

## **PROJECT COMPLETION SUMMARY**

Belize Marine Conservation and Climate Adaptation Project  
(MCCAP): ID-131408


March 30, 2021

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## SECTION A: PROJECT RESULT AND PERFORMANCE

### Basic information

Title of project/programme	
Project/Programme category	
Project period (if the project was granted an extension, include the original as well as the revised completion date)	Start of Project: 17 March 2015 Original Completion Date: 31 March 2020 Revised Completion Date (extension): 30 September 2020
Country	Belize
Sector(s)	Coastal management
Implementing entity name	World Bank
Type of implementing entity (MIE, NIE or RIE)	MIE
Executing entity(ies)	Executing Agency: Ministry of Fisheries, Forestry, the Environment and Sustainable Development (MFFESD)
Amount of financing approved (USD)	5.53 USD
Project contact(s)	Sandra Grant (Project coordinator), <a href="mailto:linegrant@gmail.com">linegrant@gmail.com</a> Maja Murisic (Task Team Leader, World Bank), <a href="mailto:mmurisic@worldbank.org">mmurisic@worldbank.org</a>
Date of report	March 30, 2021

### Key milestones

Project inception	3/17/2015 (Inception workshop)
Mid-term review (if applicable)	25-09-2017 (Dec 2017 - draft evaluation report)
Project completion	30 September 2020
Terminal evaluation	30 March 2021
If any, delay in implementation and reasons for delay	N/A

# 1. Project Overview and Description

Belize is extremely vulnerable to the adverse impacts of climate change. The country has extensive, low-lying coastal areas vulnerable to climate-related disasters, such as tropical cyclones and flooding. Furthermore, the economy is small and concentrated in climate-sensitive sectors with most centers of population located in the most vulnerable areas. At the time of appraisal, climate change-related events had already begun to profoundly impact the country's geophysical, biological and socio-economic systems and contributed to large fiscal deficits and debt accumulation. Therefore, Belize was focused on identifying feasible adaptation options to address climate change impacts, targeting the country's most vulnerable sectors and ecosystems.

Belize derives significant benefits from the ecosystem services generated by its coral reefs and mangroves. Belize is remarkably diverse ecologically with substantial natural capital along its coast, represented by the largest coral barrier reef and associated ecosystem in the Americas, as well as significant areas of mangroves, tropical forest and inland wetlands. The Belize Barrier Reef has been classified as one of the world's marine hotspots with an abundance of globally and locally significant biodiversity. The Belize Barrier Reef not only supports vibrant tourism, fishing industries, and livelihoods for communities, but also shelters Belize's extensive coast from high velocity winds that cause erosion and coastal damage. The promotion of ecosystem-based adaptation measures that strengthen the resilience of the reef and associated habitats was identified as an effective way for Belize to adapt to climate change.

The climate-induced destabilization of the barrier reef ecosystem also significantly affects livelihoods, particularly those dependent on tourism and fisheries. Evidence suggests that fisheries and the fishing industry in Belize have been in decline since the mid-1990s. With decline in fisheries stocks largely due to decline of coral cover induced by higher sea-surface temperatures and more severe and more frequent coral bleaching, coastal communities heavily engaged in "catch fishing" will continue to face livelihood challenges. Nonetheless, the emergence of new technologies for both traditional fisheries and aquaculture indicate the sector will continue to be an important contributor to local and national production and employment for a long time. Strategies are needed to help the sector through its transformation to ensure its sustainability.

The Belize Marine Conservation and Climate Adaptation Project (MCCAP) was a five-year project implemented by the World Bank and funded by the Adaptation Fund grant in the amount of US\$ 5.53 million and US\$ 1.78 million in-kind contribution by the Government of Belize. The objective of MCCAP was to implement priority ecosystem-based marine conservation and climate adaptation measures to strengthen the climate resilience of the Belize Barrier Reef System.

The main components of the project were:

**Component 1: Improving the Protection Regime of Marine and Coastal Ecosystems** (initial budget USD 2,000,000; reallocated budget USD 2,564,217). The activities under Component 1 are grouped into the four subcomponents: (i) Realignment and expansion of replenishment zones and management areas within selected MPAs (TAMR, SWCMR and CBWS). (ii) Promoting effective management of selected MPAs including its replenishment zones. (iii) Re-population of coral reefs. (iv) Promoting effective management of Belize's MPA network and the coastal zone. A community-driven approach, through consensus-building amongst stakeholders from the 12 targeted communities, was taken to ensure resource users were not negatively impacted by potential restricted access to fishing areas caused from the expansion and enforcement of three targeted Marine Protected Areas (Corozal Bay Wildlife Sanctuary, Turneffe Atoll Marine Reserve, and South Water Caye Marine Reserve) and Replenishment (no-take) Zones (RZ) in strategic locations to build climate resilience.

**Component 2: Promotion of Viable Alternative Livelihoods** (initial budget USD 2,450,000; reallocated budget USD 2,006,283). To offset income loss in affected fishing communities, due to Component 1 activities, Component 2 of the project promotes sustainable alternative livelihoods and income diversification for affected users of the reef through skills training and grant financing. It comprised four subcomponents: (i) Community Mobilization for viable Alternative Livelihoods; (ii) Business planning for economic alternatives and diversification sub-projects; (iii) Skills training to facilitate the coastal communities' transition to alternative livelihoods; and (iv) Sub-project mechanism for community-based business ventures. A community-driven approach was used to ensure fishers and their household took responsibility for subproject design and implementation.

**Component 3: Raising Awareness and Building Local Capacity** (initial budget USD 560,000; reallocated budget USD 612,000). This component aims to: a) increase the understanding by local stakeholders about impacts of climate change and the value of marine conservation to ensure the long-term sustainability of natural resources; b) build local capacity to develop and explore climate resilience strategies; and c) provide regular and accessible public information on climate change effects in the marine ecosystems and coastal zone. The component activities are grouped into four subcomponents: (i) A climate change knowledge, attitude and behavioral practice (KAP) survey; (ii) Behavior change communication (BCC) campaign to develop climate resilience strategy among local communities; (iii) Project information dissemination; and (iv) Inter-community learning forum.

**Component 4: Project Management, Monitoring and Assessment** (initial budget USD 560,000; reallocated budget USD 347,500). This component financed the operating costs of project management carried out by the Project Implementing Agency Group (PIAG) within the Fisheries Department. This component has four

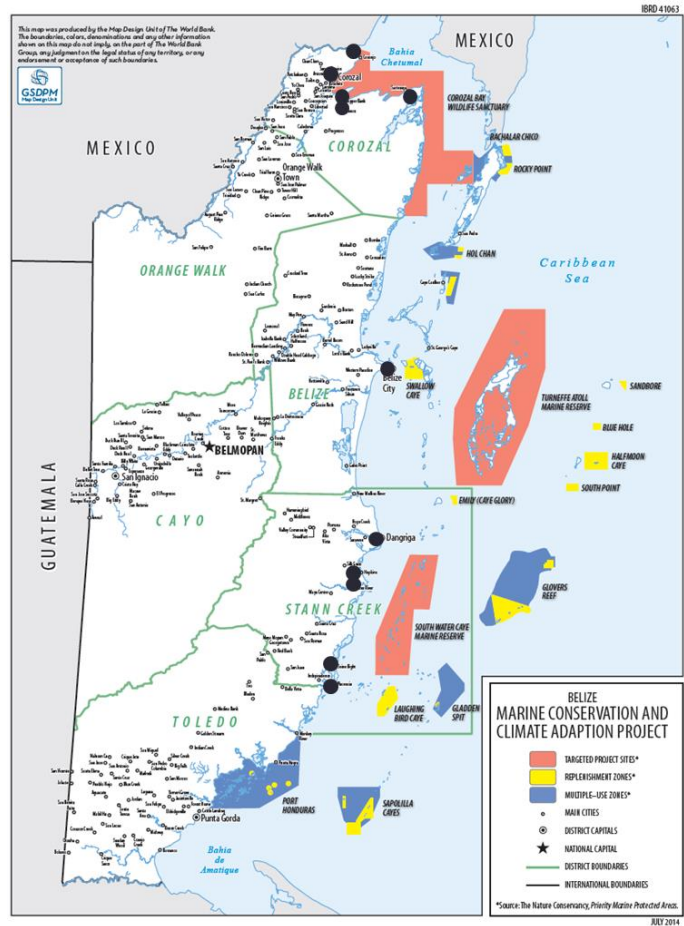


Figure 1: Map showing geographic location of MPAs and communities

subcomponents: (i) Project coordination and management; (ii) Operations; (iii) Monitoring and evaluation; and (iv) Fiduciary management.

The key outcome and associated outcome indicators used to assess the achievement of the Project Development Objectives were as follows:

Outcome 1: Improvement of the coral reef protection regime

- Outcome Indicator #1: Marine Protected Areas (MPA) coverage increased to 20.2% and areas declared as marine Replenishment Zones (RZ) increased to at least 3.1% of the Belize's territorial sea as identified in the NPASP, by the third year of the project.
- Outcome Indicator #2: Coastal region brought under improved regulations (measured by mangrove coverage in 3 planning regions)

Outcome 2: Promotion of sustainable alternative livelihoods and income diversification

- Outcome Indicator #3: Project beneficiaries who have adopted alternative livelihoods and reduced dependency on traditional fishing for household income (at least 1,500 people), of which 30% are women.

Outcome 3: Building local capacity and raising awareness about the health of the reef to climate resilience

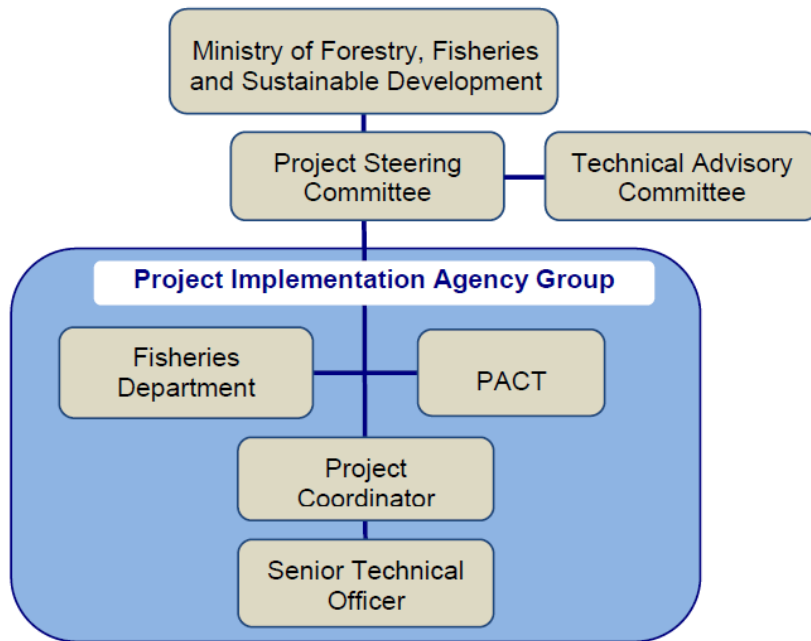
- Outcome Indicator #4: Awareness raising campaigns and dissemination of project information and project supported investments reach 50% and change attitude of 50% of intended beneficiaries.

To manage the MCCAP, the MAFFESD established a separate Project Implementing Agency Group (PIAG) that was responsible for the day-to-day operations of the project and reporting to the Project Steering Committee (PSC). Day to day activities was coordinated and maintained by the Fisheries Department. The PIAG was housed at the Fisheries Department office building in Belize City, and was headed by the Project Coordinator (PC) and supported by a staff of two persons - the Senior Technical Officer (STO) and the Administrative Officer/ Assistant (AO). The PIAG is responsible for all aspects of the day-to-day management of the project, including planning, budgeting, technical coordination, implementation supervision, monitoring and evaluation (M&E), and ensuring compliance with WB safeguards and regulations of Belize.

The World Bank acted as the multilateral implementing entity (MIE) and assumed the full responsibility for the overall management of the Project financed by the Adaptation Fund, also all financial, monitoring, and reporting responsibilities to the Adaptation Fund Board. The PACT was accredited as the National Implementing Agency (NIE) for Belize by the Adaptation Fund Board, and supported the execution of MCCAP on behalf of the Government of Belize (GOB). The PACT was responsible for the overall fiduciary management of the project, including, financial management and procurement, as well as financial monitoring and reporting responsibilities to the World Bank, with support from dedicated staff, namely, the Procurement Officer and Project Accountant. Additionally, the PIAG draw on other PACT staff resources and/or the hiring of consultants for specific assignments. Implementation of MCCAP by PACT is carried out under the oversight and guidance of the PSC. The organizational structure of the Project Implementing Agency Group is shown in Figure 2 below.

A Project Steering Committee (PSC) was established from a cross section of stakeholders in the marine and coastal resources management field with particular reference to the priority areas identified was be established – Fisheries, Tourism, Finance, Economic Development, Rural Development, CZMAI, and Natural Resources. This committee provided oversight of the project via the PIAG. The Technical Advisory Committee (TAC) provided general technical guidance for project implementation, including screening and evaluation of technical aspects of sub-project proposals and approvals. The technical team comprised - Fisheries Department, Forest Department, Department of the Environment, National Climate Change Office, Ministry of Finance and Economic Development, National Protected Areas System, Protected Areas Conservation Trust, Coastal Zone Management Authority and Institute, Turneffe Atoll Sustainability Association, Sarteneja Alliance for Conservation and Development, Belize Federation of Fishers, Belize Fishermen's Cooperative Association, and Lands and Survey Department.

Figure 2: Implementing structure of the project



### Key implementing partners

Various Ministries and Departments were involved in the implementation of the project (Figure 2). As the designated authority, the Ministry of Finance and Economic Development endorsed MCCAP. The Ministry of Agriculture, Fisheries, Forestry, the Environment and Sustainable Development (MAFFESD) was the parent Ministry for the other government agencies that were involved in the implementation of the project: 1) the Fisheries Department, 2) the CZMAI, and 3) the Forest Department.

The Fisheries Department provided technical support to the PIAG. The Department has jurisdiction over the marine protected areas of Belize declared under the Fisheries Act and regulatory authority over all marine resources within Belizean territorial waters. As such, the Fisheries Department had direct oversight of MPA management and alternative livelihood activities occurring within the target marine protected areas. The Department implemented activities within the SWCMR, given that a co-management agreement was not in place for this MPA. Along with the PIAG, the Fisheries Department supported the implementation of activities with Co-managers within CBWS and TAMR, which is co-managed by the Sarteneja Alliance for Conservation and Development (SACD) and Turneffe Atoll Sustainability Association (TASA), respectively.

The CZMAI is charged with coordinating all the different sectors active in the coastal zone, and the various interests using and managing the valuable coastal marine zones of Belize and therefore plays an important role in MCCAP implementation. The Forest Department supported project activities related to mangroves given that the Department has legal responsibility for the protection of mangroves under the Forests (Protection of Mangroves) Regulations (Forests Acts [Subsidiary Laws of Belize] CAP 213).

The Project was designed to strengthen the capacity of the Government of Belize while providing support to local communities and community-based organizations. The key implementing partners include: Turneffe Atoll Sustainability Association (TASA); Sarteneja Alliance for Conservation and Development (SACD); Belize Fishermen Federation (BFF); Southern Environmental Association (SEA); Placencia Producers Group; Hopkins Fishermen Association (HFA); Sarteneja Beach Trap Association; Sarteneja Homestay Group; Chunox

Fishermen Association; Belize Central Fishermen Association; WABAFU fishermen Association; Belize Central Fishermen Association; and Belize Fishermen Cooperative Association (BFCA). Their role is based on the current relationship they have with the MPAs and communities affected by the implementation of the project.



# 2. Summary of Project Achievement

## 2.1 Results and key outcomes

		Performance at completion				
Impact: Increased resiliency at the community, national, and regional levels to climate variability and change	Core Indicator: No. of beneficiaries		Total (direct + indirect beneficiaries)	Direct beneficiaries supported by the project	Indirect beneficiaries supported by the project	
		Total	3,556	815	2,741	
		% of female beneficiaries	53.00%	48.00%	58.00%	
		% of Youth beneficiaries	40.00%	30.00%	10.00%	
Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes	Indicator 3.1: Increase in application of appropriate adaptation responses	Percentage of targeted population applying adaptation measures		Sector		
		64%		Coastal management		
Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	Indicator 3.1.1: Percentage of targeted population awareness of predicted adverse impacts of climate change, and of appropriate responses	No. of targeted beneficiaries	% of female participants targeted	Level of awareness		
		1,535	49.50%	4: Mostly aware		
Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	Indicator 5: Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	Natural resource improvement level		Sector	Type	
		4: Effective		Coastal management	water areas	
Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	Core Indicator 5.1: Natural Assets protected or rehabilitated	Natural asset or Ecosystem (type)	Total number of natural assets or ecosystems protected/rehabilitated	Unit	Effectiveness of protection/rehabilitation	
		Mangroves	18,216	ha protected	5: Very effective	
		Natural asset or Ecosystem (type)	Total number of natural assets or ecosystems protected/rehabilitated	Unit	Effectiveness of protection/rehabilitation	
		Protected areas/National parks	405,513	ha protected	5: Very effective	
		Natural asset or Ecosystem (type)	Total number of natural assets or ecosystems protected/rehabilitated	Unit	Effectiveness of protection/rehabilitation	
Performance at completion (IMPACTED BY COVID-19 PANDEMIC)						
Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Indicator 6.1: Increase in households and communities having more secure access to livelihood assets	No. of targeted households	% of female headed households	Improvement level		
		585	3.40%	3: Moderate improvement		
	Indicator 6.2: Increase in targeted population's sustained climate-resilient alternative livelihoods	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	
		209	0.00%	From 0.5 to 1%	Agriculture	
		No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	
		129	2.60%	From 0.5 to 1%	Tourism-related	
		No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	
86	0.00%	From 0.5 to 1%	Fishing			
No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source			
161	11.00%	From 0.5 to 1%	Services			
Output 6 Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Indicator 6.1.1: No. and type of adaptation assets created or strengthened in support of individual or community livelihood strategies	Number of Assets	Type of Assets	Sector	Adaptation strategy	
		10	Adaptation strategies	Coastal management	Livelihoods	
	Core Indicator 6.1.2: Increased income, or avoided decrease in income	Number of households (total number in the project area)	Income source	Income source		
			Agriculture			
		Number of households (total number in the project area)	Income source	Income source		
			Tourism-related			
		Number of households (total number in the project area)	Income source	Income source		
	Fishing					
Number of households (total number in the project area)	Income source	Income source				
	Services					
Performance at completion						
Outcome 7: Improved policies and regulations that promote and enforce resilience measures	Indicator 7: Climate change priorities are integrated into national development strategy	Integration level				
Output 7: Improved integration of climate-resilience strategies into country development plans	Indicator 7.1: No. of policies introduced or adjusted to address climate change risks	No. of Policies introduced or adjusted	Sector	Scale	Type	
		8	Coastal management	National	Public Policy	
	Indicator 7.2: No. of targeted development strategies with incorporated climate change priorities enforced	No. of Development strategies	Regulation		Effectiveness	
	4	4: Enforced (Most elements implemented)		3: Moderately effective		

## 2.2 Summary of Project Achievements

<b>Objective/Outcome 1: Improvement of the coral reef protection regime</b>	
<b>Outcome Indicators</b>	<p>#1: Marine Protected Areas (MPA) coverage increased to 20.2% and areas declared as marine Replenishment Zones (RZ) increased to at least 3.1% of the Belize's territorial sea as identified in the NPASP, by the third year of the project.</p> <p>#2: Coastal region brought under improved regulation (measured by mangrove coverage) in 3 planning regions (Ha).</p>
<b>Intermediate Results indicators</b>	<ul style="list-style-type: none"> <li>- The target MPAs (TAMR, CBWS, SWCMR) are effectively managed as recorded by the Management Effectiveness Tracking Tool (MRTT) with a target score of 0.8</li> <li>- Infractions of rules and regulations in the target MPAs and RZs reduced by 75%</li> <li>- At least 3 coral sites, with resilient varieties grown in coral nurseries, within TAMR and SWCMR (with each site measuring 300 m<sup>2</sup>)</li> <li>- 75% of coastal developments adhering to the development guidelines set by the ICZM Plan (Baseline for monitoring of adherence to ICZM Plan guidelines in 3 regions - northern, central and southern Belize)</li> <li>- 95% Mangrove coverage maintained (based on the revised mangrove regulations within 3 planning regions) with a target score of 17,352.70 Hectares.</li> </ul>
<b>Key Outputs by Component</b> (linked to the achievements of the Objective/Outcome 1)	<p><b>Component 1 - Improving the Protection Regime of Marine and Coastal Ecosystems</b></p> <ul style="list-style-type: none"> <li>- Consultations held in northern, central and southern communities to discuss expansion of MPAs. Task Force was formed with Fisheries Department, Forestry Department, Lands Department, Sarteneja Alliance Conservation and Development, Turneffe Atoll Sustainability Association, Environmental Research Institute - University of Belize, fisher's representative, and MCCAP to oversee the MPA expansion process.</li> <li>- MPA expansion under MCCAP resulted in Marine Protected Areas (MPAs) coverage increased from 13% to 20.2% of territorial waters and areas declared as marine Replenishment Zone (RZ) increased from 2% to 3.1% of marine ecosystem habitats as identified in the NPASP.</li> <li>- <b>Securing the drafting of the Statutory Instrument (SI) was not possible as, legislative drafting is a long and lengthy process, the achievement of this was outside the scope of the project.</b> While the project did not achieve the drafting of the legislation for expansion of MPAs and RZs, approval of a national policy was granted for the expansion of Fisheries Replenishment (No-Take) Zone 2019 that declared, "the total area of Belize's waters under no-take status will now increase from 4.5% to 11.6%" in open and deep-sea areas.</li> <li>- Purchased 2 enforcement vessels, 12 outboard engines, 3 trailers, 2 vehicles to the enforcement fleet. Purchased enforcement equipment for staff (3 Desktops, 9 Laptops, 10 GPS, bullet proof vests, night vision goggles. Maintained 12 vessels and 24 engines for the duration of the project. Increase enforcement and surveillance activities nationally with number of man-hours in the field, disbursement of fuel, number and distance of patrols.</li> <li>- Conducted a 5 days training with 21 participants from Coast Guard, Fisheries Department Marine Reserve and Conservation Compliance Unit, and Co-managers (Belize Audubon Society, Turneffe Atoll Sustainability Association, Southern Environmental Association) in fisheries enforcement, prosecution, small craft handling, engine maintenance, and SMART a new enforcement software. Standardized marine enforcement nationally, through development of Enforcement Manual and training of staff in surveillance and prosecution. Assisted in joint patrols with organizations and enforcement agencies such as the Belize Police Department, Turneffe Atoll Sustainability Association, CBWS, INTERPOL, Customs, Immigration, Belize Audubon Society, Belize Coast Guard, Hol Chan Marine Reserve, Belize Defense Force, Port Authority, Toledo Institute for Development and Environment, Southern Environmental Association, Ya'axché Conservation Trust, Sarstoon Temash Institute for Indigenous Management, Bacalar Chico Marine Reserve, Caye Caulker Marine Reserve, South Water Caye Marine Reserve and Glover Reef Marine Reserve.</li> <li>- Generally, infractions of rules and regulation in the target MPAs and RZ reduced. From 2015 to present, there was a slight decline in the number of enforcement offences (<math>R^2=0.0302</math>) and products confiscated (<math>R^2=0.533</math>).</li> <li>- The project document required that two Management Effectiveness Assessment should be done for each targeted MPAs. However, in 2015 MAR Fund did assessments for SWCMR and CBWS, and they had funds to conduct another assessment on 2019. Hence, the project focused on assessment for TAMR 2018 and 2020. The assessment included for the first-time research and monitoring activities tackling climate change aspects. While TAMR (0.71) and CBWS (0.79) showed increase in their overall score from 2017 to 2020, they did not achieve the target score of 0.8. SWCMR showed a decline with a score of 0.56. Successfully designed and tested climate change indicators for managing MPAs</li> <li>- Successfully restored 12 coral sites in SWCMR and TAMR (2017-2020). The 12 measured plots had a total area of 1,400 m<sup>2</sup> with 28,927 out-planted corals. Build 10 coral nurseries to grow corals before out-planting.</li> <li>- Formation of a Task Force to assist the Consultant draft the drafting notes for the legislation. Final Technical Report - A Consultancy to Review and Revise the Forests (Protection of Mangroves) Regulations 2014. Includes drafting notes developed and accepted by the Solicitor General Office. The legislation was later passed in the House. Forest Department wrote the Cabinet Paper for the legislation. Training sessions for fisheries and forestry enforcement officers on the new legislation and implications.</li> <li>- Cabinet approved the <b>Forest (Protection of Mangroves) Regulations 2018</b>.</li> <li>- CZMAI updated the Mangrove Coverage Map for Belize (2019). The results showed that 18,216.91 Hectares of mangrove coverage was brought under improved regulations or over 95% of mangrove coverage maintained.</li> <li>- Improved governance of Belize's coastal zone - In 2016, CZMAI underwent a comprehensive Institutional Assessment and Legislative Review of the CZM Act and Regulations. The Final Technical Reports - (1) Institutional</li> </ul>

	<p>Assessment Report; and (2) Review and Revision of the Belize Coastal Zone Act and Regulations. The resulting consultancy reports serve as critical prerequisites to aid CZMAI to better deliver its mandate in the future. At its 13<sup>th</sup> Ordinary Meeting held late 2018, CZMAI's Board of Directors, the principal policy-making organ of the institution, commissioned the establishment of an Ad Hoc Committee via resolution to conduct a detailed review of the draft proposed legal amendments and stakeholder concerns as presented in the Consultancy Reports. Drafting notes developed and in queue at the Solicitor General Office, awaiting legislative drafting.</p> <ul style="list-style-type: none"> <li>- Based on the proposed legislative amendments for the CZMAI Act and Regulations, CZMAI is now in a position to refocus and continue the work on the legislative amendments with respect to improving coastal zone management. This goal is specifically articulated in its recently completed Strategic Plan 2020-2025, where the new legal framework is of the highest priority in order to build a fit for purpose organization.</li> <li>- Developed the CZMAI Water Quality Monitoring Programme Protocol 2016 and subsequent WQ monitoring in rivers and marine environment. Purchased lab equipment and reagents for the water quality laboratory; purchase 1 vessel, 2 outboard engines, 1 trailer, and 2 vehicles for water quality monitoring activities. Hired and trained 2 Lab personnel to strengthen WQM collection and analysis.</li> <li>- Baseline for monitoring of adherence to ICZM plan guidelines established in three planning regions (northern, central, and southern Belize). CZMAI coastal monitoring covers the results of a four-year baseline coastal inventory for cays and coastal planning regions. The overall purpose of this inventory was to establish a spatial and temporal baseline for human use of coastal and marine resources in tandem with the implementation of the ICZM Plan. The general scope of work for the coastal inventory was aligned with three (3) of the nine (9) coastal planning regions, the spatial extent of which totals 17,546.92 square kilometers and includes a 3 km "zone of influence". The three coastal planning sub regions are Caye Caulker Region, Central Region, and South Northern Region. The data collection spanned 2016 to 2020.</li> <li>- Improved governance of Belize's coastal zone with the preparation of the <b>State of the Coastal Zone Report, CZMAI established the Community Wardens Program (CWP)</b> to assist with the management of coastal resources in Belize, and the re-institution of the Coastal Zone Management Advisory Council.</li> <li>- Continuous monitoring of fish stock (lobster, conch, fin fish) for sustainable management. Measured 17,530 queen conch (<i>Lobatus gigas</i>) over three survey assessments to determine performance indicators.</li> </ul>
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<b>Objective/Outcome 2: Promotion of sustainable alternative livelihoods and income diversification</b>	
<b>Outcome Indicators</b>	#3: Project beneficiaries who have adopted alternative livelihoods and reduced dependency on traditional fishing for household income (at least 1,500 people), of which 30% are women
<b>Intermediate Results indicators</b>	<ul style="list-style-type: none"> <li>- Alternative livelihoods sub-projects elaborated and financed with 30% of beneficiaries being women. Target 10 business plans financed.</li> <li>- Persons participating in training based on training needs assessment (at least 30% of trainees are women).</li> </ul>
<b>Key Outputs by Component</b> (linked to the achievements of the Objective/Outcome 1)	<p><b>Component 2 – Promotion of Viable Alternative Livelihoods</b></p> <ul style="list-style-type: none"> <li>- The project consulted and collaborated with 3 regional organizations, 19 national organizations, 10 fishermen organizations, and meet with leaders and community members in the 12 targeted communities.</li> <li>- Organized and facilitated 104 community mobilization meetings in the 12 targeted communities; 1,009 persons participated of which 31% were females. Conducted needs assessment surveys in 12 communities. Mobilized key stakeholders in the communities and NGOs/Co-Managers/Fisheries Department.</li> <li>- Purchased 3 vehicles to monitor livelihood activities (attend meetings, distributing goods purchased, etc.).</li> <li>- Consulted and selected teaching institutions for the delivery of skills training. Developed customized training curriculum including core courses and support courses (Entrepreneurship, communication, IT, etc.). Organized transportation for participants. Provided all materials, T-shirts/aprons, tools for participants. Arranged learning exchanges, community service, internship, external examinations, trade license for participants. Skills training provided: 28 Tour Guide General Core; 52 Tour Guide Professional Core; 15 Electrical installation licenses; 15 Computer Service and Repairs; 14 Cosmetology; 13 Auto-mechanic; 26 outboard engine; 50 Food Preparation, Hospitality, Bartending; 21 Sewing.</li> <li>- Overall 759 persons participated in training and 58% were females.</li> <li>- Hired two consulting firms to develop subproject proposals and environmental and social safeguard documents. Developed 12 business plans and subproject proposals. Developed 8 social safeguard implementation reports. Developed 8 Environmental Management Plans/Guidelines.</li> <li>- Hired 2 firms to assist with monitoring and hand holding. Assisted beneficiaries to get all permits, architecture drawings, approval from DOE &amp; BAHA, etc. Hired consultants/contractors. Monitored implementation.</li> <li>- Implemented 10 subprojects: (1) Agriculture and Natural Resources Agriculture School Farm (livestock, covered structures); (2) Chunox St. Viator Vocational High School Farm (livestock, covered structure); (3) Chunox Fishermen Association (Covered Structures); (4) Sarteneja Beach Trap Association pesca tours (tours); (5) Sarteneja Homestay Group (tourism accommodations); (6) Deepslope Belize City Fishermen Association (fishing); (7) Deepslope southern fishermen (fishing); (8) Deepslope Dangriga fishermen (fishing); (9) Seaweed farming (mariculture); (10) Fabiana restaurant (service industry).</li> <li>- Agriculture subprojects – purchased productive assets including: 15 livestock (pigs and cows); 25 acres of land prepared and planted (corn, cassava, grass); 10 small agriculture machinery; 14 protected gear; 5 pesticide storage units, 3 water pump. Constructed 1 pigpen; 8 covered structures, and 3 covered structure nurseries.</li> </ul>

	<ul style="list-style-type: none"> <li>- Fishing subprojects – purchased 56 custom manual reels; 37 ice-boxes; 100 deep sea buoys; 30 fishing tool kits, 30 monofilament lines; 30 lifejackets, 10 conversion kits; 22 spool poly rope; 45 rafia; 540' PVC pipes; 72 concrete anchors.</li> <li>- Tourism/service industry subprojects – refurbished 3 boats. Purchase office equipment (2 laptops, desk, chair, printer); 14 mattresses; 14 headboards; 12 small appliances; 6 stoves; 4 sewing machines. Constructed 3 bathrooms.</li> <li>- Overall, 1,535 direct project beneficiaries from more than 12 communities (including beneficiaries of fishing households who received skills training and fishers); 49.5% female beneficiaries. The subprojects were affected by the COVID-19 pandemic and tropical storms/hurricanes.</li> </ul>
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**Objective/Outcome 3: Building local capacity and raising awareness about the health of the reef to climate resilience**

<b>Outcome Indicators</b>	#4: Awareness raising campaigns and dissemination of project information and project supported investments reach 50% and change attitude of 50% of intended beneficiaries.
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<b>Intermediate Results indicators</b>	<ul style="list-style-type: none"> <li>- Behavioural change communication (BCC) campaigns conducted at all the target fishing communities (Chunox, Copper Bank, Sarteneja, Corozal Town, Belize City, Dangriga, Hopkins, Placencia, Sittee River, Riversdale, Placencia and Seine Bight) and reach 100% of fishers</li> <li>- Strategic planning workshops with fishermen association and three fisher cooperatives. Target 24 planning workshops and 8 strategic plans.</li> </ul>
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<b>Key Outputs by Component</b> (linked to the achievements of the Objective/Outcome 4)	<p><b>Component 3 – Raising Awareness and Building Local Capacity</b></p> <ul style="list-style-type: none"> <li>- Conducted 2 KAP surveys over the life of the project. The initial survey involved 2,422 community households and 262 registered fishers from the 12 targeted communities. The quantitative survey measured the level of Knowledge, Attitude, and Practice/Behaviour on climate change and Marine Protected Areas. The survey also measured poverty distribution among households in rural and urban areas and the type of livelihood activities households were engaged in or likely to become engaged in.</li> <li>- The 2 KAP surveys provided insight on the livelihood structure and fishing areas for households. It also provided insight on the impacts of the expansion on household income, and use of media source to get information to fishers and their households.</li> <li>- Understanding gender in the fisheries sector, provided the opportunity to target women in subproject activities and the expansion and realignment activity and coral restoration.</li> <li>- CZMAI developed and implemented a communication and Engagement Strategy and Implementation Plan on awareness of the Integrated Coastal Zone Management Plan. Designed and produced promotional items, posters. Upgraded the CZMAI website</li> <li>- Developed a Communication, Education and Public Awareness Strategy and Action Plan focusing on climate change and the fisheries sector awareness, which was 90% implemented over the life of the project.</li> <li>- Design, print, and distributed 1,000 posters, 6,000 flyers, 1,000 brochures, 500 pocket folders in English and Spanish, and promotional items (2,000 water bottles, 100 dry fit polos, 100 long sleeve shirts, 100 bucket caps, 1,000 handbags, 200 rash guard). Organized boat-to-boat sharing events for 230 fishers. Participated in 10 community events reaching 2,380 community members and 610 fishers from over 18 communities communicating in both English and Spanish.</li> <li>- Participated in the inclusion of climate change in the Punta Fuego drama and talk show (20 episodes and repeats).</li> <li>- With assistance from NY Film Academy and WB Communications Team developed 5 mini clips.</li> <li>- Restructured the Fisheries Department website to host climate relevant information.</li> <li>- Organized and facilitated 3 Women in Fisheries Forum with an average of 45 women participating (part of the fisheries value chain) per meeting. The meeting aimed at recognizing women in the fishing industry and providing a safe space to women to have their voices heard.</li> <li>- Developed Gender Action Plan in consultation with women in fisheries.</li> <li>- 108 students and 21 teachers trained in 7 marine ecology and forestry ecology and climate change field courses. 163 students and 105 teachers went on one-day field trips highlighting climate change and its impacts. 12 students went on 1-2 weeks of internship with environmental/ marine NGOs. Initiated/strengthened 4 secondary school environmental clubs with over 175 students. 158 students and 9 teachers involved in community events on solid waste management initiatives.</li> <li>- Trained 17 teachers to oversee the delivery of climate change training to other teachers; Trained 67 Science, Social Studies, and Agriculture teachers from 38 secondary schools to deliver climate change instructions to students. Developed and distributed 5 training manuals for teachers on cc.</li> <li>- Introduced climate change to secondary school curriculum. See Belizean Studies Curriculum: Second form Belizean Studies Learning Outcomes (2019) - Development and the Environment - Impacts of Climate Change on Belize and the World.</li> <li>- Trained 29 Government and Statutory Body Officers to integrate climate change adaptation into the planning processes specifically targeting the fisheries sector.</li> <li>- The PIAG attended and presented at over 30 community, national, and international meetings on lessons learnt and best practices developed by the project (coral restoration, climate adaptation strategy in the fisheries sector, etc.)</li> <li>- Hosted 6 inter-community exchanges to discuss climate change impacts and challenges (Group from Morocco, community exchanging best practices for covered structure production)</li> </ul>
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	<ul style="list-style-type: none"> <li>- Coral restoration activities hosted 3 knowledge exchange with restoration practitioners from Mexico, Jamaica, and Morocco. In total, there were 8 site visits (TAMR, Laughing Bird Caye), 2 learning exchanges, facilitated 18 meetings with 591 people. Organized 5 training sessions on "Coral replenishment methods" with 72 participants (29% females).</li> <li>- Introduced/adjusted 4 policies/legislations to address climate change risks. Developed 8 strategies with incorporated climate change priorities enforced, with most elements implemented. Both done through consultation and 21 major planning workshops with fishermen organizations and key stakeholders.</li> <li>- The final KAP survey revealed there was an increase in the level of climate change knowledge and practice from 32% to 38.3%, an absolute 6.3% points or 20 percentage points relative improvement and statistically significant (<math>p=0.020&lt;0.05</math>), among the target population.</li> <li>- The social impact analysis reveal that a majority of MCCAP affected persons were afforded skills/livelihood training to assist in diversifying away from fishing in the event the proposed expansion of no-take zones in MPAs becomes a reality. Also, the project did a satisfactory job of managing the social risks and impacts associated with implementation of the project</li> </ul>
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### 3. Lessons Learned

#### 3.1 Issues, challenges and mitigation measures

Embedding adaptation measures into the work plans of ministries is an effective way to "mainstream" climate resilience into ongoing government activities. From the outset, the project explicitly adopted an approach to provide targeted support to incorporate adaptation actions into activities that were already underway or planned by different government ministries and departments. This approach built government ownership as project-supported activities had already been prioritized by agencies; enabled project support to be spread across a range of discrete but related activities undertaken by different agencies/departments; and helped to ensure that results were achieved during the project lifetime, given the long lead time required for policy/regulatory change. The project also adopted this approach with respect to the management of protected areas, for the first time developing and incorporating climate change indicators into the METT assessment process. This approach should be considered by future projects aiming to mainstream climate resilience into government policy and planning processes. It should also be understood that such an approach requires an investment of time and project resources to support effective and ongoing inter-agency coordination.

Community-driven livelihoods activities can deliver benefits but require considerable effort and capacity. The project pursued a highly participatory process to engage affected communities in identifying and developing sub-projects to support them in diversifying their income sources. This was essential for ensuring transparency, inclusiveness, and prioritizing local needs but required significant facilitation support and capacity building that was not sufficiently provisioned during project design and early implementation. The project was able to course correct following the MTR by honing in on and providing enhanced support - including through hiring a consulting firm with extensive local experience in livelihoods activities - to a reduced number of sub-projects. Future community-driven interventions should allocate sufficient time and resources and frontload as much preparatory work with communities as possible during project preparation and early implementation to enable livelihoods activities to get off the ground early and provide adequate time for generating tangible results.

Building ownership among key stakeholders and implementing partners can help to solidify results and ensure sustainability. In addition to the highly participatory process with beneficiaries, the project forged a collaborative approach with government and non-government partners to support project implementation and the achievement of outcomes. This approach was evident across all components. In addition to their on-the-



ground involvement in specific activities, key government and NGO partners had a formal role in project management and oversight through the TAC. This collaborative approach helped to build ownership among key stakeholders/partners and is likely to contribute to sustainability.

Nature-based solutions, when designed and implemented appropriately, can strengthen resilience to climate change and achieve multiple social and environmental co-benefits at a fraction of the cost of "hard" infrastructure. The project supported several nature-based adaptation measures, including the expansion of replenishment zones, protection of mangroves, and coral restoration. These measures are expected to generate significant returns over the long-term, in the form of enhanced coastal protection from storm surge, sea level rise and extreme weather events; environmental benefits from carbon sequestration, as well as a healthy ecosystem that provides a sanctuary for marine flora and fauna; and economic benefits to local communities from sustainable fisheries management and tourism. The project's participatory approach to ensure that communities were included in the design and implementation of these measures, that potential conflicts were resolved, that communities were provided with restitution for potential losses, and that community awareness of the value of natural resources was increased, was critical to ensure buy-in and community involvement in their effective management. The positive experience of this project suggests that nature-based solutions can successfully be adopted on a larger scale along the length of the Belize Barrier Reef. As the application of nature-based solutions for addressing climate change continues to gain traction on a global scale, it will be important to ensure that they are designed and implemented in an equitable, participatory way to ensure that the multiple benefits inherent in such approaches can be realized.

Strengthening the climate resilience of an ecosystem is an incremental and complex process that requires support across a range of fronts. The project pursued a multi-pronged strategy that combined regulatory action to strengthen the management of the reef ecosystem and physical action to restore the reef with support to strengthen the adaptive capacity of vulnerable communities who are heavily dependent on the reef for their livelihoods. As the communities targeted by the project are both consumers of the reef and its stewards, the project ensured that any community member that could potentially be harmed by the new regulatory measures to protect the reef was provided the opportunity to benefit from livelihoods support prior to these measures taking effect. The project also carried out a targeted communications effort to increase communities' awareness about climate change and the protective role of the reef, thus strengthening their inclination and capacity to more effectively manage the reef. In this regard, the explicit targeting of youth and the mainstreaming of climate education to youth via the secondary school curriculum is a noteworthy strategy, as these measures are expected to support the achievement of the long-term impact of strengthening climate resilience via knowledge sharing to a generation that will increasingly deal with the effects of climate change. As already noted, this approach required extensive consultation with communities and implementing partners and required considerable time and resources. Future projects that support nature-based solutions to address climate change impacts must also ensure adequate and effective support and devote commensurate resources to those vulnerable communities whose lives and livelihoods are heavily dependent on natural systems.

Promoting gender equality and women's empowerment in fisheries and aquaculture are of critical importance. Gender roles and responsibilities are evident in fishing communities, particularly in northern communities; where male dominates, works and support his family. The project encouraged women to participate and reassured men of the value when they collaborate with women. The project initiated the annual **Women in Fisheries Forum - it's about conversations that focus on recognizing women in the fishing industry**, a safe space where women along the fisheries value chain came together to talk about their challenges and discuss possible solutions. Out of this forum, MCCAP developed the Gender Action Plan which aimed to provide information that will lead to mainstreaming gender in the fishing industry. The main thematic areas were communication, research, training, and monitoring and evaluation. The effort to increased women

participation resulted in 58% of MCCAP skills training participants and 49.5% project beneficiaries were females; exceeding project targets.

## 3.2 Adaptive Management

- The small but highly capable, proactive and dedicated PIAG team provided hands-on management on all aspects of project implementation, technical expertise, and adaptive management throughout the life of the project, including through frequent field visits and direct interaction with beneficiaries. The Project Coordinator was commended by stakeholders a champion whose leadership resulted in visible and demonstrated engagement of a wide diversity of institutions and partners in activities across all project components.
- During initial consultations, it was concluded that diverting fishers to alternative livelihoods may not be a reasonable outcome for this project. Diversifying household income, a climate change adaptation strategy, maybe more meaningful for fishing communities. Two aspects of diversification were implemented. (1) household diversification strategy and (2) individual diversification strategy:
  - a. Household diversification strategy – Currently, most fishing households rely on the income of the male head of household to fish and sustain the family economically and sending their children to Secondary School and Tertiary Institutions. MCCAP provided income earning skills to members of the family willing to participate and find jobs outside of fishing. For example, MCCAP trained fishers, youths, and even mothers within fishing households. The result is the household moved from single income (fishing only) to multi-income (fishing/sewing or fishing/electrician); hence, less vulnerable to shocks and stresses.
  - b. Individual diversification strategy – increase income portfolio of the individuals. Fishing is seasonal; lobster occurs June to February; and conch occurs October to June. According to fishers, every day is a fishing day but not every day is a catching day. Fishers need to be able to diversify their fishing portfolio by using multi-gear at different times depending on the season. Other fishers chose to diversify fishing with agriculture, tourism, and/or a skill. According to a female fisher, “fishing is seasonal, sometimes I am not able to go to sea. So, I come here to learn to sew; so, when the fishing slow, I can do other things.” By promoting diversification, fishers are able to do multiple activities depending on season and species/job availability.
- The main implementation delay was rolling-out alternative livelihoods sub-project to targeted beneficiaries. Fishermen organizations and community groups have limited capacity to manage subprojects in communities. This is consistent with a review of other community-based projects in Belize. The PIAG reviewed the lessons learnt and successes of other projects, and convened a sustainable livelihoods forum to discuss some of the challenges. The PIAG used the outcome of the forum and literature to make changes to project outputs/project design as required. These changes included (i) consultants to assist community groups develop subproject proposals and environmental and social safeguard assessments; (ii) consultants to provide monitoring and technical support during subproject implementation; (iii) procurement of all goods and services; (iv) providing assistance in getting permits, Government approval, etc.; and (v) support training and capacity building. Also, the PIAG formed synergies with the Agriculture Department and Ministry of Tourism to applied best practice livelihood activities that has been tried and proven by these departments and to get community buy-in for these processes. The PIAG looked at the overall enabling environment for successful livelihood sub-projects and not only support the economic activity, but also provide training, capacity building, market studies, etc., as required. The PIAG provided the network needed with the relevant government departments to ensure the livelihood activity were sustainable. Part of the sub-project concept note



assessment was to determine the type of help communities/groups needed to develop and execute successful livelihood project.

### 3.3 Description of the vulnerable communities and social groups

- The main communities affected by the primary geographic focus of the Project are Corozal Town, Belize City, Dangriga, Consejo, Copper Bank, Chunox, Sarteneja, Hopkins, Sittee River, Riversdale, Seine Bight and Placencia. There are varying degrees of vulnerability and dependency on the target MPAs by these communities' residents.
- The number of fishers operating in the 3 targeted MPAs was 1,212. These fishers came from 12 coastal communities (as listed in Table 1a below). Data from the MCCAP KAP survey indicate that an estimated 16% of households from rural communities fall below the established poverty threshold; of these, 2% are indigent or ultra-poor. The remaining 84% of these rural households are not poor; 29% are however, 'near poor' or vulnerable to poverty and the remaining 54%, non-poor. Significant variations in the severity of household poverty are noted across the rural communities. Households in the three urban communities of Dangriga, Belize City Southside and Corozal Town are not classified as falling below the national poverty line, i.e. not poor. Further classified, however an estimated 3% of these urban households are 'near poor' or vulnerable to poverty and the remaining 97% 'non-poor', i.e. these households fall above the established 25% of the national poverty line threshold. Small variations in the urban household poverty distribution are noted across the three urban areas (Tables 1a, 1b).

**Table 1a: Poverty Distribution by Target Zone and Community: RURAL MODEL**

Survey Target Zone		Vulnerability Classification: RURAL			
		Ultra Poor	Poor	Near Poor	Non-Poor
Zone 1: Northern Communities	Consejo Village		50.0%	50.0%	
	Copper Bank Village		75.0%	25.0%	
	Sarteneja Village			49.4%	50.6%
	Chunox Village		41.9%	23.3%	34.9%
	<b>Total</b>		26.6%	37.7%	35.7%
Zone 3: Southern Communities	Sittee River Village		19.2%	61.5%	19.2%
	Hopkins Village	11.3%	4.8%	17.7%	66.1%
	Riversdale Community			20.0%	80.0%
	Seine Bight Village		7.5%	20.9%	71.6%
	Placencia Village	1.1%	4.2%	21.1%	73.7%
<b>Total</b>		3.1%	6.7%	24.3%	65.9%
<b>Total</b>		2.0%	14.2%	29.3%	54.5%

**Table 1b: Poverty Distribution by Target Zone and Community: URBAN MODEL**

Survey Target Zone	Survey Target Community	Vulnerability Classification: URBAN	
		Near Poor	Non-Poor
Zone 1: Northern Communities	Corozal Town		100.0%
	<b>Total</b>		100.0%
Zone 2: Central Communities	Belize City (Southside)	2.5%	97.5%
	<b>Total</b>	2.5%	97.5%
	Dangriga Town	7.0%	93.0%

<b>Zone 3: Southern Communities</b>	<b>Total</b>	<b>7.0%</b>	<b>93.0%</b>
<b>Total</b>		<b>3.1%</b>	<b>96.9%</b>

**Table 2: Relative dependency on fishing for MCCAP targeted MPA**

CBWS Communities	Estimated number of fishers	Fishing methods	Relative dependency	SWCMR Communities	Estimated number of fishers	Fishing methods	Relative dependency
Consejo	8	Gill nets, cast nets	Low	Consejo	2	Free dive	Low
Corozal Town	8	Gill nets, cast nets	Low	Corozal Town	15	Free dive	Low
Sarteneja	16	Beach traps, gill nets, cast nets	High	Sarteneja	172	Free dive	High
Chunox	1	Gill nets, cast nets	Low	Chunox	1	Free dive	High
Copper Bank	1	Gill nets, cast nets	Low	Copper Bank	92	Free dive	High
				Dangriga	215	Lobster traps, Free dive, handline, casita, deepslope	High
				Hopkins	77	Free dive, lobster traps, handline, deepslope, casita	High
				Sittee River	12	Recreational	Low
				Riversdale	20	Lobster traps, free five, handline, deepslope	High
				Seine Bight	29	Lobster traps, hand line, deepslope	Low
				Placencia	85	Free dive, lobster traps, deepslope	Low

TAMR Communities	Estimated number of fishers	Fishing methods	Relative dependency
Consejo	1	Free dive, handline	Low
Corozal Town	8	Free dive, handline	High
Sarteneja	17	Free dive, handline	High
Chunox	154	Free dive, handline	High
Copper Bank	2	Free dive, handline	High
Belize City	330	Lobster traps, free dive, deepslope, handline	High

- Fishermen from the villages of Copper Bank, Chunox and Sarteneja, are likely to experience a greater degree of impact from the project given their connection to all three target protected areas and marine reserves. Copper Bank, Consejo, and Chunox Villages had the highest poverty level of all the communities (Table 2).
- All communities were given the opportunity to participate in Skills training and subproject activities, through community consultations and information sessions where participants identified viable livelihood activities in a participatory manner. The approach ensured there was equity in the process and that all affected users including vulnerable groups, such as women, elderly and indigenous peoples, had the opportunity to become involved in and benefit from alternative livelihoods assistance provided by the project. This approach acknowledged culturally appropriate decision-making practices for indigenous project affected people/beneficiaries while supporting small fishing communities to develop their capacity to assess their own needs, and design community level actions and solutions in the future. The main subproject activities under Component 2 was done by Grant Application process which was non-competitive in that it is open to fisher HHs and aims to encourage fishers, community groups, and NGOs to request support to develop alternative livelihoods to diversify the livelihood portfolio of fishers and their households in the MCCAP targeted communities. The PIAG assisted in the development and execution of subprojects (Table 3).

**Table 3: Number of beneficiaries receiving benefits from Component 2 activities**

Communities	Population size	Estimated number of affected fishers				Indigenous	No. subprojects	No. trained - Skills Training
		CBWS	SWCMR	TAMR	Total			
Consejo	150	8	2	1	11			2
Corozal Town	10,287	8	15	8	31			6
Sarteneja	1,824	20	172	17	196		2	92
Chunox	1,375	1	1	154	156		2	16
Copper Bank	470	1	92	2	95			16

Belize City	37,416			330	330		3	23
Dangriga	9,591		215		215	Yes	2	8
Hopkins	1,610		77		77	Yes	1	14
Sittee River	439		12		12			0
Riversdale	567		20		20			3
Seine Bight	1,310		29		29	Yes		19
Placencia	1,753		85		85			0
Other communities								13
<b>TOTAL</b>	<b>66,792</b>	<b>38</b>	<b>720</b>	<b>512</b>	<b>1,257</b>		<b>10</b>	<b>212</b>

### 3.4 Description of how long-term institutional and technical capacity for effective adaptation has been strengthened

The overall assessment of the project's components and activities made during mid-term review, monitoring, and final evaluation of the project lead to the following institutional impacts:

- **Impacts on institutional capacity building to strengthen operational capacities of the Fisheries Department, CZMAI, MPA Co-managers with training, equipment, vessels, vehicles, etc.** Also, build the technical capacity of Government Departments, NGOs, Fishermen Organizations re climate change/adaptation.
- **Improvement of effective strategic planning capacities by improved data collection systems (biological, spatial planning), developed strategic plans<sup>1</sup>, and seamlessly integrating climate change considerations in policies and development framework.** Also, strengthening policy and legislative frameworks<sup>2</sup> for an integrated and planned approach to coastal management in the face of climate change. The MCCAP offered an improved and integrated governance framework that takes into consideration the balance between ecological, economic, and social realms in building climate resilience and realizing long-term economic benefits from Belize's coastal resources.
- Increased community and fishers level of knowledge, attitude, and behavior towards climate change/adaptation. Majority of MCCAP affected persons identified employment, income, work conditions and access to resources would be affected by the proposed MPAs boundary expansions and sizes of the replenishment (no-take) zones in the SWCMR, TAMR and CBWS. They view the proposed changes as beneficial to them and their households.
- Being exposed to MCCAP communication campaigns/messages contributed to improved knowledge, attitudes and practice on marine conservation and climate adaptation among fisher folks and community residents was significantly high as illustrated in Figure 3. Respondents reported a significant effect of the communication messages/campaigns on their KAP levels is indicative of these methods being effective and well received by the target population. To this end, these methods should continue to be employed as means of reaching the fisher folks and the wider community residents for continued improvement in their KAP related to Marine Conservation and Climate Adaptation.

<sup>1</sup> 2019. National Fisheries Policy, Strategy & Action Plan 2020-2014. MCCAP Final Technical Report. 39pp. 2020. Coastal Zone Management Authority and Institute Strategic Plan 2020-25. MCCAP Technical Report. 18pp

<sup>2</sup> Forests (Protection of Mangroves) Regulations 2018. Government of Belize Press Office. 2019. Expansion of Fisheries Replenishment (No-Take) Zones. <https://www.pressooffice.gov.bz/expansion-of-fisheries-replenishment-no-take-zones/>. Government of Belize. 2018.

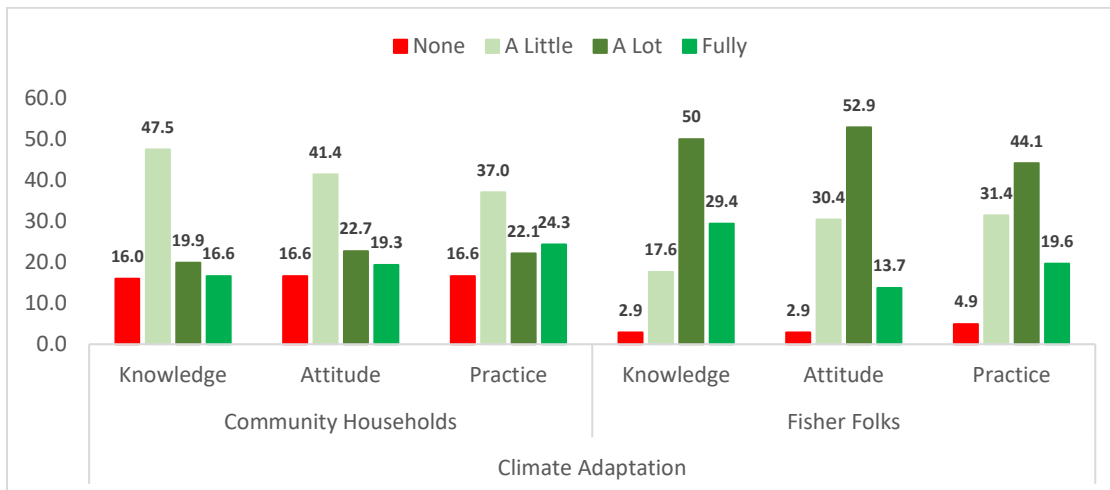
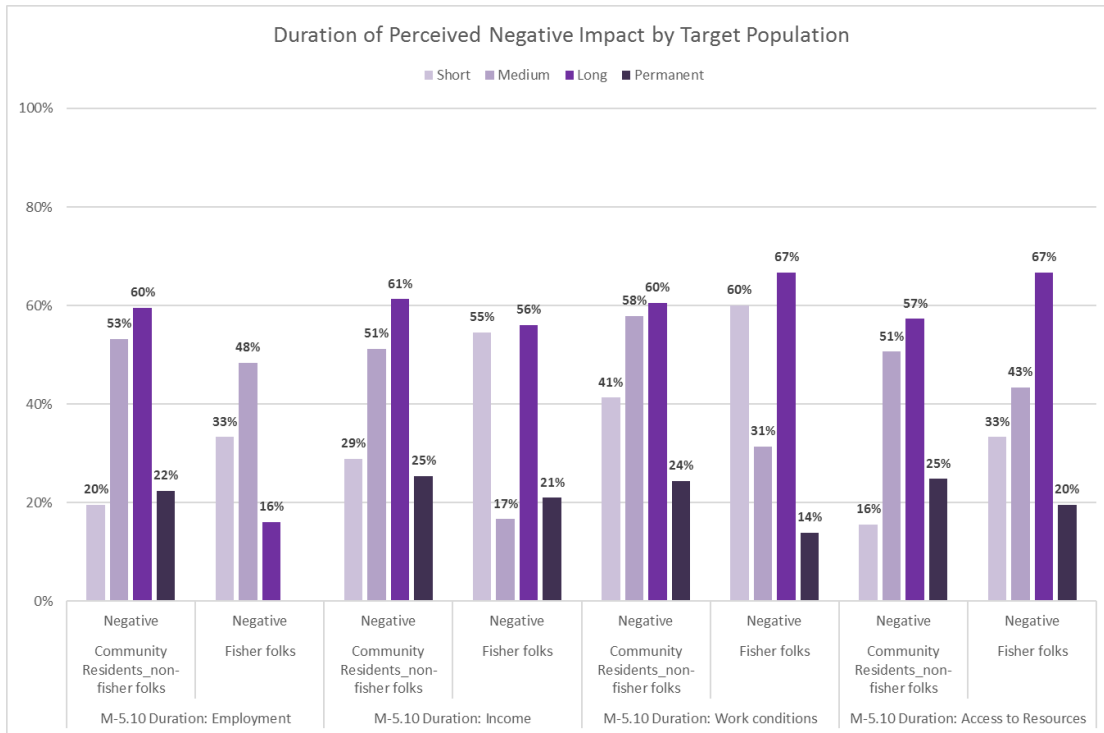


Figure 3: Improved KAP on Climate Adaptation via Communications Campaign/ Messages

- Tried, tested and proven methodology to restore coral reef ecosystem, was scaled-up from Laughingbird Caye to SWCMR and TAMR. More time was needed for the growth of out-planting of corals; However, growth rates are promising. Training was provided to Fishers, Tour Guides, MPA Co-managers, Fisheries Department staff/Rangers, NGOs on methodology to grow coral and also the participation in setting up nurseries and out-planting. In some areas, Co-managers and Government Ranger monitor/clean nursery and out-planted areas.
- Schools have improved school farms for demonstrating climate-smart agriculture to future farmers in Belize. Climate Change become part of the School Curriculum. Students in Belize are better prepared to deal with Climate Change as a result of the instruction. All teachers in Belize are teaching Climate Change in the classroom in the long-term

- Training and capacity building for livelihood beneficiaries. Ten subprojects were funded, of which 5 involved fishermen/community organizations and 2 secondary schools. The project provided training (technical and small business), feasibility studies/development plans, learning exchanges (visits to Central Farm, San Antonio Village), and linked subproject to relevant agencies for continuous support to subprojects. The institutional networks and alliances are important to building sustainability for subproject results.

### 3.5 An overview of complementarity and/or coherence of with other climate finance sources in the context of this project

There is complementarity with other climate finance projects in Belize. The most noted projects are listed in Table 4.

Table 4: MCCAP complementarity with other projects

	<b>AF/WB BZ Marine Conservation and Climate Adaptation Project</b>	<b>GEF/WB Management and Protection of Key Biodiversity Areas in Belize</b>	<b>JSDF/WB Promoting sustainable natural resource-based livelihoods</b>
<b>Sustain/Improve the health of natural ecosystems</b>	Strengthen enforcement, monitoring and surveillance - Equipment, training, patrols, SMART training, maintenance, data system	Strengthening environmental screening tools and processes (assessments, training, data system, SMART)	
	Water quality monitoring of marine and riverine environments (equipment, monitoring, human resources)	Support the Department of Environment water quality monitoring activities (equipment, monitoring)	
	Focused on the MPAs and the coastal zone.	Focused on the national system of protected areas (marine and terrestrial)	
<b>Enhance social resilience</b>	Marine communities' effective livelihood programme (training, business ventures)	Forest community livelihood activities (training, business venture)	Promote viable and sustainable natural resource-based livelihoods for poor communities in Belize. Included 2 MCCAP targeted communities
<b>Enhance governance</b>	Update Mangrove Regulations Update CZM Act and Regulations	Update Forest Act Update EIA Regulations Operationalize the Protected Area legislation	
<b>Education and Awareness</b>	Increased knowledge of climate change and MPAs (website, communication strategy, equipment, training, etc.)	Increased knowledge of Protected Areas (communication material, ads, printing, audio, human resources)	

### 3.6 Sustainability, scalability and replicability

The government remains committed to the sustainability of the project, as evidenced by the adoption during project implementation of policies and legislation aimed at improving the management of marine and coastal resources and the anticipated passage of additional policy and legislative measures supported by the project. The project objectives are highly relevant to the country's Horizon 2030 long-term development framework, various sectoral strategies and action plans, including in the fisheries and coastal management and forestry sectors, as well as its NDC. Moreover, PACT is preparing a follow-on project for additional Adaptation Fund support to strengthen the resilience of coastal communities to climate change impacts. Yet despite alignment of project objectives with GoB priorities, there are potentially substantial risks to development outcome.

The sustainability of the community alternative livelihoods activities is uncertain. The project built in a number of measures to bolster sustainability, including the highly participatory, community-driven process; the provision of training and capacity building through the skills training and sub-projects themselves; and the establishment of partnerships (with the Ministry of Agriculture, and TNC and TASA) that are expected to lead to ongoing support for some sub-projects. However, it was not yet clear at the time of project completion to what degree the sub-project activities would be sustained long-term or whether there will be meaningful generation of additional income for beneficiaries. That said, the project’s incremental focus on income diversification (rather than entirely redirecting beneficiaries away from fishing), coupled with its explicit decision to target women and youth in livelihoods and behavior change activities may help to cement development gains and improve longer-term sustainability.

Given its cross-cutting nature, multi-sectoral coordination and collaboration is required for effective implementation of measures to address climate change. The project was successful in achieving inter-agency collaboration with, inter alia, the Fisheries, Forestry, Agriculture and Environment Departments; the National Climate Change Office; the Meteorological Office; Coastal Zone Management Authority; and Ministry of Education. This was achieved at a high level through the PSC and at a working level by integrating project activities in the workplans of various agencies to ensure technical and financial support for project implementation. While the project contributed substantially to institutional strengthening within the Fisheries Department and CZMAI that should support continued inter-agency coordination on coastal and marine resource management, there is a risk that without the coordinating role of the project, and the additional funding it provided to supplement ongoing activities, these efforts may not be sustainable.

Climate change and extreme weather events such as hurricanes have the potential to undermine development outcomes. This is a particular risk for the coral outplanting carried out by the project. Coral is susceptible to damage or loss due to bleaching, disease, and severe storms, all of which are exacerbated by climate change. For example, Stony Coral Tissue Loss Disease has spread rapidly throughout Florida and several parts of the Caribbean and was reported in northern Belize in early June 2019 and identified farther south in Hol Chan and Caye Caulker Marine Reserves by early May 2020. The Belize Fisheries Department and Fragments of Hope are closely studying the progress of the disease to understand which coral species are most susceptible. As a general principle, the project sought to mitigate coral loss by selecting for outplanting genets (genetically unique colonies) that are temperature resilient and more resistant to bleaching and disease. Although the disease had not yet been reported in the project sites (TAMR and SWCMR) by the time of project completion, this persistent risk indicates the need for ongoing monitoring by the Fisheries Department of the coral outplanting supported by the project, and, potentially the continuation and expansion of outplanting to other locations.

#### 4. Project Contribution to Adaptation Fund Objectives

The Table 5 below is a comparison of indicators for the objective results and effects of the AF with MCCAP results.

Outcome/Output	AF indicator	MCCAP results
Outcome 5: Increased ecosystem resilience in response to climate change and variability induced stress	Indicator 5: Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	
Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	Indicator 5.1: Natural Assets protected or rehabilitated	<ul style="list-style-type: none"> <li>Increased the protection of natural assets with expansion of MPAs from 13% - 22% and Replenishment Zones from 2% - 3%.</li> <li>Mangrove clearance maintained at &lt;1% in Belize. Nationally, total mangrove area in 1980 was 51,838.32 Ha. Mangrove cleared between 1980-2019 was 93.78 Ha (total 0.13% loss).</li> </ul>



		<ul style="list-style-type: none"> <li>• Increased coral coverage/ rehabilitation of 12 sites in SWCMR and TAMR (2017-2020) with total area of 1,400 m<sup>2</sup> and 28,927 out-planted corals.</li> <li>• Conch mean shell length, density, biomass, and Maximum Sustainable Yields continues to be monitored for the successful management of the queen conch fishery.</li> <li>• Spiny lobster size, Catch per Unit Effort (CPUE), and biomass continues to be monitored to determine if the decreased in fishing performance is due only to fishing exploitation, but to changes in habitat conditions, water temperature and severe climatic conditions (hurricanes).</li> <li>• Sea surface temperature data showed that 2017 and 2019 had the most severe coral bleaching events for Belize. High sea surface temperature is a hazard for the protection and rehabilitation of our natural assets.</li> <li>• Spatial baseline coastal inventory for 3 planning regions completed. Data used to determine coastal development adhering to the development guidelines set by the ICZM Plan.</li> </ul>
Outcome 7: Improved policies and regulations that promote and enforce resilience measures	Indicator 7: Climate change priorities are integrated into national development strategy	
Output 7: Improved integration of climate-resilience strategies into country development plans	Indicator 7.1: No. of policies introduced or adjusted to address climate change risks Indicator 7.2: No. of targeted development strategies with incorporated climate change priorities enforced	<p>Developed and enforced 8 development strategies and policies that mainstream climate change.</p> <ol style="list-style-type: none"> <li>1. Fisheries policy, strategy and action plan</li> <li>2. CZMAI strategic plan</li> <li>3. Gender Action Plan</li> <li>4. Mangrove regulations 2018</li> <li>5. CZMAI communications and engagement strategy</li> <li>6. FD Communication, education and public awareness strategy</li> <li>7. Realignment of RZ policy 2019</li> <li>8. Revision of the CZMAI Act and Regulations</li> <li>9. Management effectiveness climate change indicators for MPAs</li> </ol>
Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Indicator 6.2: Increase in targeted population's sustained climate-resilient alternative livelihoods	
Output 6 Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Indicator 6.1.1: No. and type of adaptation assets created or strengthened in support of individual or community livelihood strategies Indicator 6.1.2: Increased income, or avoided decrease in income	<ul style="list-style-type: none"> <li>• 10 business plans financed – 3 agriculture, 4 fishing, 2 tourism, 1 service industry (30% women)</li> <li>• 759 people trained (58% women)</li> <li>• 1,535 beneficiaries adopted alternative livelihoods (49.5% women)</li> </ul>
Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	Indicator 3.1.1: Percentage of targeted population awareness of predicted adverse impacts of climate change, and of appropriate responses	
Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	Indicator 3.1.1: Percentage of targeted population awareness of predicted adverse impacts of climate change, and of appropriate responses	<ul style="list-style-type: none"> <li>• 38.3% people with enhanced understanding and changed attitude of the impacts of climate change</li> <li>• 108 students and 21 teachers trained in 7 field courses on marine and forest ecology and climate change</li> <li>• 18 communities targeted for behavioural change campaign reaching over 2,371 fishermen</li> </ul>

## 5. Final Evaluation Conclusion

The overall outcome rating is considered Satisfactory. The project achieved or very nearly achieved its outcome targets for PDO outcomes 1 and 2. While the project fell short of the target for PDO outcome 3, as noted above, the project made significant strides toward outcome 3 that were not captured by the Results Framework. The Substantial rating is therefore justified by taking into consideration the fuller picture of project achievements beyond those measured by the Results Framework that will contribute to the project's intended long-term outcomes.



## Section B: Project expenditure

Cumulative expenditures as included in the Project Performance Report are reported in Table 6 below. The detailed allocation between outputs is reported below, and includes the corrected amounts based on two major budget reallocations for the project: (i) 2019 reallocation of grant based on recommendations of the mid-term review; and (ii) 2020 reallocation of grant for 6-months project extension (April – September 2020).

(i) March 2019, a Level II restructuring was approved by the Bank for: 1) the reallocation of proceeds between disbursement categories; and 2) adjustment of indicators. The budget reallocation was as follows<sup>3</sup>:

IV. DETAILED CHANGE(S)				
COMPONENTS				
Current Component Name	Current Cost (US\$M)	Action	Proposed Component Name	Proposed Cost (US\$M)
Component 1. Improving the Protection Regime of Marine and Coastal Ecosystems	2.00	Revised	Component 1. Improving the Protection Regime of Marine and Coastal Ecosystems	2.50
Component 2. Promotion of Viable Alternative Livelihoods	2.45	Revised	Component 2. Promotion of Viable Alternative Livelihoods	2.10
Component 3. Raising Awareness and Building Local Capacity	0.56	Revised	Component 3. Raising Awareness and Building Local Capacity	0.62
Component 4. Project Management, Monitoring and Assessment	0.52	Revised	Component 4. Project Management, Monitoring and Assessment	0.31
<b>TOTAL</b>	<b>5.53</b>			<b>5.53</b>

(ii) November 2020, The Adaptation Fund Board approved request for a six-month extension of the project completion date: IBRD (Belize) from 31 March 2020 to 30 September 2020 (Decision B.34-35/1). World Bank Report Number: RES40325 approved the reallocation of grant proceeds between components and disbursement categories based on projected expenses until the revised closing date. The approval was based on a slight reduction of grant funds dedicated to subprojects (Component 2) from USD2,038,412 to USD2,006,283 while slightly increasing the funds linked to operating costs (Component 4) from USD315,371 to USD347,500.

<sup>3</sup> 2019. World Bank Report #RES36435. Restructuring paper on a proposed project restructuring of BZ Marine Conservation and Climate Adaptation approved on March 3, 2015 to Belize.

Table 6: Cumulative expenditure per Project Performance Report

Ref. Output	Initial budget (USD)	Adjusted Budget (USD)	PPR1	PPR2	PPR3	PPR4	PPR5	Extension	Total Expenditure (USD)	Difference (negative numbers = overexpenditure)	Percentage total budget	Comments
1.1	365,000.00	40,000.00	6,392.83	9,871.55	9,128.20	359.68	-	-	<b>25,752.25</b>	14,247.76	0%	
1.2	350,550.00	1,004,767.00	183,031.04	142,681.82	162,550.79	102,354.04	235,551.82	176,435.74	<b>1,002,605.24</b>	2,161.77	0%	
1.3	400,000.00	360,000.00	-	79,870.63	96,110.84	85,162.42	65,829.50	17,530.74	<b>344,504.12</b>	15,495.89	0%	
1.4	884,450.00	909,450.00	58,434.89	209,840.07	182,270.38	112,023.88	211,690.58	138,179.15	<b>912,438.95</b>	(2,988.94)	0%	
1.5	-	250,000.00	-	1,215.94	21,197.02	189,887.90	41,976.79	19,359.91	<b>273,637.56</b>	(23,637.56)	0%	Moved from Component 4 to 1
2.1	150,000.00	40,000.00	5,789.63	6,170.65	12,984.04	260.00	14,353.50	16,361.75	<b>55,919.56</b>	(15,919.56)	0%	
2.2	200,000.00	198,000.00	-	777.35	40,640.78	96,276.57	22,008.79	11,729.86	<b>171,433.35</b>	26,566.66	0%	
2.3	60,000.00	272,000.00	-	33,810.86	54,519.17	136,905.12	57,040.36	-	<b>282,275.51</b>	(10,275.51)	0%	
2.4	2,040,000.00	1,346,000.00	80,239.16	1,911.97	95,684.94	194,870.08	445,713.37	200,872.35	<b>1,019,291.86</b>	326,708.15	6%	
2.5	-	150,283.00	-	-	-	89,572.52	30,300.00	19,661.84	<b>139,534.36</b>	10,748.65	0%	Moved from Component 4 to 2
3.1	90,000.00	130,000.00	51,395.00	(562.60)	-	-	78,932.28	-	<b>129,764.69</b>	235.32	0%	
3.2	25,000.00	50,000.00	-	4,180.26	34,956.59	65,553.07	30,959.41	589.89	<b>136,239.21</b>	(86,239.21)	-2%	
3.3	180,000.00	323,289.00	349.32	42,593.78	18,626.36	74,723.77	90,541.47	8,380.93	<b>235,215.62</b>	88,073.38	2%	
3.4	34,000.00	20,000.00	-	1,825.29	11,261.21	-	428.00	3,682.62	<b>17,197.11</b>	2,802.89	0%	
3.5	6,000.00	4,000.00	-	1,405.70	-	531.46	-	147.50	<b>2,084.66</b>	1,915.35	0%	
3.6	35,000.00	12,711.00	-	174.40	258.55	70.00	907.79	-	<b>1,410.73</b>	11,300.27	0%	
3.7	150,000.00	15,000.00	-	196.88	17,210.84	6,362.43	9,229.32	-	<b>32,999.46</b>	(17,999.46)	0%	
3.8	40,000.00	57,000.00	-	-	161.00	14,787.86	41,148.40	-	<b>56,097.26</b>	902.74	0%	
PIAG/NIE	520,000.00	347,500.00	106,612.24	64,957.77	119,417.62	(87,293.52)	69,929.54	48,492.71	<b>322,116.35</b>	25,383.65	0%	
<b>Total</b>	<b>5,530,000.00</b>	<b>5,530,000.00</b>	<b>492,244.09</b>	<b>600,922.28</b>	<b>876,978.31</b>	<b>1,082,407.26</b>	<b>1,446,540.89</b>	<b>661,424.97</b>	<b>5,160,517.79</b>	<b>369,482.21</b>	<b>7%</b>	



## **Section C: Appendices**

Appendix 1: Participants list of an inception workshop

Appendix 2: Key project staff list

Appendix 3: Results tracker

Appendix 4: Reports and other publications

Appendix 5: Websites

Appendix 6: Any other resources

# Appendix 1: MCCAP Inception Workshop Agenda and Participants List



## Marine Conservation and Climate Adaptation Project (MCCAP) Project Inception Workshop

Best Western Belize Biltmore Plaza, River Hall, 17 March 2015, 10:00 am

### AGENDA

Masters of Ceremony: Mr. George Myvett

- 10:00-10:05 National Anthem  
Prayer
- 10:05-10:10 Welcome and Opening Remarks  
(Fisheries Administrator, Fisheries Department, Ms. Beverly Wade)
- 10:10-10:20 Remarks from the World Bank  
(Senior Environmental Specialist and Task Team Leader, GENDR, World Bank  
Mr. Enos E. Esikuri)
- 10:20-10:30 Remarks from Beneficiary Groups
  - Fishermen
  - MPAs
- 10:30-10:50 Feature Address  
(Chief Executive Officer, MFFSD, Mrs. Adele Catzin-Sanchez)
- 10:50-11:10 Presentation on the MCCAP  
(Project Coordinator, MCCAP, Ms. Sandra Grant)
- 11:10-11:25 Questions and Answers
- 11:25-11:30 Vote of Thanks  
(Chief Executive Officer, CZMAI, Mr. Vincent Gillett)

LUNCH

## Belize Marine Conservation and Climate Adaptation Project (MCCAP)



### Meeting Attendance

Meeting: MCCAP (Project Inception Workshop)	Date: 17 <sup>th</sup> March 2015.
Location: Belize Biltmore	Time: 10:00

Total 13

No.	Name	Title/Position	Contact Information	Signature	Comments
1	Aaron Holmes	Reporter/MSU	aholmes@bcoz.belize.com 635-7122	[Signature]	
2	Carlos Cruz	Chairman	622-3246	[Signature]	DSA 1
3	Sandra Grant	PC	slgrant@gmail.com		
4	Miriam Longworth	Information Officer	info@presoffice.gov.bz	[Signature]	Media
5	Eledora Martinez	Chairman	664-2504 ed.martinez@bcoz.gov.bz	[Signature]	DSA 2
6	Bernadette Santoya		662-3671	B.S.	DSA 3
	Hipolito Navalo	Reporter	607-4605	HN	Media
	Dennis Francisco	ED, PACT	822-3637	[Signature]	
	Felicia Cruz	Fisheries Dept	221-4552	[Signature]	
	Alyssa Carnegie	Oceana	610-2728 / 882-2792	[Signature]	



Belize Marine Conservation and Climate Adaptation Project (MCCAP)

No.	Name	Title/Position	Contact Information	Signature	Comment
	Paul Dawson	vice chairman	cell# 625 9162		
	George Nyce	Fish Dept.	625-4181		
	Abel Mabea	Director, MARS-MFSD	822-0810		
	Julie Robinson	Marine Specialist - TAC	822-0274		
	Janet Gibson	Country Director - WCS	223-3271		
	Farrukh Tingsling	ACTACT	620-8380		
	Andres Tillet	PACT - PO	822-3637		
	Ricci Flores	WWF	223-7680		
	JOEL AYERDE	SACD - ED	600-4507		
	Nilboer Sibido	Chief Forest Officer	822-2079		
	Daniel Ortiz	Journalist/Channel 7	610-2821		Media
	Isaac Lambay	Chairman, Northstar	620-3963		D.S.A
	Max McKewen	CHAIR - SCFA	634-6501		
	Michelle Hembly	Fisheries Dept	224-4552		
	Shiann Kamran	Fisheries Dept	224-4552		
	Julio Maaz	WCS	223-3271		



Belize Marine Conservation and Climate Adaptation Project (MCCAP)

No.	Name	Title/Position	Contact Information	Signature	Comment
	Carlo Poth	Project Coordinator IFA	667-1052 potthcarlo@practicat.com		DSA
	Maria Conzako	U. Belizean C.F.P	664-7540		DSA
	Melba Tillet	videographer	651-5593		Media
	Adelle G. Jones-Landry	CEO	822-0810		
	Duane Mady	Reporter/Journalist	670-8986 duanemady@bbs.com		Media
	Rigoberto Quintana	Fisheries officer	224-4552		
	Dorothy Wade	Fisheries Adm.	224-4552		
	Vincent Gaultlett	C.E.O.	610-2897		
	James Fruto	Fisher	620-2353		
	Dr. Eros Enriquez	WCS	enriquez@worldbank.org		
	David Sall		664-3270		DSA
	Karin Maddison	Divert Office Assistant	822-3637		PACT
	Estela Pequena	ED	600-2922		TASA
	Emilia Babb	N.F. Coop	667-7814		DSA
	Roseli Lisbey	Civil Society Liaison Officer	623-6925		MNRA
	Theresa Tropp	Fisheries Dept./Sec	224-4552		





## Appendix 2: Key project staff list



Sandra Grant, Project Coordinator, [pc.mccap@fisheries.gov.bz](mailto:pc.mccap@fisheries.gov.bz), [linegrant@gmail.com](mailto:linegrant@gmail.com)



Nidia Chacon, Senior Technical Officer, [sto.mccap@fisheries.gov.bz](mailto:sto.mccap@fisheries.gov.bz), [nidschacon@gmail.com](mailto:nidschacon@gmail.com)



Marco Garcia, Administrative Assistant, [ao.mccap@fisheries.gov.bz](mailto:ao.mccap@fisheries.gov.bz)





Andrea Tillett, PACT Procurement Officer, [procurementofficer@pactbelize.org](mailto:procurementofficer@pactbelize.org)



Maria Catzim, PACT Project Accountant, [paccountant@pactbelize.org](mailto:paccountant@pactbelize.org)



# Appendix 3: Results tracker

	<b>Results Tracker for Adaptation Fund (AF) Projects</b>	
<p><b>Goal:</b> Assist developing-country Parties to the Kyoto Protocol and the Paris Agreement that are particularly vulnerable to the adverse effects of climate change in meeting the costs of concrete adaptation projects and programmes in order to implement climate-resilient measures.</p> <p><b>Important:</b> Please read the following guidance document (also posted on the Adaptation Fund website) before entering your data  <a href="https://www.adaptation-fund.org/wp-content/uploads/2019/10/Results-Tracker-Guidance-Documents-Updated-July-2019.docx">https://www.adaptation-fund.org/wp-content/uploads/2019/10/Results-Tracker-Guidance-Documents-Updated-July-2019.docx</a></p>		

## Adaptation Fund Strategic Results Framework

Project ID	P131408
Implementing Entity	DNCT and the World Bank
Type of implementing entity	NIE
Country	Belize
Region	Latin America and Caribbean
Sector	Coastal management

Impact: Increased resiliency at the community, national, and regional levels to climate variability and change	Core Indicator: No. of beneficiaries	Baseline information			Target performance at completion			Performance at mid-term			Performance at completion						
		Total (direct + indirect beneficiaries)	Direct beneficiaries supported by the project	Indirect beneficiaries supported by the project	Total (direct + indirect beneficiaries)	Direct beneficiaries supported by the project	Indirect beneficiaries supported by the project	Total (direct + indirect beneficiaries)	Direct beneficiaries supported by the project	Indirect beneficiaries supported by the project	Total (direct + indirect beneficiaries)	Direct beneficiaries supported by the project	Indirect beneficiaries supported by the project				
		<b>Total</b>	5,490	1,212	4,278	<b>Total</b>	6,750	1,500	5,250	<b>Total</b>	574	82	492	<b>Total</b>	3,556	815	2,741
		% of female beneficiaries	0.00%	0.00%	0.00%	% of female beneficiaries	48.00%	30.00%	30.00%	% of female beneficiaries	48.00%	58.00%	50.00%	% of female beneficiaries	53.00%	48.00%	58.00%
		% of Youth beneficiaries	0.00%	0.00%	0.00%	% of Youth beneficiaries	40.00%	40.00%	40.00%	% of Youth beneficiaries	40.00%	30.00%	20.00%	% of Youth beneficiaries	40.00%	30.00%	10.00%

Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes	Indicator 3.1: Increase in application of appropriate adaptation responses	Baseline information		Target performance at completion		Performance at mid-term		Performance at completion	
		Percentage of targeted population applying adaptation measures	Sector	Percentage of targeted population applying adaptation measures	Sector	Percentage of targeted population applying adaptation measures	Sector	Percentage of targeted population applying adaptation measures	Sector
		0.00%	Coastal management	50%	Coastal management	50%	Coastal management	64%	Coastal management

Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	Indicator 3.1.1: Percentage of targeted population awareness of predicted adverse impacts of climate change, and of appropriate responses	Baseline information		Target performance at completion		Performance at mid-term		Performance at completion					
		No. of targeted beneficiaries	% of female participants targeted	Level of awareness	No. of targeted beneficiaries	% of female participants targeted	Level of awareness	No. of targeted beneficiaries	% of female participants targeted	Level of awareness			
		0	0.00%	1: Aware of neither	1,500	30.00%	4: Mostly aware	1,500	58.00%	4: Mostly aware	1,535	49.50%	4: Mostly aware

Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	Indicator 5: Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	Baseline information			Target performance at completion			Performance at mid-term			Target performance at completion		
		Natural resource improvement level	Sector	Type	Natural resource improvement level	Sector	Type	Natural resource improvement level	Sector	Type	Natural resource improvement level	Sector	Type
		2: Partially effective	Coastal management	water areas	4: Effective	Coastal management	water areas	4: Effective	Coastal management	water areas	4: Effective	Coastal management	water areas

Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	Core Indicator 5.1: Natural Assets protected or rehabilitated	Baseline information		Target performance at completion		Performance at mid-term		Target performance at completion									
		Natural asset or Ecosystem (type)	Total number of natural assets or ecosystems protected/rehabilitated	Unit	Effectiveness of protection/rehabilitation	Natural asset or Ecosystem (type)	Total number of natural assets or ecosystems protected/rehabilitated	Unit	Effectiveness of protection/rehabilitation								
		Mangroves	18,900	ha protected	2: Partially effective	Mangroves	17,955	ha protected	4: Effective	Mangroves	18,300	ha protected	5: Very effective	Mangroves	18,216	ha protected	5: Very effective
		Protected areas/National parks	248,810	ha protected	3: Moderately effective	Protected areas/National parks	386,612	ha protected	5: Very effective	Protected areas/National parks	405,513	ha protected	5: Very effective	Protected areas/National parks	405,513	ha protected	5: Very effective

		Baseline information				Targeted performance at completion				Performance at mid-term				Performance at completion (IMPACTED BY COVID-19 PANDEMIC)			
		No. of targeted households	% of female headed households	Improvement level		No. of targeted households	% of female headed households	Improvement level		No. of targeted households	% of female headed households	Improvement level		No. of targeted households	% of female headed households	Improvement level	
Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Indicator 6.1: Increase in households and communities having more secure access to livelihood assets	0	0.00%	1: No improvement		500	3.00%	3: Moderate improvement		57	2.00%	2: Limited improvement		585	3.40%	3: Moderate improvement	
	Indicator 6.2: Increase in targeted population's sustained climate-resilient alternative livelihoods	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source
		0	0.00%	From 0 to 0.5%	Agriculture	50	1.00%	From 1% to 5%	Agriculture	0	0.00%	From 0 to 0.5%	Agriculture	209	0.00%	From 0.5 to 1%	Agriculture
		No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source
		0	0.00%	From 0 to 0.5%	Tourism-related	35	1.00%	From 1% to 5%	Tourism-related	0	0.00%	From 0 to 0.5%	Tourism-related	129	2.60%	From 0.5 to 1%	Tourism-related
		No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source
		0	0.00%	From 0 to 0.5%	Fishing	255	1.00%	From 1% to 5%	Fishing	0	0.00%	From 0 to 0.5%	Fishing	86	0.00%	From 0.5 to 1%	Fishing
No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source	No. of targeted households	% of female headed households	% increase in income level vis-à-vis baseline	Alternate Source		
0	0.00%	From 0 to 0.5%	Services	160	10.00%	From 1% to 5%	Services	57	2.00%	From 0 to 0.5%	Services	161	11.00%	From 0.5 to 1%	Services		
Output 6 Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Indicator 6.1.1: No. and type of adaptation assets created or strengthened in support of individual or community livelihood strategies	Number of Assets	Type of Assets	Sector	Adaptation strategy	Number of Assets	Type of Assets	Sector	Adaptation strategy	Number of Assets	Type of Assets	Sector	Adaptation strategy	Number of Assets	Type of Assets	Sector	Adaptation strategy
	0	Adaptation strategies	Coastal management	Livelihoods	10	Adaptation strategies	Coastal management	Livelihoods	0	Adaptation strategies	Coastal management	Livelihoods	10	Adaptation strategies	Coastal management	Livelihoods	
	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source
	18,921	Agriculture	0	18,921	Agriculture	4,176.74	18,921	Agriculture		18,921	Agriculture		18,921	Agriculture		18,921	Agriculture
	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source
	18,921	Tourism-related	0	18,921	Tourism-related	6,873.27	18,921	Tourism-related		18,921	Tourism-related		18,921	Tourism-related		18,921	Tourism-related
	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source
	18,921	Fishing	0	18,921	Fishing	8,000	18,921	Fishing		18,921	Fishing		18,921	Fishing		18,921	Fishing
	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source	Income level (USD)	Number of households (total number in the project area)	Income source
	18,921	Services	0	18,921	Services		18,921	Services		18,921	Services		18,921	Services		18,921	Services
Outcome 7: Improved policies and regulations that promote and enforce resilience measures	Indicator 7: Climate change priorities are integrated into national development strategy	Baseline information				Target performance at completion				Performance at mid-term				Performance at completion			
	2: Most not integrated																
Output 7: Improved integration of climate-resilience strategies into country development plans	Indicator 7.1: No. of policies introduced or adjusted to address climate change risks	No. of Policies introduced or adjusted	Sector	Scale	Type	No. of Policies introduced or adjusted	Sector	Scale	Type	No. of Policies introduced or adjusted	Sector	Scale	Type	No. of Policies introduced or adjusted	Sector	Scale	Type
	0	Coastal management	National	Public policy	5	Coastal management	National	Public policy	3	Coastal management	National	Public Policy	8	Coastal management	National	Public Policy	
	No. of Development strategies	Regulation	Effectiveness	No. of Development strategies	Regulation	Effectiveness	No. of Development strategies	Regulation	Effectiveness	No. of Development strategies	Regulation	Effectiveness	No. of Development strategies	Regulation	Effectiveness		
0	2: Partially not enforced (Most elements not implemented)	2: Partially effective	2	4: Enforced (Most elements implemented)	4: Effective	2	4: Enforced (Most elements implemented)	3: Moderately effective	4	4: Enforced (Most elements implemented)	3: Moderately effective						

## Appendix 4: Reports and other publications

- 2013 Resettlement Process Framework MCCAP
- 2014 Culturally Appropriate Participation Plan MCCAP
- 2014 Environmental Management Framework MCCAP
- 2015 CZMAI Water Quality monitoring programme protocol manual
- 2015 Draft Comprehensive Fisheries Enforcement and Training Manual
- 2015 Integrated Enforcement and Prosecution Training Outline
- 2016 Belize national queen conch assessment report 2016. MCCAP Final Technical Report.
- 2016 Climate Change and Marine Protected Areas Knowledge, Attitudes and Behavioural Practices Survey: a KAP survey among fisher folks and households in twelve coastal fishing communities in Belize: Final Survey Report. Fisheries Department, Belize. Belize Marine Conservation and Climate Adaptation Project (MCCAP) Final Technical Report. 160 pp.
- 2016 Training of the Trainers on Climate Change Training, July 4-6, 2016: Workshop Report. Prepared by Raphael Martinez. 46 pp.
- 2017 Communication, Education and Public Awareness Strategy and Action Plan for the Fisheries Department. MCCAP Technical Report. 51pp.
- 2017 Communication, education and public awareness strategy and action plan for the Fisheries Department. MCCAP Technical Report. 51 pp.
- 2017 Delivery of Training of Youths from the Marine Conservation and Climate Adaptation Project targeted communities by Ecology Project International. MCCAP Final Technical Report. 39 pp.
- 2017 Knowledge Management Survey Fisheries Department: Results and Analysis. MCCAP Technical Report. 26 pp.
- 2017 Women in Fisheries Forum 1 Workshop Report – Introductory Workshop. 37 pp.
- 2018 Consultancy for the Realignment of Boundaries and the Creation of New Zones for the Targeted Marine Protected Areas under MCCAP. MCCAP Final Technical Report.
- 2018 CZMAI Communication and Engagement Strategy and Implementation Plan. MCCAP Technical Report. 116pp.
- 2018 Environmental Management Plan: Agriculture and Natural Resources Institute's (ANRI) Crop and Agricultural Project. Prepared by Nextera Environmental and Engineering Consultants. 26 pp.
- 2018 Forests (Protection of Mangroves) Regulations 2018.
- 2018 Gender Action Plan MCCAP
- 2018 Rapid Evaluation of Management Effectiveness Turneffe Atoll Marine Reserve, 2017, Belize. MCCAP Final Technical Report. 108pp.
- 2018 Review and Revision of the Belize Coastal Zone Act and Regulations. MCCAP Final Technical Report. 173pp.
- 2018 Women in Fisheries Forum 2 Workshop Report – Gender and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries. 23 pp.
- 2019 Best Practices or Guidelines for PESCO Trap Fishery and Tourism Project. Prepared by Nextera Environmental and Engineering Consultants. 5 pp.
- 2019 Component 1 Social Safeguard Implementation Report. Prepared by Sandra Grant. 49 pp.
- 2019 Environmental Management Plan: Chunox Fishermen Association Vegetable Production. Prepared by Nextera Environmental and Engineering Consultants. 26 pp.
- 2019 Environmental Management Plan: Exploratory Deepslope Fishing in Belize. Prepared by Nextera Environmental and Engineering Consultants. 41 pp.
- 2019 Environmental Management Plan: Exploratory Seaweed Farming in Belize. Prepared by Nextera Environmental and Engineering Consultants. 40 pp.
- 2019 Integrated Pest Management Training Manual. Prepared by Nextera Environmental and Engineering Consultants. 54 pp.
- 2019 National Fisheries Policy, Strategy & Action Plan 2020-2014. MCCAP Final Technical Report. 39pp.
- 2019 Proposal and Social Safeguard Action Plan for Exploratory Deepslope Fishing in Turneffe Atoll Marine Reserve and South Water Caye Marine Reserve. Prepared by Sandra Grant. 56 pp.
- 2019 Proposal and Social Safeguard Action Plan: Start Up-Business for a Restaurant. Prepared by Sandra Grant. 24 pp.
- 2019 Proposal and Social Safeguard Implementation Report for Exploratory Seaweed farming in Belize. Prepared by Sandra Grant. 55 pp.
- 2019 Queen Conch Stock Assessment 2018. MCCAP Final Technical Report.
- 2019 Repopulate Reefs within Replenishment Zones of Turneffe Atoll Marine Reserve and South Water Caye Marine Reserve with Temperature Resilient Coral Varieties: Suitable sites for coral nurseries and outplanting (SWCMR and TAMR). MCCAP Technical Report. 22pp.
- 2019 Report on Climate Change Communication Campaign: Behavioural Change Communication Campaign on Marine Conservation and Climate Change Adaptation. MCCAP Final Technical Report. 45 pp.

- 2019 Report on EPI MCCAP Youth Conservation and Climate Change Internships. MCCAP Technical Report. 19 pp.
- 2019 Report on MCCAP – EPI Field-Based Learning Activities for ANRI (Agriculture and Natural Resource Institute), Stann Creek Dist. And St. Viator Vocational High School, Chunox. MCCAP Technical Report. 17 pp.
- 2019 Women in Fisheries Forum 3 Workshop Report – Gender and the Ocean. 14 pp.
- 2020 Best Practice Guidelines Fabiana Restaurant Belize City. Prepared by Nextera Environmental and Engineering Consultants. 10 pp.
- 2020 Best Practice Guidelines Sarteneja Homestay Group. Prepared by Nextera Environmental and Engineering Consultants. 10 pp.
- 2020 Climate Change and Marine Protected Areas Knowledge, Attitudes and Behavioural Practices: End-Line Survey Report. MCCAP Final Technical Report. 160 pp.
- 2020 Coastal Zone Management Authority and Institute Strategic Plan 2020-25. MCCAP Technical Report. 18pp.
- 2020 Evaluation of lobster stocks *Panulirus argus* of Belize. MCCAP Final Technical Report. 19 pp.
- 2020 Final MCCAP Teachers' Training Report. MCCAP Final Technical Report. 24 pp.
- 2020 PESCA Tours Proposal and Social Safeguard Implementation Report. Prepared by Nidia Chacon. 89 pp.
- 2020 Proposal and Social Safeguard Implementation Report: Development of the productive skills of youth in sustainable agriculture production at Agriculture and Natural Resources Institute. Prepared by Sandra Grant. 68 pp.
- 2020 Proposal and Social Safeguard Implementation Report: Developing a Sustainable Agriculture Programme at CSVVHS to Enhance the Agricultural Skills of Students. Prepared by Sandra Grant. 67 pp.
- 2020 Proposal and Social Safeguard Implementation Report: Improving the environment for tourism in Sarteneja through enhancing the Sarteneja Homestay Group. Prepared by Nidia Chacon. 37 pp.
- 2020 Proposal, Implementation and Social Safeguard for Chunox Fishermen Association Vegetable Production. Prepared by Nidia Chacon. 97 pp.
- 2020 Rapid Evaluation of Management Effectiveness Turneffe Atoll Marine Reserve, Belize. MCCAP Final Technical Report. 121pp.
- 2020 Skills Training Implementation Report. Prepared by Nidia Chacon. 77 pp.
- 2020 Social Impact Analysis and Management Compliance with Applicable World Bank Social Safeguards: MCCAP Supplemental Report. MCCAP Technical Report. 51 pp.
- 2020 Spatial Assessment of Total Mangrove and Littoral Forest Cover for Belize, 2014-2019. MCCAP Final Technical Report. 12 pp.
- 2020 Summary of coral bleaching events in Belize 2017-2019.
- 2020 The State of the Coast Report 2014-2018. MCCAP Final Technical Report. 154pp.
- 2020 Repopulate Reefs within Replenishment Zones of Turneffe Atoll Marine Reserve and South Water Caye Marine Reserve with Temperature Resilient Coral Varieties: Education and Awareness Activities. MCCAP Technical Report. MCCAP Technical Report. 30pp.
- 2020 Repopulate Reefs within Replenishment Zones of Turneffe Atoll Marine Reserve and South Water Caye Marine Reserve with Temperature Resilient Coral Varieties: Reef Replenishment Training Activities. MCCAP Technical Report. 38pp.
- 2020 Repopulate Reefs within Replenishment Zones of Turneffe Atoll Marine Reserve and South Water Caye Marine Reserve with Temperature Resilient Coral Varieties: Summary of replenished coral reef sites in SWCMR and TAMR 2017-2020. MCCAP Technical Report. 44pp.
- 2020 Integrated Pest Management Plan for three Small-Scale Agriculture Subprojects. Prepared by Nextera Environmental and Engineering Consultants. 52 pp.
- World Bank biannual project reports (12); Adaptation Fund annual report (6)
- 2021 (in press). Climate Adaptation in Action: Belize Marine Conservation and Climate Adaptation Project. Final Technical Report.

## Appendix 5: Website

The Fisheries Department website is being updated.

<https://www.fisheries.gov.bz/>