

MINISTRY OF PLANNING AND DEVELOPMENT

IWEco.TT
Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States
#CaringForOurFuture

gef

UN environment

Component of a 10-year Management Plan

North-East Tobago
Man and the Biosphere Area

unesco
Man and the Biosphere Programme

FOCUS: CLIMATE CHANGE RESILIENCE

AUGUST 2022

Component of a 10-year Management Plan

FOCUS: CLIMATE CHANGE RESILIENCE

for the

North-East Tobago Man and the Biosphere Area

Draft

CREDITS

COORDINATION

Linford Beckles, Director, Department of the Environment,
Tobago House of Assembly
Environmental Research Institute Charlotteville

TECHNICAL WRITING TEAM LEADER

Aljoscha Wothke, CEO, Environmental Research Institute
Charlotteville (ERIC), Tobago.

ERIC CONTRIBUTORS

Lanya Fanovich, Jacob Bock, Janina Ewals,
Trainees: Jhunean Giraud, Sherneil Dick

PHOTOGRAPHIC CREDITS

Environmental Research Institute Charlotteville, Max Smith,
Dr Ryan S. Mohammed, Tobago Heritage Conservation Society,
Jacob Bock, and Janina Ewals

SUMMARY REVIEW

Jheuel Carter-Guy, Ministry of Tourism, Culture and the Arts
Dianne Rampadarath, Ministry of Agriculture, Land and Fisheries
Ruqayyah Thompson, Institute of Marine Affairs
Rosemary Lall, Programme Officer, UNDP Country Office, Trinidad and Tobago
Javed Lakhan, Ministry of Planning and Development
Dr Cindy Chandool, Project Manager of the Environmental Policy
and Planning Division of the Ministry of Planning and Development

Draft

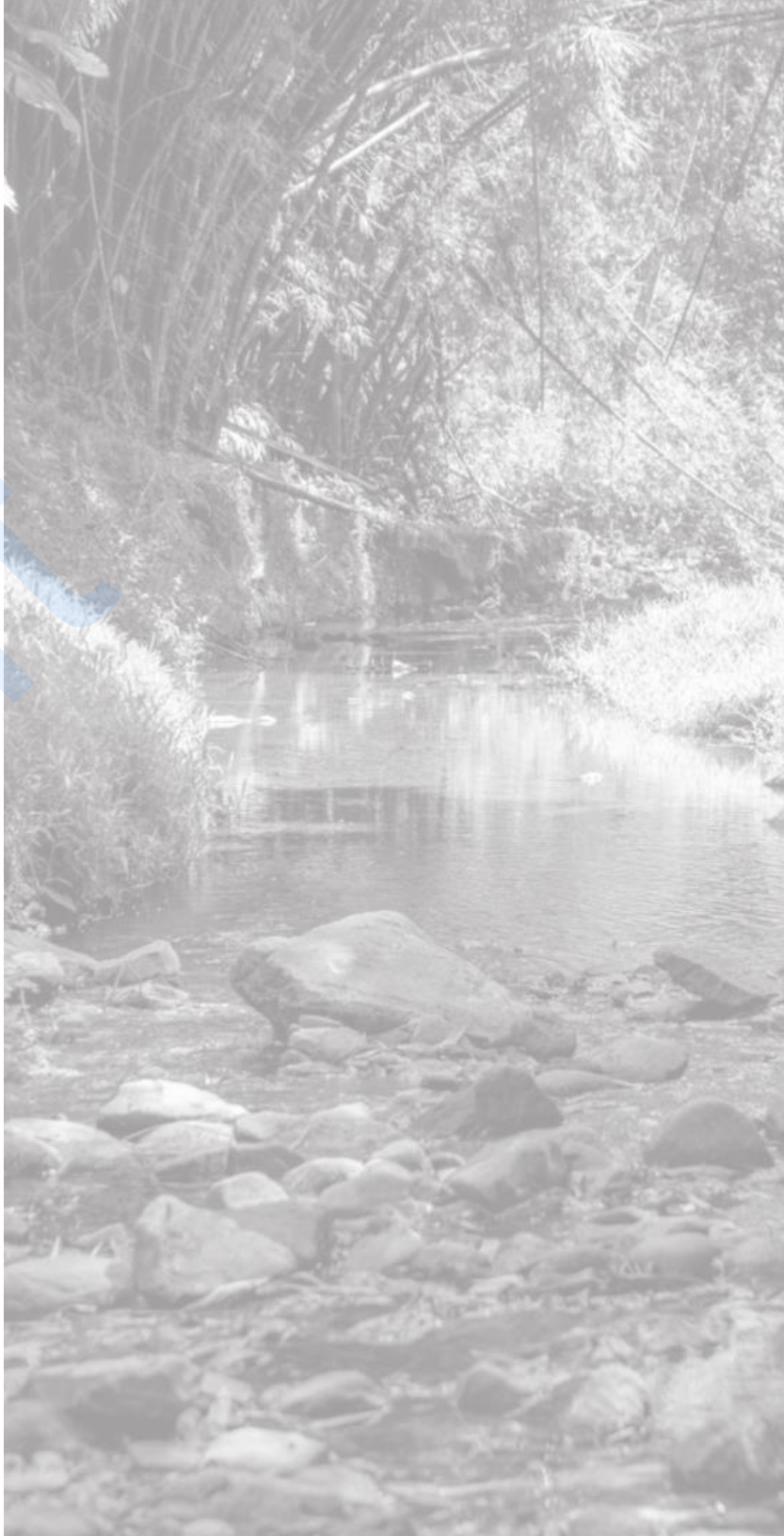


Table of Contents

1 Executive Summary 5

2 The Way Forward 9

3 Introductory Remarks 10

4 Methods 12

5 Limitations 12

6 Vision 13

7 Mission 13

8 Key Objectives 14

9 What is the UNESCO MAB Programme? 16

9.1 Administration 19

9.2 Designation of NE Tobago 21

10 Management Plan Components 26

10.1 Addressing Barriers to Sustainable Management 27

11 Climate Change Adaptation and Improving Resilience 32

Draft

1 EXECUTIVE SUMMARY

This document was developed as part of a project titled: *"Caribbean Small Island Developing States Trinidad Sub-Project Rehabilitation of Quarries"* (IWEco TT) with funding from the Global Environmental Facility, under approval of the United Nations Development Programme and via a contract with the Environmental Management Authority of Trinidad and Tobago. It is meant to be a guideline for the future management authority and staff of the North-East Tobago UNESCO Man and the Biosphere Reserve (NETMABR). While it will be open to all stakeholders, it is not meant to be an instrument for outreach activities; an outreach-friendly, intelligible version of the management plan will be developed in late-2022. The document represents the second component of the overall 10-year Management Plan for the NETMABR. The first, complementary component was finalised in December 2021 and a third and final one will be finalised under other interventions and consolidated in November 2022.

This draft plan was developed via review and analysis of primary and secondary literature as well as formal and informal stakeholder consultations between 2018 and 2022; major limitations were based on COVID-19 restrictions and significant primary data deficiencies. The draft plan at hand will be discussed with stakeholders between June and November 2022, revised and finalised accordingly.

This, second component of the Plan includes:

- Revision of previous Stakeholder and Communication Plans,
- Participatory Development of Vision, Mission, Objectives and Principles,
- Site Description,
- SWOT and PESTLE,
- Alignment with existing Legal and Regulatory Framework, Policies and International Conventions.

Furthermore, it includes situational analyses, high level goals, priorities, strategies and proposed actions for three management topics / components:

- Conservation Strategies, Programmes and Priority Projects
- Climate Change Resilience Strategies, Programmes and Proposed Actions
- Community-based, Green, Blue, Purple Economic Strategies, Programmes and Proposed Actions

Draft

Next steps and two key recommendations are provided in the chapter below.

The ERIC team would like to thank the EMA Office, Trinidad and Tobago, specifically Alicia Aquing, GEF IWEco National Project Coordinator, and Mr Linford Beckles, Director, Department of the Environment, Tobago House of Assembly for facilitating this intervention and put trust in our technical capabilities.

North-East Tobago Man and the Biosphere Reserve Management Plan Components

SLM

1. Background
2. Literature Review
3. Addressing Barriers to Sustainable Management
4. Governance
5. Financing and Donor Data Base
6. Alien Invasive Species
7. Sustainable Agriculture and Sustainable Land Management Practises
8. Sustainable Tourism
9. Pollution
10. Research
11. Education
12. Networking

IWEco

13. Principles
14. Vision
15. Mission

Draft

16. Key Objectives
17. Site Description
    - 17.1. Biogeographic Location
    - 17.2. Biophysical Characteristics
    - 17.3. Ecosystem Descriptions
    - 17.4. Conservation Status
    - 17.5. Human Systems
    - 17.6. Land Tenure
    - 17.7. Zoning
    - 17.8. Existing And Proposed NNH Sites
18. Cultural and Socioeconomic Background
19. Historical Background
20. Cultural Background
21. Folk Tales
22. Socio-economic Background
    - 22.1. SWOT
    - 22.2. PESTLE
23. Relevant Legislations and Policies
24. Relevant International Conventions
25. Conservation
26. Climate Change Resilience Strategies
27. Development
    - 27.1. Green Economy
    - 27.2. Blue Economy
    - 27.3. Purple Economy

SGP

Draft

28. Marine Zoning Guidelines
29. Sustainable Fisheries
30. Sustainable Cultural Entrepreneurship
31. Arts
32. Historical Sites
33. Income Sharing
34. Disaster Mitigation and Prevention
35. Branding
36. Marketing
37. Aesthetics
38. Safety
39. Twinning
40. Implementation Schedule
41. M&E and BR Review
42. Budget
43. Conflict Resolution

Annexes

44. Non-exhaustive list of relevant networks
45. Non-exhaustive list of relevant donors
46. Revised Stakeholder Register and Engagement Plan
47. Revised Communications Plan
48. List of Conservation Relevant Species
49. Intelligible Online Knowledge Management Platform

Draft

2 THE WAY FORWARD

The ERIC has successfully applied to the UNDP Small Grants Programme, Trinidad and Tobago, to fund the final components of the Management Plan and create a knowledge sharing platform for the Plan via a project titled: "*Drafting the Final Components of the Management Plan for the North-East Tobago UNESCO Man and the Biosphere Reserve and Intelligible Knowledge Management*". The proposal was endorsed by the Department of the Environment, Tobago House of Assembly, which is the Focal Point for the UNESCO MAB Programme in Trinidad and Tobago and by Division of Ecological and Earth Sciences, UNESCO, Paris, France. This final component was approved in May 2022.

This timing aligns perfectly with a contract between the Inter-American Development Bank and Syntegra Change Architects Limited (Trinidad) with the following key objectives:

1. to structure the corporate governance framework of the NETPAMPT under a research-driven and participatory approach;
2. to structure the institutional framework of the NETPAMT, using components of an environmental and social management systems and including the foundations for a fund-raising strategy; and
3. to provide training and dissemination of i) the corporate governance framework; and ii) E&S institutional framework to key stakeholders.

Having started in February 2022, this intervention, of which the NETPAMT, and by extension the Tobago House of Assembly, is the direct beneficiary, will allow the NETPAMT, as future management organisation of the UNESCO Man and the Biosphere Reserve in North-East Tobago, to revise, refine, and apply the finalised management plan.

Based on these interventions, **the key recommendations** for advancing the sustainable development goals under the UNRESCO MAB Programme for NE Tobago are to:

1. **engage the Government of Trinidad and Tobago and the Tobago House of Assembly to provide the necessary budget allocations (2022-2024) for the operations of the NETPAMT until initial Green Fund funding and subsequent, self-financing is secured, and**
2. **facilitate stakeholder awareness and tangible benefits for communities in the NETMABR.**

Draft

3 INTRODUCTORY REMARKS

This document was developed as part of a project titled: *"Caribbean Small Island Developing States Trinidad Sub-Project Rehabilitation of Quarries*" (IWEco TT) with funding from the Global Environmental Facility. It is meant to be a guideline for the future management authority and staff of the North-East Tobago UNESCO Man and the Biosphere Reserve (NETMABR).
The document represents a component of the overall 10-year Management Plan for the NETMABR. The additional, complementary components will be finalised under another intervention, and both consolidated in June 2022.
Amongst other guidelines, the Technical Guidelines for Biosphere Reserves (TGBR, UNESCO 2021) were taken into consideration for preparing this document.

The TGBR provides an indicative list of several main items a UNESCO Biosphere Reserve Management Plan should contain:

a. a recommendation for an organisational/governance structure responsible for implementation of the plan,
b. a situational analysis,
c. a vision,
d. medium-term goals,
e. management priorities,
f. proposed priority projects, and
g. monitoring indicators,

The document at hand covers, for the components under the contract with the EMA, items **b, c, d, e, and f**. Item **a** was covered under a previous assignment, item **g** will be covered under the above-mentioned complementary SGP project.
The components (topics) of the NETMABR Management Plan covered under this assignment included:

- Revision of previous Stakeholder and Communication Plans
- Participatory Development of Vision, Mission, Objectives and Principles
- Site Description, SWAT and PESTLE
- Alignment with existing Legal and Regulatory Framework, Policies and International Conventions
- Conservation Strategies, Programmes and Priority Projects
- Climate Change Resilience Strategies, Programmes and Proposed Actions

Draft

- Community-based, Green, Blue, Purple Economic Strategies, Programmes and Proposed Actions
- Stakeholder Consultations, Local Capacity Building and Media Outreach

As discussed with the funding agency, stakeholder consultations were quite limited due to time- and COVID-19 restrictions. Furthermore, stakeholder consultations will be most efficient and effective when the full draft of the Management Plan will be available in 2022 and a more concise and intelligible version can be produced to meaningfully engage at all stakeholder levels. Once all documents will have been consolidated, the final layout will be polished using an advanced desktop publishing and page layout designing software application. Once funding permits, an intelligible and interactive website will be created to facilitate ease of access to and navigation through the Management Plan.



Figure 1. Fishermen in Castara Bay

4 METHODS

This draft document was developed via review and analysis of primary and secondary literature (see Annex 1) as well as formal and informal stakeholder consultations between 2018 and 2022. These consultations were conducted in relation to the drafting of the UNESCO Man and the Biosphere Nomination Form for NE Tobago, the drafting of the Dossiers for the Designation of NE Tobago's Main Ridge Forest Reserve, Islets and Reefs as Natural National Heritage Sites of Trinidad and Tobago and the drafting of a proposal to the Inter-American Development Bank titled: "Organisational Governance and Operational Strengthening of the North East Tobago Protected Area Management Trust (NETPAMT)".

It should be noted that this document applies the common writing style of UNESCO MAB Reserve Management Plans and, as such, does not claim to be or follow the writing style of a scientific research paper.

5 LIMITATIONS

The bulk of the document was prepared between November 2021 and June 2022 when restrictions regarding the COVID-19 pandemic prohibited workshops, group consultations and broader community involvement. Additionally, the extremely tight timeline for delivery of the draft and final document did not allow for the desired stakeholder participation. However, these limitations can be addressed in mid-2022, when the complementary components of the management plan will be finalised and a more intelligible version of the management plan can be developed, which will be more directed towards stakeholder engagement than programme management guidance (as it is the case for this document).

An additional, major limitation is the ubiquitous data deficiency for NE Tobago regarding all components of the management plan. Therefore, many statements in the situational analyses are based on recent, oral stakeholder reports and personal observations of the resident expert team. Hence the reason that baseline surveys, monitoring and evaluation interventions are essential to inform the future implementation organisation.

Draft

6 VISION

MAB Vision: A world where people are conscious of their common future and their interactions with the planet, and act collectively and responsibly to build thriving societies in harmony within the biosphere.
To be based on stakeholder consultations.

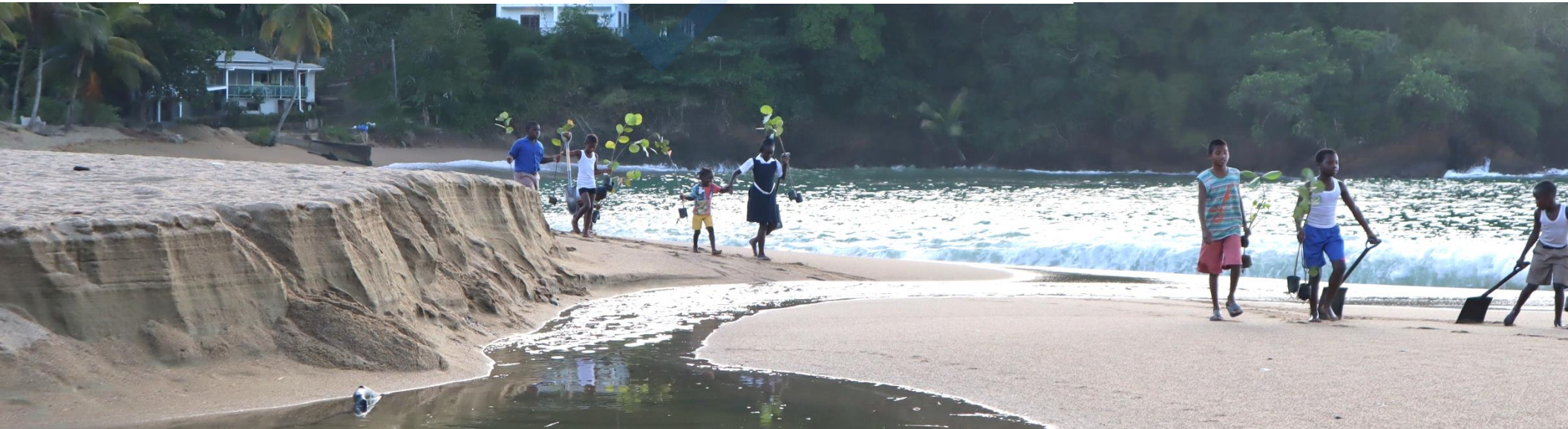
7 MISSION

The MAB Mission 2015–2025 is to

- develop and strengthen models of sustainable development through the WNBR;
- communicate experiences and lessons learned, and facilitate the global diffusion and application of these models;
- support evaluation and high-quality management of biosphere reserves, strategies and policies for sustainable development and planning, and accountable and resilient institutions;
- help Member States and stakeholders to achieve the Sustainable Development Goals by sharing experiences and lessons learned related to exploring and testing policies, technologies, and innovations for the sustainable management of biodiversity and natural resources and mitigation and adaptation to climate change.

To be adapted on stakeholder consultations.

Figure 2. Children planting trees in Parlatuvier Bay (Janina Ewals)



Draft

8 KEY OBJECTIVES

In order to address NE Tobago conservation and sustainable development challenges through strengthening the functions of a BR, the technical team proposes the following **Main Objective** for the management of the NETMABR:

To successfully consolidate and co-manage interventions related to sustainable and regenerative development, research, capacity building, education and networking on landscape, human- and eco-system levels for the benefit of NE Tobago's cultural and natural heritage, communities, and people.

Note: To be adapted based on stakeholder consultations

This key objective is designed to address the 12 key barriers that were identified by previous management plans for NE Tobago and IFPAM documents further as follows:

1. outdated legal and regulatory framework for establishing and managing natural and cultural resources,
2. unclear, fragmented roles responsibilities of stakeholders, especially managing authorities,
3. disempowered and under-resourced management authorities,
4. inadequate funding,
5. willingness to participate if interventions seem to be too restrictive,
6. stakeholder conflicts,
7. lack of broad, bipartisan political will,
8. lack of technical capacity to identify and address issues,
9. minimal capacity on the ground with respect to practical approaches to effective natural and cultural heritage management,
10. inadequate law enforcement,
11. minimal experience with income-generating opportunities, and last but by no means least,
12. a lack of transparency, accountability and compliance with regulation and legislation by the Tobago House of Assembly.

Draft

While IFPAM and other programmes and projects were able to partially address these barriers, and while it can be stated that conservation status and efforts in NE Tobago have never been better, it remains a fact that all of the above barriers are still valid and need attention.
The Management Plan at hand is based on the methodical approach that most of the above-mentioned barriers can be addressed by implementing strategies aligned with the three MAB functions.

These, below-described key strategies, are mainly based on the results of the recent Improved Forest and Protected Area Management Project (IFPAM, 2015-2020) which applied a participatory approach in identifying objectives and potential solutions to overcome conservation barriers; additionally, the ongoing interaction between the technical team and key stakeholders was used to refine recommendations included into the Management Plan.
These strategies are reoccurring and supported by proposed activities in the various components of the Management Plan at hand.
It should be noted that, while IFPAM continuously considered socio-cultural aspects of NE Tobago as essential to successful management of natural resources, there was, unfortunately, not a matching project to similarly address the management of NE Tobago's cultural heritage.

Figure 3. Iguana Bay (Janina Ewals)



Draft

9 WHAT IS THE UNESCO MAB PROGRAMME?

In 1971, United Nations Educational, Scientific and Cultural Organisation (UNESCO) launched the intergovernmental Man and the Biosphere programme (MAB) that aims to establish a basis for the improvement of relationships between people and their environments. It predicts the consequences of today's actions on tomorrow's world and thereby increases people's ability to efficiently manage natural resources for the well-being of both human populations and the environment (30).

The working unit of MAB is the Biosphere Reserve (BR), an international description of recognition from UNESCO for an area in the world, which is deemed to demonstrate a "balanced relationship between humans and the biosphere".

Biosphere Reserves are internationally recognised areas comprising terrestrial, marine and coastal ecosystems. Each reserve promotes solutions reconciling the conservation of biodiversity with its sustainable use by local communities. BRs are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located.

BRs are intended to be model regions for demonstrating successful approaches to protection and sustainable development at a regional level. MAB sites are established with the goal to:

- harmonise conservation of biological and cultural diversity with economic and social development, and
- make a tangible contribution to the transition to green societies and support national governments' efforts to attain the Sustainable Development Goals (SDGs).

Biosphere Reserves have **three inter–connected functions**:

- **Conservation**: protecting cultural diversity and biodiversity, including genetic variation, species, ecosystems, landscapes, and securing services provided by such diversity.
- **Development**: fostering economic and human development that is environmentally and socially sustainable and culturally appropriate; and
- **Logistic Support**: facilitating demonstration projects, environmental education and sustainable development education and training, research and monitoring.

Draft

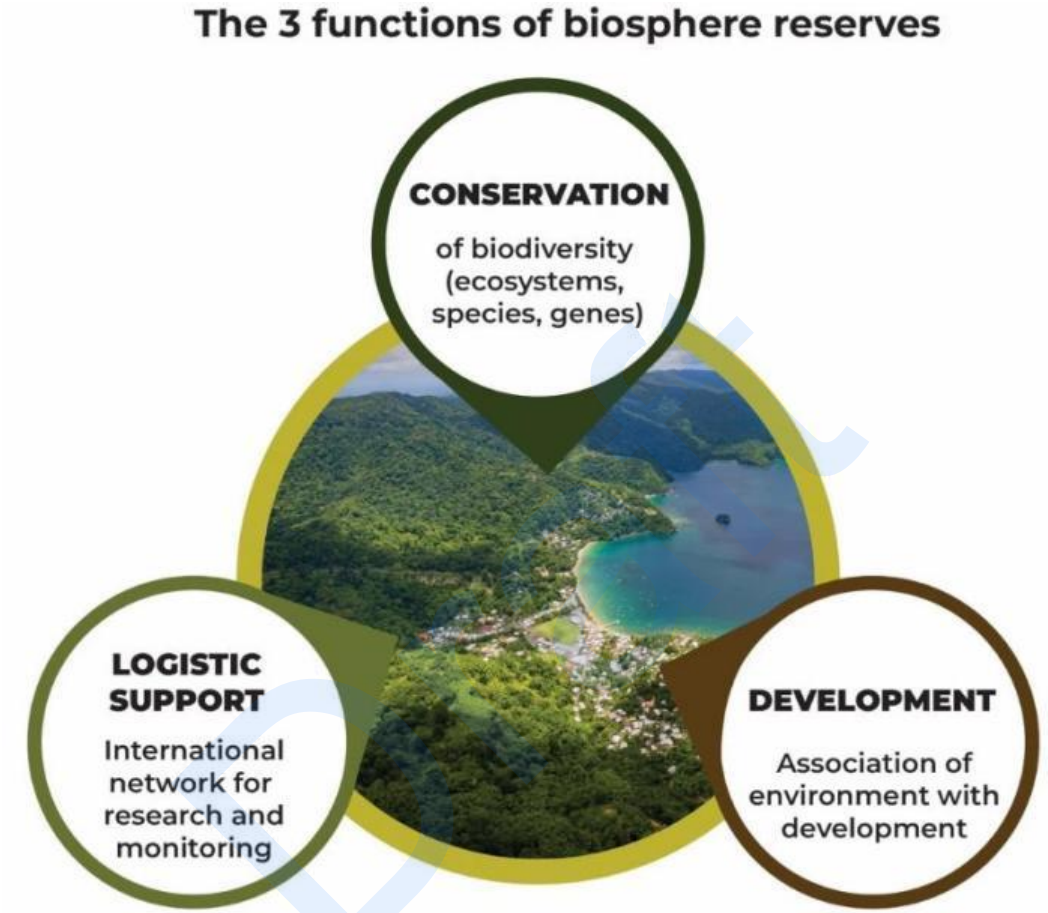


Figure 4. Schematic overview of 3 functions of biosphere reserves.

A BR consists of **three areas or zones – The core, buffer, and transition zones**.

The core zone is usually a legally protected area in which human activity is strictly limited and where monitoring of conservation priorities take place.

The buffer zone allows for appropriate activities such as research and scientific study, ecotourism, education and training.

The transition zone contains human settlements, agricultural and other commercial activities synonymous with human settlement.

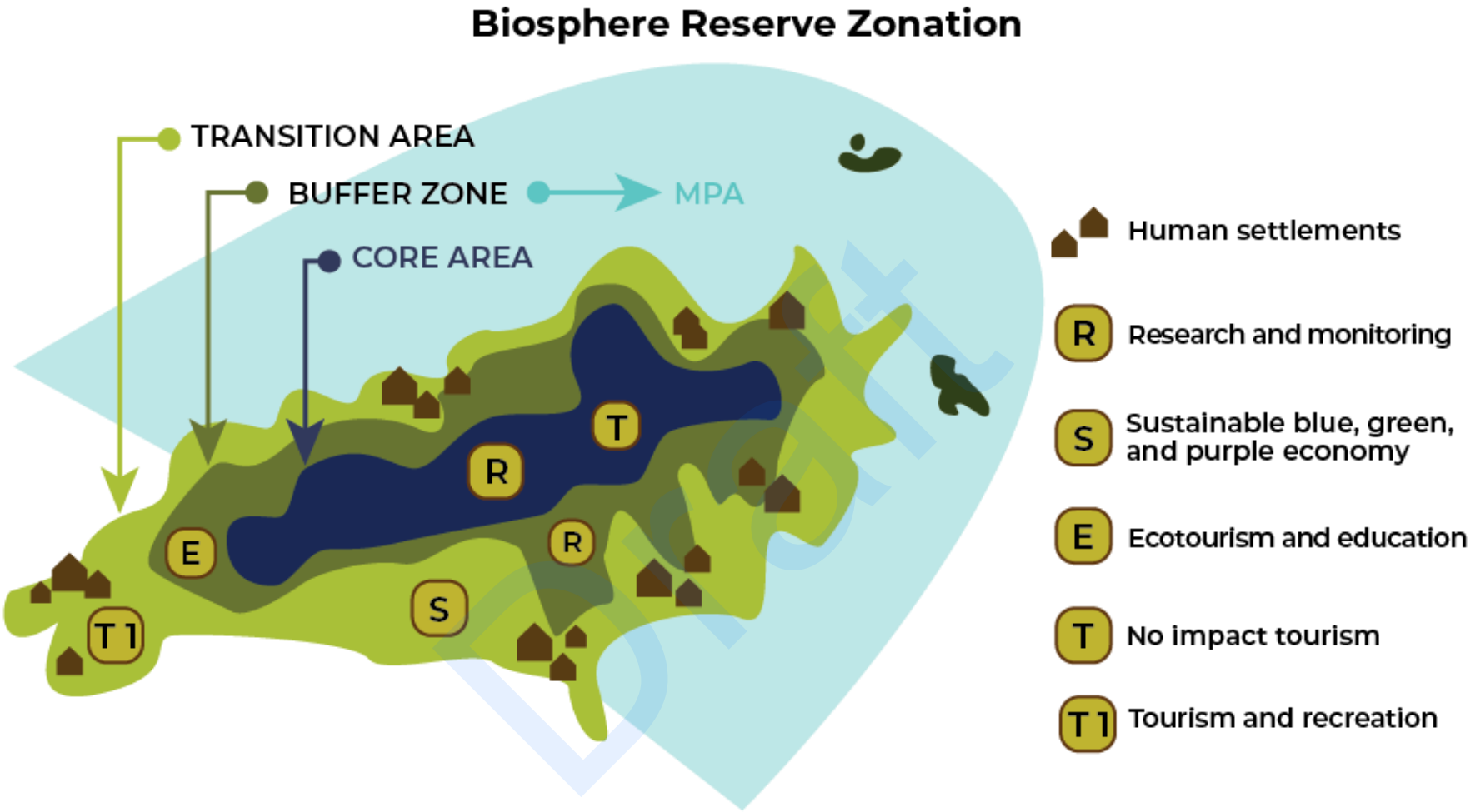


Figure 5. Schematic overview of NE Tobago Biosphere Reserve zonation (ERIC 2021).

The MAB Programme has a significant World Network of Biosphere Reserves (WNBR) which serves as a management tool for various municipal regions to improve strategies for sustainable development. As the pressures upon ecosystems increase with growing populations and climate change, the need for upgraded relationships between people and their natural surroundings only increases.

The **MAB Programme Mission** for the period 2015-2025 (31) is to:

- develop and strengthen models for sustainable development in the WNBR;
- communicate the experiences and lessons learned, facilitating the global diffusion and application of these models;
- support evaluation and high-quality management, strategies and policies for sustainable development and planning, as well as accountable and resilient institutions; and
- help member states and stakeholders to urgently meet the Sustainable Development Goals through experiences from the WNBR, particularly through exploring and testing policies, technologies and innovations for the sustainable management of biodiversity and natural resources and mitigation and adaptation to climate change. (MAB Strategy 2015-2025 & Lima Action Plan)

9.1 Administration

The international MAB Programme

The MAB programme is organised under an international agreement through UNESCO; state parties undertake actions within the MAB programme voluntarily and sites remain under national jurisdiction. At the global level, the MAB Programme is governed by its International Coordinating Council (ICC), under the overall authority of the UNESCO General Conference and its Executive Board.

The next level of governance is represented by regional and thematic networks. Governance at the national level is ideally through MAB National Committees.

The MAB institutional structure is outlined in Figure 6.

Draft

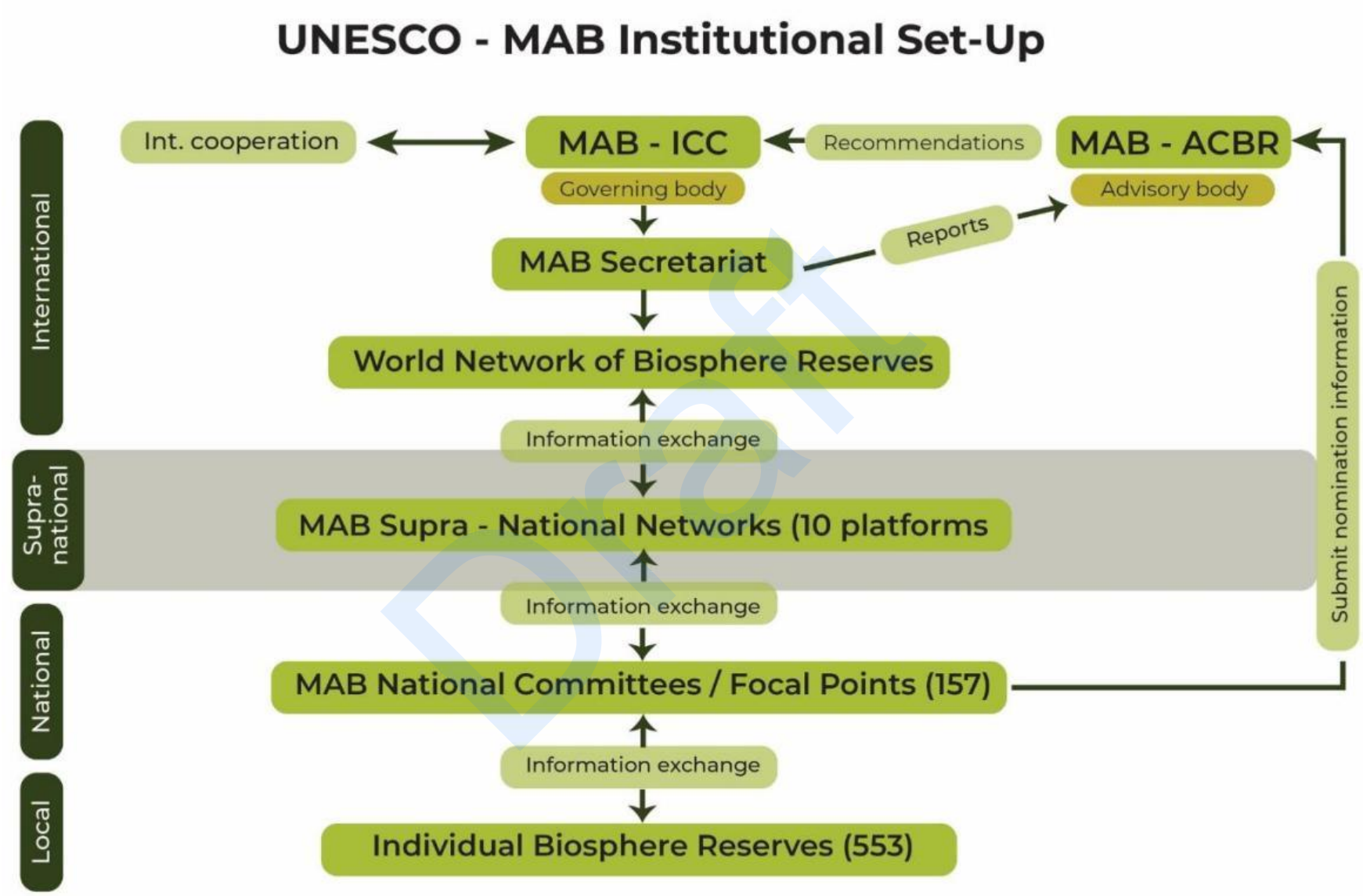


Figure 6. Diagram of the MAB institutional structure adapted from Schliep (24).

The MAB International Coordinating Council (ICC) is the governing body that meets biannually and consists of 34 Member States elected by UNESCO's General Conference. The ICC elects a chair and five vice-chairpersons from each of UNESCO's geopolitical regions that constitute the MAB Bureau which undertakes the responsibilities of the ICC between its biannual meetings. The MAB International Advisory Committee for Biosphere Reserves is the primary scientific and technical Committee body advising the ICC. The MAB Secretariat is the administrative centre for MAB based at UNESCO's Division of Ecological and Earth Sciences in Paris, the Secretariat work closely with the different field offices and Supranational Networks (e.g., IberoMAB – Iberian Peninsula and Latin America/ Caribbean region) around the world to coordinate the work of the MAB programme at the regional, national and individual Biosphere Reserve levels.

MAB is funded through the regular budget of UNESCO and mobilises funds-in-trust granted by Member States, bilateral and multilateral sources and extra-budgetary funds provided by countries, the private sector and private institutions.

UNESCO's intergovernmental structure provides MAB with a framework to help national governments support the planning and implementation of research and training programmes with technical assistance and scientific advice.

MAB-related activities are nationally financed however the programme can grant seed funding to assist countries in developing projects and/or to secure appropriate partnership contributions.

MAB offers fellowship opportunities co-sponsored by a number member states to assist the technical development of individuals seeking to build a profession within the field of the UNESCO programme priorities. These opportunities would be available to local staff to apply for.

Importantly, designation as a MAB Reserve does not necessarily require the formation of new laws.

9.2 Designation of NE Tobago

In September 2019, the Government of Trinidad and Tobago successfully submitted a Nomination Form to UNESCO with the request to consider NE Tobago as a Man and the Biosphere Reserve.

The eligibility criteria taken from the Biosphere Reserve Nomination Form are shown in Table 1.

Draft

Table 1. The eligibility criteria taken from the Biosphere Reserve Nomination Form (2018).

	MAB Eligibility Criteria	NE Tobago
1	**Encompass a mosaic of ecological systems representative of major biogeographic region(s), including a gradation of human interventions**	✓
2	**Be of significance for biological diversity conservation**	✓
3	**Provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale**	✓
4	**Have an appropriate size to serve the three functions of biosphere reserves**	✓
5	**A legally constituted core area/s devoted to long term protection of sufficient size to meet long term conservation objectives**.	✓
6	**Buffer zone/s clearly identified & surrounding or contiguous to the core area/s, where only activities compatible with the conservation objectives can take place**".	✓
7	**Outer transition area where sustainable resource management practices are promoted and developed**	✓
8	**Organisational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and the carrying out of the functions of a biosphere reserve**".	Ongoing
9	**Able to describe arrangements in place or foreseen**	✓
10	**Mechanisms to manage human use and activities in the buffer zone or zones**	✓
11	**Management policy or plan for the area as a biosphere reserve**	Currently developed
12	**Designated authority or mechanism to implement this policy or plan**	Department of the Environment, NETMAPT
13	**Programmes for research, monitoring, education and training**	✓

Draft

In the Nomination Form, NE Tobago' values were described as follows:

"Covering over 835km^2, the proposed area encompasses three protected areas, one of which is the oldest protected tropical forest reserve in the world, a large planned Marine Protected Area (MPA) and 15 communities which are home to approximately 10,000 residents with a rich historical and cultural heritage. The area's rare and largely intact Caribbean Island Ridge-to-Ocean eco- and human-systems are well equipped to fulfil the three functions of a UNESCO Biosphere Reserve (BR): its biodiversity, range of ecosystems, and special-interest species are important on a regional and global scale (Conservation); the cultural heritage is a living example for the region's deeply rooted, historical, socio-economic and spiritual relationship between communities and natural resources (Development); and decades of regionally outstanding educational, research and networking activities (Logistic Support).

The close linkage between ecosystem services and natural resource use, active community groups, successful sustainable development projects, governmental initiatives and its closeness to Trinidad's resources provide the area with the prerequisites to successfully implement a BR and share lessons learnt with its Caribbean neighbours while serving as a regional role model. Being a hotspot for conservation related research for decades and having a track record of environmental education, capacity building and monitoring are well established cornerstones for providing and further increasing logistical support.

The legal, policy and institutional framework to manage a MAB area exist; current projects and programmes as well as those in the national and local development pipeline, and improved collaboration between government, civil society and private sector are demonstrably supportive of this BR nomination initiative. On varying levels, NE Tobago is already close to meeting the key conservation objectives of a successful BR as mentioned in the Seville MAB Strategy.

Coordinating future sustainable development efforts under a MAB umbrella and the inclusion of all relevant sectors of the society will significantly improve conservation and livelihoods through responsible use of our natural and cultural heritage which is the central goal of Tobago's guideline policy document, the Comprehensive Economic Development Plan."

On 28 October 2020, NE Tobago was officially declared a UNESCO MAB Reserve.

Draft

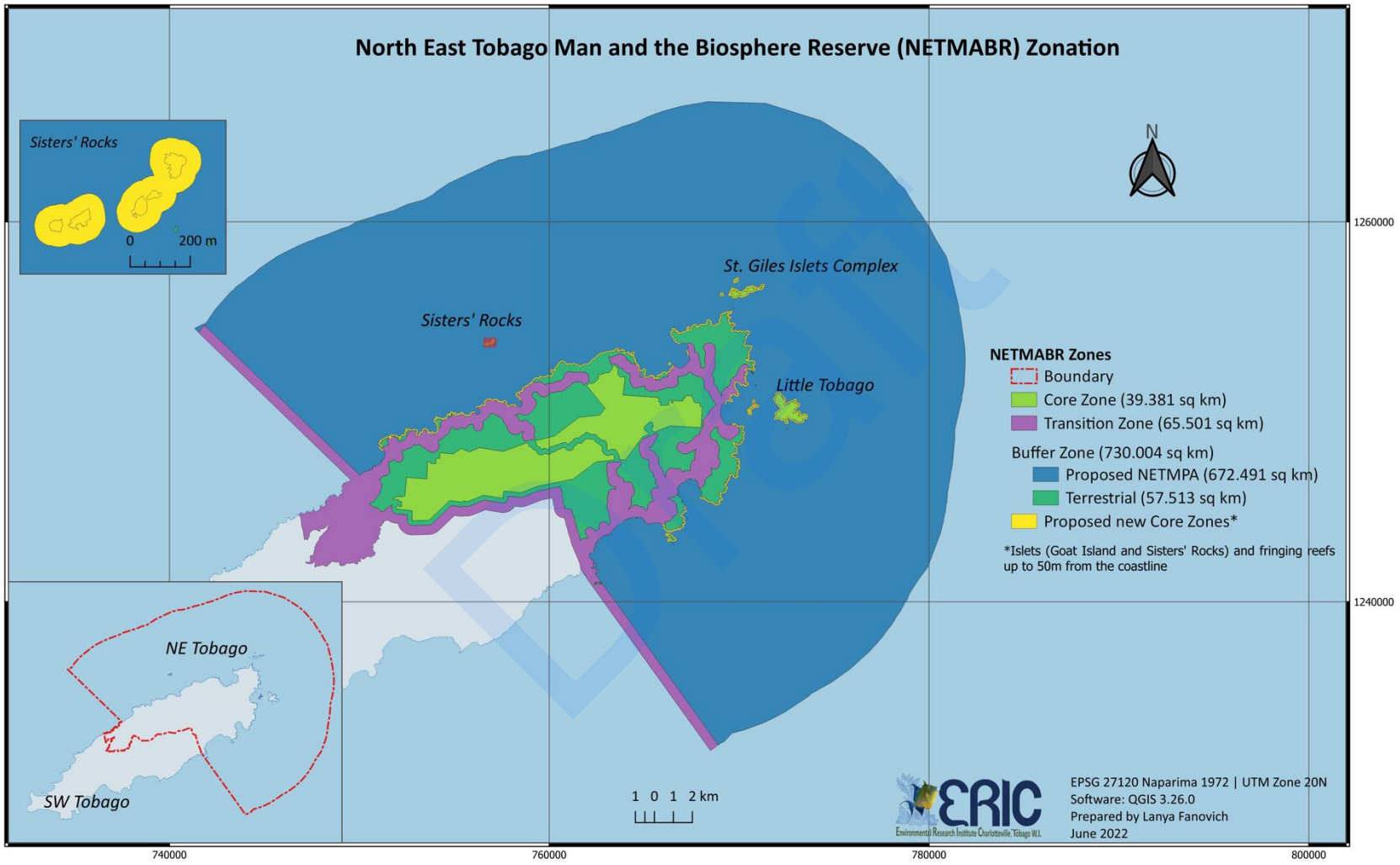


Figure 7. Zonation of the NE Tobago MAB Reserve (ERIC 2022)

The **Core Zone** of the NETMABR consists of three legally protected areas: the MRFR, Little Tobago and the St Giles Islet Complex, all of which are terrestrial.

It should be noted that, at the moment, the Core Zone does not include any marine areas, due to lack of protective legislation and regulations; however, work has started to designate high conservation value, coastal fringe reefs as Natural National Heritage Sites (which is the fastest way of to achieve legal protection) in 2021, and the National Protected Area Systems Plan was approved by Cabinet, which hopefully will result in the designation of the overall NE Tobago Marine Protected Area with some special, IUCN 1a category areas. Once these marine areas receive legal protection, they can, later on, switch from Buffer to Core Zone status within the BR.

The **Buffer Zone** for NETMABR was defined as:

- all lands between the Transition Zone and the MRFR Core Zone,
- a 125m belt on both sides of roads within the Core Zone (combining to a width of 250m)
- a 250m belt along the boundary between the Core Zone and the south-western area outside of the NETMABR,
- coastal areas between the boundaries of the NETMPA and the Transition Zone, and
- the entire marine realm of the proposed NETMPA.

As mentioned in the section above, some marine Buffer Zones might change to Core Zone as soon as legal protection can be provided. Therefore, the terrestrial, coastal Buffer Zones are crucial to protect sensitive marine ecosystems.

The **Transition Zone** was defined as all lands that are located within a 250m belt on both sides of all roads within the overall boundaries of the NETMABR; this includes all communities, and economic activities in the NETMABR (except for some micro-scale subsistence farming and hunting in the Buffer Zone). The result of this definition is a Transition Zone band, sandwiched between the terrestrial and marine Buffer Zones on which it has significant influence.

Draft

10 MANAGEMENT PLAN COMPONENTS

The following chapters are subdivided into situational analysis, goals, strategies, and proposed activities. It is important to understand that the chapters are at different results framework levels therefore the subheadings are not necessarily on similar logic levels as well. This is the result of the High-Level Goal of each Component starting on a different logic level.

Table 2. Management plan component levels

Component level	Definition
Summary Situational Analysis	The current state of the BR respectively to the chapter subject, descriptively identifying strengths, weaknesses, opportunities and threats
High-Level Goal	The desired status achieved by the management plan
Priorities	Interventions that either significantly contribute to achieving the goal, or significantly reduce existing threats to the goal
Strategies	Long-term plans of action designed to achieve the goal
Proposed Activities	Programmes, projects, and other interventions that are aligned to the strategies and should be revised once the situational analysis significantly changes.

Draft

10.1 Addressing Barriers to Sustainable Management

The NETMABR is subject to a series of interconnected, indirect threats to successful implementation of the MAB programme. Local residents and stakeholders are not commonly inspired to undertake conservation-relevant practices. This is partly because intelligible, adequate and continuous environmental education still requires improvement. While knowledge often exists, it is not successfully translated into a positive attitude and actual practise. This in turn is partially due to perceived and actual lack of ownership and empowerment on the part of residents in NE Tobago. On the other hand, and in certain cases, the sense of ownership is very well developed and strongly articulated; however, ownership rarely translates into stewardship.

Similarly, residents facing environmental challenges are often not informed enough to take appropriate actions against those perpetrating the violations (e.g., seek assistance from the Environmental Police and/or the Environmental Commission of Trinidad and Tobago).

Additionally, the lack of coherent and consistent conservation co-management and co-operation often undermines good efforts in some areas by neglect in others. For example, efforts of CSOs to protect nesting sea turtles are undermined by a lack of law-enforcement regarding the use of turtle nets and turtle meat consumption.

The principal barrier to addressing direct threats to the ecosystems of NE Tobago is fragmented management and use. The National Protected Areas Policy, the National Protected Area Systems Plan (7), the IFPAM Project (6) and ERIC's stakeholder assessments have all identified and prioritised this barrier for NE Tobago. Regulations and roles are unclear and consequently there is limited "enforcement / implementation of regulations concerning natural resource use" as stated in the NE Tobago Management Plan (2003). Fragmented, formal and informal, public and private, land management and use create an environment where it is nearly impossible for a single stakeholder to meaningfully influence the direct threats that are degrading NE Tobago's ecosystems.

This barrier has two components.

Government Sector

The ***government component*** involves the formal management of public lands and waters. This barrier includes outdated legislation and policy, a labyrinthine institutional structure and limited government capacity and resources. Repeated government initiatives since the 1970's have failed to address this issue; a case in point is the National Protected Areas Policy (2011) that called for a wide range of actions to be undertaken by 2016. These include the "*revision, development and declaration of supporting legal instruments [to] enact an enabling legislative framework*", the establishment of a centralised authority "*to administer the coordination and*

Draft

implementation of the National Protected Areas Policy for Trinidad and Tobago", and the establishment of protected areas under the new policy. Unfortunately, all efforts to declare the North East Tobago Marine Protected Area have failed since over half a decade.

Non-Government Sector

Fragmented management and use of land and waters also occurs in ***non-government sectors***. The absence of a national land use planning framework combined with outdated regulations and limited enforcement means that private land management and use is largely unrestricted. There is a concomitant lack of mechanisms and incentives for private land owners to engage in or benefit from conservation. The current, forested state of most private land in NE Tobago is therefore not a result of public policies or priorities, but an artefact of the priorities and preferences of individual owners. Although this speaks to the conservation commitment of some land owners, it is a highly vulnerable state for long-term conservation. Land owners may choose to develop their land with infrastructure or unsustainable agriculture that compromises the NETMABR.

Informal management and use of the land- and sea-scape, including public and private areas, is likewise unrestricted. As explained in the THA Comprehensive Economic Development Plan 2.0 (20), Tobago hosts "*longstanding insecure land tenure arrangements with as much as 83 percent of the lands of Tobago allegedly in informal tenure (the majority being family lands)*". Informal but long-standing family lands, squatting, small agricultural plots, unregulated dumping, hunting, harvesting of timber and other forest products, and harvesting of fish from the marine environment all represent often legitimate uses of public and private lands that can none the less contribute to fragmentation and degradation of ecosystems.

The implementation of the UNESCO MAB programme, including the operationalisation of the NE Tobago Protected Area Management Trust, offers a significant opportunity to de-fragment and consolidate the management of natural and cultural resources under one, overarching programme.

Although fragmented management is the principal barrier to conservation in NE Tobago, another critical barrier is a lack of monitoring and communication. This issue captures two hindrances to biodiversity conservation regionally as identified by the Caribbean Islands Biodiversity Hotspot assessment: limited technical and scientific knowledge and poor availability of information needed for effective decision-making, and lack of awareness of importance of biodiversity and ecosystem services. This similarly applies to the socio-cultural and economic development aspects of the NETMABR. Limited information and communication mean that it is difficult to:

Draft

quantify threats, foster informed discussions, prioritise management actions, measure the success of interventions, and inspire stakeholders to take action. This barrier will be specifically targeted by strengthening the logistic function of the NETMABR.

In order to address the described challenges through strengthening the functions of a BR, the technical team proposes the following **Main Objective** for the management of the NETMABR:

To successfully consolidate and co-manage interventions related to sustainable and regenerative development, research, capacity building, education and networking on landscape, human- and eco-system levels for the benefit of NE Tobago's cultural and natural heritage and people.

In order to go into more depth, previous management plans for NE Tobago and IFPAM documents further detailed 12 key barriers to successful natural resource management in NE Tobago as follows:

1. outdated legal and regulatory framework for establishing and managing natural and cultural resources,
2. unclear, fragmented roles responsibilities of stakeholders, especially managing authorities,
3. disempowered and under-resourced management authorities,
4. inadequate funding,
5. willingness to participate if interventions seem to be too restrictive,
6. stakeholder conflicts,
7. lack of broad, bipartisan political will,
8. lack of technical capacity to identify and address issues,
9. minimal capacity on the ground with respect to practical approaches to effective natural and cultural heritage management,
10. inadequate law enforcement,
11. minimal experience with income-generating opportunities, and last but by no means least,
12. a lack of transparency, accountability and compliance with regulation and legislation by the Tobago House of Assembly.

Draft

While IFPAM and other programmes and projects were able to partially address these barriers, and while it can be stated that conservation status and efforts in NE Tobago have never been better, it remains a fact that all of the above barriers are still valid and need attention.
The Management Plan at hand is based on the methodical approach that most of those barriers can be addressed by implementing strategies aligned with the three MAB functions.

These, below-described key strategies, are mainly based on the results of the recent Improved Forest and Protected Area Management Project (IFPAM, 2015-2020) which applied a participatory approach in identifying objectives and potential solutions to overcome conservation barriers; additionally, the ongoing interaction between the technical team and key stakeholders was used to refine recommendations included into the Management Plan.
These strategies are reoccurring and supported by proposed activities in the various components of the Management Plan at hand.

It should be noted that, while IFPAM continuously considered socio-cultural aspects of NE Tobago as essential to successful management of natural resources, there was, unfortunately, not a matching project to similarly address the management of NE Tobago's cultural heritage.

Figure 8. View from Speyside onto Little Tobago and Goat Island (Janina Ewals)



Draft

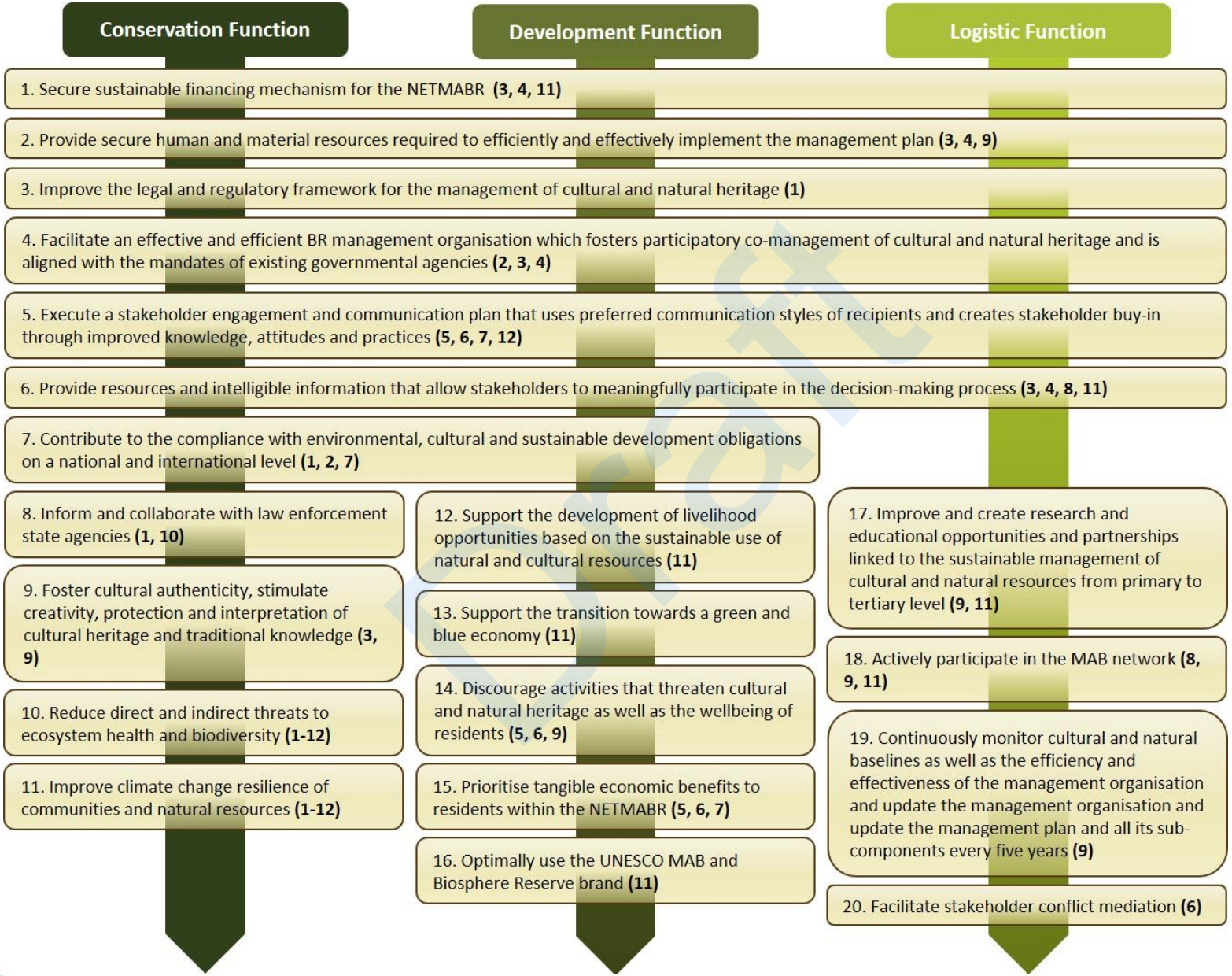


Figure 9. Proposed Main Strategies for the BR Management Plan, Addressed Key-Barriers in (brackets)

11 CLIMATE CHANGE ADAPTATION AND IMPROVING RESILIENCE

Introduction

Forecasted Impacts of Climate Change in Tobago (2050-2100, various sources)

- Annual mean temperature will increase by about 2°C
- Rainfall will decrease, it will get drier, but showers will be stronger
- Sea level will increase between 0.62m to 1.15m (2 – 4 ft)
- Storms will be more likely
- Wave impacts will increase in strength and frequency

The negative impacts of climate change on NE Tobago's communities, ecosystems, biodiversity, and economy are measurable, undeniable, and annually increasing.

Unfortunately, many residents do not have sufficient knowledge to connect their observations with climate change and adapt to it.
Unfortunately, many decision makers think in 5-year terms or within the time frame of an employment contract.
Unfortunately, many stakeholders do not care about the forecasted impacts of climate change on the next generation.

This leads to a situation where NE Tobago is facing the issue of climate change with eyes wide shut!

Climate Change Adaptation (CCA) and improving the resilience of our communities and ecosystem towards the upcoming challenges is therefore a core- and cross cutting element of the Management Plan for the NETMABR; as such, many aspects mentioned in this chapter also emerge in other chapters. CCA is the adjustment of natural or human systems in response to already existing or expected

Draft

climate changes or their effects. Adaptation should ideally be a collaborative process and stakeholders need to work together to determine the most adequate strategies for adaptation.
Climate change resilience is the result of the above-described process.

The Sustainable Development Goals 11 and 13, directly address the issue of climate change.



Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable.
Comment: Human settlements in the proposed NETMABR are relatively safe and inclusive.
Objective: To improve community resilience, especially against climate change, through innovation and knowledge exchange and promote sustainable blue, green, and purple economies.

The following, redacted, targets of Goal 11 are applicable to the climate change adaptation component of the management plan for the NETMABR:

11.2 Sustainable transport systems.
11.3 Enhance capacity for participatory, integrated and sustainable human settlement planning and management.
11.4 Strengthen efforts to protect and safeguard the NE Tobago's cultural and natural heritage.
11.5 Reduce the number of deaths and the number of people affected by disasters and decrease the direct economic losses caused by disasters.
11.6 Reduce the adverse per capita environmental impact of communities, including by paying special attention to waste Management.
11.8 Adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk managements at all levels.

Draft



Goal 13. Take urgent action to combat climate change and its impacts.

Objective: Monitor the effects of climate change, exchange knowledge and improve climate change resilience of communities and natural resources.

The following, redacted, targets of Goal 13 are applicable to the climate change adaptation component of the management plan for the NETMABR:

13.1 Strengthen resilience and adaptive capacity to climate-related disasters
13.2 Integrate climate change measures into policy and planning
13.3 Build knowledge and capacity to meet climate change
13.4 Implement the UN Framework Convention on Climate Change
13.5 Promote mechanisms to raise capacity for planning and management

Various complementary, sometimes overlapping, approaches to CCA are used as best practise and should be kept when addressing climate change issues in the NETMABR:

Integrated Coastal Zone Management (ICZM) includes information collection, planning, decision-making, management and monitoring of implementation within the existing framework of climate change, economic development, and conservation policies and legislation. The ICZM approach should be multisectoral, respect NE Tobago's cultural background and seek sustainable development of coastal zones within the limits of natural resources and ecosystems.

Shoreline Management is a subset of ICZM dealing with actual and potential coastal erosion/flooding and its relation to planned or existing development activities on the coast. Key objectives are that development activities follow an overall sustainable land use plan and a general environmental policy, do not contribute to or aggravate erosion, do not occur in sensitive areas and that erosion control techniques are cost-effective and socially and environmentally acceptable.

Fortunately, the following two ICZM key-guideline documents were already developed:

Draft

- IDB, IMA (2014), Jonathan McCue, Piloting The Integration Of Coastal Zone Management And Climate Change Adaptation In Tobago. Design And Implementation Of A Coastal Eco-System-Based Climate Change Adaptation Plan And Guidelines For Incorporating An Ecosystem-Based Approach To Adaptation Into A National Integrated Coastal Zone Management Policy.
- Integrated Coastal Zone Management Inter-Ministerial Committee Ministry of Planning and Development, Trinidad and Tobago (2019), Integrated Coastal Zone Management (ICZM) Policy Framework.

The **Ecosystem-based Adaptation** (EbA) approach uses ecosystem services for CCA; this includes a range of actions for the management, conservation, and restoration of ecosystems such as forests, watersheds, mangroves, coastal wetlands, coral reefs, and sea grass beds in order to help reduce the vulnerability and increase the resilience of residential communities. Using natural means, EbA can be quite cost-effective and address multiple threats and priorities of specific communities in the NETMABR. A good overview is provided in

- Mercer, J, (2012) Ecosystem-Based Adaptation to Climate Change in Caribbean Small Island Developing States: Integrating Local and External Knowledge. Sustainability ISSN 2071-1050 www.mdpi.com/journal/sustainability.

Community-based Adaptation (CbA) empowers people and communities to address current and future climate change impacts. The CbA approach is inclusive and centred on the priorities and processes chosen by the community. A successful CbA approach requires stakeholder capacity building (including that of governmental agencies), implementation on the community level and knowledge sharing for increased up-take of CbA experiences in other communities.

Summary Situational Analysis

NE Tobago is already experiencing the impacts of climate change, from ocean acidification and sea-level rise to an increase in annual average temperatures and general reduction in precipitation. Medium-term projections suggest a significant increase in climate-driven risk across a range of social and economic sectors, particularly the agricultural, water resource, marine and coastal resource, and human health sectors.

NE Tobago's extraordinary interlinked geophysical complexity, comprising ridge, rivers, reefs and ocean make it particularly vulnerable to negative climate impacts that may cascade from one component to the next (e.g., a climate change-driven increase in the intensity of precipitation events in key watersheds may result in elevated sedimentation and deposition onto a reef ecosystem already under

Draft

increased pressure due to ocean acidification). Yet that complexity, if managed holistically and sustainably as envisaged for the natural heritage designation area, can also be an advantage, with one component supporting the next, increasing the resilience of the system as a whole.

The generally low level of climate change resilience significantly undermines intact ecosystems and the socio-economic development of NE Tobago's communities.

Barriers

Several, internal weaknesses are the principal barriers to CCA in the NETMABR:

- fragmented management (notably, there is no mention of a THA Department coordinating island-wide CCA on https://www.tha.gov.tt/),
- under-resourced THA Departments,
- lack of a comprehensive vulnerability assessment, CCA research and information repository, and adaptation strategy,
- lack of monitoring, and
- insufficient intelligible communication.

These barriers result in a very low level of climate change resilience, demonstrated by:

- further degrading ecosystem services,
- a lack of climate smart businesses,
- a low level of community involvement in CCA,
- a lack of CCA regulations (e.g., building codes, urban and rural land use planning) and their enforced application,
- low level of implementation of existing guidelines regarding integrated coastal zone management (ICZM, 2019), sustainable land management (SLM) and coastal eco-system-based Climate Change Adaptation (CCARP, IMA 2014), and
- stakeholders' deficiencies regarding knowledge, attitude, and practice in the face of climate change.

Draft

While conservation related investment into climate change adaptation might not be on the forefront of the political and developmental agenda, the state of the economy and the availability of basic human needs such as water and housing could be the trigger points to initialise adaptation action.

Hence, the future implementor of this management plan should **focus on** those key aspects of community-based climate change adaptation that are most likely to get buy-in from decision making and participating stakeholders, namely: **fisheries, tourism, as well as housing and infrastructure**; fortunately, all of these areas are core connected to the required, general environmental regeneration.

Fisheries

The importance of the fisheries sector for socio-economic development, community cohesion, and population health in NE Tobago is significant.

However, the impacts of climate change on this sector are increasingly severe and include:

- coral reef degradation (coral bleaching, ocean acidification, increased disease susceptivity, storm damage) which leads to a lower biomass productivity,
- increased occurrence of Sargassum mats that hinder fishing activities and impact lifecycles of marine organisms,
- changes in fish migration patterns (e.g., jacks and flying fish), and
- increased frequency of weather patterns that make artisanal fishing unsafe.

These impacts are aggravated by locally caused threats such as unsustainable fishing, pollution, sedimentation, and nutrification (especially in bays with communities), which creates a very threatening mix for the fisheries sector in NE Tobago.



Figure 10. Fishermen in Man 'O' War Bay (Janina Ewals)

Draft

Tourism

The tourism sector within the NETMABR relies significantly on the health and intactness of natural resources, specifically its forests, coral reefs, and beaches.

Most significantly, climate change causes:

- beach erosion (Man o War Bay),
- coral bleaching (Speyside, Hermitage, Castara)
- unpredictable seasons,
- Sargassum landfalls (esp. in Speyside),
- destruction of low-lying infrastructure (Roxborough, Charlotteville) and tourism facilities (Castara, Charlotteville),
- increased risk of storms, and
- changes in plant (flowering) and animal (fish and bird migrations) seasonal patterns,

All of these impacts threaten existing tourism businesses and the development of a sustainable blue and green tourism economy if adaptation measures are not taken.



Figure 11. Tourists enjoying the Parlatuvier waterfall (Janina Ewals)

Housing and Infrastructure

The third key aspect, that could be used as a trigger point to initiate investment in climate change adaptation is housing and community infrastructure.



Figure 12. Strip of dilapidated houses in Roxborough

While sea level rising is not yet a major issue in NE Tobago, which will change in the near future, the frequency and intensity of swells has remarkably increased over the past years. This phenomenon impacts residents mainly in low lying communal areas such as the Argyle, Roxborough, and Charlotteville stretch where roads, embankments, residential and commercial buildings are slowly but surely destroyed.

Valuable property is lost and costly soft and hard engineering structures will be required to protect the coast line.

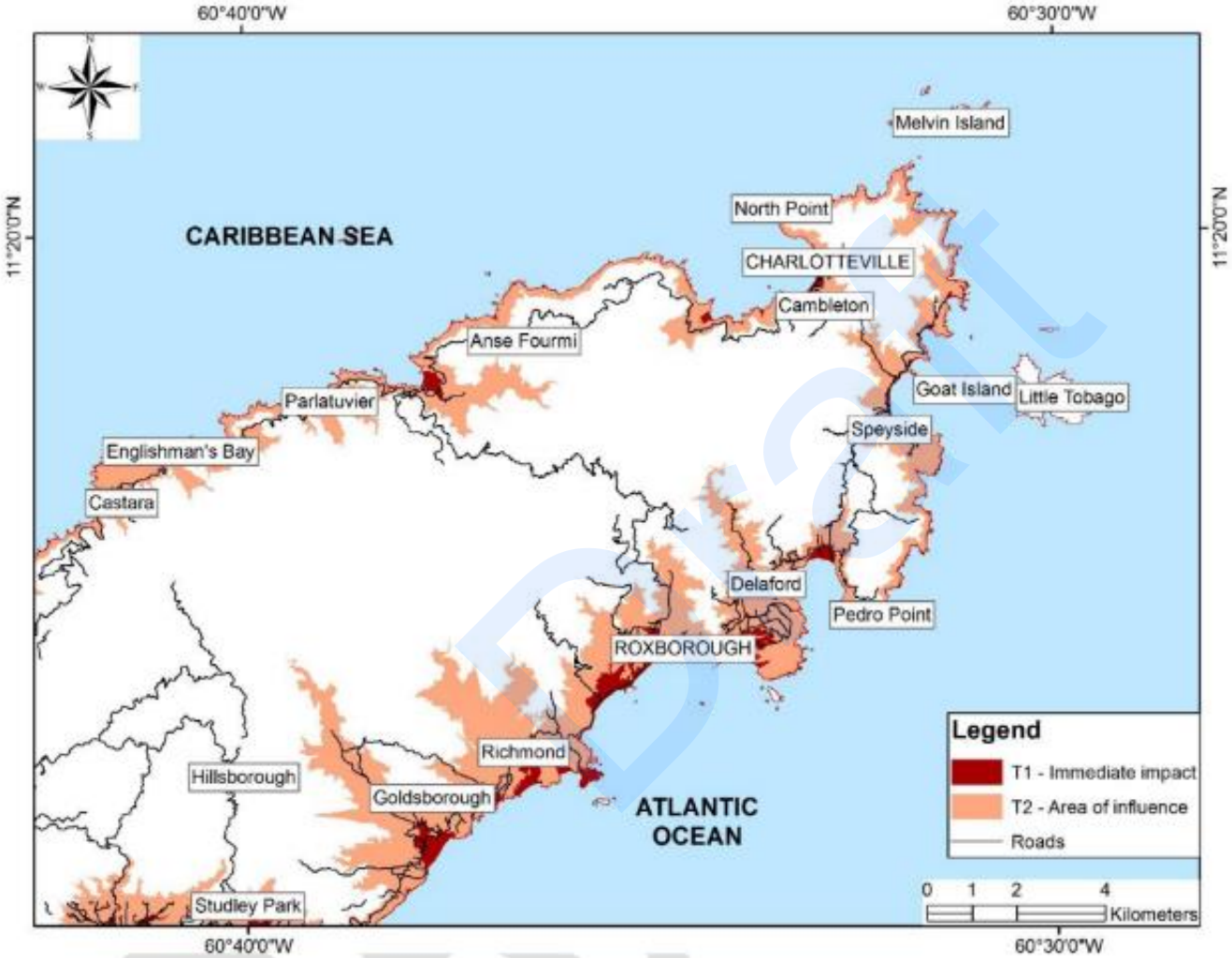


Figure 13. Map showing areas immediate impact and influence regarding sea level rise in NE Tobago (ICZM, Policy Framework, 2019)

Other, noteworthy topics regarding climate change impacts in NE Tobago are:

Changes to rainfall

Since over a decade, residents are observing changes in rainfall patterns: seasons are not as distinct as they used to be, the water level in rivers is dropping, small ravines that usually had water year-round are now dry for months, showers are getting heavier and more frequent.

Sudden and dramatic increases in precipitation lower salinity and cause higher sediment discharge and deposition near river mouths, at times leading to mass mortalities on nearby coral reefs (Charlotteville). This is especially the case where wetlands were destroyed, roads not properly built (Speyside to Starwood) and rivers dredged or transformed into canals (esp. Roxborough and Charlotteville).

More frequent, intense rainfall events over shorter periods will also result in lower surface water quality, reduction in the recharge of ground water (due to high percentage of run off), while an increase in longer dry spells and drought events coupled with warmer temperatures is already putting pressure on agriculture and supports saline intrusion (Hermitage).

A water-focused **UNEP CReW+ project** (https://www.unep.org/cep/gef-crew) in Charlotteville, designed in 2019 and implemented in 2022/23, is demonstrating CCA through outreach and behavioural change, increased freshwater availability, and reduced grey and black water pollution on a community and household level rather than on a massive change of infrastructure. In general, it must be noted that household water scarcity in NE Tobago is mainly caused by resource mismanagement on a private and public level rather than by availability of water.

Agriculture

Agriculture within the NETMABRis not well developed and only plays an insignificant role regarding the overall economy or food security. However, it has enormous potential and important linkages to our cultural heritage.

The opportunity clearly lies with developing climate smart agriculture from the onset and include CCA in the curricula of agricultural education at schools and vocational institution.

The priorities, strategies, and programmes and projects regarding sustainable land management in the context of agriculture are discussed in detail in Chapter 3.5 of Part 1 of the Management Plan.

Draft

Table 1: Consequences of the climate change hazards in the agriculture sector of Trinidad and Tobago

Event	Direct consequence	Indirect consequence
Torrential rains	Flooding	Harm to agricultural and livestock sites
	Erosion and land loss caused by water runoff	
Storm surge	Erosion and land loss in low lying zones of the coastal area	
Hurricanes and tropical storms	Losses in crops Damage in farms and livestock deaths	
Sea level rise	Erosion and land loss in low lying zones of the coastal area	
Droughts	Longer dry season	Reduction of crops Higher incidence of pests and diseases Increase in exploitation and pollution of groundwater

(Source: Understanding the Economics of Climate Adaptation in Trinidad and Tobago – IDB, 2014)

Figure 14. Consequences of climate change in the agricultural sector of Trinidad and Tobago

The direct and indirect consequences of climate change in the agricultural sector, pose additional and significant threats to ecosystem services e.g., sedimentation of wetlands (reefs, mangroves, seagrass beds, ravines, and rivers), nutrification by un-absorbed, excessively used fertilisers, persistent pesticides, deforestation, etc.).

Forests

NE Tobago is densely forested by mostly secondary forest. Patches of rare tropical dry forest and some small remaining mangroves (e.g., in Kings Bay) require special attention.

Draft

Efforts should also be made to protect the upland forests and watersheds of the NETMABR to prevent siltation and pollution impacts on the surrounding, already stressed coral reefs.

Longer drought periods also increase the risk of forest fires (accidental or intentionally set) which are hard to fight on the very slopy terrain and in some cases even threaten built-up areas (e.g., Charlotteville). In 2022, the Tobago Reforestation and Watershed Rehabilitation Programme (TRWRP) has restarted its reforestation programme including the establishment of fire trails. Forest fires and droughts followed by torrential rains significantly increase the risks of landslides, which in turn damage houses and critical infrastructure and add to siltation issues. Its hilly terrain makes NE Tobago highly susceptible to landslides as any resident can attest to.



Figure 15. King's Bay in NE Tobago (UNESCO/Jacob Bock)

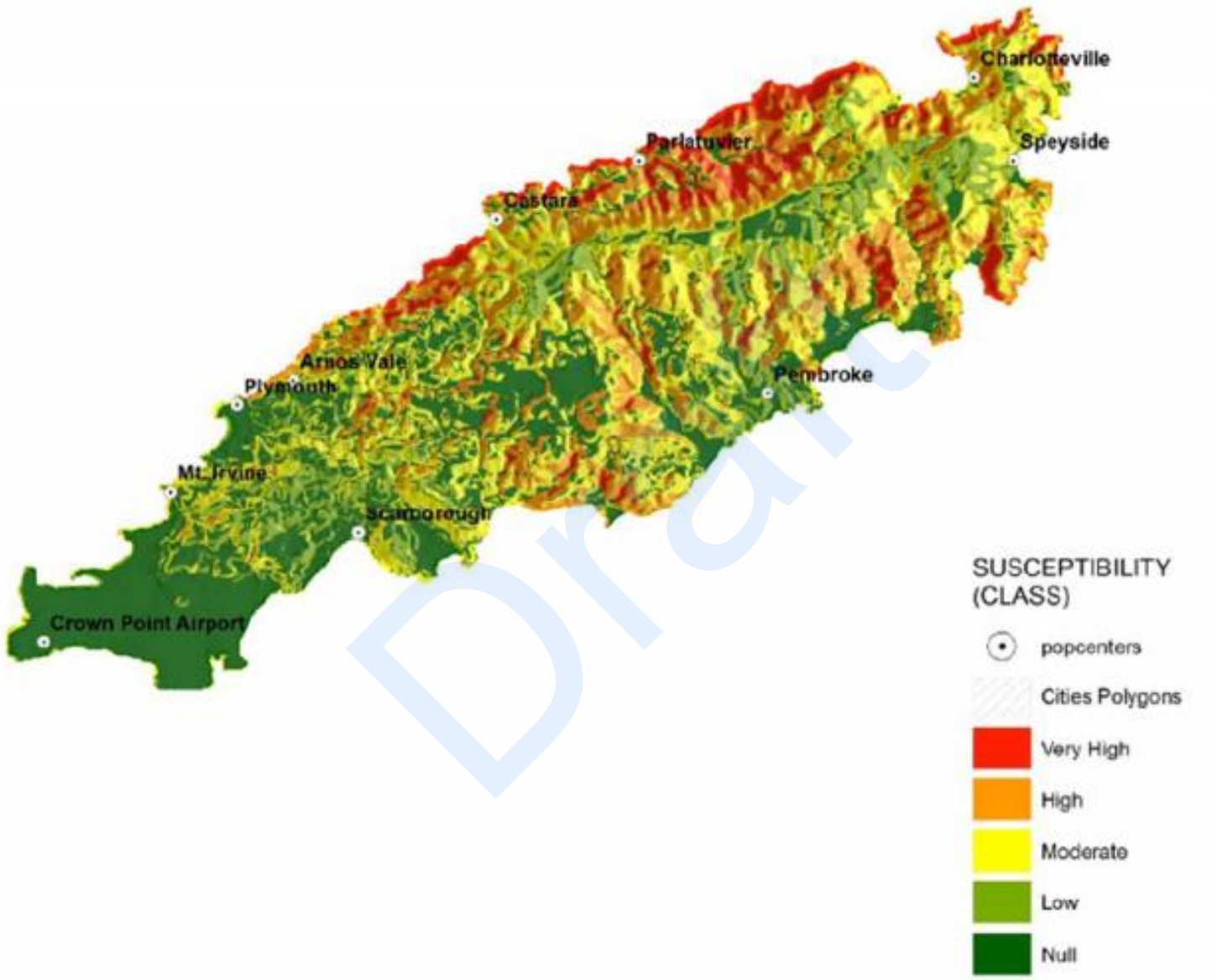


Figure 16. Landslide Susceptibility in Tobago (Tobago Climate Change Adaptation Report; IDB, 2014)

Pollution – Exacerbating the Effects of Climate Change

While pollution is not a direct impact of climate change, it is necessary to be mentioned here, since pollution is a major obstacle to successful Integrated Coastal Zone Management, which in turn is required to achieve climate change resilience.

A survey conducted by the Environmental Research Institute in 2019 revealed that in Charlotteville alone, over 30,000 one-way plastic bags are used by community shops every month.

The existing recycling projects have not yet reached the household level and the preference of reducing over recycling has not been communicated sufficiently.



Figure 17. Garbage pollution next to river stream (UNESCO/Jacob Bock)

The main pollutants that increase climate change impacts are liquid waste in form un-, or poorly treated grey and black water, spilled oils from garages/mechanic shops, fishing vessels, and kitchens, as well as detergents, solvents, paints and other liquid chemicals which are routinely disposed in roadside drainage, ravines and rivers. It can be stated that it is unsafe to bathe in any river mouth or beach close to one that is fed by a watercourse that has passed a village.

Macro- and micro plastic adds to the detrimental effects that these waste streams have on riverine, reef, mangrove, seagrass and open ocean ecosystems.

Decreasing pollution in the NETMABR will result in increasing climate change resilience of our ecosystem services

Active Stakeholders

Key stakeholders involved in CCA are the various Departments of the Division of Food Security, Natural Resources, the Environment, and Sustainable Development, the Division of Infrastructure, Quarries, and Urban Development, the Institute of Marine Affairs, the Environmental Management Authority, the Environmental Research Institute Charlotteville, Environment Tobago, the Water and Sewerage Authority, and the Ministry of Planning and Development. They are, to various degrees, involved in communication, outreach, research and monitoring activities. Unfortunately, these activities are not well coordinated and results are not stored in a centralised repository.

Major funders for CCA activities in Tobago are the IDB, UNDP-GEF-SGP, UNEP, and the private sector.

ERIC and the IMA are monitoring reef health since several years (https://www.ima.gov.tt/portfolio-item/monitoring-of-coral-reefs/ and https://www.youtube.com/watch?v=kRkyLje1ass), ERIC and the DNRF are monitoring forest health in the MRFR (https://www.youtube.com/watch?v=5g4kJF2I4HI).

ERIC, with financial assistance of the THA, has planted 2,500 trees on all beaches in NE Tobago, including coconuts, almonds, sea grapes seaside mahoe, that are adapted to the beach environment and combat erosion (https://www.facebook.com/watch/?v=985755341849865).

High Level Goal

Coordinated, multisectoral, community-based climate change adaptation creates a level of climate change resilience that reduces climate change impacts on our communities and regenerates ecosystem services across the NE Tobago UNESCO Man and the Biosphere Reserve.

The priorities for CCA in the NETMABR should address the identified key barriers:

- A CCA strategy for the NETMABR is implemented by 2025;
- CCA efforts are coordinated across all sectors and focus on community-based initiatives;

Draft

- Additional resources are allocated to CCA programmes and projects;
- Climate change research and monitoring is coordinated, involves community stakeholders and is publicly available and easily accessible;
- The importance of CCA is communicated to all stakeholders guided by an assessment of knowledge, attitude, and practise.

Strategies

Overarching the below mentioned strategies should ideally be an approach that initially focuses on CCA success stories, experienced by stakeholders through collaboration, and focusing on such areas that have most political and social impact: tourism, fisheries, housing, and infrastructure.

This approach will hopefully be able to snap key stakeholders out of the currently existing indifference regarding the threats of climate change.

1. Developing and implementing of a CCA Plan by 2025;
2. Mandating the NETPAMT to coordinate CCA with key THA Departments, CBOs, and the private sector;
3. Using various financing opportunities (see Financing chapter) to secure funding for immediate projects as well as a long-term NE Tobago CCA trust fund;
4. Mandating the NETPAMT to coordinate CCA research and monitoring with NGOs, CBOs (citizen science), THA Departments, and local as well as international academic institutions. NETMAPT to house and make information publicly available;
5. Developing, periodically adjusting, and implementing a CCA communication plan that is tailored to different stakeholders; and
6. Building technical and collaboration capacity of all key stakeholders.

Programmes and Projects

<u>Re. Strategy 1: Developing and implementing of a CCA Plan by 2025.</u>

Facilitate:

- securing funding and procure experts for the participatory development of a NETMABR CCA Plan;
- supervising the development of a NETMABR CCA Plan building on existing legislation and policies as well as multilateral agreements, based on EbA, ICZM, and CbA methods, and covering, inter alia, but not limited to
  - national obligations,

Draft

- review and implementation of the NPASP,
- creation of set-back / buffer zones,
- climate smart, sustainable land management, and infrastructural and business development including formulation of regulations and permit requirements,
- reduction of pollution,
- regeneration of vulnerable ecosystems and habitats,
- shoreline protection using hard and soft measures,
- maintaining natural sediment transport,
- no-active-intervention approaches allowing the coast and other pristine areas to develop naturally,
- coastal retreat approaches by relocating the erosion control defence line further inland, and
- lobbying with the financial sector to link loan / grants to climate smart building and sustainable land management.

- adopting the CCA plan by key stakeholders and fully integrating it into their operations.



Figure 18. Coastal tree planting at Speyside (ERIC)

Re. Strategy 2. Mandating the NETPAMT to coordinate CCA with key THA Departments, CBOs, law enforcement, and the private sector.

Facilitate:

- establishing a cooperative, coordinated, accountable and integrated institutional mechanism for CCA under the umbrella of the NETPAMT through:
  - design institutional and governance framework arrangements that foster better coordination and integration (implemented via an IDB funded project in 2022);
- strengthening law and enforcement efforts as well as voluntary compliance.

Re. Strategy 3: Using various financing opportunities (see Financing chapter) to secure funding for immediate projects as well as a long-term NE Tobago CCA trust fund.

Facilitate:

- securing of grants;
- anchoring CCA financing in the annual THA budget;
- establishing a special CCA trust fund using, inter alia, above-described financing mechanisms (see Financing Chapter); and
- establishing transparent and easily accessible mechanisms for community stakeholders to access financing for CCA interventions.



Figure 19. Checking the corals at the coral nursery in Pirate's Bay (ERIC)

Draft

Re. Strategy 4: Mandating the NETPAMT to coordinate CCA research and monitoring with NGOs, CBOs (citizen science), THA Departments, and local as well as international academic institutions. NETMAPT to house and make information publicly available.

Facilitate:

- including CCA as a core component in the overall NETMABR research and monitoring plan;
- improving the scientific understanding and assessment of NE Tobago's ecosystems as a basis for informed decision making;
- conducting vulnerability and risk assessments;
- implementing a CCA monitoring and evaluation programme;
- establishing a CCA knowledge repository for NE Tobago, that is easily and freely accessible to all stakeholders and managed by the NETPAMT;
- actively seeking CCA focused collaborations with international organisations and institutions; and
- establishing NE Tobago as a research laboratory for applicable CCA interventions on tropical small islands.

Re. Strategy 5: Develop, periodically adjust, and implement a CCA communication plan that is tailored to different stakeholders

Facilitating:

- conducting periodic knowledge, attitude, and practise assessments to inform adjustments to the communication plan:
- developing and consciously implementing specific awareness programmes for:
  - politicians and decision makers,
  - natural resource managers,
  - educational institutions,
  - community-based organisations, esp. churches,
  - the youth, and
  - business owners.

The communication plan must take the preferred communication channels of stakeholders into consideration and include experiential communication; it should further focus on information that allows stakeholders to implement CCA in their daily life and realise tangible benefits of their actions (e.g., easier access to financing if business or construction plans are climate smart).

Draft

Re. Strategy 6. Building technical and collaboration capacity of all key stakeholders.

Facilitating:

- capacity building that addresses:
  - easily implementable and environmentally save CCA techniques specific to each stakeholder's requirements,
  - understanding perspectives and procedures of other stakeholders,
  - access to financing,
  - access to information,
  - conflict resolution,
  - importance of accountability and transparency, and
  - importance of good governance.



Figure 20. Climate Change Champions community outreach planning (ERIC)