MINISTRY OF PLANNING AND DEVELOPMENT

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

gef SGP The GEF Small Grants Programme UNDP

Component of a 10-year Management Plan

North-East Tobago
Man and the Biosphere Area

unesco
Man and the Biosphere Programme

FOCUS: Historical Heritage

AUGUST 2023

Component of a 10-year Management Plan

FOCUS: Historical Heritage

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 Historical Heritage 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

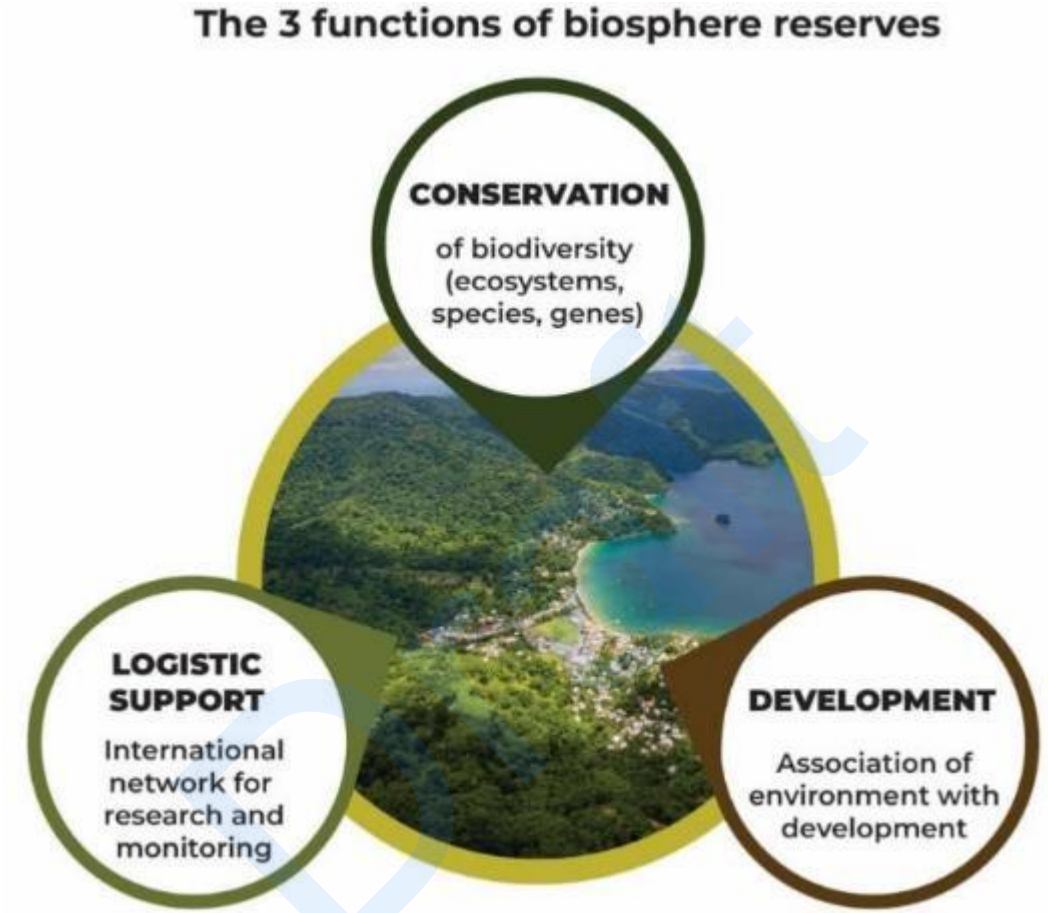


Figure 4. Schematic overview of 3 functions of biosphere reserves.

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.

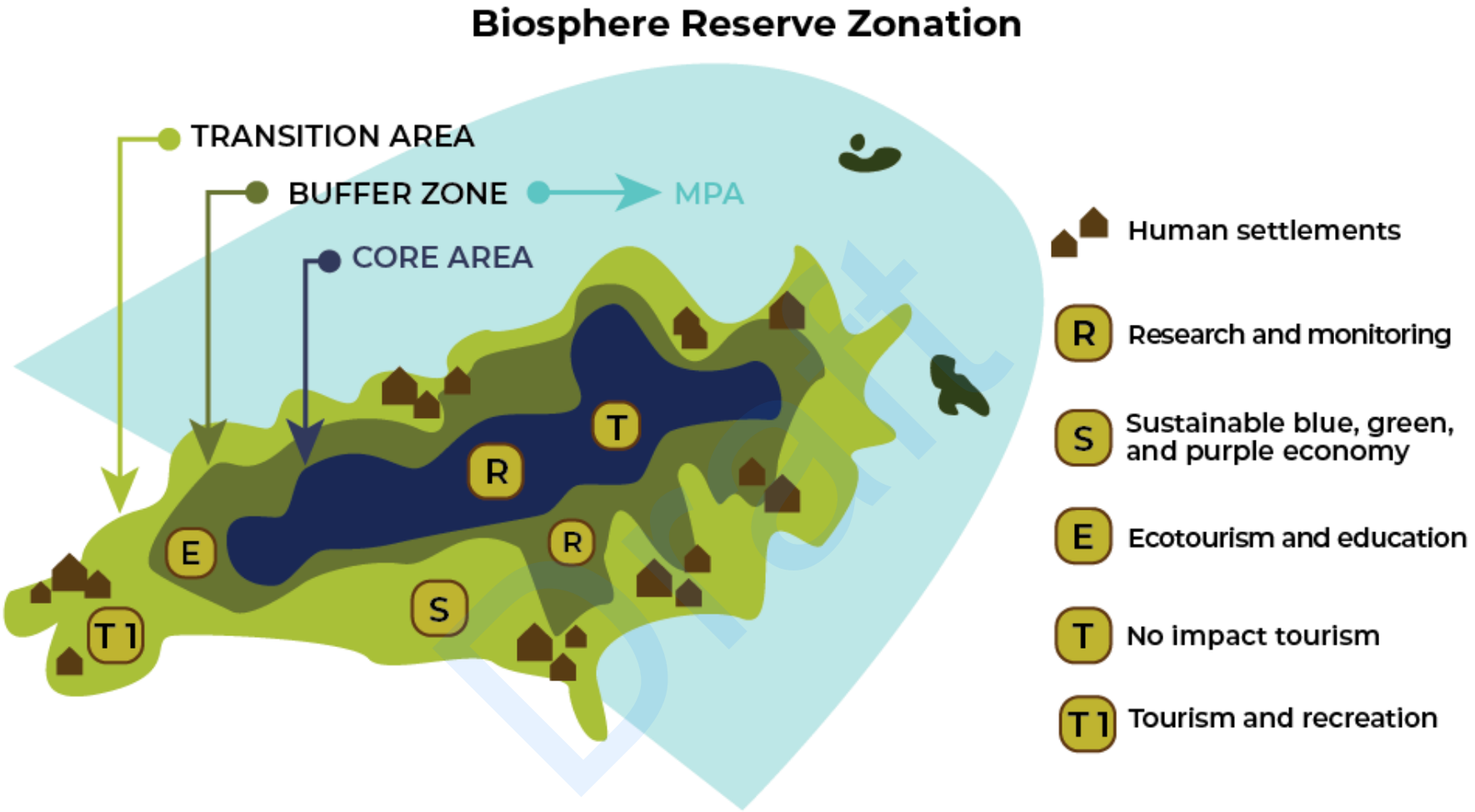


Figure 5. Schematic overview of NE Tobago Biosphere Reserve zonation (ERIC 2021).

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

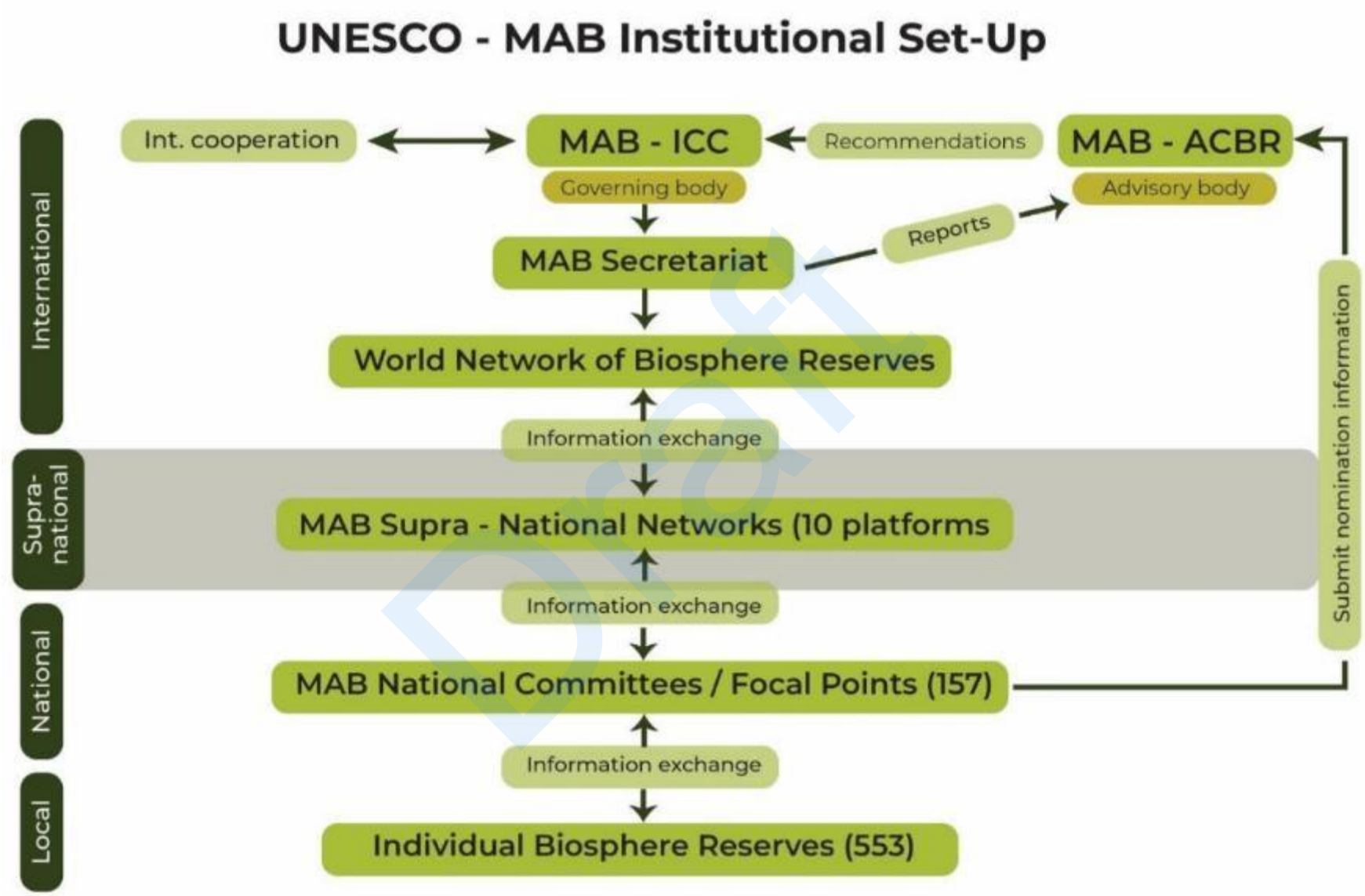


Figure 6. Diagram of the MAB institutional structure adapted from Schliep (24).

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

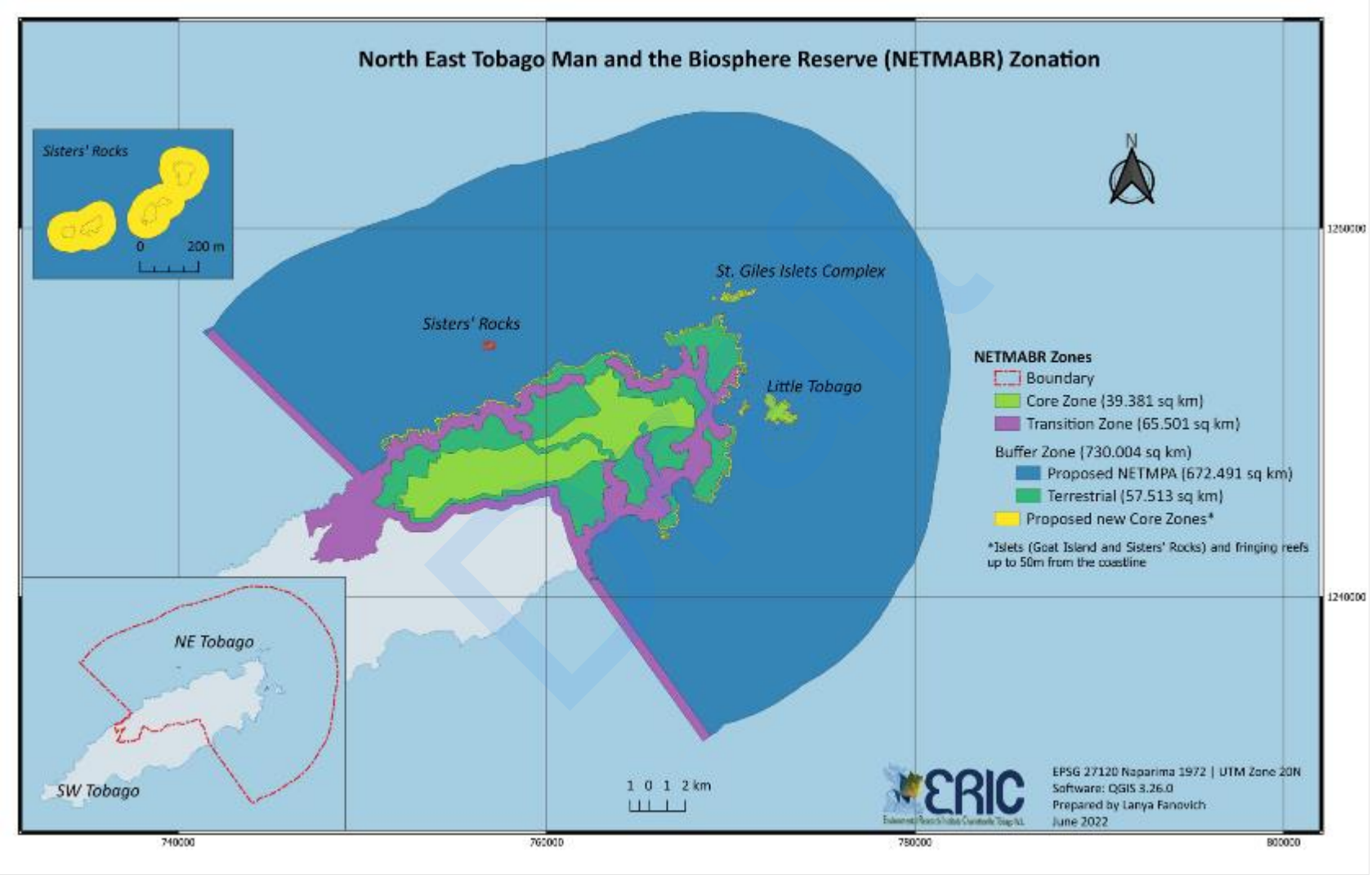


Figure 7. Zonation of the NE Tobago MAB Reserve (ERIC 2022)

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*

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

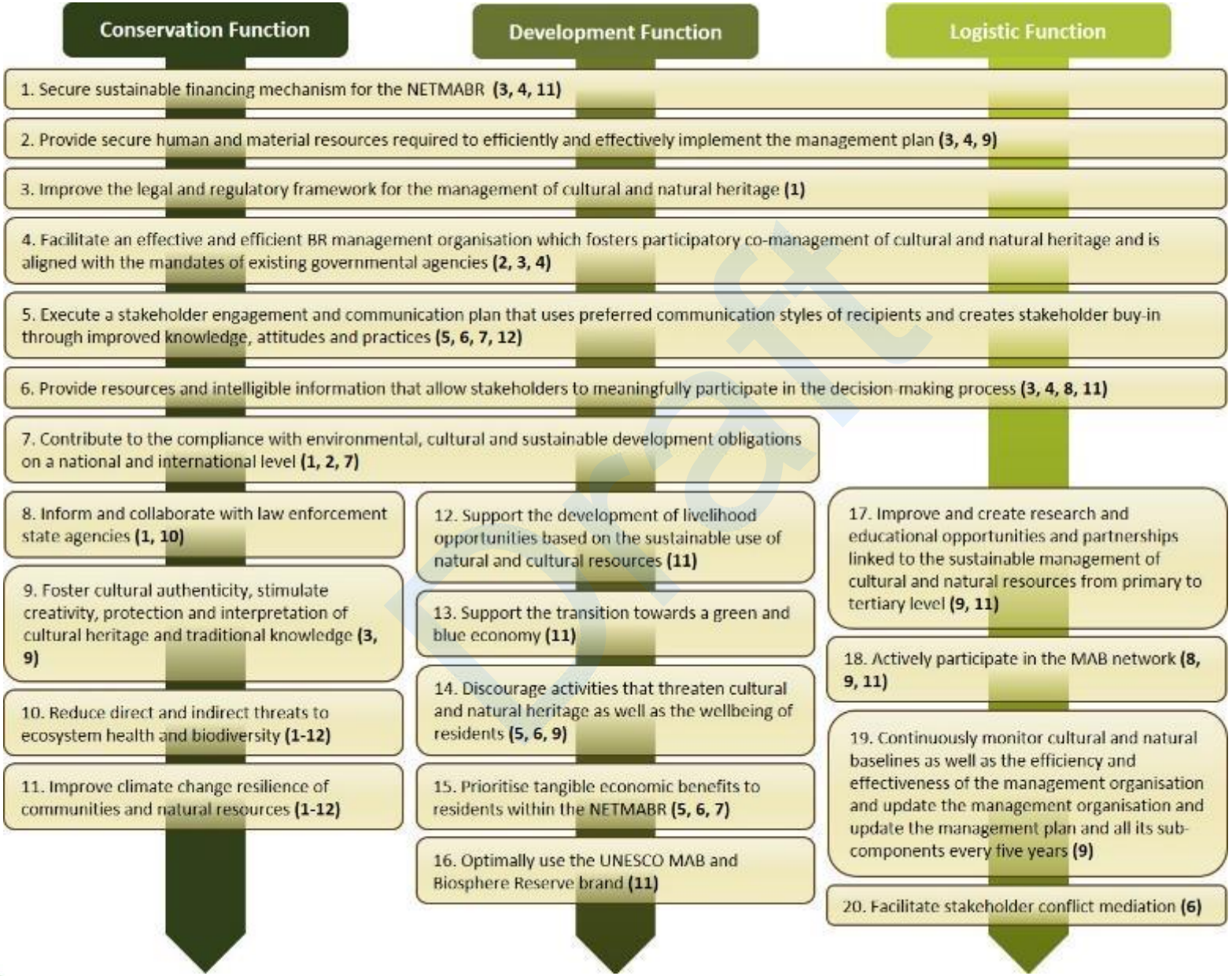


Figure 9. Proposed Main Strategies for the BR Management Plan, Addressed Key-Barriers in (brackets)

11 HISTORICAL HERITAGE

SUMMARY SITUATIONAL ANALYSIS

Based on informal inspections, conservation professionals within the Tobago Heritage Conservation Society came to the conclusion that

> ***the majority, if not all, of the heritage assets in the NETMABR are in the "At Risk" category.***

Heritage "At Risk" is a term used for cultural heritage assets that are at risk as a result of neglect, decay, inappropriate development, and under-resourced management (Council on Monuments and Sites (ICOMOS, https://www.icomos.org). The aim of this chapter is to identify threatened heritage places, monuments, and sites in the NETMABR, present typical case studies and trends, and share suggestions for solving individual or global threats to our cultural heritage.

The following problems are commonplace and widespread:

- dispersed archival material / archaeological appraisals relating to NE Tobago's heritage assets; information regarding the various sites is difficult to access;
- in some cases, the ownership of the sites is unclear and needs to be established;
- inadequate access is often preventing initial and detailed assessments, tourism development, educational use, or training. Access for those with disabilities is almost not-existing. In some cases, visitors would need to be very fit to visit or walk around the sites;
- approximately 90% of the sites are heavily overgrown with vegetation which is causing damage to stone and brickwork structures. Trees are growing out of monuments (or very close by) causing structural damage; vegetation is growing out of the lime mortar joints, causing further deterioration.
- the lack of suitable visual access precludes site appreciation and therefore there is a risk of ancillary structures being misunderstood or undervalued giving rise to inappropriate development/redevelopment, causing loss or deterioration of the historic assets;
- subsidence and landslip affect a number of historic sites as a result of tree root damage, ground movement, or floodwater;

Draft

- freestanding walls are, in some cases, unstable because the lack of lateral restraint. Some walls are liable to partial collapse unless temporary or permanent repairs are sanctioned. Health & safety risks are an issue at many sites, which should urgently be fenced off to prevent the risk of injury;
- theft of archaeological and architectural assets is another problem that has been identified. In some cases, equipment from former plantations including coppers, mills, stills, water and wind-mill apparatus, and so forth have been sold or stolen.
- There is a widespread lack of knowledge about conservation and repair techniques. For example, there are numerous cases of the inappropriate use of Portland Cement in mortar rather than using a traditional lime mortar. The latter facilitates vapour permeability and some flexibility within the bed joints. The inappropriate use of cement mortar has been seen to cause damage to relatively soft and porous coral-stone and soft clamp brickwork, in particular; and
- almost complete lack of adequate interpretation.

The following list gives a summary of the key historical assets within the NETMABR that require further investigation and assessment:

Site	Description	Ownership
Kendall Estate	Waterwheel	Property of THA
Argyle Estate	Ruins of sugar works, one tomb, and dam along Lamy River	Ownership most likely THA; long term agricultural tenant (Nigel London) adjacent
Roxborough Estate	ruins sugar works	Property of THA
Cameron Estate	300 acres with cocoa house, trails, ruins of state house	property of David Ross
Louis D'Or Government Farm (formerly Betsy's Hope Estate)	sugar works ruins, cocoa, graveyard (three tombs) and ruins of Mansion House	property of THA
King's Bay Estate	cocoa house ruins	property of George Allum
Merchiston Estate	sugar works ruins and limited remains of Mansion House	property of Michael Jegart
Speyside Estate	Waterwheel and ruins of sugar works and dam	ownership to be verified

Draft

Site	Description	Ownership
Charlotteville Estate	ruins of sugar works converted to cocoa production & cocoa house	property of Patricia Turpin
Campbellton Estate	ruins of sugar works, dam	property of owner Oilfields Workers' Trade Union
Hermitage Estate	ruins sugar works & great house	property of Joseph Fernandes and a co-owner
Bloody Bay Estate	ruins of Indigo production	ownership to be verified
Parlatuvier	ruins of Indigo factory	ownership to be verified
Englishman Bay Estate	ruins of sugar works	owner Hayton
Castara Estate	ruins of wind mill, estate house foundations, sugar works & dam	ownership to be verified
Runnemede Estate	ruins of old sugar works, dam & tomb; ruins of two bridges	ownership to be verified
King Peter Estate	ruins of sugar works, shipping depot & pre-columbian site	ownership to be verified
Indian Walk Estate	ruins of Moravian Mission 1842; graveyard; property of Moravian Church; ruins of tobacco barn	property of Stephen
Woodland Estate	water well	ownership to be verified

The above heritage asset list is still lacking detail, demonstrating the need for a comprehensive Heritage Asset Database for the NETMABR. The existing National Trust database is also incomplete; however, a good starting point. Where appropriate the new NETMABR Heritage Asset Database should then be used to nominate sites for listing via the National Trust system.

Unfortunately, most of the heritage assets in the NETMABR are not currently listed as a “Property of Interest” and none is designated as a National Heritage Site under the National Trust Act of Trinidad and Tobago and as such do not have legal statutory protection. See:https://nationaltrust.tt/home/wp-content/uploads/2020/11/national-trust-of-trinidad-and-tobago-listing-policy-and-procedure-for-properties-of-interest.pdf

Draft

"Listing" is a legally binding process that provides protection and recognition to properties of interest which are of national significance in Trinidad and Tobago. Pursuant to the National Trust of Trinidad and Tobago Act Chap. 40:53, listing is defined as the identification, cataloguing and recording of any property of interest. Property of interest is defined in the Act as any monument and any fossil, place or site of natural beauty or national, historic, scientific or archaeological interest; whereby 'monument' means any building, structure or other work of man or nature, whether above or below the surface of the land or the floor of the sea, of national architectural, aesthetic or historic interest. These sites and objects are important physical reminders of our nation's past and our legacy to future generations.

Section 5 of the Act identifies listing among core functions of the Trust which inter alia is established for the purpose of: (a) listing and acquiring such property of interest as the Trust considers appropriate; (b) permanently preserving lands that are property of interest and as far as practicable, retaining their natural features and conserving the animal and plant life; (c) preserving, maintaining, repairing and servicing or, arranging for the preservation of property of interest other than land and where such property of interest comprises buildings, augmenting the amenities of such buildings and their surroundings.

Pursuant to the Act, all listed sites are given protection against unauthorised demolition, change, alterations or against any person who damages, injures or defaces any listed property; such person shall be liable on summary conviction to a fine of $5,000.00 and, where the Court so orders, shall compensate the Trust for repairing and restoring the property.

The section below provides some examples of initiatives and heritage sites in the Caribbean that can be used as inspiration for the way forward:

1. St Nicholas Abbey, Barbados (https://www.stnicholasabbey.com)

St Nicholas Abbey is currently a well-preserved plantation house, museum and rum distillery successfully recreating 18th-century plantation life complete with wedgwood pottery, Chippendale furniture, curvilinear Dutch with tall finials of carved coral stone and corner chimneys. The fireplaces and walled medieval herb garden were almost certainly included in the original plans brought from England, and copied faithfully. There is a rare 1930s film of life on a sugar plantation that is available for viewing in the museum. Listed by the Barbados Tourism Authority as one of the "Seven Wonders of Barbados"; the property is attracting several thousand visitors per year.



Figure 10 Rum Works, St Nicolas Abbey, Barbados

2. Morgan Lewis Mill, Barbados (https://www.wmf.org/project/morgan-lewis-sugar-mill)

The Morgan Lewis Sugar Mill is the last of the many Barbadian windmills once used to produce sugar and one of only two functioning sugar windmills in the world. The mill ceased grinding sugarcane for commercial purposes in 1947 and was subsequently given to the Barbados National Trust for use as a museum and as a symbol of the economic and social history of the island. The mill slowly decayed in the twentieth century; however, in 1996 a group of architects, engineers and craftsmen were hired to analyse key problems at the site, to stabilise the mill, and correct the deficiencies that threatened the building with collapse. Rotting timbers and other structural weaknesses necessitated the dismantling, repair, and reinstallation of the mill's arms, wind shaft, and main cap frame. Thanks to this timely intervention the mill has continued to be a tourist destination on the island. It houses a small museum and grinds sugar cane to provide cane juice for visitors on one Sunday each month during the crop season. The restoration of the mill was supported by the World Monument Foundation (https://www.wmf.org) which could be a potential partner for restoring the most outstanding architectural heritage in the NETMABR.

Draft



Figure 11 Morgan Lewis Mill before restoration (1996) and after

3. **The St. Eustatius Center for Archaeological Research** (SECAR, https://secar.org) is a non-governmental organisation involved in the study of all aspects of the rich and diverse archaeological heritage on St. Eustatius. SECAR was established in 2004 to provide a permanent archaeological presence on St. Eustatius with the goal of protecting and developing the historical resources located on the island in full cooperation with local residents. SECAR operates an archaeological field station, able to house students and volunteers for its field schools, invites international researchers to collaborate, and offers professionally guided tours. SECAR even operates an underwater archaeological field school. The underwater field school opportunities are posted on The Shipwreck Survey's website, www.theshipwrecksurvey.com.



Figure 12 SECAR Underwater Field School (https://secar.org/get-involved)

4. **River Antoine Rum Estate, Grenada** (https://rumconnection.com/river-antoine)
   River Antoine proudly makes its own rum using locally grown, hand cut, organic sugar cane. The juice is extracted by crushing the stalks multiple times in a waterwheel-powered cane crusher. This is a great example for combining historical and agro-tourism and TOBIMA might be able to attract an investor from Trinidad's Rum industry to establish a flagship site for authentic rum production in NE Tobago (please note that Joseph Fernandes, an heir to the Fernandes distillery owns the Hermitage Estate).

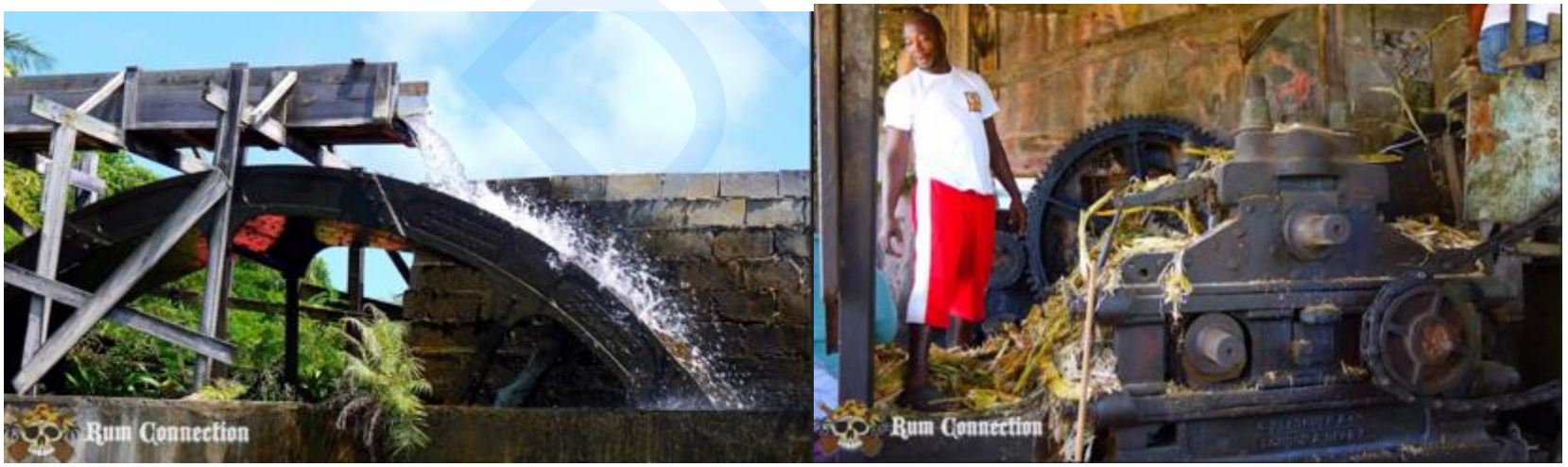


Figure 13 River Antoine Rum Works, Grenada



HIGH LEVEL GOAL

NE Tobago's historical heritage assets are protected under national law, conserved according to international best practise, and sensibly made available for research, education, and income generating opportunities.

PRIORITY NEEDS

- A complete inventory of terrestrial and marine heritage assets;
- a halt to further loss, destruction, theft, and dilapidation;
- safety issues need to be addressed;
- legal protection of cultural heritage assets; and
- income generating usage of heritage assets should contribute to their maintenance and renovations as well as provide livelihoods for community members.

STRATEGIES

1. Establishment and facilitation of a NETMABR Heritage Asset Working Group comprised of THCS, National Trust, TOBIMA, and the THA (or at least endorsed by the THA);
2. establishment of national, regional, and international partnerships (via MoU) with independent experts, supporting organisations, and universities;
3. procurement of grants, voluntary support, and operationalise income generating activities to support heritage conservation efforts; and
4. outreach regarding the significance of the NETMABR's heritage assets for cultural identity and sustainable economic development to stakeholders, networks and visitors.

Draft



PROPOSED ACTIVITIES

Re.: Strategy 1.

Facilitate a NETMABR Heritage Asset Working Group comprised of THCS, National Trust, TOBIMA, and the THA (or at least endorsed by the THA); this group should coordinate the following:

a. Preparation of a publicly available terrestrial and marine Heritage Asset Register to facilitate thorough visual inspection and documentation. Provide scaffolding where necessary. In some cases, scaffolding and high-level access are required to undertake condition surveys and conservation repairs. However, this must happen in a coordinated manner without compromising the Heritage Assets by making them more accessible and more likely to be stolen or vandalised.

b. Heritage Asset assessments (over a period of five years) in an internationally used format including, but not limited to:

- ownership,
- structure,
- construction,
- archaeology,
- key elements,
- components,
- general condition,
- identified and risks,
- recommended and prioritisation of repairs, conservation works, and maintenance,
- recommended usage and, if required, related feasibility studies, and
- Statement of Significance

c. Prepare documentation & nominate each site & structure for listing as a “property of interest” under the National Trust Act.

d. Over a period of 10 years getting NE Tobago’s heritage asset sites in a stable condition with improved public access, site interpretation, educational material, and, ideally, a conservation management plan.

Draft

e. Re-inspection of all heritage assets every five years to ensure that historic fabric is not been lost, damaged, or inappropriately used.

Re.: Strategy 2.
Establish national, regional, and international partnerships (via MoU) with independent experts, supporting organisations, and universities.
The collaboration with national, regional, and international partners is key to exchange knowledge, secure funding, voluntary support, and marketing of archaeological tourism.
TOBIMA is well advised to closely collaborate with the THCS (ideally with THCS in a leading role) in the establishment of these international partnerships; several, complimentary partnerships should reduce the risk of severe impacts if one partnership fails.
Potential partnerships could be established with, but by no means be limited to:

- National Trust of Trinidad and Tobago (https://nationaltrust.tt),
- The University of the West Indies, Department of History, Archaeology Centre (https://sta.uwi.edu/fhe/history/archaeology-centre),
- Trinidad and Tobago Institute of Architects (https://ttia-architects.org),
- International Association for Caribbean Archaeology (https://www.caribheritage.org/organization/international-association-caribbean-archaeology-iaca),
- The Caribbean Heritage Network (https://www.caribheritage.org),
- World Monument Foundation (https://www.wmf.org),
- Indigenous Caribbean Network, (http://indigenouscaribbean.ning.com),
- The International Centre for the Study of the Preservation and Restoration of Cultural Property (https://www.iccrom.org/regions/latin-america-and-caribbean),
- School of Advanced Study, London, Institute of Historical Research, Caribbean History Collections (https://www.history.ac.uk/library/collections/caribbean-history),
- Universität Hannover, Germany, Centre for Atlantic and Global Studies, (https://www.hist.uni-hannover.de/en/research/history-of-latin-america-and-the-caribbean),
- University of Miami, College of Arts and Sciences, Caribbean Studies Concentrations (https://history.as.miami.edu/graduate/caribbean-studies-concentration/index.html),

Draft

- The Caribbean Archaeology Program, Florida Museum (https://www.floridamuseum.ufl.edu/caribarch),
- The Archaeological Institute of America (https://www.archaeological.org)

Re.: Strategy 3.
Procure grants, voluntary support, and operationalise income generating activities to support heritage conservation efforts.

a) Seek assistance from THCS and international experts to identify the most important Heritage Assets and prepare project proposals for their restoration, conservation, and purple economic usage.
   See below a non-exhaustive list for funding opportunities:
   - https://www.archaeological.org/programs/professionals/grants-awards/
   - https://www.bu.edu/archaeology/additional-funding-links/
   - http://www.bajr.org/BAJRResources/funding.asp
   - https://www.royalarchinst.org/grants
   - https://www.archaeologyuk.org/get-involved/groups-and-societies/grant-schemes.html
   - https://archaeology.cornell.edu/finding-funding-beyond-ciams-0
   - https://www.ria.ie/archaeology-research-grants
   - https://www.archaeologie-online.de/links/2/3/4/108/317/index.php
b) Develop an adoption scheme for heritage assets for large companies (esp. the oil and gas sector).
c) Assist THCS to lobby for an annual budget for heritage projects in the NETMABR from the THA.
d) Facilitate in collaboration with the THCS the establishment of a Heritage Craft Centre where interested parties can go for recreational and professional training to learn heritage skills for cleaning of artefacts, bricklaying, stonemasonry, the use of lime mortar, lime plasters, traditional roofing methods, etc. including the local production of quick-lime, naturally hydraulic lime, or 'feebly hydraulic lime': See https://historicengland.org.uk/images-books/publications/iha-preindustrial-lime-kilns/heag222-pre-industrial-lime-kilns
   also: https://www.buildingconservation.com/articles/hydraulic-lime-production/hydraulic-lime-production.html
e) Identify archaeological tourism products that are present in Tobago but unique in the Caribbean (see c above).
f) Assist with the development of a terrestrial and marine archaeological voluntourism programme (a component of regenerative tourism) to attract individuals and even more so group excursions of volunteers, college and university groups that are

Draft

facilitated by local experts and assist with cataloguing, restoration, and maintenance while contributing to community-based tourism. E.g., see: www.theshipwrecksurvey.com, https://andantetravels.com/archaeological-tours, https://archaeology-travel.com, https://www.farhorizons.com

g) Facilitate the collaboration between archaeological tourism operators (marine and terrestrial) and THCS.

h) Within seven years facilitate in collaboration with THCS and international partners (including tour operators) the development of at least two key "demonstration sites", e.g.:
   - restoration of four sugar mill types in Tobago (steam, water, wind, cattle).
   - rebuilding a functioning rum distillery showcasing historical re-enactment of Rhum Agricole production, or similar. Seek partnership with a large distillery from Trinidad.

f. Facilitate safe access and walk-about at an increasing number of sites; restrict access to those sites that are not developed Proposed development of the heritage asset sites will vary depending on the location, asset type and ownership. At a minimum, public access should be improved and site interpretation provided with carefully-designed, high-quality signage. At the other end of the spectrum, it will be possible and highly recommended to develop the heritage assets to include potentially:
   - a visitor / reception building, with memorabilia and art/craft/catering shop and toilets (including for differently abled persons),
   - exhibition and interpretation of artefacts, and
   - enhanced site interpretation of materials and signage

Re.: Strategy 4.
Communicate the significance of the NETMABR's Heritage Assets for cultural identity and sustainable economic development to stakeholders and networks.

a) Create a portfolio of comparable and successful income generating opportunities for distribution to stakeholders (esp. THA and community groups) to communicate the purple economic opportunities inherent in the NETMABR's heritage assets.

b) Create a paperback booklet and coffee table book celebrating and interpretating the NETMABR's heritage assets, including historical pictures and stories, pre-and post-restoration documentation, references, contacts, etc. for distribution to stakeholders.

c) Facilitate regional learning journeys for Tobago's archaeological stakeholders and exchange visits.

d) Facilitate a regional archaeological workshop / conference.

Draft

e) Facilitate archaeological exchange programmes with the future BR twinning partners of the NETMABR.
f) Assist the THCS with maintaining consistent presence in social media, national print media and broadcasting networks.

Preliminary suggestions for priority demonstration sites in the NETMABR

Please note that sites in Roxborough, Kendall, Betsy Hope, and Argyle are state owned; the other sites are privately owned. All sites are easily accessible from the road.

Roxborough Estate

Sugar, Cocoa & Copra House of considerable architectural interest; beautiful two storey stone building with ovens, fine clamp brickwork detailing and shallow arched window and door openings. Potentially capable of being converted to a suitable alternative use, for example a visitor centre; together with a boiling house, incorporating an unusual/rare double row of 'coppers'; Wheel-pit (currently overgrown with vegetation) and other sugar-works building ruins (possibly an animal mill).

Notes:

- Access to this site is via the THA Department of Agriculture. It is well maintained and has considerable scope for the development of a joint venture initiative between the agriculture and tourism sectors.
- Vulnerable parts of the old sugar works: the cocoa house, the grave-yard and the mansion house ruins require careful cleaning, consolidation and repair; then potentially opened to the public with suitable interpretation signage.
- The two-storey utility building is on the National Trust's 'Heritage Asset Inventory'; the building (41.6m long x 12.9m wide) could be conserved and re-developed/re-used.
- Walking tours could be developed in and around the site.

Draft



Figure 14 Roxborough Estate: Two storey sugar factory (Photo THCS, R. Dunn)

Louis D'Or/Betsy's Hope

Old sugar works, including boiling house with three ovens; worm tank with fantastic cocoa house, one copper, parts of a water-wheel, circa 1.8m radius; a wheel-pit 7.3m long, connecting to a very impressive aqua-duct, 3.2m high (second only in significance to the aqua-duct in Providence); three tombs in a small grave-yard surrounded by Victorian style railings; mansion house ruins.

Notes:

- Access to this site is via the THA Department of Agriculture. It houses an operational farm which is well maintained and has considerable scope for the development of a joint venture initiative between the agriculture and tourism sectors. Potentially, tourists, students and visitors could visit a working farm, with selected access to parts of the farm perhaps and full access to the heritage assets. A visitor reception building could be developed either in one of the existing buildings or in a separate facility. The site is already well landscaped, with excellent road access and parking and site security.
- Vulnerable parts of the old sugar works, the cocoa house, the grave-yard and the mansion house ruins require careful cleaning, consolidation and repair; then potentially opened to the public with suitable interpretation signage.
- The two-storey utility building is on the National Trust 'Heritage Asset Inventory'. The building (38.3m long x 12.9m wide) could be conserved and re-developed/re-used.

- Walking tours could be developed in and around the site to the heritage assets, including, for the more adventurous, up the hill to the grave-yard tombs and mansion house ruins.





Figure 15 Louis D'Or Estate: Two storey sugar factory/utility building (Photo THCS, R. Dunn) and Large water-wheel pit 7.3m long and aqua-duct (Photo THCS, R. Dunn)

Kendal Estate

A spectacular water-wheel (one of the best in Tobago), great house ruins; wheel-pit (currently overgrown with vegetation), fenced & maintained and relatively simple to develop as tourist & educational attraction. In addition, there is a spectacular stone dam circa 16.7m long x 5.5m high upstream from the water-wheel – part collapsed, with an impressively detailed arched-opening to a sluice-way.

Notes:

- Access to this site is via the THA Department of Agriculture.
- The water-wheel pit, wheel and dam require careful cleaning, consolidation and repair; then potentially opened to the public with suitable interpretation signage.

- The inappropriate modern buildings adjacent to the water-wheel should be removed.
- In the future the School of Agriculture could, potentially run joint venture activities with the tourism sector, with a 'food-offering', activities, tours to the heritage assets etc.





Figure 16 Kendal Estate: Large water-wheel pit 7.3m long and aqua-duct (Photo THCS, R. Dunn)

Figure 17 Kendal Estate: Large stone diversion dam, 5.5m high, part collapsed (Photo THCS, R. Dunn)

Argyle Estate

Estate-house ruins, 'L-shaped' wheel-house, boiling house foundations, 'copper', fermentation tank, worm tank bases, fire pit openings, aqua-duct, dam, water-falls & tomb (to rear); currently poorly maintained; with potential for substantial improvement, including potentially a visitor reception building, toilet facilities, café etc.

Notes:

- The long-term tenant for the land adjacent has plans to construct a two-storey bamboo building, using bamboo farmed from the land. He plans to develop and run an 'eco-café and out-door oven serving local dishes, fresh juices and food grown on the farm land adjacent, including guava, avocado and coconut. Walking trails adjacent and through the site could be developed.
- The site requires urgent careful cleaning, consolidation/making safe and interpretation signage.
- Access to the heritage assets is via a well-established part paved road, fording the river
- This site could be 'clustered' with Kendal & Roxborough – as a multiple-attraction destination!



Figure 18 Argyle Estate: Water-wheel pit 14m long (Photo THCS, R. Dunn)

Merchiston Estate

Situated between Roxborough & Speyside and owned by Michael Jegart, the site contains ruins of sugar works, including boiling house, two-storey sugar factory and worm tank. It is thought that the site went out of production circa 1812. The sugar factory is approximately 1.1 miles from the main road and accessible via a narrow gravel road, for walkers or cyclists to visit, by arrangement.

Parts of the two-storey structure remain approximately 10m long x 6m high (to be confirmed), constructed of random rubble stonework and clamp brickwork detailing, bedded in traditional lime mortar; together with parts of the boiling house wall circa 4m high x 7.2m long , also constructed from random rubble stonework with brick detailing , including one furnace and originally five door openings; worm tank 5m long x 2m deep x 2.3m wide; walls constructed from clamp brickwork and rendered internally.

Currently, the sugar-works are overgrown, difficult to view, and require careful cleaning and making safe, followed by conservation repairs and consolidation to prevent further deterioration. Adjacent to a private house close-by, the plinth base of a small stone windmill base is visible circa 4m wide x 0.75m high; however, this site is not publicly accessible.

Elsewhere on the estate the remains of the plantation house are partly visible, but further investigations and research are required. This area is also not publicly accessible.

Based on preliminary informal discussions with the owner of the estate, it is likely that this site provides opportunities for hikers, bird watchers and individuals interested in historic buildings.



Figure 19 Merchiston Estate: Boiling House wall furnace opening (Photo THCS, R. Dunn)

Cameron Estate

Located in Roxborough and owned by David Ross, the site contains a very impressive cocoa house and ruins of an estate house, cocoa fields, heritage agriculture, nature trails, etc.

The ruins of the estate house are on top of one of the hills, currently accessed from Betsy's Hope, via an estate track circa one mile long, or via a longer hike from the cocoa house site in the valley. The brickwork ruins are approximately 26.5m long x 14.1m wide

overall and include two water tanks; two sets of steps; a brick built 'horse-mount'; fifteen brickwork columns and assorted architectural details. The site is overgrown and further investigations are required here, but the site is very interesting and capable of generating educational/tourism interest for adventurous walkers, hikers, etc.

The very impressive, 30m long cocoa house (possibly longest in Tobago), is 7.1m wide constructed from concrete, blockwork and a corrugated steel roof on a timber structure, with wheels for sliding open. The roof is still operational and many of the original fixtures and fittings have been retained internally and as such this building has wonderful educational, tourism and commercial potential.

Based on informal discussions with the owner the estate has substantial development potential including potentially developing and showcasing chocolate production, touring the mixed-use farm and agricultural land; developing nature trails with suspended bridges and (estate-grown) bamboo gazebos, flowers and plant production, short crop vegetable and fruit production and sales, plus estate tours.

The area adjacent to the cocoa building is capable of sensitive redevelopment in our opinion subject to appropriate consents. The modern timber building measuring approximately 14.2m × 6.7m could be demolished and reconstructed; a toilet facility will be required and could be sited between the cocoa house and any new structures adjacent to the road. Some facilities for refreshments/catering would also be beneficial. Car parking maybe feasible to the west side of the site leaving the views of the cocoa house clear. Conservation repairs and consolidation are required to the estate house ruins. Vegetation should be removed and brickwork made safe. The site would also benefit from interpretation signboards, in due course.

Draft




Figure 20 Cameron Estate : Cocoa House – 30m long with sliding roof (Photo THCS, R. Dunn) and Cameron Estate: Estate House ruins (Photo THCS, R. Dunn)

Speyside Estate Ruins & Water Wheel

Very impressive water-wheel and sugar works, immediately adjacent to the main road. The ruins of sugar works represent an excellent example of a rum and sugar works, very accessible to the public and close to the main road. The complex of buildings includes the impressive water-wheel with a radius of 5.4m, with in-tact wheel, axle and gears, but excluding paddles; a stone built wheel-pit/mill race 3.1m wide x 10.9m long; a brick built mill-race culvert beyond; a worm tank 4.1m x 9.4m x 1.4m deep, constructed from random rubble stonework, bedded in lime mortar; the ruins of a distillery 30.8m long, boiling house 18.3m long x 8.6m wide; ruins of a crushing plant room 9.4m x 7.4m with three crushing rollers from Glasgow, dated 1856; ruins of an outbuilding to the SE corner of the site over the road measuring circa 3.3m x 8.1m.

This site is already informally open to the public, close to the main road but in need of conservation, preservation, improved interpretation and potentially, site development.

In the short-term unstable structures should be fenced-off and public access prohibited until urgent repairs have been actioned to make safe the ruins, including temporary propping and structural repairs.

The water-wheel requires short term repairs including to the axle support on the north side. The 2.3 m long hardwood wall plate is decayed and the brick plinth has deteriorated and unless urgent attention is given to this defect the wheel could partially collapse.

In the medium-term this site provides fabulous opportunities for redevelopment ideally linked to the heritage, possibly re-using some of the buildings/ruins in a sensitively designed way to create an art museum perhaps with interpretation facilities – subject to the appropriate consents and incorporated as an estate wide re-development plan. However, if re-development is not feasible the site could be enhanced as a 'standing ruin' with better interpretation and signage, after repair and conservation works are carried out.



Figure 21 Speyside Estate: Water-wheel and sugar-works (Photo THCS, R. Dunn) and Unstable brickwork arch and stonework to Boiling House, west side. (Photo THCS, R. Dunn)