Food and Agriculture Organization of the United Nations

Assessing climate change vulnerability in Sandy Point's fisheries using value chain analysis

The Caribbean Natural Resources Institute (CANARI) and the Department of Marine Resources (DMR) in Saint Kitts and Nevis engaged fisherfolk and their organisations in Sandy Point in value chain analysis to systematically assess how climate change impacts on fisheries-related enterprises, from harvesting to processing to marketing and sales, and identify actions to reduce these impacts and add value to their fish products. This was conducted in 2020 under the *Climate Change Adaptation in the Eastern Caribbean Fisheries Sector Project (CC4FISH)*. The reef-trap fishery (e.g. snapper, doctor fish, hein fish) was the focus of the value chain analysis in Sandy Point.

Key climate impacts on the fisheries value chain in Sandy Point

Hurricanes, storms and storm surges affect safety at sea, reduce fishing days and damage fishing boats/ gear and infrastructure

Coastal erosion and flooding damage infrastructure and increase sedimentation of coral reef and seagrass ecosystems

Sargassum influx causes damage to boats and gear while fishers are at sea

Changes in ocean conditions e.g. stronger ocean currents and warmer waters reduce catch and degrade coral reefs

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Other challenges

Lack of dedicated storage and processing facilities **|** Limited equipment (e.g. slicers, smoker) and training to create value added fish products **|** Limited access to affordable financing **|** Inactive fishing co-operative **|** Inability to meet the local demand for fish **|** sand mining at Belle Tette bay has damaged fishing grounds

Priorities for adaptation and enhancing fisheries value chains

1. provide training opportunities for fishers and other interested community members in smoking, salting and filleting to add value, and in small business development to better manage their operations;

2. restore and properly outfit the co-operative building, and construct a boat ramp and jetty to better support fishing activities; and

3. re-establish the fishing cooperative to effectively represent fisherfolk and advocate for benefits e.g. access to insurance, low interest loans and more affordable equipment/gear.

Reef-trap fishery value chain, Sandy Point

Inputs	Production	Processing & distribution	Marketing	Consumers
Boat and engine, fuel, gears, traps, crew, bait, SCUBA equipment, storage (cooler, ice)	Transport fish to consumers, clean fish, store on ice	Package fish in plastic bags, weigh fish, price fish (clean/unclean), slice fish with hacksaw	WhatsApp, Facebook, word of mouth, phone calls	Restaurants, bars, hotels, general public
Vulnerabilities	**Vulnerabilities**	**Vulnerabilities**	**Vulnerabilities**	**Vulnerabilities**
• Sargassum gets caught in boat engines. • Hurricanes and storms cause loss of fish traps, and damage to/loss of boats. • Warmer ocean temperatures affect movement of fish and therefore type and quantity of catch. • Increased flooding from storms and surges cause silt and mud to enter the sea and damage coral reefs. • Theft of fish traps by other fishers. • High cost of fishing material and equipment, and lack of ability to obtain low interest loans to cover costs.	• Cooperative building was extensively damaged by hurricanes and is now unusable leaving fishers with no storage or processing facility. • Power outages during storms/ extreme weather cause spoilage of fish. • The quantity of catch from fishers is very unreliable.	• Lack of training in areas such as packaging and labelling techniques. • Lack of labelling and packaging equipment. • Hurricanes, storms and flooding pose potential risk to any future storage and processing facilities. • Frequent fluctuations in electricity which result in damage to equipment.	• Poor, unreliable internet service preventing fishers from reaching customers.	• The demand for fish is usually greater than the fishers are able to supply. • Storms and hurricanes affecting electricity supply and operation of hotels/ restaurants can lead to reduced demand for fish.

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