Workshop Report:
Analysing and climate proofing fisheries value chains for the Millie Ifill Fish Market, Weston, Barbados

Fisheries Division, Bridgetown, Barbados
January 13 and February 13, 2020

under the
Project on Climate Change and Poverty Nexus for Enhancing Resilient Fisheries Livelihoods and Food Security in Barbados, Dominica and St. Kitts and Nevis

Prepared by the Caribbean Natural Resources Institute (CANARI)
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Overview

- This report synthesises outcomes of two workshops held on January 13 and February 13, 2020 on Analysing fisheries value chains for the Millie Ifill Fish Market, Weston, Barbados. These workshops were held under the ‘Project on the Climate Change and Poverty Nexus for Enhancing Resilient Fisheries Livelihoods and Food Security in Barbados, Dominica and St. Kitts and Nevis.’

- Under the project, the Caribbean Natural Resources Institute (CANARI) has been contracted by the Food and Agriculture Organization of the United Nations (FAO) to provide technical assistance for the analysis of fisheries value chains in the Caribbean small-scale fisheries sector, with the goal of identifying best practices for reducing poverty and vulnerability to climate change and related disasters. CANARI is implementing the project from 2019-2020 in collaboration with national fisheries authorities in the target countries and funding from the FAO and GEF-funded Climate Change Adaptation in the Eastern Caribbean Fisheries Sector Project (CC4FISH).

- The workshops were held with the fishers, fish processors, fish vendors and representatives from the Barbados Fisheries Division, and focused on developing and analysing fisheries value chains to better understand climate change and other impacts on different aspects of the fish market’s operations, and identifying ways to strengthen the enterprise and enhance local livelihoods.
The two workshops were facilitated by CANARI in collaboration with the Fisheries Division in Barbados.

Session 1, which was led by a small business expert, aimed to develop fisheries value chains for the fisheries enterprises operating out of the Millie Ifill Fish Market. Session 2, which was led by a climate change expert, assessed climate change vulnerabilities and identified actions to ‘climate proof’ two value chains (based on fishing and fish vending) for the fisheries enterprises.

The workshops were designed to be participatory and interactive and drew heavily on participants’ knowledge and experiences. A combination of facilitation techniques were used including:

- short facilitator overviews of key topics;
- verbal and short video presentations;
- small group exercises; and
- whole group discussions.
Summary of workshop activities – Session 1

**When:** January 13, 2020  
**Where:** Fisheries Division, Bridgetown, Barbados

**What (Workshop focus):**  
Developing fisheries value chains for enterprises operating in the Millie Ifill Fish Market, Weston in order to support them to ‘climate proof’ and strengthen their enterprises.

Participants were:
- Introduced to concept of value chain and how can be applied in the Caribbean small-scale fisheries sector;
- Supported to identify specific steps in the value chains for the fisheries based enterprises operating in the Millie Ifill Fish Market
- Supported to share how climate change and other issues impact on the operations of the fisheries based enterprises and opportunities for strengthening the enterprises.

Click the link for the workshop agenda and presentation

**Who was engaged?**  
The workshop included 15 participants:
- Representatives from the Weston fishing community, including fishers and fish processors and vendors
- Representatives from the Fisheries Division in Barbados
- CANARI small business expert trained in value chain analysis

Click the link for the Participant listing
Weston fisherfolk participate in workshop to develop value chains for their fisheries enterprises in the Millie Ifill Market on January 13, 2020.
Summary of workshop activities – Session 2

When: February 13, 2020
Where: Fisheries Division, Bridgetown, Barbados

What (Workshop focus):
Analysing fisheries value chains for enterprises operating in the Millie Ifill Fish Market, Weston to strengthen and ‘climate proof’ the enterprises

Participants were:
• Introduced to climate change and related disaster impacts and trends in the Caribbean and its small-scale fisheries sector;
• Introduced to CANARI’s climate proofing methodology, which uses the value chain to analyse climate impacts and identify possible solutions
• Supported to identify and share how their fisheries enterprises (based on fishing and fish vending) are vulnerable to climate change impacts, focusing on specific steps in its two value chains
• Supported to identify priorities for action to ‘climate proof’ the Committee’s fisheries based enterprise

Click the link for the workshop agenda and presentation

Who was engaged?
The workshop included 5 participants:
• Representatives from the Weston Fishing community, including fishers and a fish vendor
• Representative from the Fisheries Division in Barbados
• Local climate change expert

Click the link for the participant listing
Workshop participants review their value chains to identify climate impacts and possible solutions along each step.
Climate and other hazard impacts on the fisheries enterprise:

The following climate-related hazards were noted by participants as having a current/potential impact on the enterprise:

- Hurricanes, storms and storm surge (and associated coastal erosion)
- More frequent rough seas and high winds
- Stronger ocean currents
- Drought and related water shortages
- Higher sea temperatures

Other challenges include: concern that current responses to challenges in the fishing community are reactionary rather than proactive and that the market area, being located on a coast with heavy tourist development, is being impacted by neighbouring properties.
Value chain for Fishers – Millie Ifill Fish Market, Weston, Barbados

**Inputs**
- Building, Boat, Fishing gear (nets hooks), Electricity, Ice, Ice box, Labour (boat crew), Bait, Tools (knives), Safety Equipment, Fuel, Water

**Production**
- Catching fish, Transport fish from landing area to outlet

**Processing and Distribution**
- Cleaning of Fish, Packaging, Fillet/Slicing of Fish, labelling of fish for sale

**Marketing**
- Word of mouth, Fisheries Division, Radio, Call directly to consumers, Blow the fish horn

**Consumers**
- Hotels, businesses, Individuals (locals and tourists), Fish vendors

**Vulnerabilities**
- Market closing more frequently due to bad weather
- Unusually high winds and more strong storms throughout the year leading to less fishing days
- Stronger currents and more frequent rough seas means that fishers need to use more fuel to get to fishing sites and have to catch more fish to cover fuel costs
- Having to exploit new fisheries because traditional fishing areas are sometimes inaccessible with sea conditions
- Drier conditions means that water pressure at market is frequently too low to make ice or wash down
- Sea level rise and erosion in front of the market affects access to and from the beach

- Unusually high winds and more strong storms throughout the year leading to less fishing days
- Rougher seas make it difficult to bring boats in and out at the landing site near the market
- Extreme weather can disrupt the utilities, including electricity and water, at the market

- Water scarcity is affecting the ice machine at market and making washing down/cleaning more difficult
- During very hot days, ice melts faster and more is needed to keep fish at appropriate temperatures

- Water scarcity is affecting ice machine at market and making washing down/cleaning more difficult
- During very hot days, ice melts faster and more is needed to keep fish at appropriate temperatures

- More interest in other types of fish (e.g., Amberfish) because the price of traditionally landed fish keeps increasing
- Clients are more interested in where their fish came from and how they were caught, which may limit sales of certain fish
<table>
<thead>
<tr>
<th>Value Chain</th>
<th>Inputs</th>
<th>Production</th>
<th>Processing &amp; distribution</th>
<th>Marketing</th>
<th>Consumers</th>
</tr>
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<td>Building, Boat, Fishing gear (nets hooks), Electricity, Ice, Ice box, Labour (boat crew), Bait, Tools (knives), Safety Equipment, Fuel, Water</td>
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**Vulnerabilities**

- Market closing more frequently due to bad weather
- Unusually high winds and more strong storms throughout the year leading to less fishing days
- Stronger currents and more frequent rough seas means that fishers need to use more fuel to get to fishing sites and have to catch more fish to cover fuel costs
- Having to exploit new fisheries because traditional fishing areas are sometimes inaccessible with sea conditions
- Drier conditions means that water pressure at market is frequently too low to make ice or wash down
- Sea level rise and erosion in front of the market has made access to and from the beach more difficult for boats
- Unusually high winds and more strong storms throughout the year leading to less fishing days
- Rougher seas make it difficult to bring boats in and out at the landing site near the market
- Extreme weather can disrupt the utilities, including electricity and water, at the market
- Water scarcity is affecting ice machine at market and making washing down/cleaning more difficult
- During very hot days, ice melts faster and more is needed to keep fish at appropriate temperature
- During and after tropical storms or hurricanes, the electricity and digital/tele-communications are disrupted
- More interest in other types of fish (e.g. Amberfish) because the price of traditionally landed fish keeps increasing
- Clients are more interested in where their fish came from and how they were caught, which may limit sales of certain fish

**Resilience Building strategies**

- Alternative energy sources to keep the electricity on at the market e.g. back-up generator but also solar panels
- Build a permanent slipway (hard surface) to help fishers bring boats in and out of water
- Invest in water storage – rain water harvesting tanks to assist with washing down and/or water tanks to store potable water from BWA
- Individual fishers should have back up power sources to keep their devices connected during an outage
- Keep up to date about best practices and trends in the fishing industry to be able to educate customers
- Diversify types of fish that are caught

**Results of analysis of Fisher value Chain - Vulnerabilities and climate proofing solutions**
Value chain for Fish Vendors– Millie Ifill Fish Market, Weston, Barbados

Inputs
Fish, Market stall, knives and other tools, Ice, Labour, Boots, Gloves, Apron, Water, Electricity

Production
Cleaning and preparing fish, Selling, Transportation to other vending sites occasionally

Processing and Distribution
Weighing, Packaging, Pricing

Marketing
Word of Mouth, Social Media, Websites, Business Cards, Fisheries Department, Radio, Call clients directly, Blowing conch horn, Ad on van

Consumers
Hotels, businesses, Individuals (locals and tourists), Fish vendors

Vulnerabilities
- Supply of fish is changing - reef fish that used to be available are harder to source potentially from warmer waters and habitat degradation, and flyingfish are also not as available as they used to be
- Warmer temperatures increases the need for ice
- Drought is affecting water supply that is used to keep fish handling areas clean
- Warming temperatures increases the need for ice
- Drought is affecting water supply to the market (low pressure) which makes fish handling generally more difficult
- During and after tropical storms or hurricanes, the electricity and digital/tele-communications are disrupted
- If fish kills increase, consumers are turned off
- If the demand for fish becomes greater than the supply then the price increases
- Clients may desire certain fish that are less available
- More interest in other types of fish (e.g. Amberfish) because the price of traditionally landed fish keeps increasing
- Clients are more interested in where their fish came from and how they were caught, which may limit sales of certain fish
## Results of analysis of Fish Vendor value chain - Vulnerabilities and climate proofing solutions

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<tbody>
<tr>
<td><strong>Inputs</strong></td>
<td>Fish, Stall to sell out of, knives and other tools, Ice, Labour, Boots, Gloves, Apron, Water, Electricity</td>
<td>Cleaning and preparing fish, Selling, Transportation to other vending sites occasionally</td>
<td>Weighing, Packaging, Pricing</td>
<td>Word of Mouth, Social Media, Websites, Business Cards, Fisheries Department Radio, Call clients directly, Blowing conch horn, Ad on van</td>
<td>Hotels, businesses, Individuals (locals and tourists), Fish vendors</td>
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| **Vulnerabilities** | • Supply of fish is changing - reef fish that used to be available are harder to source potentially from warmer waters and habitat degradation, and flyingfish are also not as available as they used to be  
• Warmer temperatures increases the need for ice  
• Drought is affecting water supply that is used to generate the ice and also keep area clean  
• Extreme weather can disrupt the utilities at the market | • Drought is affecting water supply that is used to keep fish handling areas clean  
• Warming temperatures increases the need for ice so that fish does not spoil | • During and after tropical storms or hurricanes, electricity and digital/telecommunications are disrupted | |
| **Resilience Building strategies** | • Invest in a bigger ice machine  
• Improve water storage at the market – rain water harvesting tanks to assist with washing down, or to store potable water that can be used for the ice machine  
• Alternative energy sources to keep the electricity on at the market e.g. a back-up generator and solar panels  
• Purchase different species of fish to sell, in order to assess market acceptance | • Improve water storage at the market – rain water harvesting tanks to assist with washing down, or to store potable water for use in the ice machine  
• Make salt available for vendors to preserve fish that does not sell quickly; provide training in salting | • Individual vendors should have back up power sources to keep their devices connected during an outage | • If fish kills increase, consumers are turned off  
• If the demand for fish becomes greater than the supply then price increases  
• Clients may desire certain fish that are less available  
• More interest in other types of fish (Amberfish because the price of traditionally landed fish keeps increasing  
• Clients are more interested in where their fish came from and how they were caught  
| • Vendors can sell other value-added products to help diversify their enterprises (e.g. some already sell shark teeth/oil and vegetables)  
• Vendors can keep up to date about best practices and trends in fishing industry to be educate customers |
Workshop participants making note of the climate proofing strategies they have identified at the end of the day.
In terms of climate proofing, recommendations focused on:

- Ensuring stable and reliable access to water and electricity:
  - **Improved water storage** via investment in water storage tanks and pumps and/or a rainwater harvesting system
  - **Improving access to ice** either by improving the reliability and quality of water intake for the current ice machine, or purchasing a new, bigger machine
  - **Improved electricity supply** via investment in back-up generator and possibly solar PV panels (would addressing current issues with roof)
- Ensuring safe and consistent access to and from the sea:
  - **Improving the haul out area** by building a permanent slip (hard surface) to help fishers bring boats in and out of water safely during bad weather

General recommendations for improving operation of the enterprise included:

- **Professional training** in fish salting to help reduce fish wastage
- **Investment in equipment** to:
  - **optimize production & processing operations**, such as improving the functioning of the ice machine, and providing access to a cold storage (currently absent)
Overall participants had a positive response to the workshop content and approach:

- Participants felt the session was valuable in helping them have a much clearer understanding of climate change and helping them think through the challenges it poses in order to come up with solutions.

- Participants felt that the session was very useful and wished that more fisherfolk were able to attend. Due to the unpredictability inherent in fishing and the difficulty with scheduling meetings, the attendees recommended going to the market area to speak with fishers individually or in small groups to get more feedback, or hosting future meetings in the market.

- See the links to access full evaluation responses from participants:
  - Workshop 1
  - Workshop 2
Next steps

- Share finalised value chains for the Millie Ifill Fish Market, Weston and recommendations developed for ‘climate proofing’ and strengthening the fisheries enterprises (based on fishing and fish vending).

- Develop a technical report on analysing fisheries value chains in Barbados, Dominica and St. Kitts and Nevis, including the key findings and recommendations for ‘climate proofing’ the fisheries enterprises operating out of the Millie Ifill Fish Market.

- Promote and advocate for implementation of key recommendations in the next phase of the project in 2020-2021.
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https://canari.org/caribbean-fisheries-value-chain-analysis