Powering Innovations in Civil Society and Enterprises for Sustainability in the Caribbean (PISCES)

Socio-economic assessment of communities in six marine protected areas/ marine managed areas

May 2021

This publication was produced with the financial support of the European Union (ENV/2016/380-530). Its contents are the sole responsibility of CANARI and do not necessarily reflect the views of the European Union.
Acknowledgements

This report is an output of the project which was funded by the European Union EuropeAid programme (ENV/2016/380-530) and managed through the office of the Delegation of the European Union to Barbados, the Eastern Caribbean States, the OECS and CARICOM/CARIFORUM. The project was implemented by the Caribbean Natural Resources Institute (CANARI) in partnership with the Caribbean Coastal Area Management Foundation (C-CAM), the Caribbean Network of Fisherfolk Organisations (CNFO), the Environmental Awareness Group (EAG), the Fondation pour la Protection de la Biodiversite Marine (FoProBiM), Sustainable Grenadines Inc (SusGren), and the Saint Lucia National Trust (SLNT).

The report was authored by Neema Ramlogan, with review and input from Nicole Leotaud and research support from Aaron Peters.

CANARI would like to thank all the project partners, target groups and their mentors and other stakeholders who provided information and/or participated in the key informant interviews.

Citation:


Cover photo:

Apiculture class in Three Bays National Marine Park, Haiti. Photo credit: Jean Wiener, FoProBiM.
Contents

Acknowledgements ............................................................................................................. 1
List of Tables ............................................................................................................................ 3
1 Background .............................................................................................................................. 6
2 Methodology ............................................................................................................................. 7
3 Findings ...................................................................................................................................... 8
   1.1 Portland Bight Protected Area ....................................................................................... 9
   3.2 North East Marine Management Area .......................................................................... 14
   3.3 Sandy Island/Oyster Bed Marine Protected Area and Tobago Cays Marine Park .......... 19
   3.4 Three Bays National Marine Park .................................................................................. 26
   3.5 Pointe Sable Environmental Protection Area .............................................................. 31
4 Conclusion ............................................................................................................................... 36
References .................................................................................................................................... 37
Appendices .................................................................................................................................. 38
   Appendix 1: Sample Key Informant Survey ........................................................................ 38
   Appendix 2: List of Key Informant Interviewees ................................................................. 41
List of Tables
Table 1: Matrix timeline for key parameters of the socio-economic evaluation between 2017/2018 and 2021 ................................................................. 12
Table 2: Matrix timeline in key areas of socio-economic studies between 2017-2021 .................... 17
Table 3: Matrix timeline in key areas of socio-economic studies between 2017-2021 .................... 23
Table 4: Matrix timeline in key areas of socio-economic studies between 2017-2021 .................... 29
Table 5: Matrix timeline in key areas of socio-economic studies between 2017-2021 .................... 34

List of Figures
Figure 2.1: Number of key informant interviews done per MPA ...................................................... 8
Figure 3.1: Map of Portland Bight Protected Area (PBPA) ................................................................. 9
Figure 3.2: Map of the North East Marine Management Area (NEMMA) ........................................... 14
Figure 3.3: Map of Sandy Island/Oyster Bed Marine Protected Area (SIOBMPA) ............................. 19
Figure 3.4: Map of the Tobago Cays Marine Park (TCMP) .............................................................. 19
Figure 3.5: Map of the Three Bays National Marine Park (P3BA) .................................................... 26
Figure 3.6: Map of the Pointe Sable Environmental Protection Area (PSEPA) ................................. 31
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRRA</td>
<td>Atlantic and Gulf Rapid Reef Assessment</td>
</tr>
<tr>
<td>AMCO</td>
<td>Ashton Multipurpose Cooperative</td>
</tr>
<tr>
<td>ANAP</td>
<td>National Agency of Protected Areas</td>
</tr>
<tr>
<td>BIOPAMA</td>
<td>Biodiversity and Protected Areas Management</td>
</tr>
<tr>
<td>CANARI</td>
<td>Caribbean Natural Resources Institute</td>
</tr>
<tr>
<td>CARICOM</td>
<td>Caribbean Community</td>
</tr>
<tr>
<td>CARIFORUM</td>
<td>Caribbean Forum</td>
</tr>
<tr>
<td>CarSIF</td>
<td>Caribbean Sea Innovation Facility</td>
</tr>
<tr>
<td>CBO</td>
<td>Community Based Organisation</td>
</tr>
<tr>
<td>C-CAM</td>
<td>Caribbean Coastal Area Management Foundation</td>
</tr>
<tr>
<td>CFO</td>
<td>Chief Fisheries Officer</td>
</tr>
<tr>
<td>CMBP</td>
<td>Caribbean Marine Biodiversity Program</td>
</tr>
<tr>
<td>CNFO</td>
<td>Caribbean Network of Fisherfolk Organisations</td>
</tr>
<tr>
<td>CSO</td>
<td>Civil Society Organisation</td>
</tr>
<tr>
<td>CYEN</td>
<td>Caribbean Youth Environment Network</td>
</tr>
<tr>
<td>EbA</td>
<td>Ecosystem-based adaptation</td>
</tr>
<tr>
<td>EAG</td>
<td>Environmental Awareness Group</td>
</tr>
<tr>
<td>ECMMAN</td>
<td>Eastern Caribbean Marine Managed Area Network</td>
</tr>
<tr>
<td>FFO</td>
<td>Fisherfolk Organisation</td>
</tr>
<tr>
<td>FoProBiM</td>
<td>Fondation pour la Protection de la Biodiversité Marine</td>
</tr>
<tr>
<td>GCFI</td>
<td>Gulf and Caribbean Fisheries Institute</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
</tr>
<tr>
<td>GIZ</td>
<td>German Corporation for International Cooperation</td>
</tr>
<tr>
<td>GNMPA</td>
<td>Grenadine Network of Protected Areas</td>
</tr>
<tr>
<td>IAF</td>
<td>Inter American Foundation</td>
</tr>
<tr>
<td>IAS</td>
<td>Invasive Alien Species</td>
</tr>
<tr>
<td>IBA</td>
<td>International Birding Area</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>KBA</td>
<td>Key Biodiversity Area</td>
</tr>
<tr>
<td>MET</td>
<td>Management Effectiveness Training</td>
</tr>
<tr>
<td>MMA</td>
<td>Marine Managed Area</td>
</tr>
<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>MPA</td>
<td>Marine Protected Area</td>
</tr>
<tr>
<td>NEMMA</td>
<td>North East Marine Management Area</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environment and Planning Agency</td>
</tr>
<tr>
<td>NFA</td>
<td>National Fisheries Authority</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organisation</td>
</tr>
<tr>
<td>NRCA</td>
<td>Natural Resources Conservation Authority</td>
</tr>
<tr>
<td>OECS</td>
<td>Organisation of Eastern Caribbean States</td>
</tr>
<tr>
<td>OPAAL</td>
<td>OECS protected Areas and Associated Livelihoods Project</td>
</tr>
<tr>
<td>P3BA</td>
<td>Three Bays National Marine Park</td>
</tr>
<tr>
<td>PABRO</td>
<td>Parham Alliance Beautification and Revitalisation Organisation</td>
</tr>
<tr>
<td>PBPA</td>
<td>Portland Bight Protected Area</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>PSEPA</td>
<td>Pointe Sable Environmental Protection Area</td>
</tr>
<tr>
<td>Ramsar</td>
<td>Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat</td>
</tr>
<tr>
<td>SIOBMPA</td>
<td>Sandy Island/Oyster Bed Marine Protected Area</td>
</tr>
<tr>
<td>SLNT</td>
<td>Saint Lucia National Trust</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
</tr>
<tr>
<td>SPAW</td>
<td>Specially Protected Areas and Wildlife</td>
</tr>
<tr>
<td>SusGren</td>
<td>Sustainable Grenadines</td>
</tr>
<tr>
<td>TCMP</td>
<td>Tobago Cays Marine Park</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>USFWS</td>
<td>United States Fish and Wildlife Service</td>
</tr>
</tbody>
</table>
1 Background
The Caribbean Natural Resources Institute (CANARI) coordinated the implementation of a four-year (2017-2021) project titled Powering Innovations in Civil Society and Enterprises for Sustainability in the Caribbean (PISCES) in partnership with the Caribbean Coastal Area Management Foundation (C-CAM), the Caribbean Network of Fisherfolk Organisations (CNFO), the Environmental Awareness Group (EAG), the Fondation pour la Protection de la Biodiversité Marine (FoProBiM), the Saint Lucia National Trust (SLNT) and Sustainable Grenadines Inc (SusGren). The project was implemented in nine Caribbean countries: The Bahamas, The Commonwealth of Dominica, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

The project was funded by the European Union and aimed to support innovative actions by Caribbean civil society and coastal community small and micro-enterprises for conservation of marine and coastal biodiversity and development of sustainable and resilient livelihoods.

The overall project targeted a wide range of stakeholders including conservation-based non-governmental organisations (NGOs), small and micro-enterprises (SMEs), fisherfolk organisations (FFOs) and community-based organisations (CBOs) whose livelihoods depend on or who manage marine protected areas. Other groups like the relevant government agencies (such as Fisheries Divisions), management bodies for protected areas and coastal communities were also engaged.

The project had six desired outcomes:

- Innovative capacity strengthening methods applied to build efficient, effective and resilient FFOs, CBOs and national NGOs.
- Cases of innovation and best practice by Caribbean civil society discovered/uncovered and knowledge sharing facilitated among FFOs, CBOs and NGOs on approaches for marine and coastal governance and management.
- Innovation actions by FFOs, CBOs and NGOs supported to enhance the conservation of biodiversity and build resilience to the impacts of climate change and natural hazards in marine protected areas (MPAs) or marine managed areas (MMAs).
- Innovative approaches used to bring together environmental, social and business thinking to strengthen formal and informal community SMEs based on small scale fisheries and ecotourism to build resilience and enhance economic benefits to rural communities, particularly women.
- ICTs and social networks used to support civil society innovation in influencing and engaging in decision-making for governance and management of marine and coastal resources, including consideration of gender issues.
- Project management, monitoring, evaluation and visibility effectively conducted to deliver project results within budget and time and to promote project for impact and sustainability.

Within the 10 target countries, six priority MPAs/MMAs were targeted for specific focus under the project. Five of the PISCES project partners play significant roles as co-managers in these MPAs/MMAs:

- Antigua and Barbuda – North East Marine Management Area – EAG
- Saint Lucia – Pointe Sable Environmental Protection Area – SLNT
- Haiti – Three Bays National Marine Park - FoProBiM
- Jamaica – Portland Bight Protected Area – C-CAM
- Grenada/ St. Vincent and the Grenadines – Tobago Cays Marine Park and Sandy Island/Oyster Bed Marine Protected Area – SusGren

Under Outcome 4 of the project, a socio-economic study was conducted of coastal communities in and around the targeted MPAs at the start of the project in 2018. This baseline assessment
produced a socio-economic database of the coastal communities in and around the protected areas. Snapshots were also produced for each of the target sites, presenting brief notes on the MPAs, the communities, civil society organisations (CSOs) (including NGOs, CBOs and FFOs) and community SMEs, key ecosystems and their status and a socio-economic profile. This information was gathered through various reports, data shared by stakeholders and studies previously conducted.

Three years later, at the end of the PISCES project, a follow-up socio-economic study was conducted to evaluate change in the communities, CSOs and SMEs around the MPAs. This activity was conducted to document any change in the coastal communities, whether linked or independent of the PISCES project.

2 Methodology

The socio-economic evaluation of communities was carried out for the six target MPAs/MMAs. The evaluation follows an adapted socio-economic monitoring (SocMon) process used for the baseline study (Bunce, et al., 2000; Bunce & Pomeroy, 2003), where data was reviewed for four main areas of the MPAs/MMAs:

- **MPAs/MMAs characterisation** - the management authority, governance arrangement and primary focus of the MPAs/MMAs
- **Communities and key CSOs and SMEs in and around the MPAs/MMAs** - surrounding communities, SMEs and CSOs can capacity building needs
- **Environmental characterisation of communities** - key ecosystems and species in the MPA, key threats to the MPAs/MMAs and vulnerability to climate change
- **Socio-economic characterisation of communities** - main sources of income in the communities, level of unemployment, women in leadership roles and attitudes and values pertaining to the MPAs/MMAs.

Data for the socio-economic evaluation was collected in two ways:

- A wide call was made for new data, report, studies to project partners, key stakeholders and country contacts was done from December 2020 to January 2021.
- Key informant interviews were conducted between March to April 2021.

From December 2020 to January 2021, a call for information was shared with all key stakeholders of the PISCES project. These included project partners, target groups and other stakeholders such as government agencies and MPAs/MMAs management bodies. This call was soliciting new socio-economic and ecological data, research, studies and assessments of the respective MPAs/MMAs and the communities around them. Although the call was repeated, there was limited response from stakeholders and limited new data/information available to share. In some cases (which may reflect the reality of most countries) stakeholders indicated that there was no new data between 2017/2018 to now. The ongoing COVID-19 pandemic and the implications for staff availability and workload may also have contributed to the low response.

Key informant interviews were also conducted with key stakeholders, who played a role in the PISCES project as a partner, target group (CSO or SME), their in-country mentors providing capacity building under the project, or was a stakeholder involved in the management of the MPAs/MMAs. These interviews were carried out virtually, via Zoom, during the period of March to April 2021. A structured survey was developed for the interviews (see Appendix 1), with questions adapted based on the interviewee, that is, the role they played in the PISCES project. Figure 1 below shows the breakdown of interviews done per MPAs/MMAs.
Of the total of 10 persons interviewed, seven were women and three were men. Five project partner representatives were interviewed, three CSO mentors, one SME mentor and one management body.\(^1\)

There were some limitations to this evaluation which may have impacted the findings, namely:

- a limited number of stakeholders were interviewed (only 10) for the evaluation, even though attempts were made to conduct more;
- only one person was interviewed for the Three Bays National Marine Park in Haiti, due to the language barrier;
- there was limited response and new data found/shared;
- the COVID-19 pandemic would have affected overall the level of engagement received for this activity;
- some of the stakeholders may have already been engaged in other PISCES evaluation activities, leading to stakeholder fatigue; and
- most of those interviewed were mentors, mentees (target CSOs and SMEs) and partners in the project, with limited engagement of stakeholders like SMEs who live in communities and work directly with the resources within the MPAs/MMAs.

Nonetheless, the information collected proved to be valuable and there was some level of repetition in responses. Information gathered in this evaluation can also be supported by findings of other PISCES evaluation exercises.

### 3 Findings

The findings for the key informant interviews and data gathered are organised based on the database developed for the baseline which also reflect the main categories for the key informant interview questions (see Appendix 1). The findings are presented by MPA/MMA. As noted previously, this data represents information and views shared by key stakeholders involved in the PISCES project.

\(^1\) One of the CSO project partners was also a target CSO under the project and one of the interviewees representing a CSO project partners also belonged to a SME target group. These details are included in Appendix 2.
1.1 Portland Bight Protected Area

The Portland Bight Protected Area (PBPA), located in the south-central region of Jamaica, is the largest protected area in the country covering 187,615 ha. Its marine area covers 135,640 ha of the shallow shelf of the island. There are approximately 50,000 people living within the protected area’s limits, in around 44 communities. It is estimated that around 4,000 fisherfolk reside in the coastal communities within the MPA. There is a high level of poverty in these communities, despite the industrial activity in the area, which includes sugar estates, farming and livestock, quarrying, mining, international shipping ports, electric plants and a bauxite-alumina plant (CCAM, n.d.).

3.1.1 MPA management

The PBPA still has a co-management agreement between C-CAM and government partners: the Natural Resources Conservation Authority (NRCA)/National Environment and Planning Agency (NEPA), the National Fisheries Authority (NFA), the Forestry Department and the Jamaican National Heritage Trust. C-CAM has been leading in management of the MPA and is supported through the co-managers as well as the marine police and coast guard. The board of directors of the MPA presently has no private sector representation but has the capacity to include them. The primary focus of the MPA remains on the conservation and sustainable management and use of its natural resources, fisheries and aquaculture. There has also been focus on the creation of alternative livelihoods in the MPA like ecotourism and making livelihoods more resilient to climate change. Although the focus of MPA management remains largely the same, priorities may have changed. For example, prior to the pandemic, the main priority of the MPA was the construction and completion of the Biodiversity Centre, but now priority is given to protocols and procedures as it relates to COVID-19.

C-CAM has a leading role in management of the MPA and has a core staff to sustain the operating of the organisation and management of the MPA, with additional staff brought on for projects. Since 2018, there have been fewer community development officers and a reduction in funding/projects to support core staff to carry out management activities or for hiring of additional staff or consultants. The Government has also made cutbacks in their funding to the MPA due to the pandemic. Nonetheless work has continued over the three years, especially through the use of technology such as online platforms like Zoom, SMART technology and GPS. They now have a completed Biodiversity Centre and acquired a boat, drones, fyke net and other equipment to support management.

C-CAM has also been involved in several other projects, aside from PISCES, including an advocacy project on the Escazú Agreement, the Special Fisheries Conservation Areas project ran by the NFA, a climate change project with the German Development Bank KfW (2017-2018), a Global Environment Facility (GEF) small grants project for biodiversity restoration, the Caribbean Marine Biodiversity Programme (completed in 2019), a coral gardening project funded by the Jamaica Conservation Partners Foundation, among others. There is also an upcoming Biodiversity and Protected Areas

\[2\text{ There are currently four directors on the board, primarily from the NGO sector and academia.}\]
Management (BIOPAMA) COVID-19 Response project and consistent, though now reduced, funding from the Government of Jamaica. There are also projects, where C-CAM or the MPA did not receive direct funding, but were involved or engaged in, such as the GEF StewardFish project. Staff have been trained in fisheries law and enforcement, diving, coral reef restoration, and over the past year have been engaging in online training courses and webinars.

Over the three years, there has been more involvement of the communities around the MPA through work done by C-CAM and the PBPA management team, and efforts are being made to promote the inclusion of community representatives on the board. Persons on the management team also reside in communities. In terms of private sector engagement in the MPA, there are no changes in involvement, however, there are some entities like the Gun Club which support by providing office space and use of facilities. Further engagement of the sector was noted as an area for improvement. For governmental actors, the involvement of the NRCA has been reduced over the years, but they still provide some degree of support to C-CAM in management of the MPA. One of the key challenges highlighted in the management of the MPA is the limited resources available. In recent years sargassum influxes and coastal erosion have also become issues along with existing threats to the MPA such as unsustainable harvesting.

3.1.2 Livelihood and economic activities
There have been several large industries in the area including the now closed sugarcane factory, a poultry and livestock plant and a hydrocarbon storage facility within the MPA.

Prior to the pandemic, tourism activity in the area was mostly centred around domestic/local tourism like visits from schools. These stopped due to COVID-19 restrictions, but C-CAM and the management team have been thinking of ways to engage persons virtually. Over the years and through projects involving the MPA, there has been increased sensitisation of communities and the training and appointing of wardens. For example, there were awareness initiatives on the importance of crocodiles found in the MPA discouraging killing/poaching them. Education and outreach on the MPA are ongoing. Persons also now understand the negative impacts of charcoal production and are refraining from using the dry forest, using more low-lying vegetation. There have also been more persons involved in apiculture and accessing small grants for pursing this livelihood, as well as training and awareness raising in ecotourism. Wardens for the MPA have also played a significant role in management and raising awareness; however, these positions are voluntary. Fisherfolk have also been noting that catches have reduced, and they now have to go farther out the sea to fish, increasing their expenses.

C-CAM has also provided training in areas like forest and fire management and safety training around crocodiles. Other training carried out included monitoring, tour guiding and bird identification. There has also been general awareness building around various environmental days. Despite the ongoing sensitisation efforts, communities and the CSOs and SMEs in them can benefit from more citizen-science based initiatives such as tagging programmes, for further involvement and having a role in monitoring and reporting. Other recommendations for capacity development in the communities were: increased training opportunities for women in apiculture and farming of cash crops, increased outreach on the value of natural resources in the area, training and support for craft vendors and online marketing, entrepreneurship, accessing finance, organisational management, and generally in development of alternative, resilient and sustainable livelihoods.

There have been a few youth organisations and welfare organisations starting up over the years; however, the number fluctuates, with more activity at the start of the year, slowing down over time. The same can be said for SMEs. There is a group in the Portland Bight which is women-led, but overall women in the area are not a part of organisations but are leaders in the community in their...
individual capacity. In fisheries particularly, there are women boat owners and vendors. It was noted that COVID-19 relief was extended to fishermen, but vendors did not receive similar priority.

3.1.3 Contribution of the PISCES project
The PISCES project did not have direct impacts on livelihoods or economic activity in the area but played a significant role in providing training and capacity building for CSOs like C-CAM and their stakeholders. The project was also able to raise issues, through initial assessments done by mentors which helped to identify challenges in organisations; but the information generated was not utilised enough, along with the skills the mentors themselves brought to the project. The Caribbean Sea Innovation Facility (CarSIF) small grant project enabled C-CAM to engage community members and partners in coral gardening and conduct training in Ecosystem Based Management. It was also useful to learn what was being done on other islands (project countries for PISCES) and the network built among stakeholders.

C-CAM and other stakeholders also benefitted from trainings in tools and photography. They were also able to network with other CSOs, like the Jamaica Fishermen Co-Op Union as well as participate and present in different forums.

3.1.4 Impacts of COVID-19
The COVID-19 pandemic had significant impacts on livelihood and economic activities of communities within the MPA. For C-CAM as the MPA manager specifically, there were cutbacks in staff and one of the biggest challenges identified was the budgeting and forecasting of future funding and work. For the communities, many persons who receive government assistance or who make a livelihood by farming and fishing have been impacted. Persons have been starting “cookshops” or drinks stands in smaller communities as a way to cope with the economic fallout.

For the MPA, tours to the area were reduced significantly, as most of the visits were from schools. The management team has been attempting to do virtual tours through social media platforms, but this requires more preparation by staff and has posed some challenges. Salt River and Hellshire, the main tourist beach in the area which also accommodates fisherfolk and restaurants, have been affected by restrictions. Persons in the communities were also employed in schools and different businesses such as banks. Some family members work in urban centres and send money home to rural areas like Clarendon. Many of these persons have been affected due to closures, loss of employment and loss of income. The nutrition of children who benefitted from school feeding programmes was also affected by school closures. There have been some programmes, however, to provide welfare/food for children and electronic devices for them to access online classes. Internet access, now required for online learning, is also an issue for children in the community. C-CAM used to provide a space for internet for persons, but COVID-19 restrictions have limited this facility.

3.1.5 Comparison to baseline
A brief comparison was done, using key elements/questions in the socio-economic database, between the baseline done between 2017/2018 and 2021 at the end of the PISCES project. Table 3.1 highlights main findings.
**Table 3.1: Matrix timeline for key parameters of the socio-economic evaluation between 2017/2018 and 2021**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Status in 2017/2018</th>
<th>Status in 2021</th>
<th>Explanation for change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MPA/MMA characterisation</strong></td>
<td>• Managed by a CSO - the Caribbean Coastal Area Management Foundation (C-CAM).</td>
<td>• Unchanged</td>
<td>• C-CAM continues to manage the MPA.</td>
</tr>
<tr>
<td></td>
<td>• Mixed management structure involving CSOs, government and private sector.</td>
<td>• Mixed management involving CSO and government.</td>
<td>• There is limited or no involvement of private sector in managing the PA, though they may be involved in activities.</td>
</tr>
<tr>
<td></td>
<td>• Designated under the Natural Resources Conservation Authority Act (1999), the Special Fishery Conservation Areas declared under the Fishing industries Act, the Jamaican National Heritage Act, and the Forestry Act.</td>
<td>• The Fishing Industry Act (1975) has been amended and replaced by the Fisheries Act (2018), but there are no changes/implications to the management of the MPA.</td>
<td>• There has been no change in the management structure and the same legislation applies.</td>
</tr>
<tr>
<td></td>
<td>• It is a Ramsar site (since 2006).</td>
<td>• Great Goat Island being considered for designation as a National Wildlife Sanctuary. Also proposed an additional fish sanctuary, but funding needed to do research to support it.</td>
<td>• Great Goat Island falls within the boundaries of the MPA; however, the proposed designation is not yet instituted in Jamaica.</td>
</tr>
<tr>
<td></td>
<td>• Management arrangement involves: Natural Resources Conservation Authority (NRCA), National Environment and Planning Agency (NEPA), National Fisheries Authority (NFA), Jamaica National Heritage Trust and the Forestry Department.</td>
<td>• The organisations involved remain unchanged; work also involves the marine police and coast guard. The levels of involvement may have changed over time.</td>
<td>• C-CAM has taken on more responsibility for managing the MPA, though still supported by government agencies, they are less involved as before - more so the NRCA.</td>
</tr>
<tr>
<td></td>
<td>• Focus/goal: conservation /sustainable management and use of natural resources, and small-scale fisheries and aquaculture.</td>
<td>• Additionally, the MPA focuses on alternative livelihoods like sustainable tourism.</td>
<td>• This focus was added to mitigate and adapt to climate change and create resilient communities and livelihoods.</td>
</tr>
<tr>
<td><strong>Communities and key CSOs and SMEs for the MPA/MMA</strong></td>
<td>• Main types of SMEs found include fishing and small farming.</td>
<td>• There have been more youth organisations and foreign welfare organisations to assist with medical care, food and household items.</td>
<td>• The number of CSOs in the area fluctuates but overall has been increasing. Usually there is a lot of activity and engagement at the start, but this decreases over time as internal conflicts and issues arise.</td>
</tr>
<tr>
<td></td>
<td>• CSOs include youth and women organisations, fisherfolk organisations and citizen or community -based organisations.</td>
<td>• The types of SMEs in the area remain the same.</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental characterisation of communities</strong></td>
<td>• Key marine ecosystems: swamp lands, mangroves and gullies.</td>
<td>• Key ecosystems remain the same with the inclusion of coral reefs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Key threats: Poor management of natural resources (including tourism); climate change; unsustainable</td>
<td>• Key threats remain the same, but tourism is very limited in the area. It is not so much poor management, rather a lack of resources.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C-CAM was been doing more work on coral reef conservation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The PBPA is a rural area of Jamaica and is not heavily developed for tourism. Most tourism in the area is domestic.</td>
</tr>
</tbody>
</table>
development; pollution of water and soils; air pollution from industrial activity and alien invasive species on land, in freshwater and at sea.

Sargassum seaweed and its potential for bringing in invasives was highlighted and coral reef and shoreline loss in areas such as Hellshire and increased extreme weather and drought conditions.

Sargassum influx events have become more frequent over the years. Other climate-changes related impacts such as drought and sea-level rise may have contributed to the changes in key threats to the area.

| Socio-economic characterisation of communities | The main sources of income in communities include commercial business, electricity generations, fishing, construction, charcoal burning, livestock farming, apiculture and small businesses like shops. The level of poverty and unemployment are considered high and a possible threat to conservation. |
| The sources of income remain the same; however, the Sugar Factory was closed and affected the income of many persons in the area. COVID-19 has affected poverty and unemployment levels in the area. | The sugar factory employed many persons in the area, many of home were older persons, who were provided housing off the estates. These persons have now lost income and also face new expenses like housing and bills they did not have before. Due to the closure of schools, banks, and other businesses due to COVID-19, many persons were unemployed and suffered loss of income, not just in the area, but in Kingstown as well. Many homes also depended on school feeding programmes in schools, which were unavailable due to the closure of schools. |
3.2 North East Marine Management Area

The North East Marine Management Area (NEMMA) is the largest marine managed area (MMA) in Antigua and Barbuda. It is located on the windward side of the island, in the Atlantic Ocean. It has an area of around 105 km² and is surrounded by mangrove and wetland ecosystems. The NEMMA is made up of over 30 islands, rocks and islets, with several established and proposed protected areas. The north, south and east coasts are also protected by fringing reefs. Around 11.8% of the population resides in the NEMMA (2007 data) with several persons employed in agriculture, fisheries and forestry. There are also tourism activities which occur within the MMA, including diving, snorkelling, boat tours, yachting and a variety of water sports. Ferries operate in the area to service hotels along the coast, and vendors ply their trade along the beaches in the NEMMA. There are also industrial activities taking place here, namely, a desalination plant, cement receiving facility, harbour, brewery and two electricity and power plants. There are also watersheds which drain into the NEMMA (Ecoengineering Caribbean Limited, 2007).

3.2.1 MMA management

There has not been much change in the management and governance of the NEMMA over the past three years. The NEMMA Management Partnership, which was the intended management structure for the area, is still not in place, although there have been projects looking at the structure and the drafted management plan, and even though the legal framework is in place. The management plan still needs to be gazetted and as such there is limited monitoring being done in the area. One of the main issues arising as a challenge for management of the NEMMA is its size – it is too large to manage with the limited resources available. There are policies and plans, such as the Sustainable Island Resource Management Zoning Plan, which define zones in the area, but because of the size and multi-use nature, it is difficult to manage. For example, it was highlighted that the Fisheries Division, the main management authority for the MMA, does not have enough boats to do patrols. There have been changes in the staff of the Fisheries Division, with the retirement of the Chief Fisheries Officer, who has since been replaced. The Deputy Chief Fisheries Officer is female but most of the staff at the Division are male. It should also be noted that the position for NEMMA Manager under the Fisheries Division has been vacant for some time. There was limited information available on changes in capacity and resources of the Fisheries Division, but it was highlighted that they have adopted the use of new technology, a drop camera system, for monitoring coral reefs and they carry out research and beach profiling in the NEMMA. EAG itself also has improved its capacity over the years, with new staff focused on biodiversity monitoring in the area. The organisation has five full-time staff at present, four of which are women.

There is no mandate for CSO involvement in the management of the area, as the laws designate the Fisheries Division with responsibility for its management. However, there is a non-binding memorandum of understanding (MOU) with six other partners. It is the intention, with the signing of
the MOU, that there will be an agreed workplan for management among the partners. Organisations like EAG, however, play a role in managing ecosystems and species within the MMA which are within their conservation efforts. For example, EAG is currently implementing a project to identify a rare cactus in the area.

Examples of projects involving the NEMMA, apart from PISCES, included an invasive alien species (IAS) project carried out by EAG with funding from the GEF, feasibility studies done by EAG, projects done by Flora and Fauna International, a United States Fish and Wildlife Service (USFWS) project on migratory birds, an Inter-American Foundation project. EAG is now working with the Department of Environment to develop the protected areas management system, including an area within the NEMMA, and is focused on developing its own protected areas. The organisation has also been engaged in developing virtual fieldtrips in light of COVID-19 restrictions.

There has not been much involvement of CSOs and local communities in management of the MMA, but there was little data collected on this. Communities have been engaged by EAG in their work, but there is limited information on the engagement of community-based organisations. However, recently there has been the establishment of a group in Parham, one of the communities within the MMA, called Parham Alliance Beautification and Revitalisation Organisation (PABRO). There is also uncertainty around the involvement of the private sector in management activities. A tour company once existed within the MMA, but they moved out of the area when the development began. There has also been more active management of area by private landowners³, where they have been improving accessibility by constructing steps, and charging tour operators to use the land/island they own.

While there are several threats to the MMA, like unregulated tourism and invasive species, the most significant threat identified was coastal development, specifically, an ongoing development by a foreign company which proposes to carry out several different activities in the area, including manufacturing and tourism. Prior to the inception of the PISCES project, the NEMMA was identified as a ‘Special Economic Zone’ and permission was granted to a Chinese company to develop the area. In terms of unregulated tourism activity, it was highlighted that there have been persistent issues with tours and snorkelling activities causing damage to reefs.

3.2.2 Livelihood and economic activity
There have not been notable changes to communities’ livelihood dependence on the natural resources in the NEMMA, but it was noted that fishing activity has decreased, and was no longer an indigenous livelihood, as most of the remaining fishers are not local. Generally, however, there was limited data on the changes in livelihoods. EAG has not engaged in any new activities for inclusion of communities in management but have continued their usual work such as monitoring of invasive species, education and outreach and wildlife monitoring. There is little information as well on new SMEs in the communities. PABRO was noted as one of the more active community groups, but there are other less active groups in the area. These have women on the board, and there is also representation of women on the NEMMA board.

There have been capacity building initiatives by other organisations such as the Gilbert Agricultural Rural Development Centre, but these are not limited to communities around the NEMMA. Training is provided on sustainable livelihoods, ranger training, tourism and identification of IAS. There has also been interest in the establishment of an interpretation centre in the NEMMA, but there would need to be more management efforts in place. Over the past three years, communities have increased

³ Although most of the islands are owned by the Government of Antigua and Barbuda, about 10 islands are privately owned. A couple of the islands were also purchased by the Chinese developer.
awareness of activities in the NEMMA and implications for human and ecosystem health, and the need for sustaining the natural resources it contains for future generations.

The communities can benefit from training on diverse and alternative livelihood opportunities like backyard farming, to build resilience where tourism is adversely affected in instances like COVID-19. Training can focus on sustainable climate smart agriculture, which considers limited access to water. Training can also be provided in small business management and livestock management.

Over the years, communities have become more aware of the importance of natural ecosystems and resources. This has been reinforced by the educational work done by EAG and other CSOs, and by the damage seen in the development of the area.

3.2.3 Contribution of the PISCES project
The PISCES project has helped EAG directly, and through EAG’s development, had indirect impacts on the NEMMA. EAG having participated in capacity building under PISCES and other projects, has strengthened its organisational management and the project design and development process. PISCES mentorship has also helped with strategic planning and board development. Through the development of a strategic plan, EAG is now seeking to expand their work from terrestrial ecosystems to include marine ecosystems and species as well.

3.2.4 Impacts of COVID-19
There is limited data and understanding of the impacts of COVID-19 on the communities within and around the NEMMA, however, it was noted that the pandemic has increased pressure on the nearshore environment and fisheries resources. Tourism activity, on the other hand, has decreased drastically. The pandemic has generally slowed economic activity in the area.

3.2.5 Comparison to baseline
A brief comparison was done, using key elements/questions in the socio-economic database, between the baseline done between 2017/2018 and in 2021 at the end of the PISCES project. Table 3.2 highlights main findings.
Table 3.2: Matrix timeline in key areas of socio-economic studies between 2017/2018 and 2021

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Status in 2017/2018</th>
<th>Status in 2021</th>
<th>Explanation for change</th>
</tr>
</thead>
</table>
| MPA/MMA characterisation | • Managed primarily by the Government, that is, the Fisheries Department under the Fisheries Act (1983) and the Protected Areas Act (2019). Under a MOU, the Fisheries Department and five organisations are responsible for management.  
• Management was supposed to be done by a multi-stakeholder group, with government and non-government representation, but this does not exist.  
• Primary focus of the MMA is conservation and sustainable management and use of natural resources and ecotourism. | • MMA still primarily managed by the Fisheries Department. Organisations like the EAG are responsible for managing ecosystems/ resources/ species under its projects/ work.  
• Multi-stakeholder group still not in place.  
• Primary focus remains the same. | • The MMA is too large for proper management and organisations do not have the resources available to carry out management activities. Fisheries Department is underfunded and unable to manage the area; cannot patrol areas. |
| Communities and key CSOs and SMEs for the MPA/MMA | • Types of SMEs in and around the MMA included farming, fishing, tourism, ecotourism and other small businesses.  
• Capacity needs identified included: training for persons starting Airbnbs and the development of shops for persons to become involved in tourism/ecotourism. | • These remain the same. | • No change seen over the three years. |
| Environmental characterisation of communities | • Key ecosystems identified in the MMA included coral reefs, seagrass beds, mangroves, offshore islands. Species of ecological importance include an endemic species of cactus, the racer snake, a ground lizard, seabird species and the hawksbill turtle. There is a Key Biodiversity Area (KBA) and International Birding Area (IBA) within the MMA. | • There has been no change in key ecosystems and no new designations or status assigned to the MMA.  
• There has been no change in key threats to the area. | • No change seen over the three years.
Key threats to the MPA and its natural resources include unregulated tourism, IAS and coastal development.

<table>
<thead>
<tr>
<th>Socio-economic characterisation of communities</th>
<th>Level of income and unemployment varied by community around the MMA.</th>
<th>The sources of income remain the same, however, there has been a general increase in unemployment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Level of income and unemployment varied by community around the MMA.</td>
<td>- Tourism has decreased significantly.</td>
<td>- Increased awareness of the NEMMA and its implications for human health and having resources for future generations.</td>
</tr>
<tr>
<td>- Main sources of income for communities included fishing, farming, diving, snorkelling, tour or charter boating, yachting, ferries, water sports, vending, interactive recreation, hotels, industries, general businesses and the government/public sector.</td>
<td>- Communities recognise the importance of snake and bird conservation in the NEMMA.</td>
<td>- Increase in unemployment and decrease in tourism activity due largely to the COVID-19 pandemic.</td>
</tr>
<tr>
<td>- Tourism in the NEMMA is very high - it is a popular attraction particularly for cruise ship visitors.</td>
<td>- Increased awareness due to increased sensitisation and education efforts by various organisations including EAG.</td>
<td></td>
</tr>
</tbody>
</table>
3.3 **Sandy Island/Oyster Bed Marine Protected Area and Tobago Cays Marine Park**

The Sandy Island Oyster Bed Marine Protected Area (SIOBMPA) is located in the Grenadine island of Carriacou, a part of the state of Grenada. The MPA is located to the south west of Carriacou and has an area of 659 ha. The MPA is the largest and most diverse in Grenada, with important ecosystems like mangroves, coral reefs, seagrass beds and sandy beaches. It also includes the offshore islands Sandy Island, the Sister Rocks and Mabouya Island. The mangroves extending to Tyrrel Bay provides important habitat for the mangrove oyster (referred to as the Oyster Bed) and is a nursery ground for different fish species. The mangroves here are also used as a safe harbour for boats during tropical storm and hurricane activity. The MPA supports a number of livelihoods including water taxis, fishing, tourist tours, food and restaurant services, hotels, cruise ship tourism, a seafood festival and other tourism related activities. There is local management and maintenance of the park and its facilities (Ministry of Carriacou and Petite Martinique Affairs, 2015).

The Tobago Cays Marine Park (TCMP), also found in the Southern Grenadines, is part of the Saint Vincent and the Grenadines. It is made up of six cays; there are five uninhabited islands named Petite Bateau (the most frequented with vendors and park rangers stationed), Petite Rameau, Jamesby, Baradal and Petite Tabac. The sixth and largest island, Mayreau, is located west of the rest of islands, with a population of around 270 persons. The TCMP is a biodiversity hotspot enclosed by fringing and barrier reefs and seagrass beds, and an important foraging area for marine turtles. Patches of mangroves are considered endangered on Mayreau and there are other important and protected seabird and other animals in the Cays. The TCMP is a popular tourist attraction in the Southern Grenadines and supports several tourism activities including yachting, day trips, tours and cruises, cruise ships, diving and snorkelling. The area was also once used for fishing, but this is no longer the case. The TCMP and tourism as a whole is crucial to the economy of the Southern Grenadines Islands (Mayreau, Union Island, Canouan) (CAR-SPAW-RAC, n.d.).
3.3.1 MPA management

SIOBMPA

For SIOBMPA, there have been no changes to the management of the area and there are still efforts to try and get the MPA gazetted. The board of directors, which was formerly made up of a mixture of private sector, CSOs and government agencies, has been dissolved, though there was a manager in place within the three-year period, but there have been issues with management and oversight of the area. Fisheries Division has been trying to work with the board to address the issues. The management team now consists of five persons, one of which is a woman, as two previous female team members have left.

The SIOBMPA’ management team has received training and resources for monitoring through assistance from different projects and organisations, such as SusGren and through networks like the Grenadine Network of Protected Areas (GNMPA). The MPA also received funding for equipment and the installation of a container office space; however, this needs some improvement. Carriacou is the largest island in the Southern Grenadines and in close proximity to the MPA and its communities are interested in and aware of management interventions.

There have been no new designations for the area or new ecosystems and species identified, but there has been work done to monitor and protect seabird populations. The SIOBMPA is an important nesting site and efforts have been made to increase awareness and conservation efforts around them. In recent years, there was the growing threat of encroachment on the MPA by the construction of a marina next to the oyster bed, with continued dredging of the area. There was also an increasing number of persons barbequing on the beach on Sandy Island, but this has been stopped due to the risks involved with setting fires on the island. Within the MPA are moorings usually used by yachts, however, they are not well maintained, and boat owners are afraid to use them.

TCMP

TCMP is still being managed by a board of directors, though in recent years, there has been in change in management, with hiring of a new manager for the park. Generally, management of the park remains unchanged. The TCMP board is made up of mostly government stakeholders with one community member from Mayreau. Government offices represented include tourism, fisheries, foreign affairs and finance. Non-governmental stakeholders engaged in management include the Water Taxi Association/water taxi operators, the local tourist board (based on Union Island), divers and the community of Mayreau, which has also benefited from being a part of the MPA. Though managed by a statutory body, the management and operation of the MPA is inclusive. The TCMP staff remains the same, but for the hiring of two female rangers. The TCMP is a statutory body as is responsible for its own finances.

The management team has received funding and resources through various projects to buy new equipment like diving equipment, computers and outboard engines. Previously, the TCMP would rent equipment to do monitoring but it now has its own and they have also transitioned to four stroke engines to improve their fuel efficiency. Training was also received on scuba diving, Atlantic and Gulf Rapid Reef Assessment (AGRRA), conch, seagrass and sea turtle monitoring and basic capacity building. However, due to some staff turnover in the last two years, retraining activities were carried out. The TCMP has also recently constructed a restroom facility funded through park user fees.

Training provided included Management Effectiveness Training (MET), first aid through funding from the USFWS and MPA management, capacity building, knowledge sharing through the GNMPA. They have also benefited from small grants and a community researchers programme. Currently the
TCMP is also transitioning to online payment of mooring fees, where the Gulf and Caribbean Fisheries Institute (GCFI) is assisting with a one-year sponsorship of the implementation of the programme. This system will be operational by June 2021. The park has benefitted from other projects as well, through some managed by SusGren for mooring equipment and dive equipment under the Caribbean Marine Biodiversity Programme, the German Corporation for International Cooperation (GIZ) and another project is being implemented with funding from the St. Vincent and the Grenadines Conservation Fund to conduct training, purchase equipment and conduct renovation of toilets.

TCMP, because most of the islands are uninhabited, does not have a lot of engagement by communities on the islands. The TCMP office is based on Union Island, outside of the MPA.

There no new designations for the MPA and no new or specially protected ecosystems were identified. However, there was work done to protect the Union Island Gecko and the Pink Rhino Iguana, which are found in and around the MPA. There are population monitoring efforts carried out by CSOs like the Union Island Environmental Attackers for these species, with support from the TCMP staff. There is also turtle monitoring taking place in the MPA, which is a popular foraging area for marine turtles. The newest threat to the MPA has been the COVID-19 pandemic as persons have begun fishing in the cays and the TCMP is operating at reduced capacity. Due to the decrease of tourist activities and yachts in the park, income to the park through fees has decreased to around 10% of what it normally generates, meaning that staff hours and routes for patrols were cut back. Fewer patrols by park rangers leave the park open to fishing and poaching. The management team, however, is trying to be creative in finding funding for the parks and is looking to revise park fees and partnership opportunities with CSOs for support to sustainably manage the cays.

3.3.2 Livelihood and economic activities
The TCMP has been a catalyst for economic growth in the Southern Grenadines. In recent years, persons from the community are getting more involved in seamoss farming and there are areas in the park where it is currently being grown by Mayreau Explorers, a community SME. This is being done on both islands, but more intensely in and around the TCMP. The management team continues to work with the seamoss farmers operating in the MPA to ensure it is being done sustainably. Some of the products include dried seamoss for export, seamoss punch and icecream, which are sold to locals and tourists. A lot more women are also getting involved in seamoss farming that men. There has also been an increase in kite surfing in the northern end of Mayreau and continued growth of beach tourism on the island. There has been an increase in the number of restaurants and barbequing both on Mayreau and Petit Bateau, as well as an increase in the number of water taxi operators. Fishing activity has decreased from what it once was, and fishers are unable to land as much fish as they use to due to rough seas.

For SIOBMPA, more persons had started barbequing on Sandy Island over the two years to cater for tourists who visit but this was stopped because of the fires being set on the island. For both MPAs however, people want to and are attempting to diversify. Due to COVID-19 there are a lot of persons going into the MPAs; yachts in quarantine and moored in the MPAs are serviced by locals.

There has been the creation of new CSOs in each MPA since the initial assessment, one group was created in Mayreau and another on Carriacou. The group on Mayreau is women-led and the group in Carriacou (Kipaji Initiative) has a mixture of both men and women involved. These groups, more so the seamoss farmers, have had positive impacts on communities. In St. Vincent, the government has put out a call for person persons to get involved in seamoss farming, and the industry has taken off. CSOs have been doing a lot of work, despite COVID-19, even employing persons.
There was training provided to communities through several organisations and funding agencies such as the GEF, the Caribbean Youth Environment Network (CYEN) and SusGren. Some of the training focused on value addition in cottages industries. Areas where there can be further capacity building include SME financial management particularly because of the growth in seamoss farming. Training is also needed in administration for community organisations and SMEs.

There has been some change in attitudes towards the TCMP over the years, but this is a continuous process and influenced by persons’ economic status. However, for the most part, persons understand the importance and benefit of the MPA.

3.3.3 Contribution of PISCES project
The mentor appointed through the PISCES project helped to propel the seamoss producers (both PISCES target SMEs) the Mayreau Explorers and Ashton Multipurpose Cooperative (AMCO), based on Mayreau and Union Island respectively, in seamoss production. The mentor was able to help the businesses grow and provide employment for persons in the community and with transportation for goods, especially for AMCO. Through the project, mentors also benefited from training, learning about strategic planning and developing human resource and in turn support their local organisations.

3.3.4 Impacts of COVID-19
Poverty and unemployment around the MPA have worsened due to COVID-19. The Grenadines are heavily dependent on tourism and fisheries and benefit directly from the MPAs. Persons have diversified into seamoss farming, honey production and home gardening. The country has now received access to foreign markets for the exportation of conch, and there has been increased exportation. This can prove to be detrimental to the stock. Prior to the pandemic, the tourism sector was doing well, with St. Vincent and the Grenadines even signing a deal with Sandals and negotiating more flight routes, which was expected to increase tourism activity in the Southern Grenadine Islands. It was also noted that there is increased pressure on already limited water supplies with the increase in backyard gardening happening during COVID-19. For Mayreau and other islands in the St. Vincent Grenadines, the Union Island Environmental Attackers has been teaching communities about water conservation and treating and using wastewater for their gardens, as well as climate change sensitisation.

For the TCMP there has been significant effects on the MPA and communities; there is a reduced number of tourists coming to the area. However, persons are trying new things and looking for alternative ways of making money, though it is not enough to have significant economic impact. There are several small businesses opening, like restaurants, bakeries and crafts. Diving and snorkelling activities have also reduced. It was noted that this decline started even before the pandemic and was attributed to the cost of mooring fees and the expense of coming to the Southern Grenadines.
Table 3.3: Matrix timeline in key areas of socio-economic studies between 2017/2018 and 2021

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Status in 2017-2018</th>
<th>Status in 2021</th>
<th>Explanation for change</th>
</tr>
</thead>
</table>
| **MPA/MMA characterisation** | - SIOBMPA has a local area management authority and has a mixed governance arrangement involving CSOs, the government and private sector. It was identified as a protected area in 1988 by the Plan and Policy for a System of National Parks and Protected Areas. Its governance involves the National Park Authority, Fisheries Division and Forestry Department.  
- The TCMP is managed by the Marine Parks Board through a mixed government, CSO and private sector arrangement. It was declared and officially gazetted as a marine park in 1997. The TCMP is a semi-autonomous agency, which is independently managed by a board of directors. Other entities with a role include the Environmental Services Unit and the Central Water and Sewage Authority.  
- The primary focus of both the MPAs are conservation and sustainable management and use of natural resources. | - Management of SIOBMPA is now done mostly by government, but the agencies involved remain unchanged.  
- The management arrangement and the organisations involved remain the same for the TCMP.  
- The primary focus for both MPAs remain the same. | - The board for the management of the SIOBMPA has been dissolved. A new manager was appointed, but there has been a breakdown in management and limited operations.  
- No other change seen. |

| **Communities and key CSOs and SMEs for the MPA/MMA** | - For the SIOBMPA, the main types of SMEs found in the communities around the MPAs are based on fishing or tourism, particularly water taxis.  
- Capacity needs include ecotourism development through water transport/shuttle service (need for training of local communities and development of infrastructure).  
- Fishers are keen for offshore fisheries which can be more lucrative and seems to | - The types SMEs remain the same, however there has been increased seamoss farming.  
- Need for training in entrepreneurship, financial management and administrative management particularly with seamoss farmers.  
- For TCMP management capacity has improved in terms of facilities and equipment with the change from a two-stroke to a four-stroke engine, | - There have not been new SMEs but an expansion or greater interest in existing business like the seamoss production. This can be due to the funding and projects supporting the industry and because it is seen as a sustainable alternative livelihood.  
- The TCMP has also received funding from many organisations but usually through the efforts of strong CSOs, like SusGren, and their own capacity to |
be a valuable solution if managed sustainably.
- Also interest in getting into ecotourism (sport fishing for tuna marlin (catch and release) and bring tourism) and expanding boat building.
- In the TCMP SMEs were focused on fishing, scuba diving, day tours and local vendors. Seamoss farming was nascent. A fish storage facility could be developed to enhance fishing activities, but access to land was needed. There was a massive potential for local communities to benefit more from tourism, as for now they only sell souvenirs. Airbnb could be developed, but locals would need to be trained to understand foreigners’ tastes. Training of local communities in running activities such as scuba diving was another potential opportunity.

<table>
<thead>
<tr>
<th>Environmental characterisation of communities</th>
<th>purchase of monitoring equipment and with the upcoming transition to an online payment system. No change in management capacity needs in terms of staff and training.</th>
<th>advocate for funding. It is also one of the biggest revenue earners in the Grenadines.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Key ecosystems and rare species identified include coral reefs, mangroves, seagrass beds, sea turtles, sandy beaches, offshore islands for both islands.</td>
<td>• There are no new key ecosystems or species of importance identified for SIOBMPA.</td>
<td>• Groups like the Union Island Environmental Attackers have been increasing efforts for conservation and protection of rare and endangered species in the Southern Grenadines.</td>
</tr>
<tr>
<td>• Key threats for the SIOBMPA include overfishing, mangrove destruction, damage from boat operations, sand mining and IAS.</td>
<td>• For the TCMP, the Pink Rhino iguana was also identified as an important species, along with the Union Island gecko. There are also bird nesting sites in and around the MPA.</td>
<td>• TCMP has had increased number of services and restaurants to cater to the tourist who visit the cays. The TCMP, however, has had limited funds, due to reduction in number of visitors to the park resulting in reduction in staff time and patrols.</td>
</tr>
<tr>
<td>• Key threats for TCMP include natural threats like storm surges and white band disease of corals. Human threats include overfishing by local fishers and visiting yachts, physical damage by snorkelling and diving, bilge and wastewater discharge from yachts, overcrowding by visiting boats.</td>
<td>• In addition to the key threats identified, increased fires due to more barbequing activities in the MPA, although this has since stopped. There has also been dredging and encroachment of jetties and marinas.</td>
<td>• For TCMP other threats identified included increased human activity</td>
</tr>
<tr>
<td></td>
<td>• For TCMP other threats identified included increased human activity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
such as water taxi operation, increased restaurants barbequing and kite surfing. There were also reduced patrols being carried out.

<table>
<thead>
<tr>
<th>Socio-economic characterisation of communities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The main sources of income in the communities around the SIOBMPA are fishing, water taxis and boat building.</td>
<td>• There has been a general increase in unemployment in communities around both SIOBMPA and TCMP.</td>
</tr>
<tr>
<td>• For TCMP, the main source of income is tourism, as it the focal point for main tourism in the Southern Grenadines. Associated sources of income include dive shops, yachting, ecotourism and snorkelling.</td>
<td>• For TCMP there has been an increase in seamoss farming.</td>
</tr>
<tr>
<td>• Tourism visitation levels are very high for both MPAs.</td>
<td>• Tourism levels have decreased with COVID-19 for both MPAs.</td>
</tr>
<tr>
<td>• For the SIOBMPA, most communities are aware of the existence of the MPA, but there have been conflicts between them and the authorities managing the MPA. Persons believed that issues involving the MPA such as displacement of fishers, illegal anchoring and waste management have not been handled well by its management.</td>
<td>• There has been some change in attitude for both MPAs. For TCMP specifically, there has been less turtle fishing.</td>
</tr>
<tr>
<td>• For the TCMP, there has been increased awareness of the MPA due in part to increased tourism and campaigns done by the TCMP management. However, a significant number of stakeholders are still unaware of the rules and regulations of the TCMP.</td>
<td>• Most persons understand the importance of the MPAs, but it depends on their economic status.</td>
</tr>
<tr>
<td>• Tourism is the largest income earner in the surrounding communities, with many persons employed in the industry.</td>
<td>• Seamoss now has an export and local market, and is seen as a sustainable livelihood, receiving funding.</td>
</tr>
<tr>
<td>• There are several CSOs doing education and awareness activities in the Grenadines.</td>
<td></td>
</tr>
</tbody>
</table>
3.4 Three Bays National Marine Park

The Three Bays National Marine Park, also referred to as the P3BA, is found on the north-east coast of Haiti, with a total area of 75,406 ha. It is closely located to the city of Cap-Haitien, the Port international du Cap-Haitien and the Hugo Chávez International Airport to the western end of the MPA. To the eastern end it is adjacent to the Parque Nacional Manglares de Estero Balsa in the Dominican Republican. The MPA extends across two states, with a total population of around 500,000 persons, a number which is expected to increase to 600,000 to 800,000 by the year 2030. This is expected to have large impacts on the management of the P3BA. The area around the park is rural, comprising mostly of small to medium family farms and some larger plantations. Most of the persons in the area are employed in agriculture, fishing, livestock, charcoal and wood production/trade, salt production, and the formal and informal sectors. There is limited tourism in the area, but this is expected to increase in the future due to the designation of the MPA along with presence of the airport. The P3BA is home to seagrass, coral reef and mangrove ecosystems, which have been negatively affected by overfishing; the area has 12 fishing organisations and an estimated 3,000 fishers, 1,000 of which live in the area. There has been a depletion of fisheries and reduction of stocks of species like lobster, conch, sea cucumbers. On the terrestrial side of the park, most of it has been utilised for agriculture for decades (Henwood, et al., 2017).

![Figure 3.5: Map of the Three Bays National Marine Park (P3BA) (Henwood, et al., 2017)](image)

3.4.1 MPA management

There have been no changes in management of the MPA over the past three years. A management plan has been developed for the area, but there is has been little enforcement of the laws and regulations designed to protect the area. FoProBim has been doing some enforcement, through its co-management agreement developed in early 2019 with the government organisation responsible for protected areas in Haiti, the National Agency of Protected Areas (ANAP). Thus, the MPA is now managed through a CSO-government arrangement. There have been no new ecosystems or species of importance identified since the initial baseline study, nor have there been any new threats to the protected area. The objectives of the management of the MPA are conservation and sustainable management and use of natural resources.

FoProBim, as the lead CSO involved in the management of the area, has had some increase in capacity. There are no women in the organisation at present, but it is hoped that this can be
changed in the future. On the government end, the ANAP has had a reduction of their capacity as they do not have the resources and support required for their unit to undertake all activities for the management of the MPA. FoProBim has had an increase in financial resources, which has led to an increase in staff hired and the acquisition of equipment for monitoring for the ecological guards (park rangers). This has strengthened their ability for reporting and supported initiatives with local communities such as providing beehives for apiculture, development of educational material, and overall increased presence and management effort for the MPA.

FoProBim has been engaged in other projects as well in P3BA, aside from PISCES, including the Caribbean Marine Biodiversity Program (CMBP) restoration project implemented by the USAID and The Nature Conservancy and there was also funding received by the Prince Albert II Foundation for undertaking educational activities and doing work on alternative livelihoods.

There has not been any significant change in the stakeholder involvement in the management of the MPA, but local communities now have an understanding of the work being done by FoProBim in the area in managing the coastal and marine resources and the benefits and importance of it to the development of alternative livelihoods and income generating activities. The progress has been slow, but there has been increased understanding of the MPA through the efforts of civil society. There has not been any involvement of private sector in the management of the MPA, and most continue to exploit resources with no long-term vision for sustainability.

Interestingly, it was also noted that there is no history of philanthropy in Haiti. In terms of the level of engagement by government partners, the ANAP has been attempting to increase their presence in the area but require support from FoProBim with materials and equipment. FoProBim has been working more closely with the ANAP main office and field office.

3.4.2 Livelihood and economic activities
There hasn’t been any documentation of the change in dependence of the local communities’ livelihoods on natural resources in the MPA over the past three years, but there has been a notable increase in income from apiculture, ecotourism and kayaking activities. There have also been some activities around improving the sustainability of gear used in the MPA, where gear was swapped, exchanging illegal gear with new, legal gear. Fishers now prefer this gear as the fish caught are bigger. The focus has been on fish traps, but through an upcoming project there will be work on exchanging nets as well. There has also been a small increase in the number of new local community SMEs and CSOs over the last three years particularly around apiculture and kayaking. There are women involved in and playing leadership roles in these organisations as officers or in administration.

In these communities, there are limited options for alternative livelihoods. For the most part persons have engaged in the same activities over the last 200 years, but they are willing to try new things, and providing alternative activities which are sustainable demonstrates to communities that there are ways to earn an income without damaging the environment. Fisheries, for example, is a historical livelihood, but it is far from being replaced. However, FoProBim has been working on providing alternative options like apiculture and ecotourism and is examining other options as well such as breadfruit flour production and seamoss farming. There is currently no data on unemployment and poverty for the communities engaged, but the livelihood activities undertaken can help increase income and employment. There is very little tourism in Haiti, including in the P3BA area, even prior to the COVID-19 pandemic. But FoProBim is working to increase ecotourism in the area for locals, the diaspora, schools and international workers.
FoProBim has worked with local groups in developing their institutional capacities to help them undertake projects and in the area of conflict resolution and negotiation. One organisation is supporting and developing agricultural activities in the area. There still needs to be capacity building in all areas of organisational strengthening for SMEs and CSOs in the area. There is also need for development of organisations’ ability to seek and manage funds. Information on the activities and management of the MPA is shared with communities and they understand the importance. However, in order for change to happen within the communities and with the use of natural resources in the MPA, alternative livelihood activities are needed to replace unsustainable activities.

3.4.3 Contribution of the PISCES project
The PISCES project has helped FoProBim particularly to engage with local communities and co-managers in ANAP more, helping to build relationships and strengthen FoProBim’s ability to carry out management activities. The project has impacted livelihoods and economic activities in the area by providing support for interventions carried out over the length of the project. However, there needs to be continued hand holding to ensure the progress is now lost. The project has enabled FoProBim to reach more persons and has increased access to resources from the PISCES projects and partners. For example, FoProBim was able to visit seamoss farms in Saint Lucia, through PISCES, and is now hoping to start similar activities in Haiti.

3.4.4 Impacts of COVID-19
Due to COVID-19 there has been a reduction of persons visiting the area, like diaspora tourists, so there is a small impact on economic activity in the area. In general, there has not been a large impact on livelihoods like bee keeping. Haiti has not had a large number of COVID-19 cases to March 2021.
### Table 3.4: Matrix timeline in key areas of socio-economic studies between 2017/2018 and 2021

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Status in 2017-2018</th>
<th>Status in 2021</th>
<th>Explanation for change</th>
</tr>
</thead>
</table>
| **MPA/MMA characterisation**              | • MPA managed by the National Agency for Protected Areas, which is the technical and legal management authority for all protected areas in Haiti.  
   • It is managed through a mixed arrangement involving government, CSOs and the private sector.  
   • Management is guided and implemented through a management plan.  
   • Primary focus areas are conservation and sustainable management and use of natural resources. | • The management arrangement and body has not changed.  
   • The primary focus remains the same, with now the inclusion of ecotourism. | • Management and implementation of activities is carried out by the government and FoProBim, however, there is little enforcement.  
   • FoProBim has been focussing on alternative livelihood activities in the protected area, which includes ecotourism activities like kayaking. |
| **Communities and key CSOs and SMEs for the MPA/MMA** | • Main types of SMEs in and around the MPA include artisanal fisheries, apiculture, charcoal and timber production, agriculture (bananas, rice), livestock rearing, sea salt production and ecotourism. | • There has been no change in the types of SMEs found in coastal communities around the MPA. | No change seen.                                                                                                                                                                                                        |
| **Environmental characterisation of communities** | • No ecosystems of special importance identified.  
   • Key threats to the area identified included overexploitation of resources via overfishing, mangrove deforestation for firewood and charcoal, poor solid waste management, sedimentation and erosion from watershed, and flooding due to climate change. | • No new ecosystems identified.  
   • Key threats remain the same. | No change seen.                                                                                                                                                                                                        |
| **Socio-economic characterisation of communities** | • High level of poverty in communities around MPA (80% or more) with high unemployment rates. | • Increased rate of unemployment in communities, particularly in ecotourism and kayaking, but there is no impact on apiculture. | This is due mainly to COVID-19, which has impacted the level of tourism in the area, including domestic tourism and activities such kayaking.                                                                                                                                 |
| • Main sources of income include the informal sector, agriculture, fisheries, livestock, charcoal and timber production, salt production. | • Increased income in the area from apiculture, ecotourism and kayaking (pre-COVID-19). |
| • Tourism visitation in the area is generally low. Expected to develop with the development of the MPA and ecotourism activities. | • Tourism activity same or less. |
| • Communities have limited awareness of the MPA. Around 50% of the people depend on coastal/marine resources and are mostly aware of overfishing and mangrove deforestation issues. | • Around 80% of the population of the communities are aware of the problems, and there is an increased awareness on what is being done in the MPA. |
|  | • Efforts of FoProBim through projects to support alternative livelihoods such as apiculture, ecotourism and kayaking. |
|  | • Efforts of FoProBim and through projects have also led to increased awareness of the issues facing the MPA but there needs to be alternative livelihoods to substitute for unsustainable activities. |
3.5 Pointe Sable Environmental Protection Area

The Pointe Sable Environmental Protection Area (PSEPA) is located to the south of the island stretching from Moule-a-Chique to Pointe de Caille. The PSEPA has an area of 1,038 ha and was established as a protected area under the Physical Planning and Development Act (2001) in 2007. The PSEPA has natural, cultural and historical value for the island, which require conservation, protections and sustainable management. The MAP also encompasses the Maria Islands, which is home to ecologically important species of flora and fauna. Endemic species like the Saint Lucia Whiptail Lizard and the kouwess snake are found here. The MPA also includes the Mankote Mangrove, a marine reserve and declared Ramsar site. Next to the Mankote Mangrove, Savannes Bay has a major fish landing site and is the largest landing for lobster on the island. Seagrass beds and coral reefs are also found around in the MPA. Livelihoods within the area include fishing, seaweed farming, horse-back riding, craft making, tour guiding, charcoal production, and water-based activities like kayaking, windsurfing and diving (Saint Lucia National Trust, 2018).

3.5.1 MPA management

The management of the MPA remains the same, with involvement of the Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Co-operatives. A management plan was developed for the protected area under the OECS Protected Areas and Associated Livelihoods (OPAAL) project (Gardner, 2009), however, it has not been approved. The SLNT still manages the area with a de facto PSEPA management board, and it still maintains the CSO-government-private sector governance arrangement. The management objectives of the PSEPA remain the same, that is, conservation and sustainable management and use of natural resources and ecotourism, but now also include alternative livelihoods.

There are no new designations or ecosystems and species of ecological importance, but the Saint Lucia Racer, a critically endangered snake, has been receiving increased international attention. In recent years, there has been the threat of development of the area, but other threats included invasive species, illegal wildlife trade particularly for iguanas and the Saint Lucia Racer, and poaching. There was a moratorium on harvesting sea urchins but there has been poaching outside of this, and of other species like hawksbill turtles.

The SLNT is mostly staffed by women, but a lot has changed for the organisation due to COVID-19. The Trust has not received any government subvention over the last three years. The organisation is now operating on a skeleton staff, as 10 persons were made redundant because of the pandemic.
There have not been any changes in terms of equipment and resources. The Trust had to do more fundraising and cut back its programme of work.

Other projects in the PSEPA include the Eastern Caribbean Marine Managed Area Network (ECMMAN) project, where mangrove restoration is still ongoing where persons were trained in the process. An ecosystem-based adaptation (EbA) project is also being carried out for mangrove rehabilitation. In 2018, the SLNT also began a project to develop a strategic plan for the Mankote Mangrove but this plan has not yet been implemented. The Forestry Department also has activities around important environmental days like World Wetlands Day.

There has not been much change in the involvement of civil society, but they do know that the SLNT is responsible for management. There are persons from the community that depend on the resources, but they do not operate like a business. There have been no changes in the involvement of the private sector and the management structure of the MPA has remained the same for the past three years. There have been some attempts to zone the area and there has been some restriction to vehicle access, as person would drive along the beaches. There are now barriers in place to restrict this access. The National Conservation Authority has a role in managing the MPA and sits on the management board. Some hotels in the south also sit on the management board. Overall, CSOs have become stronger in the area, as seen with the advocacy against the development of the area, where they played an important role in halting the proposed causeway to Maria Islands.

Though there have been no new threats identified for the area, it was mentioned that there are a lot of farmers who use the area, particularly in the south, who have livestock. There have also been attempts to develop the area. A horse track was developed, and a new airport is also being constructed, as well as some road development and new hotels on the way.

### 3.5.2 Livelihood and economic activities

There has been some change in the dependence of local community’s livelihoods on natural resources within the MPA over the past three years. More persons are interested in bee keeping and wanting to set up apiaries. There are also persons, outside of the registered organisations, going into the PSEPA to unsustainably harvest mangroves for charcoal production. Prior to the pandemic, because persons had alternative sources of income, there was less pressure on the resources. Now, however, persons have reverted to charcoal production. There has also been an increase in the number of persons engaged in seamoss farming with an increased interest in seamoss in the international market. On Savannes Bay there are few fishers, only 18 registered, and numerous persons were starting to set up seamoss plots. The Fisheries Department had to get involved to assign plots to farmers. There has been an issue with litter by seamoss farmers who use plastic bottles as floats in their plots. Issues of praedial larceny have also arisen in seamoss cultivation.

There also persons who have been trained for quinine activities, such as horse tours and jockeys. The government has also established a call centre where persons from the communities were able to get employment, with plans to develop more. Prior to COVID-19 there was growth in tourism, with hotels being developed and increased flights. Tourism had shifted from being seasonal to continuous, but the Gross Domestic Product (GDP) from tourism was cut in half with COVID-19. This has spurred on the creation of small businesses like restaurants. Many of these small businesses are run by women, and at the call centres most of the staff are female.

The SLNT has conducted clean up campaigns within the MPA and it has always carried out education and awareness activities on the MPA, but this has become difficult with COVID-19. They have been doing virtual outreach, but this has not been generating the same level of interest. There have not been any changes in the number of SMEs or CSOs over the project period, and generally there are
mostly women involved in these organisations. The mains sources of income in the area have not changed much, except for more persons getting into seamoss farming. Prior to COVID-19 not much had changed in terms of jobs and small businesses, as the communities in the area remained low to middle income. This has changed with the pandemic where with an increase in poverty and unemployment, more persons have started small businesses and farming.

 Capacities of local communities have been built in bee keeping. Beekeepers have now received more technical training and are using technology for managing their business like using a phone application to monitor hives. They have even started queen rearing, through funding under a GEF project, and are planning to create a regional lab for apiculture. There has also been training with older beekeepers to help them harvest honey more sustainably. The National Skills Development Centre has also been doing training in cake decoration and non-vocational areas. Training has also been done (and more is planned) on agriculture, tour guiding and kayaking tours. Some capacities that need to be built in communities include business management and basic accounting. More training is also required around the blue, green and orange economies.

 There has been some politicisation of the PSEPA because of the proposed massive development, the Pearl of the Caribbean project, in the MPA. The SLNT had a strong advocacy campaign to stop the project. But the Government and the public did not share the same views, as they saw the proposed development as an opportunity for employment for local persons. People’s support for conservation of the mangroves dropped in the face of what they felt to be an economic opportunity.

3.5.3  Contribution of the PISCES project
The PISCES project enabled Eco South Tours to expand their services for tours, expand the jetty and conduct longer tours. They had to hire more persons and acquire more rescue boats. Persons from within the area were hired and the SME was able to get a contract from a hotel to do tours. The project did a lot prior to the COVID-19 pandemic. The PISCES project brought awareness of stakeholders and livelihoods and gave them a greater sense of involvement.

3.5.4  Impacts of COVID-19
COVID-19 slowed down the development of the tourism sector in the area, which was experiencing growth prior to the pandemic. There are more persons engaged in and starting small businesses, like food catering and restaurants. There have also been more persons from unregistered groups unsustainably harvesting charcoal. More persons have also started seamoss farming as an alternative income source. The levels of unemployment and poverty have increased in the area due to the pandemic, but persons have been coping by developing small businesses.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Status in 2017-2018</th>
<th>Status in 2021</th>
<th>Explanation for change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MPA/MMA characterisation</strong></td>
<td>• Managed by the PSEPA management team, an informal association of stakeholders from different government agencies (Ministries responsible for Forestry, Fisheries and Physical Development) and the SLNT • It has a mixed management arrangement, involving government, CSOs and private sector. • It is managed under the Physical Planning and Development Act of 2001. • A management plan is used to guide oversight of MPA, but this is not yet approved by government. • Primary focus is conservation and sustainable management and use of natural resources and ecotourism.</td>
<td>• The management arrangement and management body remain unchanged. • The management plan is awaiting government approval. • Primary focus remains the same but now includes alternative livelihoods.</td>
<td>• No change seen.</td>
</tr>
<tr>
<td><strong>Communities and key CSOs and SMEs for the MPA/MMA</strong></td>
<td>• Types of SMEs in communities around the MPA include artisanal fishing, apiculture, charcoal productions, seamoss farming, ecotourism (horseback riding, kayaking, mangrove tours, local crafts). • Capacity needs identified were bird watching tour training.</td>
<td>• Types of SMEs remained unchanged. • Capacity building in green, blue and orange economies needed.</td>
<td>• No change seen.</td>
</tr>
<tr>
<td><strong>Environmental characterisation of communities</strong></td>
<td>• Key ecosystems include the Windward Island Xeric Scrub, Windward Island Dray Forest, mangrove wetlands, benthic communities, coral reefs, Maria Islands/ Mankote Mangrove, Savannes Bay mangrove and Scorpion Islands. There are also endemic, rare and endangered species in the MPA such as sea turtles.</td>
<td>• Key ecosystems and species remained the same but also included the Saint Lucia Racer on the Andrea Islands. • Key threats remained the same, but also included the illegal wildlife trade and poaching.</td>
<td>• No change seen, except for the inclusion of the Saint Lucia Racer which is critically endangered and receiving international focus. • There are emerging threats with trade of rare species like the racer and poaching of sea turtles’ eggs.</td>
</tr>
</tbody>
</table>
- Key threats identified include coastal development, inappropriate agricultural practices, feral livestock, pollution (solid waste, effluents, non-point source pollution), inadequate enforcement, inappropriate extractive practices and IAS.

| Socio-economic characterisation of communities | The area generally had lower of middle-income households, but there was generally a high level of unemployment on the island (25%-32%).  
Main sources of income in the area include fisheries, art and craft, seamoss farming, charcoal, honey production. Women heavily involved in cultivation and harvesting stages.  
Some tourism activities like kite surfing has increased but more activities needed.  
Communities recognise the importance of protecting the Maria Islands in the PSEPA and developing alternative livelihoods to reduce impacts like charcoal in the Mankote mangrove. | Unemployment has increased.  
Main sources of income remain the same, but now include tourism.  
Although there are increased activities in tourism since the baseline, there has been a general decrease in tourism.  
Attitudes towards the MPA is now slightly politicised because of development. There has been a change in the mentality with respect to conservation as the public has less regards for mangroves. | Increases in unemployment due to COVID-19.  
Tourism was booming pre-COVID-19, but restrictions have reduced income to half.  
Due to a planned development in the PSEPA, there was a lot of advocacy from SLNT on protection of the area, but it was seen as an opportunity for employment and development of the area by the public and government. |
4 Conclusion

Based on the data collected, there have not been significant changes in the management of the six MPAs/MMAs nor in the socio-economic conditions of coastal communities in and around them.

Although progress in conservation and development of sustainable community livelihoods was being made, this was stymied by the COVID-19 pandemic. For many of the islands, the MPAs/MMAs generate substantial local and/or international tourism, which has slowed down due to national and international restrictions. This has led to reduced income for management activities, as well as increased unemployment and poverty levels in coastal communities with subsequent increased pressure on the resources as people turn to extractive activities which may be unsustainable.

Communities, however, have started to adapt, through small business creation, mostly around food, agriculture/farming and craft. Persons have also increased interest in alternative livelihoods such as apiculture and seamoss farming in many of the target countries, and it is worth noting that many women have been engaging in seamoss farming and are usually the ones taking the lead in starting small businesses to find alternative sources of income during the pandemic.

One of the main challenges mentioned in interviews was in the governance of the MPAs, mainly with non-functional boards or management plans which have not been formally adopted. However, work has continued in these MPAs/MMAs through the efforts of CSOs, like the PISCES project partners and target groups, which carry out significant work in enforcement, education and outreach, training and capacity building in organisational strengthening and alternative livelihoods, all while conserving and protecting the natural resources of the MPA/MMA.

The PISCES project, from the information collected, has supported the work of the CSOs and SMEs through the provision of training in strategic planning and organisational strengthening and provided mentors for guidance throughout the project. While not all mentors were able to be as engaged in supporting their mentee SMEs or CSOs targeted under the project, most persons agreed that this was a useful model and valued the network built, between mentors and mentee CSOs/SMEs as well as among mentors across the 10 project countries. Also mentioned as significant was the provision of small grants under the project, which allowed groups to implement projects and expand their businesses.

Overall, while there was an absence of definitive data on the socio-economic development of communities, there has been a greater understanding and growing appreciation for the natural resources of the MPAs/MMAs, and CSOs, community SMEs, government agencies and other organisations have been and continue to do work to manage, sustainably use and conserve these resources.
References
CAR-SPAW-RAC, n.d. The Protocol on Specially Protected Areas and Wildlife in the Wider Caribbean (SPAW): Tobago Cays Marine Park, s.l.: CAR-SPAW-RAC.
Henwood, W., Aucoin, S. & Turner, M., 2017. The Protected Area of Managed Natural Resources of the Three Bays (P3BA) Management Plan 2017-2027, s.l.: The National Agency of Protected Areas (ANAP), Haiti and the the Caribbean Marine Biodiversity Program.
Saint Lucia National Trust, 2018. Point Sables Environmental Protection Area, Gros Islet: Saint Lucia National Trust.
Appendices

Appendix 1: Sample Key Informant Survey

Powering Innovations in Civil Society and Enterprises for Sustainability in the Caribbean (PISCES)
Socio-economic Snapshot Review- Key Informant Interview

<table>
<thead>
<tr>
<th>Name of interviewee</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of interviewer</td>
<td></td>
</tr>
<tr>
<td>Date of interview</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td></td>
</tr>
<tr>
<td>MPA name</td>
<td></td>
</tr>
<tr>
<td>Organisation name and title</td>
<td></td>
</tr>
<tr>
<td>Role in project (CSO/CSO mentor/SME...etc.)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
</tbody>
</table>

Introduction:
As we wrap up work under the Powering Innovations in Civil Society and Enterprises for Sustainability in the Caribbean (PISCES) project, one of the key activities we are carrying out is a socio-economic evaluation of coastal communities surrounding the MPA to see if there have been any changes which we will use to update the snapshots produced in 2018. To do this we are interviewing key stakeholders from each of the project countries with target MPAs. These MPAs include the North East Marine Management Area in Antigua and Barbuda, the Pointe Sable Environmental Protection Area in Saint Lucia, the Three Bays National Marine Park in Haiti, the Portland Bight Protected Area in Jamaica and the Tobago Cays Marine Park and Sandy Island/Oyster Bed MPA in St. Vincent and the Grenadines and Grenada.

Interview:
- The interview covers four main areas: general information on the MPA, management and livelihoods and activities
- The interview will be recorded for internal note taking purposes. Do you have any objection to being recorded?
- If you are unable to answer any of the questions, feel free to indicate.

Interview questions

General information on MPA

1. Have there been any changes in the legal status and national designation of the MPA over the last 4 years?

2. Have there been any changes in international/regional designation of the MPA?

3. Is the MPA still managed by [name of MPA management authority/co-managers from database]? * If not, which organisation is responsible for the management of the MPA?

4. Has there been any change to the governance arrangement for protected areas/natural resource management? [refer to previously recorded arrangement in database] * If yes, what?
5. Have any new terrestrial or marine ecosystems or species of importance been identified in the past 4 years? [Refer to list in database]
   a. If yes, what? Do they have any special designation?

6. Threats to the MPA were last identified as [insert threats from the database here]. Have there been any changes in these threats over the last 4 years? If yes, why? [development issues (infrastructure, tourism complex, golf, etc.), pollution, climate change, invasive species, user conflicts etc.] *

**Management**

7. Has there been any change to the management objectives of the MPA [for example species protection, ecosystem protection; fisheries management, user consultation, fisheries management, navigation restrictions]? [Refer to objectives identified in the database]

8. Have there been any changes in the management capacity?
   a. Have there been changes in staff, i.e. number of staff, number of females hired, new technical expertise etc.? *
   b. Have there been changes in facilities, equipment, and resources for management?

9. Apart from the PISCES project, what other management projects/initiatives have taken place in the past 4 years?

10. How has the involvement of civil society (formal and informal) and local communities in the management of the MPA changed over the last 4 years? *

11. Have there been any changes in the involvement of private sector in the management of the MPA over the last 4 years? * If yes, how?

12. If a co-management structure is in place, have there been any changes in level of involvement/engagement of organisations involved [over the last 4 years]? * If yes, how?

13. Have there been any changes to the management zones of the MPA over the last 4 years? [Examples: Marine Reserves (no take areas), Fishing Priority Areas, Yacht Mooring Areas, Recreational Areas and Multiple Use Areas (Diving, public use)] If yes, how?

14. Has the PISCES project contributed to a change in the management of the MPA in any way, over the past 4 years? If yes, how?

**Livelihood and economic activities**

15. How has the dependence of the local community’s livelihoods on natural resources within the MPA changed over the past 4 years [in fisheries, seamoss farming, ecotourism etc.]? *

16. How have economic and livelihood activities taking place in and around the MPA changed? Note that these were last recorded as [insert economic activities from socio-economic database]. *
   a. What have been the changes in economic and livelihood activities taking place in and around the MPA?
   b. Has there been changes in how economic or livelihood activities taking place in and around the MPA are managed over the last 4 years? [Examples: education/ outreach,
fisheries regulation, habitat restoration, monitoring (coral reef health, coral reef
resilience, sea turtles, fish survey, water quality, etc.), research, tourism regulation,
volunteer program]

c. What changes have there been in the number of local community SMEs/CSOs in over
the last 4 years? Why?
d. Are any of these community SMEs/CSOs managed or staffed by women? If yes, which
ones? Are women playing an increasing leadership role or is it about the same?
e. How have these community SMEs/CSOs impacted on economic development in coastal
communities surrounding the MPA?

17. How have the main sources of income changed over this time? *
a. How has poverty and unemployment changed over the last 4 years in the surrounding
coastal communities? *
b. How has tourism changed, prior to COVID 19, in the last 4 years? How has it changed
during the pandemic? What are people doing for income instead of tourism?
c. What socio-economic impacts has the COVID-19 pandemic had on the surrounding
communities and the MPA?

18. How has capacity building for sustainable livelihoods been addressed in the surrounding coastal
communities over the past 4 years? *
a. What have been the capacity building initiatives?
b. How do you think capacity has been built?
c. What are current capacity building needs for enhancing economic growth in the
surrounding coastal communities?

19. How have attitudes and values related to the MPA and natural resource use changed over the
past 4 years? *

20. Has the PISCES project impacted on livelihoods and economic activities in coastal communities
surrounding the MPA over the past 4 years? * If yes, how?

Additional information
21. Is there any additional information you would like to share on what’s happening in the MPA?

22. Is there any additional information you would like to share on how the PISCES project has
contributed to the MPA or recommendations that you have for CANARI?

23. Has there been any recent socio-economic study/report on the MPA and communities
surrounding it? *
a. If yes, is it accessible/can it be shared?
b. If yes, does it include gender disaggregated data?

24. Do you have any recent maps of the MPA that can be shared?

25. Do you have any recent, high quality photos highlighting economic or livelihood uses,
management activities and/or the importance of the area that can be shared?
### Appendix 2: List of Key Informant Interviewees

<table>
<thead>
<tr>
<th>Countries</th>
<th>Organisation</th>
<th>Relationship</th>
<th>First Name</th>
<th>Job Title</th>
<th>E-mail Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua and Barbuda – North East Marine Management Area</td>
<td>Environmental Awareness Group Inc. (EAG)</td>
<td>Project partner</td>
<td>Arica Hill</td>
<td>Executive Director</td>
<td><a href="mailto:arica.eag@gmail.com">arica.eag@gmail.com</a></td>
</tr>
<tr>
<td>Antigua and Barbuda – North East Marine Management Area</td>
<td>Fauna &amp; Flora International</td>
<td>CSO Mentor</td>
<td>Sophia Steele</td>
<td>Eastern Caribbean Project Coordinator</td>
<td><a href="mailto:sophia.steele@fauna-flora.org">sophia.steele@fauna-flora.org</a></td>
</tr>
<tr>
<td>Haiti – Three Bays National Marine Park</td>
<td>Fondation pour la protection de la Biodiversite Marine (FoProBim)</td>
<td>Project Partner</td>
<td>Jean Wiener</td>
<td>Director</td>
<td><a href="mailto:jeanjw@foprobim.org">jeanjw@foprobim.org</a></td>
</tr>
<tr>
<td>Jamaica – Portland Bight Protected Area</td>
<td>Caribbean Coastal Area Management Foundation (C-CAM)</td>
<td>Project partner/CSO mentee</td>
<td>Ingrid Parchment</td>
<td>Executive Director</td>
<td><a href="mailto:ccamf@cwjamaica.com">ccamf@cwjamaica.com</a></td>
</tr>
<tr>
<td>Jamaica – Portland Bight Protected Area</td>
<td>Caribbean Biodiversity Fund</td>
<td>CSO Mentor</td>
<td>Karen McDonald Gayle</td>
<td>Conservation Trust Funds Specialist</td>
<td><a href="mailto:kmcdonaldgayle@caribbeanbiodiversityfund.org">kmcdonaldgayle@caribbeanbiodiversityfund.org</a></td>
</tr>
<tr>
<td>Saint Lucia – Pointe Sable Environmental Protection Area</td>
<td>Saint Lucia National Trust</td>
<td>Project partner/ SME mentee</td>
<td>Saphira Hunt</td>
<td>Programme Assistant - Conservation</td>
<td><a href="mailto:assistantssouth@slunatrust.org">assistantssouth@slunatrust.org</a></td>
</tr>
<tr>
<td>Saint Lucia – Pointe Sable Environmental Protection Area</td>
<td>Ministry of Youth &amp; Sports- Assigned to the Minister of Youth Development &amp; Sports</td>
<td>SME mentor</td>
<td>Andrew Rikkie Alexander</td>
<td>Executive/Consultant</td>
<td><a href="mailto:rhikkiea80@gmail.com">rhikkiea80@gmail.com</a></td>
</tr>
<tr>
<td>Grenada/ St. Vincent – Tobago Cays Marine Park and Sandy Island/Oyster Bed MPA</td>
<td>SusGren</td>
<td>Project partner</td>
<td>Orisha Joseph</td>
<td>Executive Director</td>
<td><a href="mailto:orisha.joseph2@gmail.com">orisha.joseph2@gmail.com</a></td>
</tr>
<tr>
<td>Grenada/ St. Vincent – Tobago Cays Marine Park and Sandy Island/Oyster Bed MPA</td>
<td>Union Islands Environmental Attackers</td>
<td>CSO Mentee</td>
<td>Katrina Collins</td>
<td>President</td>
<td><a href="mailto:environmentalattackers@yahoo.com">environmentalattackers@yahoo.com</a></td>
</tr>
<tr>
<td>Grenada/ St. Vincent – Tobago Cays Marine Park and Sandy Island/Oyster Bed MPA</td>
<td>Tobago Cays Marine Park</td>
<td>Management body</td>
<td>Lesroy Noel</td>
<td>Manager</td>
<td><a href="mailto:lesroyn@hotmail.com">lesroyn@hotmail.com</a></td>
</tr>
</tbody>
</table>