Original Research Article

Coastal Environment Profile (CEP) Presentation and Training-Workshop for Barangay Mana, Malita, Davao Occidental, Philippines: Engaging Stakeholders and Establishing a Community-Based Mangrove Nursery

ABSTRACT

The Coastal Environmental Profile (CEP) Presentation and Training-Workshop for Brgy. Mana, Malita, Davao Occidental, aimed to engage local stakeholders and establish a community-based mangrove nursery. Objectives included presenting the CEP to Barangay Local Government Unit (BLGU) officials and stakeholders, conducting a training-workshop on CEP, and establishing a mangrove nursery. The methodology involved forming a project team, conducting an inception meeting, courtesy calls, signing MOAs, and organizing a project orientation. Implementation included presenting the CEP, conducting a training-workshop with BLGU-Mana officials, BVBSNHS, and local organizations, and establishing the nursery. Significant findings revealed that the CEP provided comprehensive data on the coastal environment, including socio-political landscape, natural resources, and economic activities. The training-workshop raised environmental awareness and equipped participants with knowledge for coastal resource management. The community-based mangrove nursery was established to support conservation efforts. The project successfully enhanced local stakeholders' understanding and commitment to sustainable coastal development, highlighting the importance of collaborative and inclusive strategies in achieving environmental resilience.

Keywords: Coastal environment profile, Mangrove nursery, Stakeholder Engagement, Coastal resource management.

1. INTRODUCTION

Coastal areas, particularly those near major rivers and bays, have historically attracted human settlements due to their access to fisheries, commerce, fertile agricultural lowlands, and recreational spots. These coastal municipalities, rich in marine life, have the potential to sustain livelihoods for decades. The economic benefits derived from these coastal resources are substantial. However, habitat destruction, illegal fishing practices, and an open access regime pose significant threats to these areas[2,3, 7-17]. Improving coastal resource management requires an integrative effort involving local government units, fishing communities, and other stakeholders to raise awareness and promote sustainable practices. Differences in local elite structures, influenced by historical experiences, also play a role in the development of these areas [6].

Davao Occidental, located at the southwestern tip of the Davao Region, boasts rich fisheries and marine resources along its extensive coastline, featuring stunning beaches. The locals benefit from nature's abundance, which provides a sufficient supply of fish for the community [2,3, 7-17].

In 2021, a comprehensive coastal environmental profiling was conducted in Brgy. Mana, Malita, Davao Occidental. This study highlighted the area's rich biodiversity and emphasized the importance of preserving these ecosystems for their benefits to humanity. The well-documented profile can assist policymakers in designing effective coastal resource management strategies and foster collaboration between private and government agencies for a holistic approach to addressing coastal environmental and economic issues.

The proposed Coastal Environmental Profile (CEP) for Brgy. Mana, Malita, Davao Occidental aims to provide essential information to BLGU officials and other stakeholders. This initiative seeks to empower local residents by equipping them with insights into the barangay's coastal characteristics, aiding in the development and implementation of effective coastal resource management strategies. Additionally, the training and focused group discussions conducted will raise environmental awareness and explore potential local policy initiatives.

Through these efforts, the community can enhance its capacity to address environmental challenges, fostering a proactive approach to sustainable coastal development. Collaboration among officials, stakeholders, and residents is crucial for creating a resilient and environmentally conscious community.

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2. MATERIALS AND METHODS

2.1 Project Location

The project was implemented in Brgy. Mana, Malita, Davao Occidental. This area was selected due to its rich coastal and marine resources, making it a significant location for the study and implementation of sustainable coastal resource management practices.

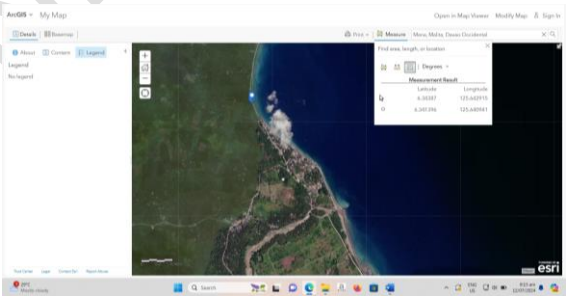

Figure 1. Map of the Project Site.

2.2 Pre-Implementation Phase

1. Organization of Project Team: A dedicated project team was formed, consisting of experts in fisheries, marine biology, coastal resource management, and community development.
2. Conduct of Inception Meeting: An inception meeting was held to outline the project's objectives, timeline, and deliverables, ensuring all team members were aligned.
3. Courtesy Call to the Municipal & Barangay Local Government Units: Formal courtesy calls were made to the Municipal and Barangay Local Government Units (M/BLGU) to inform them about the project and seek their support.
4. Drafting and Signing of Memorandum of Agreement/Understanding (MOA/MOU): A Memorandum of Agreement/Understanding was drafted and signed by all relevant parties, detailing the roles and responsibilities of each stakeholder.
5. Conduct of Project Orientation: A project orientation session was conducted, involving the M/BLGU and the Office of the Municipal Agriculture and Fisheries (OMAF), to ensure all stakeholders were aware of the project's scope and their involvement.

2.3 Implementation Phase

1. Procurement of Materials: All necessary materials for the project, including equipment for the training-workshop and supplies for the mangrove nursery, were procured.
2. Present the CEP of Brgy. Mana: The Coastal Environmental Profile (CEP) study conducted by SPAMAST for Brgy. Mana was presented to various stakeholders to enhance their awareness and understanding of the extensive richness and potential of the coastal resources in the area.
3. Conduct the Training-Workshop on CEP: A training-workshop on the Coastal Environmental Profile (CEP) was conducted with BLGU-Mana officials, BVBSNHS Faculty, Staff & Students, and members of existing People's Organizations. This workshop focused on the importance of coastal resource management and the specific findings of the CEP.
4. Establishment of Mangrove Nursery: A community-based mangrove nursery was established to supply bagged mangroves for planting activities. This nursery serves as a sustainable source of mangroves for future conservation efforts.

2.4 Post-Implementation Phase

1. Narrative Report Writing: A comprehensive narrative report was written, detailing the project's activities, outcomes, and lessons learned. This report includes data collected during the implementation phase and an analysis of the project's impact.
2. Monitoring and Evaluation: A monitoring and evaluation framework was implemented to track the progress of the project and assess its outcomes against the set objectives. This included regular check-ins with the community and stakeholders to gather feedback and make necessary adjustments.
3. Stakeholder Engagement: Continuous engagement with stakeholders was maintained to ensure their active participation and to address any emerging issues promptly.
4. Project Turn-Over: The completed Coastal Environmental Profile and the established mangrove nursery were formally turned over to the local community. This handover included a ceremony to acknowledge the contributions of all stakeholders and ensure continued community engagement and ownership.
5. Data Collection and Analysis: Throughout the project, data on coastal resources, community participation, and environmental impact were systematically collected and analyzed to evaluate the effectiveness of the interventions.

This structured approach ensured that the project was implemented effectively, with active

participation from the local community and relevant stakeholders, ultimately contributing to sustainable coastal resource management in Brgy. Mana, Malita, Davao Occidental.

3. RESULTS AND DISCUSSION

3.1 Presented Coastal Environmental Profile (CEP) of Brgy. Mana, Malita, Davao Occidental

In March-April 2023, a comprehensive Coastal Environmental Profile (CEP) presentation was conducted for various stakeholders in Barangay Mana, Malita, Davao Occidental. The study aimed to provide an in-depth understanding of the coastal environment to facilitate effective management strategies. Using modified-structured survey questionnaires and key informant interviews, the presented study assessed the socio-political landscape, natural resources, economic activities, existing people's organizations, and management challenges and opportunities in the area.

Findings from the study revealed significant insights into Barangay Mana. The population of coastal sitios was approximately 5,679 individuals, with an average age of 32, and a predominantly male productive gender. The average monthly income was Php7,550.00, largely derived from business and fishing activities. The coastal area encompassed approximately 6 hectares of wetland ecosystem dominated by mangroves and shrubs, alongside 1,500 meters of coastline and 0.4 hectares of estuaries rich in seaweeds, seagrasses, mollusks, and crustaceans, crucial for marine habitat and livelihoods. The economic sector, particularly fishing, saw a notable 64.32% contribution to local income through fishing, fish processing and sales. Four active people's organizations were engaged in product development and innovation, aiming to enhance alternative livelihoods and alleviate poverty in the barangay. These efforts were complemented by Sustainable Livelihood Programs (SLP) from both local and national government agencies (Table 1).

Table 1. Coastal Environment Profile of Brgy. Mana, Malita, Davao Occidental

PARTICULARS	PRESENTED FINDINGS
Coastal Population	5,679 Individuals
Average Age	32 Years Old
Gender	75% Male
Average Monthly Income	Php 7,550.00/Month
Coastal Area Profile	6 Hectares (Approximately) For Wetlands (Mangrove & Shrubs) 1,500 meters Coastlines 0.4 hectares Estuaries(rich in seaweeds, seagrass, mollusks and crustaceans)
Economic Sector	64.32% contribution of fisheries to local income
	4 active People's Organization

As a result of the presentation, BLGU officials, together with Benjamin V. Bautista Sr. National High School (BVBNHS) faculty, staff, students, the local People's Organization (like MATINLA Fish Processing Association), and community fishers, gained awareness of the abundant fishery resources in Barangay Mana. They expressed a commitment to protect and conserve these resources. BLGU officials are considering adopting the findings of the CEP study conducted by SPAMAST through ordinances or resolutions, signaling a proactive step towards

sustainable coastal management. Moving forward, Barangay Mana will require continued support from local and national agencies to address ongoing management challenges and foster economic and environmental resilience.

Figure 2. Mr. Alfredo Jesto (Barangay Kagawad of Brgy. Mana) delivers message of support to the project on behalf of the Barangay Councils of Mana, Malita, Davao Occidental.

3.2 Conducted Training-Workshop on Coastal Environment Profile (CEP)

3.2.1 MOA Signing and Project Initiation

The Memorandum of Agreement (MOA) between SPAMAST, through its Institute of Fisheries and Marine Sciences (IFMS), and the Benjamin V. Bautista Sr. National High School (BVBSNHS), was formalized to establish a cooperative framework for the extension project titled "Coastal Environmental Profile (CEP) of Brgy. Mana, Malita, Davao Occidental: A Project Presentation to BLGU-Mana Officials and other Stakeholders." This project aims to profile the coastal environment of Brgy. Mana and raise awareness about the significance of coastal and mangrove ecosystems among local stakeholders. The involvement of the Office of the Municipal Agriculture and Fisheries (OMAF), Barangay Local Government Unit (BLGU) of Mana, and the identified People's Organization (PO) ensures a multi-stakeholder approach to project implementation and sustainability.

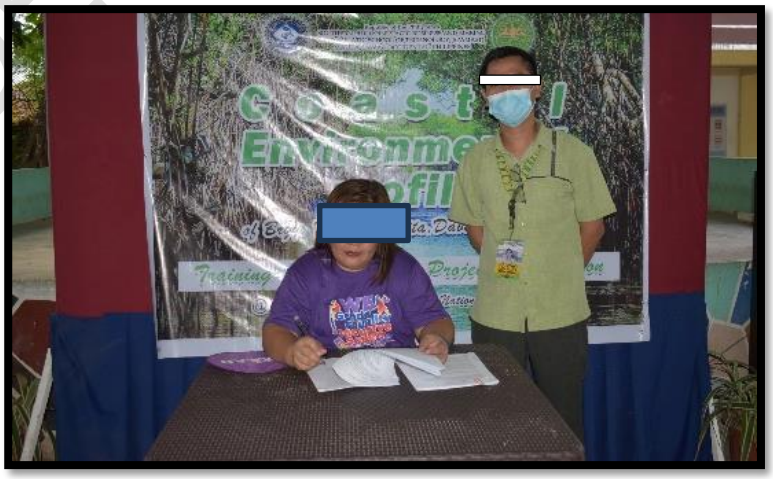

Figure 3. MOA Signing between SPAMAST & BVBSNHS

3.2.2 Training-Workshop on Coastal Environmental Profiling

A training-workshop on the CEP was conducted on May 17-18, 2023, at BVBSNHS, Brgy. Mana, Malita, Davao Occidental, with a total of 245 project beneficiaries participating. The participants included BLGU officials, members of the People's Organization (MATINLA), and faculty, staff, and students of BVBSNHS. The workshop commenced with an opening remark by Dr. Marlyn B. Llameg, RIDE Director, followed by an overview of the project by Prof. John Paul R. Pacyao, the Project Leader. He highlighted the significance of the CEP in aiding Coastal Resources Management (CRM) planning decisions and explained the process of producing the CEP, from data collection to its application in CRM planning, implementation, and dissemination.

Figure 4. The CEP Trainees.

3.2.3 Presentation of Coastal Environmental Profile Outline

Mr. Jopy Caneda presented a comprehensive outline of the coastal environmental profile, including sections on the introduction, physical features, natural resources, socio-political setting, economic sector, institutional and legal framework, and management issues and opportunities. CEP Workshop was then followed the presentation. He emphasized the importance of equipping communities with the skills and knowledge to develop their own CEPs, thus fostering local stewardship and sustainable coastal management practices.

3.2.4 Mangrove Ecosystem Awareness

In addition to the CEP workshop, the trainees were educated on the existing mangrove species in Brgy. Mana by Mr. Jhun Rheil Molina and Mr. Michael Jeriel I. Bersaldo. They discussed the species biology and ecology of mangroves, as well as the anthropogenic activities impacting these areas. Mr. Kher Dave H. Donos provided insights on establishing and managing a mangrove nursery, underscoring the importance of proper management practices to ensure the success and sustainability of mangrove restoration efforts.

Figure 5. SPAMAST-CEP Speakers during the training-workshop.

Figure 6. Mangrove species identification and actual planting.

3.2.5 Activity Completion Report and Approval

Upon completion of the training and workshop activities, an Activity Completion Report was compiled and approved by SPAMAST, documenting the successful conduct and outcomes of the project.

The project's approach aligns with the principles of participatory coastal resource assessment (PCRA) and community-based coastal resource management (CBCRM). Involving local stakeholders in coastal resource management fosters a sense of ownership and responsibility, which is crucial for the success and sustainability of environmental projects [18]. The emphasis on mangrove ecosystems highlighted the critical role of mangroves in coastal protection, biodiversity conservation, and carbon sequestration [4]. Furthermore, the integration of educational institutions, such as BVBSNHS, into environmental projects is consistent with findings which demonstrate that educational involvement enhances community engagement and environmental literacy [1].

3.3 Established Community-Based Mangrove Nursery

SPAMAST-IFMS, in coordination with Benjamin V. Bautista Sr. National High School (BVBSNHS), MATINLA Fish Processing Association, and Barangay Local Government Unit (BLGU) of Mana, established a Community-Based Mangrove Nursery within the vicinity of

BVBSNHS in Brgy. Mana, Malita, Davao Occidental. This initiative aims to promote the restoration and conservation of mangrove ecosystems, which are crucial for coastal protection, biodiversity, and local livelihoods [4]. The collaboration among academic institutions, community organizations, and local government exemplifies a holistic approach to environmental stewardship, ensuring community engagement and ownership of the project [18] The nursery not only serves as a conservation measure but also provides educational opportunities for students and community members, fostering a deeper understanding of mangrove ecology and the importance of sustainable environmental practices [1].

Figure 7. Established Community-Based Mangrove Nursery in BVBSNHS, Brgy. Mana, Malita, Davao Occidental

4. CONCLUSION

The "Coastal Environmental Profile (CEP) Presentation and Training-Workshop for Brgy. Mana, Malita, Davao Occidental" project successfully met its objectives by engaging various stakeholders in the community and establishing a community-based mangrove nursery. The presentation of the CEP to Barangay Local Government Unit (BLGU) officials, People's Organizations (POs), and other stakeholders significantly enhanced their understanding of the local coastal environment, including its socio-political landscape, natural resources, and economic activities. The comprehensive data provided through the CEP is instrumental in aiding Coastal Resources Management (CRM) planning and decision-making, as evidenced by the positive feedback and expressed commitment from local officials and community members.

The training-workshop effectively raised environmental awareness among the participants, equipping them with the necessary knowledge and skills to develop and implement their own CEPs. This participatory approach aligns with the principles of community-based coastal resource management, which fosters a sense of ownership and responsibility among local stakeholders [2,3 4-17]. Additionally, the establishment of the community-based mangrove nursery in collaboration with BVBSNHS, MATINLA Fish Processing Association, and BLGU-Mana exemplifies a holistic and sustainable approach to coastal conservation. The nursery not only supports mangrove restoration efforts but also serves as an educational platform for students and community members, thereby promoting long-term environmental stewardship [2,3 4-17]. Overall, the project's outcomes underscore the importance of collaborative and inclusive strategies in achieving sustainable coastal development and resilience.

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