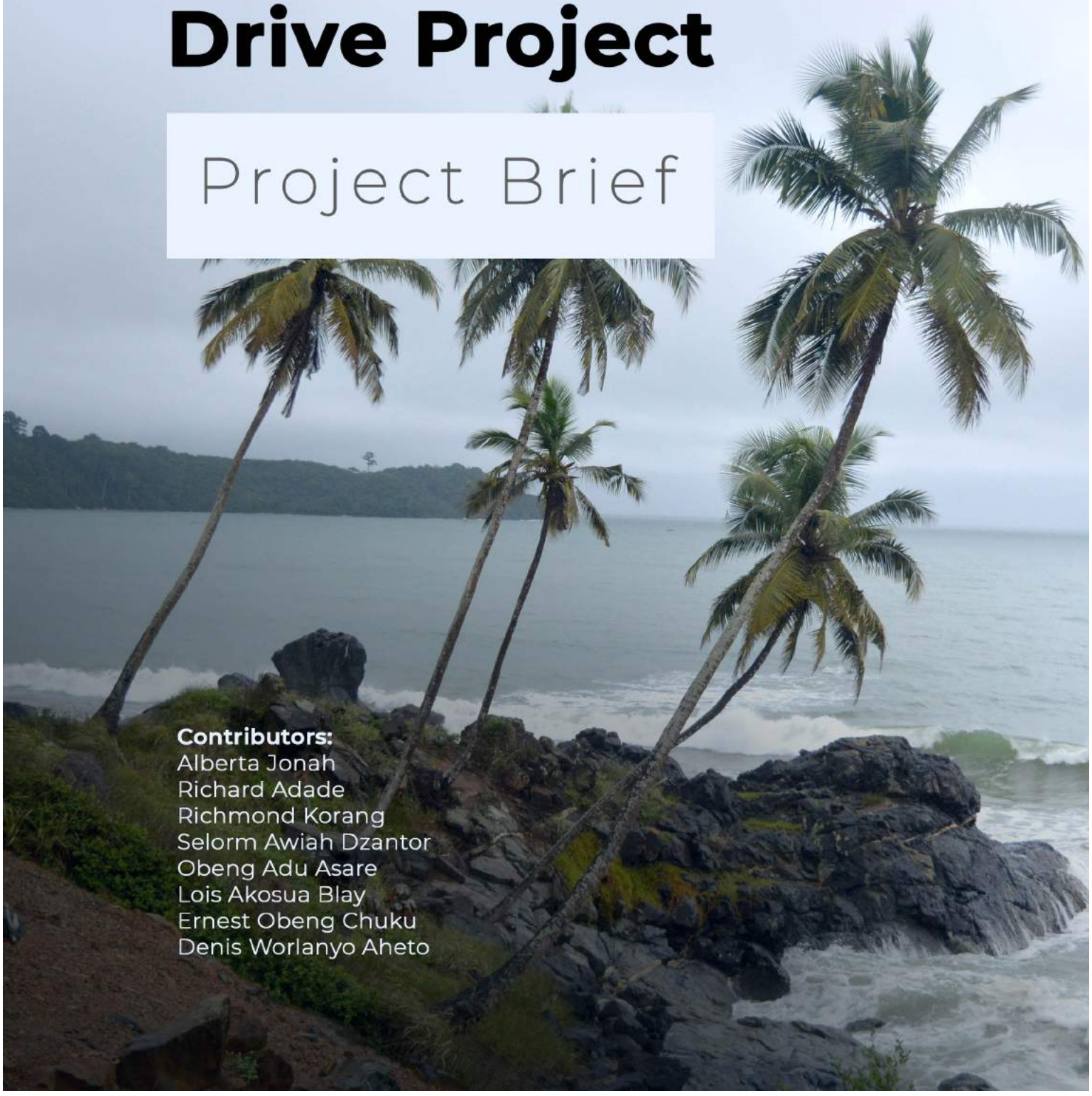
Coastal and Marine Conservation Drive Project

Project Brief



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Overview

The Coastal and Marine Conservation Drive Project (COMADRIP) sought to create a pilot site for the design and development of a Marine Protected Area (MPA) management strategy for the Greater Cape Three Points area that can feed into the national process for coastal conservation in Ghana. From June 2021 to November 2022, the COMADRIP rolled out a number of activities towards this goal. With funding support from the Lighthouse Foundation in Germany and in partnership with the Wildlife division of the Forestry Commission of Ghana and Hen Mpoano, a local non-governmental organization based in Ghana, the project has engaged stakeholders in the Ahanta West District in different science-based activities to achieve the objectives of the project.

In the course of the project implementation, the Princess Town and Cape Three Points communities as well as other local-level state and non-state actors were engaged to identify priority areas for intervention in the establishment and management of MPA in the Greater Cape Three Points (GCTP) area. The project was a follow-up on PhD thesis research conducted at the University of Cape Coast from 2017 – 2019, to identify critical areas for conservation and explore the management options available for potential creation of MPAs in the GCTP area.

Background

Marine Protected Areas (MPAs) are established by countries, and regional bodies as a useful tool for regulating different human uses in a coastal or marine ecosystem through legal or other effective means to achieve the long-term conservation of ecosystems with their associated services and cultural values (Agardy et al., 2011; Dudley, 2008). MPAs range from small, highly specialized areas to large, complex, multi-use areas (Agardy et al., 2011). Examples of MPAs include marine reserves, marine sanctuaries, national parks and wildlife refuges (OceanTracks, 2017).

Establishing Marine Protected Areas (MPAs) has demonstrated a great potential to conserve critical coastal and marine ecosystems and their associated biodiversity which support various economic sectors, particularly fisheries, aquaculture and ecotourism. Aquatic ecosystems have been at the receiving end of many destructive anthropogenic practices including pollution,

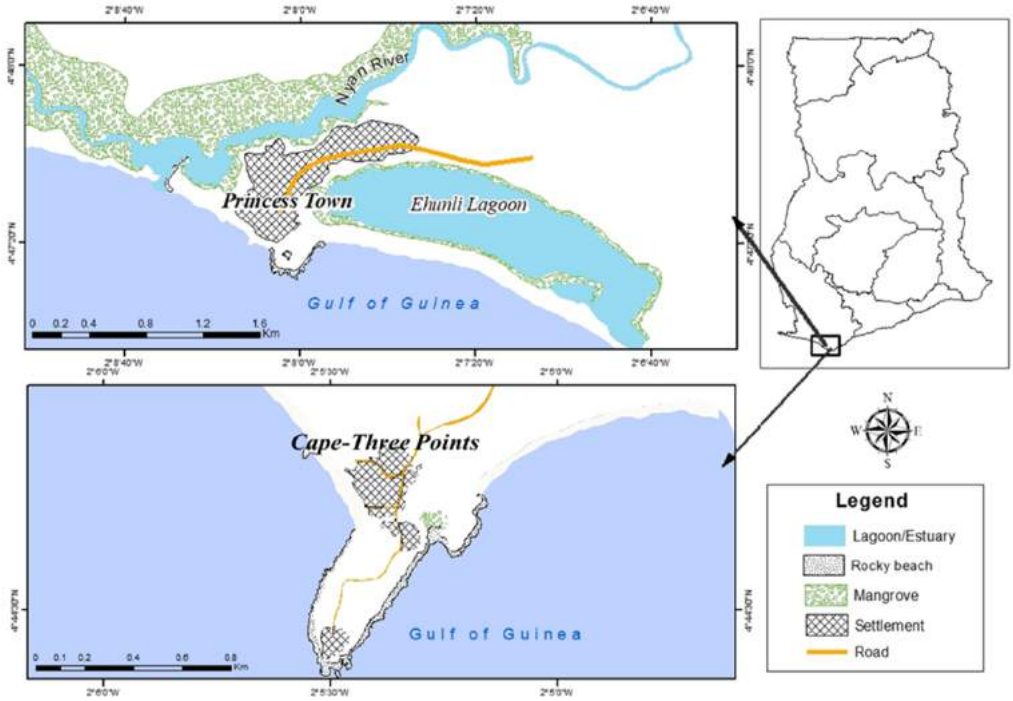

Figure 1: Map showing COMADRIP site

illegal mining of mineral resources, destruction of aquatic vegetation and overexploitation of aquatic resources. The result of this is a decline in the health of fragile ecosystems, threatening their continued supply of ecosystem services which fuel coastal economies and enhance human well-being.

Like many countries, Ghana has endorsed the designation of critical ecosystems like estuaries, mangroves and lagoons as MPAs for the purpose of protecting fish nursery areas and spawning grounds as a strategic measure to sustainably develop its declining fisheries resources (Fisheries Management Plan, 2015–2019; 2022-2026). Notwithstanding the fact that notable efforts have been made in that regard, no formal Marine Protected Area exists in Ghana to date. The Coastal and Marine Conservation Drive Project (COMADRIP) was developed as a science-based pilot initiative to develop an MPA management strategy for the Greater Cape Three Points area that can feed into national development processes for coastal and marine conservation in Ghana. This factsheet summarizes the activities of COMADRIP and draws out lessons to provide a pathway for the successful establishment of MPAs in critical ecosystems along the coastal areas of Ghana.

Legislative framework guiding the establishment of MPAS in Ghana

International Conventions

- The UNESCO Man and the Biosphere Programme and its work on Biosphere Reserve (1971)
- The World Heritage Convention, 1972
- The UN Convention on the Law of the Sea (UNCLOS), 1982
- The Convention on Biological Diversity (CBD), 1992
- The Convention establishing the International Commission for the Conservation of Atlantic Tunas (ICCAT), 1966 and its Recommendations.
- UN Convention on Migratory Species of wild animals (Bonn Convention), 1979
- The Convention on Wetlands of International Importance (Ramsar Convention), 1971
- The United Nations Fish Stock Agreement on Flag State Responsibilities and Port State Measures, 1995
- The Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention), 1981
- UNEP Regional Seas Agreement (2008

National Legal Framework

- The 1992 Constitution
- The Fisheries Act, 2002 (Act 625) and its amendments - Fisheries (Amendment) Act, 2014 (Act 880); Fisheries (Amendment) Regulations, 2015 (LI 2217)
- The Petroleum Exploration and Production Act, 2016 (Act 919)
- Forestry Commission Act, 1999
- Fisheries Management Plan (2015 – 2019)
- Co-management Policy for the Fisheries Sector, 2020

Figure 2: Stakeholder validation workshop – COMADRIP. Agona Nkwanta, November 4, 2021

- The Ghana Action Plan for implementation of UNESCO's Man and the Biosphere (MAB) Programme (2018 – 2025)

Institutional capacity for establishing MPAS in Ghana

A number of significant government ministries, departments, and agencies (MDAs), non-governmental organizations (NGOs), and institutions have legislative and policy roles that either directly or indirectly influence Ghana's establishment and management of ecosystems of MPAs. Institutions in Ghana mandated to implement biodiversity conservation policies include:

Government Institutions

Forestry Commission (FC); Directorate of Fisheries and Fisheries Commission; Water Resources Commission (WRC); National Development Planning Commission (NDPC); Minerals Commission; Environmental Protection Agency (EPA); Ghana Maritime Authority; Ghana National Petroleum Corporation; Attorney General's Department; Ministry of Defence; The Metropolitan, Municipal and District Assemblies (MMDAs)

Research Institutions

Universities; various institutes under the Council for Scientific and Industrial Research (CSIR); Centre for African Wetlands; Biotechnology and Nuclear Agricultural Research Institute of the Atomic Energy Commission.

Non-Governmental Organizations

Conservation International, Nature Conservation Research Centre, CARE Ghana, Ghana Wildlife Society, COSPE, Ricerca e Cooperazione (RC), Friends of the Earth-Ghana, West African Primate Conservation Action SNV (Ghana), Friends of the Nation

Other Actors

Other relevant actors in MPA development in Ghana include traditional rulers, community members and the Private sector.

Efforts and initiatives towards the establishment of MPAs in Ghana

1. Marine Protected Areas in Ghana: Strategies, Action Plan and Implementation Framework –

Intervention type: National scoping exercise (Nunoo, 2018).

Lead Institution: Ministry of Fisheries and Aquaculture Development (MOFAD)

Year: 2018

Purpose: Scientific assessments conducted across the four coastal regions in Ghana to identify key ecosystems in Ghana's aquatic environment to be designated as MPAs

Main impact: Potential MPA sites identified across Ghana.

2. The Mami Wata pilot project launched in 2016 –

Intervention type: Capacity building

Lead Institution: Environmental Protection Authority (EPA) on behalf of Ghana.

Year: 2018 - 2021

Purpose: Capacity building project designed to enhance marine management in Western, Central and Southern Africa through training and application. As part of this project, Ecologically or Biologically Significant marine Areas (EBSAs) in Côte d'Ivoire and Ghana were identified, and the states of the marine environment in these countries were analysed. Subsequently, cooperation is being enhanced for conservation between Côte d'Ivoire and Ghana to create a transboundary MPA between Assinie (Côte d'Ivoire) and Half Assini (Ghana) to support integrated ocean management along the Atlantic coast of West Africa.

Main impact: Agency capacity built

3. The Nearshore Rocky Reefs of Western Ghana, West Africa –

Intervention type: Research

Lead Institution: Coastal Resources Centre, University of Rhode Island

Year: 2012

Purpose: A baseline ecological research survey conducted in Ghana to investigate the general status of the near shore rocky reef habitats and fisheries of western Ghana, providing information on the fish, invertebrate and benthic communities.

Main impact: An inventory of near-shore rocky reef habitats and species in the Western Region to enhance conservation.

4. Environmental Sensitivity Map for Coastal Areas of Ghana –

Intervention type: Research

Lead Institution: Environmental Protection Authority (EPA)

Year: 2004

Purpose: An environmental sensitivity atlas developed for the Environmental Protection Authority (EPA), which shows important coastal environmental features in a coastal strip of an approximate width of 5 km.

Main impact: Sensitive coastal ecosystems across the coast of Ghana were identified.

5. Assessment of Critical Coastal Habitats of the Western Region, Ghana –

Intervention type: Research

Lead Institution: Coastal Resources Centre, University of Rhode Island

Year: 2011

Purpose: To identify, document, map out and analyse key critical coastal habitats in the Western Region of Ghana towards the undertaking of priority actions to restore impaired habitats or maintain/conserve quality habitats for the long term.

Main impact: Key critical coastal habitats in the Western Region of Ghana profiled.

7. The Coastal and Marine Conservation Drive Project (COMADRIP)

Intervention type: Research and Advocacy

Lead Institution: Centre for Coastal Management, University of Cape Coast

Year: 2021 – 2022

Purpose: a science-based pilot project designed to develop a Marine Protected Area (MPA) management strategy for the Greater Cape Three Points area that can feed into national development processes for marine conservation in Ghana.

Main impact: an entry point for establishing a bottom-up co-management approach for conserving critical ecosystems in the Western Region of Ghana.

Our Methodology

The project employed a mix of methods (*Figure 3*) to obtain both scientific and indigenous information to enhance the identification and analysis of issues related to the governance structure for management of aquatic resources in the communities, stressors of the aquatic ecosystems, state of the aquatic ecosystems; livelihood profile of the coastal communities, and the communities' perception about the establishment of MPA.

Figure 3: Methods employed in data collection and assessment for the project

Main Findings

Livelihood Profile of the GCTP Communities Assessed

There has been a shift in the traditional livelihood profile of the coastal communities as "fishing" communities. Owing to the decline in fish landings, many of the community members whose livelihoods hinged on fishing and fish processing admitted to turning to other sectors to earn a living since their income levels had declined. The livelihood profile of the communities assessed consisted of fishing, farming, rubber tapping, petty trading, dressmaking, hairdressing, welding, masonry, plumbing, fish mongering, driving, mining, catering, mechanics, and teaching.

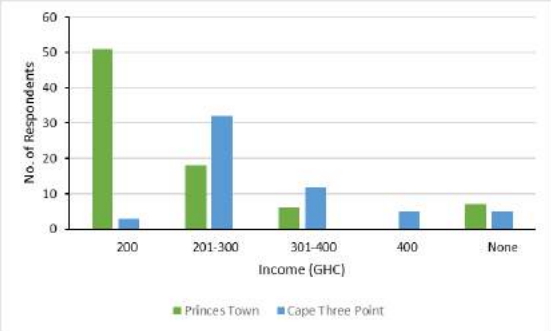

Figure 4: Average monthly income levels of fishers in Princess Town and Cape Three Points

High financial risk (Sethi, 2010) in the community was evident in the study. Responses from the community members who participated in the survey reported low-income rates, with the modal monthly income at up to GHC 200 for Princess Town and between GHC 200 and GHC 300 for Cape Three Points (*Figure 4*); which was quite low in comparison with the daily wage income rate in Ghana set at 13. 53 cedis (Ghana Labour Commission, 2022).

The project identified that very few people in the communities had their livelihoods fully dependent on fishing (*Figure 5*). This determined the type and extent of their interaction with the aquatic ecosystems.

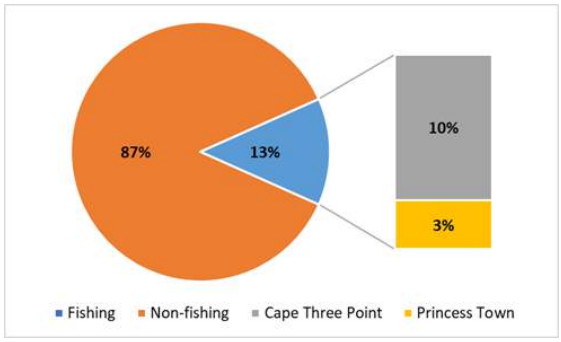

Figure 5: Community livelihoods related to fishing

Aquatic Ecosystem Stressors in the Communities

The Nyan estuary, the Enhuli lagoon, the Cape Three Points rocky bay, and their surrounding mangrove forests were the aquatic ecosystems assessed by the project. These ecosystems support fish production by providing habitat, nursery, protection to fish and other aquatic biodiversity. Maintaining the healthy functioning of these systems are crucial to the sustainability of the artisanal fisheries sector. In the GCTP area, the following stressors were identified as major stressors to the aquatic ecosystems:

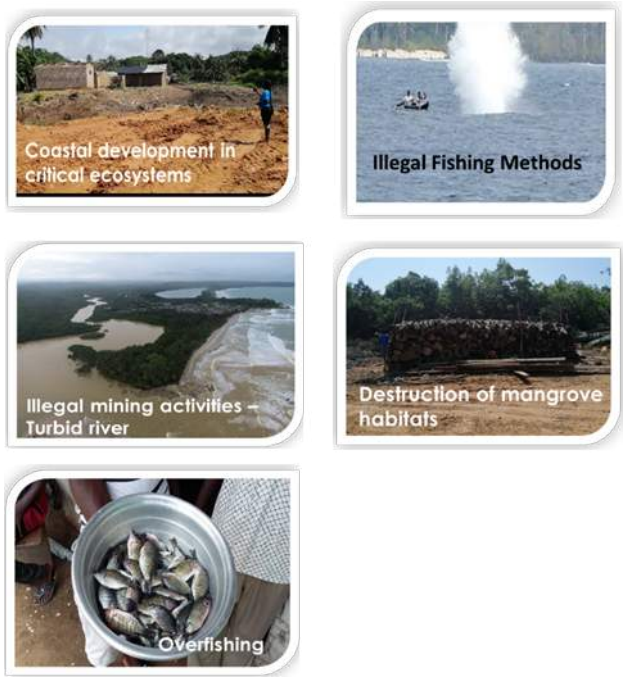

Figure 6: Aquatic ecosystem stressors identified in the GCTP area

Habitat risk assessment conducted for the aquatic ecosystems using the InVEST HRA

model-version 3.7, revealed that the area was at low-to-medium risk to the set of stressors identified.

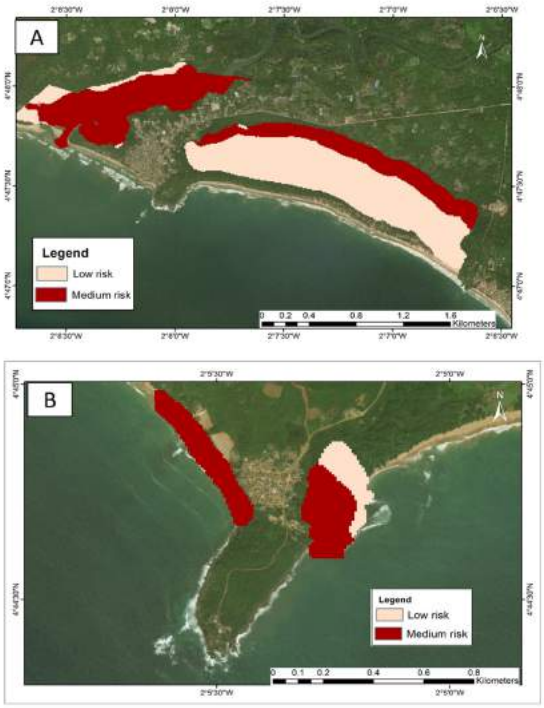

Figure 7: Map showing the level of risk of ecosystems in the GCTP area to stressors

Aquatic Resource Management (Governance)

Aquatic ecosystems in the GCTP are traditionally managed by a set of norms, taboos and local rules which govern access and use of resources. Enforcement of these traditional management measures is controlled by the Chief and elders of the communities. However, compliance is low as many disregard some of the norms and taboos on the grounds of outdated beliefs and practices and reduced powers wielded by the chief and elders.

The Ahanta West District Assembly is mandated by the Local Government Act, 1993 (Act 462) to make by-laws governing the ownership and use of water bodies and be responsible for the direct restoration or maintenance of the physical, chemical and biological integrity of the water bodies in the area of authority. Nevertheless, the communities reported that they were not aware of any measures as such put in place to protect the aquatic ecosystems.

Consequently, Community Resource Management Area (CREMA) groups have been set up in the communities to protect aquatic resources and contribute to curbing any form of illegal fishing and mining activities in the sea and other water bodies. The CREMA is supported by the Assembly, which according to them, facilitates punitive actions against perpetrators of illegal activities.

Community Perceptions about MPA Establishment

The communities asserted that given the current decline in fish catch and the inadequacy of traditional management systems to protect the ecosystems, government intervention to conserve the ecosystems and revamp fisheries via the establishment of MPA is welcome. Their responses are shown in Figure 6. They emphasised, however, the need for this to be done transparently and collaboratively with the communities' full participation.

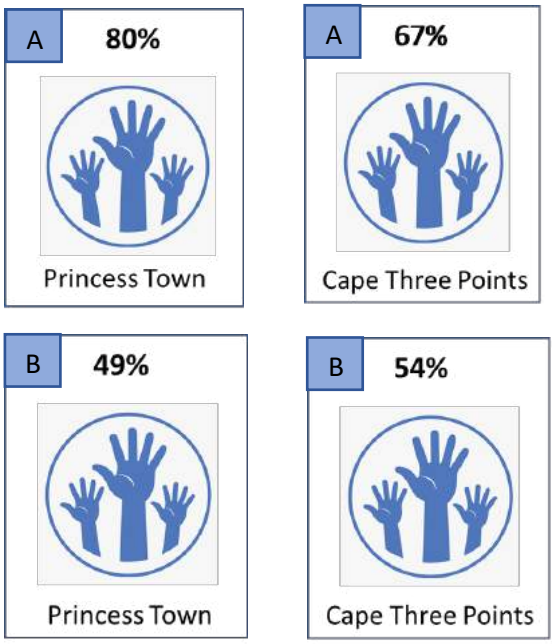

Figure 8: The outcome of polls on (A) the willingness of communities to support the establishment of MPAs in the GTCP and (B) the potential of MPA to affect one's use of ecosystems at Princess Town and Cape Three Points

On the other hand, the community members of both Princess Town and Cape Three Points

were divided in their perception of the effect on their access and use of ecosystems in the event of the establishment of an MPA.

Presented with a list of potential benefits to be derived from the establishment of an MPA, the communities ranked natural resource conservation benefits (increased efforts to preserve natural resources) as the topmost and fisheries resource improvement as the least benefit (see the overall ranking in Figure 7). In addition, they outlined other benefits such as the contribution to personal income level, increased employment opportunities, improved social amenities, increased awareness of conservation, and increased community sense of pride.

Proposed MPA Boundary for Princess Town and Cape Three Points

In a participatory mapping exercise, areas were demarcated for the protection of mangroves and the coastal water bodies at the Princess Town and Cape Three Points communities (*Figure 8*). The Nyan estuary was demarcated as a ***General use zone***, which will allow for "wise use" with an effective managerial regime - such as seasonal closures and ban on destructive fisheries activities - in place. The Enhuli lagoon and the Cape Three points mangrove system were demarcated as ***Sanctuary zones***, which will prohibit high-impact activities for the preservation of biodiversity and promotion of ecotourism.

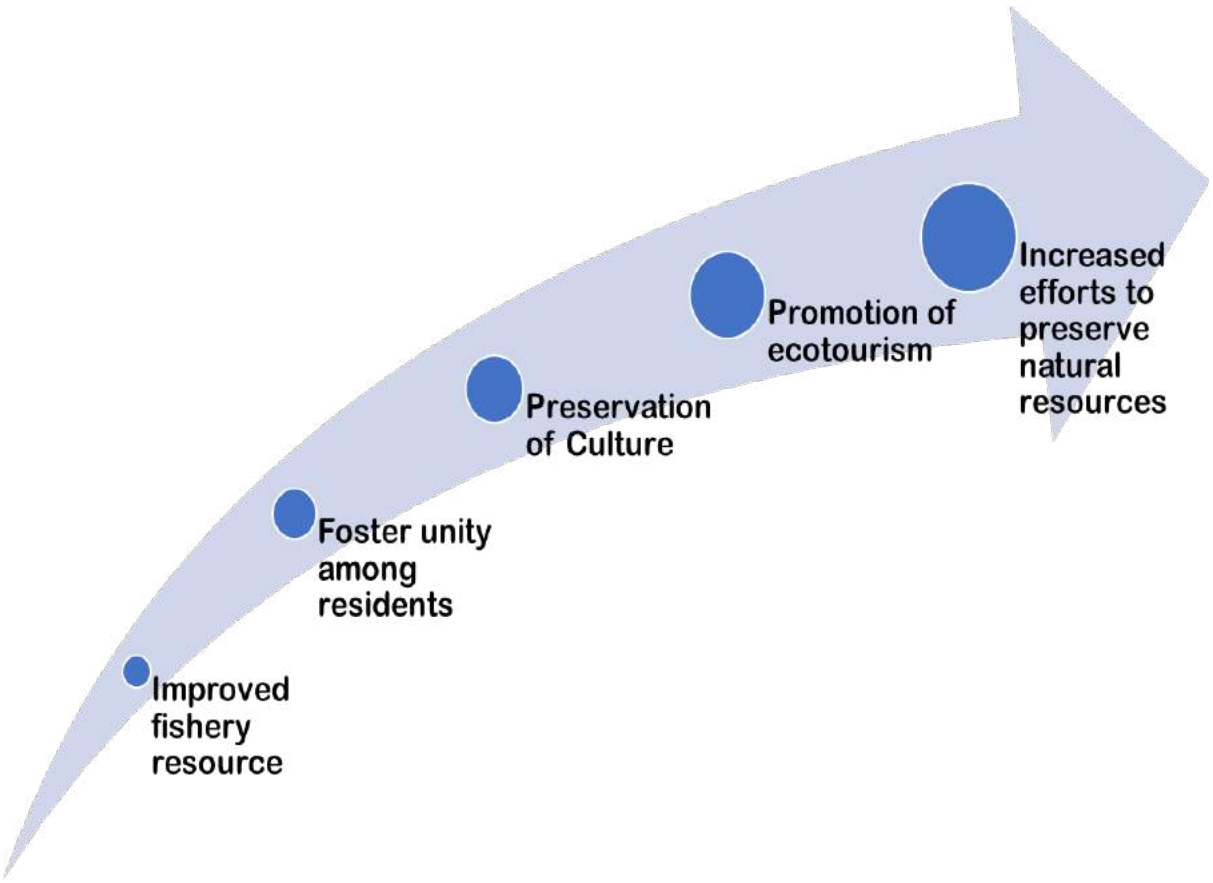

Figure 9: Overall ranking of the benefits of establishing an MPA in the Greater Cape Three Points area by community members of Princess Town and Cape Three Points

Figure 10: Map of the proposed boundaries for MPA establishment for Princess Point and Cape Three Points

Lessons Learnt

The creation and management of MPAs in critical aquatic ecosystems have been at the heart of the national fishery recovery and ecosystem conservation strategic plans for several years. Even though no formal MPA has yet been established in the country, several noticeable efforts have been made in that direction over the period. The COMADRIP project explored the pathway for using a bottom-up approach to drive the establishment of an MPA in the GCTP area in the Western Region of Ghana. We outline six key lessons learned from this approach, which we recommend be integrated into the national strategy for establishing a broader-based MPA (and network of MPAs).

Lesson 1: Data and research provide the needed baseline for establishing an MPA

Effective design and implementation of MPA depend on the quality and reliable data acquired from all relevant channels via an integrated ecosystem assessment. A generally accepted framework for designing and implementing MPAs in Ghana on a national scale, which is adaptable to local contexts based on peculiarities of issues on the local scale, is lacking. Such a framework, if developed and implemented efficiently, will enhance the integration of the appropriate stakeholders in the management.

COMADRIP was hinged on an integrated ecosystem assessment - comprising Community Participatory Mapping and Assessment of ecosystems and their services; Field Ecological Assessment; Economic Valuation of ecosystem services, Cost-Benefit Analysis of fishing; and Risk Assessment of the ecosystems using InVEST HRA model, V.3.7. Results of the assessments were used to design communication packages to sensitise the communities and other stakeholders on the state of the aquatic ecosystems, the socio-economic and ecological value of ecosystem services in the area, and the possibility of effectively conserving the ecosystems for sustainable development. As the communities understood the issues at hand, their buy-in was slowly enhanced.

There is thus the need for committed and coordinated efforts to be made to address the data needs in coastal and marine management in the country and develop a national, context-specific framework for the design and implementation of Marine Protected Areas in Ghana.

Lesson 2: Community dependency on (or interest in) the ecosystem to be designated as MPA is a determining factor

The level of dependency of surrounding communities on aquatic ecosystems is a determining factor in their response to efforts to establish MPAs in those systems. This is because proposals for creating MPAs often raise significant conflicts, especially where they introduce 'no take' or 'closed' areas.

The project observed that in the Princess Town community where there were fewer fishers per the livelihood profile, as compared to the Cape Three Points community, a higher percentage of the respondents supported the establishment of an MPA and indicated that their livelihoods would not be affected negatively by the establishment of the MPA. This is an important factor in determining the appropriate compensation measures for people whom the establishment of the MPA may displace.

Lesson 3: Existing traditional management systems for aquatic ecosystem conservation provide leverage for the establishment of MPAs

In assessing the conduciveness of existing traditional management rules for conserving aquatic resources in the area, the project engaged the community members in a review of the rules. The community identified those rules which were adequate and needed to be

maintained, providing an entry point to MPA creation. They further identified some rules which were discriminatory and needed to be abolished such as the prevention of the 10th-born child or a woman with 10 children from accessing the water bodies. Other rules which needed to be revised to suit current conservation needs were also pointed out. To ensure compliance in the event of the creation of an MPA, the communities asserted the need to formalise the rules and solicited the support of the government for monitoring, control and surveillance.

Lesson 4: Co-management approach could facilitate MPA establishment

Ghana's co-management policy promotes the active participation of coastal communities in the design of coastal management plans, establishment of conservation areas and compliance with management measures agreed upon. The existence of CREMA groups in the communities – which were originally established to manage forest resources, presents an important platform to piggyback the establishment and implementation of MPAs. The CREMA groups can play leadership roles in harnessing expert local knowledge of user groups and incorporating them in the identification and prioritisation of the key issues to address in the management of MPAs for achieving conservation goals.

Lesson 5: Integrating a strong economic component in the MPA creation process is an important incentive

Protected areas are usually closely knitted with ecotourism and other less destructive activities to generate economic benefits for surrounding communities. Where these opportunities are appropriately exploited, alternative livelihoods are developed to support income generation. This involves assessing ecosystem services in the area, fostering Public-Private Partnerships (PPPs) to establish such economic avenues, and designing capacity-building and skills development packages for communities. Community members during the project expressed interest in the development of ecotourism and aquaculture in their communities.

Lesson 6: There is a need for a lead institution for MPA establishment and management in Ghana

The successful establishment of MPAs in Ghana is, among other factors, hampered by the overlapping legal mandates of the responsible institutions, which creates a void in leadership for advancing the conservation of aquatic ecosystems in the country. This is exacerbated by changes in political leadership and a lack of long-term funding.

A dedicated agency to lead and coordinate the processes and activities related to the establishment and management of MPAs in Ghana will enhance the chances for success. The project proposes 1) the appointment of a lead agency by the government to serve as the coordinating but independent statutory body for the MPA establishment process and 2) the set-up of a Commission – the Marine Protected Areas Commission (MPAC) aligned with one of the key agencies/ ministries to advance MPA development in Ghana.

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