative.

Specifically, these development efforts may need to take into account that:

- **Investment in value-added processing must be bounded by optimal harvesting levels and consider the competing priorities of local food demand (distribution, and availability) with more lucrative export markets abroad and within domestic tourism sectors (i.e. international tourists spending money from outside, in local food establishments).**
- **The use of the fish as bait for other species should not be prioritized, and other bait strategies should be explored where it is used. Prioritizing it as bait strips finfish of its highest potential economic, social, and cultural value.**
- **As market development outside of the country progresses, the export of the finfish could preferably be focused on other markets within the region rather than markets outside the region.**

2. Collect and process data critical to value chain analysis at every step in the value chain

A major challenge to completing a detailed value chain analysis can be the paucity of data available at the various steps in the chain.

In order to effectively analyze and monitor livelihood health and sustainability, certain baseline data must be collected and available, which describes the social, economic, cultural, and demographic characteristics of participants along the value chain is necessary to understand where meaningful enhancements can be made.

In the case of flyingfish in the Eastern Caribbean, the following types of data were to be collected:

- **Labour market characteristics for fishery industry / occupation, including gender considerations**
- **Landed volume and value**
- **Cost and earnings of harvesters**
- **Income (individual and/or household) for all occupations related to the flyingfish fishery and support activities**
- **Costs and revenues associated with marketing, processing, distributing, and retailing flyingfish**
- **The number of people employed in all occupations related to the flyingfish fishery**
- **Total imports and exports of flyingfish**
- **Enterprise counts**

3. Investigate ways to enhance returns to harvesters through quality management and training programs

The margin available to harvesters for selling finfish can theoretically be increased by creating cost efficiencies or attaining price premiums for their products in the market, all other variables remaining constant. Fisheries around the world have pursued a number of strategies aimed at creating product differentiation that allows them to charge a premium over competitors selling the same species.

Another strategy adopted by some fisheries involves implementing handling and processing practices that create a product of noticeably higher quality.

- **Processors are sometimes willing to pay harvesters more for fish that have been handled, cut, and refrigerated well.**

Consider that if fish were sold differently, price premiums that could contribute to enhancing livelihoods, may be available for those harvesters who differentiate their product through higher quality.

4. Leverage the skill and experience of the finfish fishery in the country with the most significant fishery to build capacity in other countries about processing and marketing

Reminded that Barbados has the most socially, culturally, and economically significant flyingfish fishery in the Eastern Caribbean - from harvesting to processing and marketing; and, the relative complexity of the Barbados flyingfish value chain reflects this significance.

The skills and knowledge required to execute the harvest, and develop the value chain, reside among those working in the fishery and could be leveraged to help redevelop the value chain in the countries where improvement is desired and to enhance fishery livelihoods.

Potential exists to develop programming that captures this skill and knowledge from the fishery, conveys it through training and education, and results in increased capacity and renewed activity in the finfish fishery

5. Ensure any landing site tolls collected from fish harvesters is re-invested in market infrastructure and training that increases the efficiency and effectiveness of the market element of the value chain

Currently in some countries, harvesters are charged a percentage of the landed weight of their catch as a toll meant to support government fish landing site infrastructure and operations. Often these funds may be simply absorbed into general government revenue and that reinvestment in landing sites was minimal.

The efficiency of the finfish fishery and the quality of its products depends to a great extent on the services and infrastructure provided by government landing sites. A portion of any toll revenue collected, should be committed to maintaining site infrastructure and improving it where possible. Another portion could be invested in developing skill and capacity among market buyers and sellers to ensure maximum efficiency in landing site operations.

- **Further, facilities could be upgraded to attract tourists through direct sales and/or on-site food vendors and other attractions (e.g. arts and crafts stalls, entertainment).**

6. Investing in training can improve efficiency at every level of the value chain

The following provides a list of suggested training programs that can be implemented at every stage of the value chain:

- **Harvesters: quality enhancement training**
- **Market: processing efficiency training and market efficiency training**
- **Processing: processing efficiency training and value-added processing training**

Where possible, gender equity should be promoted throughout the value chain, with regards to training.

Investment targeted at increasing capacity at every level of the value chain can increase efficiency, increase returns to participants, and enhance livelihoods.

Training can be targeted in the following ways:

- **Harvesters** – training in finfish handling and basic processing can improve the quality of product landed creating the potential to garner price premiums over competitors.

- **Fish Market Workers** – training in market process efficiency and fish handling and cutting can increase fish throughput, improve product quality, decrease spoilage, and reduce cost thereby increasing returns to buyers and sellers.
  - Training and professionalization of workers also tends to improve morale and open up other opportunities for work in other sectors that can contribute to livelihood diversification.

- **Finfish Processing** – while processors may already provide on-the-job training for processing workers, training of more workers in specific skills, such as boning and filleting, can help fill gaps in the processing labour force.
  - Offering training programs to youth and others interested in entering the fishery can help diversify livelihoods for trainees and help alleviate the labour supply bottleneck in the processing sector.

- **Hospitality / Retail** –work could be done to increase awareness of the product among international tourists visiting the Country.
  - Training in tourism promotion and hospitality with a particular focus on local food and finfish could help increase demand for the dish in the hotel and restaurant industry.

7. Integrate enhancement of the finfish value chain into broader regional policy development and planning around climate change adaptation and the Blue Economy.

It has been noted in a UNEP report regarding climate change that

"*One of the central aims of the first Strategic Plan for the Caribbean Community, which covers the period 2015–2019, is to reinforce socio-economic, technological and environmental resilience of CARICOM states.*

The overarching objective is twofold, to:

stimulate the productive capability of domestic firms and

***correct the current mismatch between training and the specialized knowledge and skills required by the market, in order to drive growth and combat rising levels of unemployment among the young, in particular.*".**

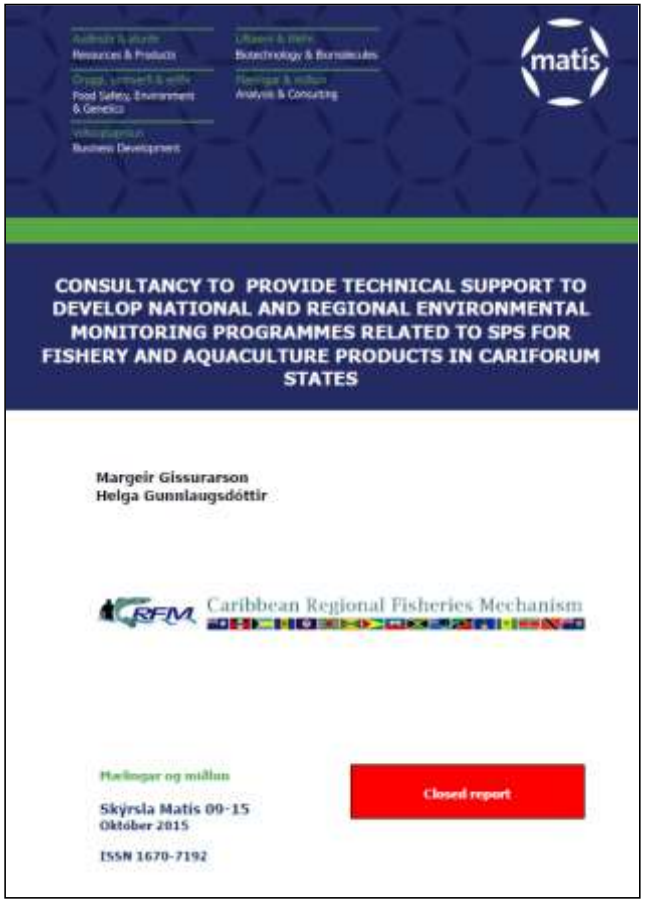
As a result, it is recommended that efforts to enhance the value chain for the finfish fishery be undertaken consistent with the regions' climate change adaptation goals.

- **By advancing local development within sustainable harvesting limits, the finfish fishery can contribute to growth in the region's blue economy**

Other considerations

Sanitary and Phyto-Sanitary (SPS) and related Health and Food Safety concerns in Belize *(as per 10th EDF SPS project)*

- **The Competent Authority (CA) in charge for official controls of fishery products is the Belize Agricultural Health Authority**
- **BAHA and Ministry of Health collaborate on issues relating to hygienic practises in the entire food chain and MoU is available between these parties regarding these procedures and responsibilities.**
- **BAHA is responsible for official controls in the entire production chain of fisheries product <u>for export</u>.**
  - **It is not responsible for inspection of artisanal vessels and establishments processing domestic fisheries products.**



- **The National Programme for monitoring of environmental contaminants in products from wild fisheries only covers fisheries products for export and does not include products from the domestic market.**
- **Regulatory requirements related to health and food safety issues in the fisheries sectors of Belize are generally enforced by BAHA for fisheries products intended for export, but not for the domestic market.**
  - **There is difference between the enforcement of regulations for fisheries products for export and production for the domestic market.**

- **There remains work to be done to develop the regional and national regulatory and governance mechanisms, and to develop regional standardised approaches**
- **Challenges relate to capacity to implement stricter measures**
- **There is need to ensure consistency with the programmes and food safety measures being developed regionally**

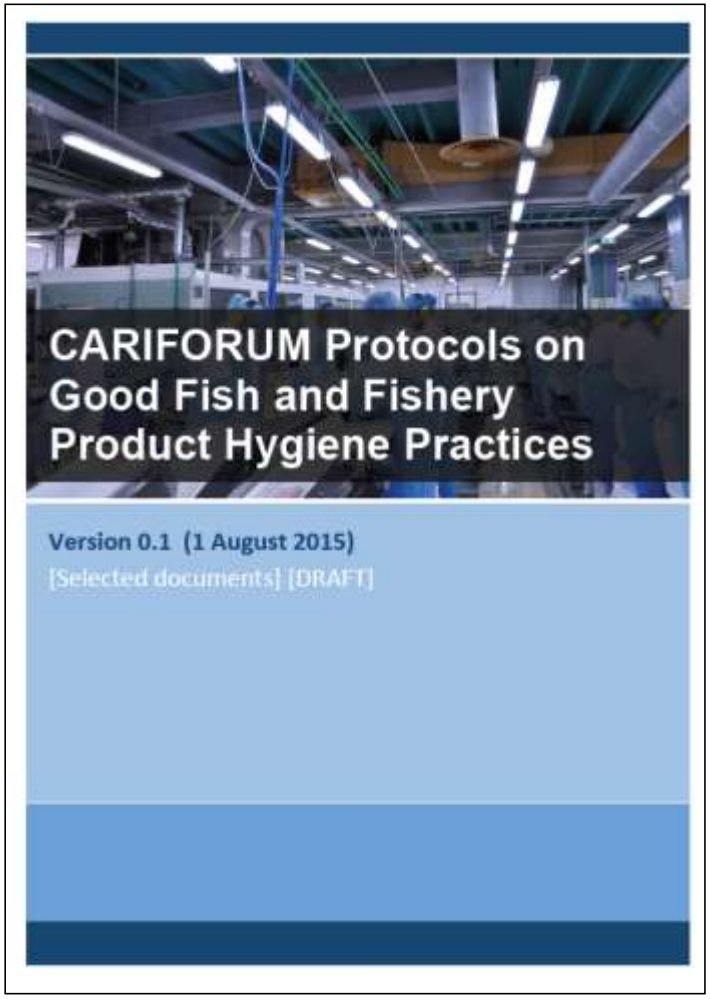
Recommendations

- **Food processors are responsible for ensuring the safety of their production and are expected to exercise due diligence and self-controls (own checks), hence the testing for the microbiological status of food should be carried out by them.**
- **BAHA should also take official control samples for microbiological analyses to verify that the food processors quality system is working; the industry should cover the cost related to the analysis of these official control samples.**
- **Testing for contaminants/undesirable substances that unintentionally come in contact with products are also the responsibility of the producer to secure the safety of his product.**
    - **establish a national/region-wide monitoring plan that is carried out on regular basis to be able to assess consumer exposure to these undesirable substances.**

- **In Belize there is currently a gap in the monitoring plan of environmental contaminants in fisheries products from wild fisheries**
  - **present plan does not include analysis of fisheries products that are only for sale on the domestic market.**
  - **gap should be filled so any monitoring plan covers all major fisheries products that are consumed and traded in Belize.**
- **It is important to make sure that the BAHA is enforcing one harmonised standard for all fisheries products for both the domestic market and the export market.**
  - **A double moral will lead to bad attitude towards food safety and public health; and, also delay the development of the fishery sector and the fisheries communities**
  - **Thus, have a negative effect on the sustainable utilisation of the fishery resources.**

- **It is necessary to start to plan for likely future demands of current export markets as well as look out for additional export markets and identify new fishery and aquaculture products for these markets.**
  - **This requires increased research & development related to the fisheries sector (e.g. regarding development of new products), as this will assist the fisheries sector to move further up the value chain and create a business environment for entrepreneurs in the fisheries industry.**
  - **This could be achieved through long term (5-10 years) strategic planning with the participation of key stakeholders in the fishery and aquaculture sectors as well as academia.**

- **High priority should be attached to the development/utilisation of Regional Protocols.**
- **Priority should also be attached to the development of wider cooperative mechanisms at the regional level.**
- **Need for consideration at the national level on the steps required to strengthen national legislation, and on the modalities for adopting new legislation based on the model legislation.**



- **Chemical Use**
- **Equipment use and maintenance**
- **Packaging**
- **Personnel Hygiene**
- **Product transport**
- **Water and Ice Quality Control**
- **Worker Welfare and Safety**

Thank you
for your attention

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