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Ecosystem Services Contribution to Human Well Being through Protected Area Management

Proposed Bootless Bay Marine Protected Area, PNG

Forest Ecosystems Services Forum, September 2 2019, Christchurch,
New Zealand

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Presentation Outline

- ▶ Background
- ▶ Brief Literature Review and definition of key terminologies
- ▶ Papua New Guinea Policy Context
- ▶ Proposed Pilot Bootless Bay Marine Protected Area Project
- ▶ Social Environmental Research & Consultancy Services Engagement
- Work in Progress
- Next Step
- ▶ Conclusion

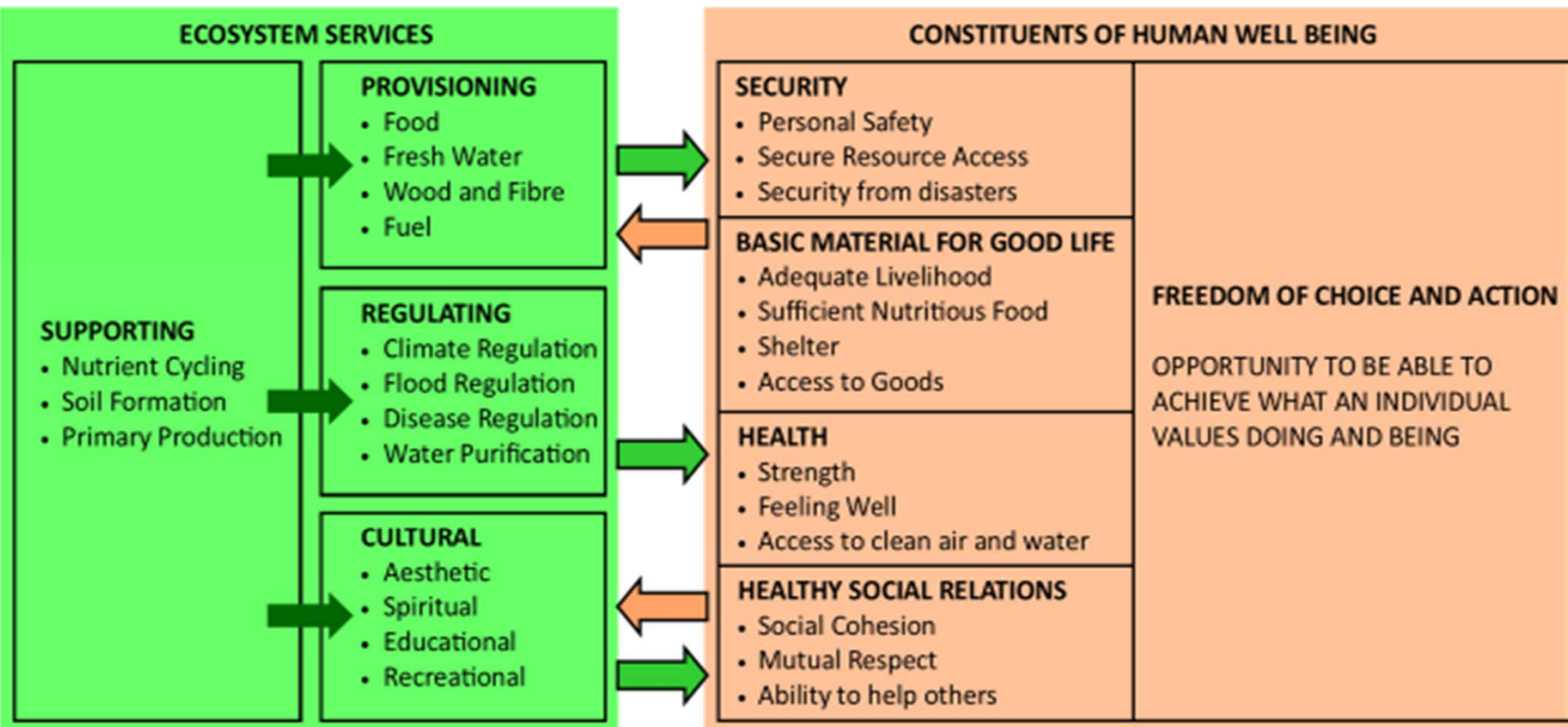
Background

- ▶ PNG - Signatory to the international Convention on Biodiversity (CBD) in 1992 and has committed by 2020 to establish a “comprehensive, effectively managed and ecologically representative national systems of protected areas”
- ▶ PNG Policy on Protected Areas (2014)
- ▶ Draft National Protected Areas Bill (2016) - work in progress on Parliament endorsement
- ▶ Technical cooperation project between Conservation & Environment Protection Authority (CEPA) and Japanese International Cooperation Agency (JICA) to implement the PNG Policy on Protected Areas and strengthening institutional capacity of CEPA in Protected Area Management (2015-2020)
- ▶ Terrestrial Protected Area -Varirata National Park- established with a follow up plan for a pilot Marine Protected Area (MPA)
- ▶ Bootless Bay - voluntarily declared an MPA in 2017 Oceans Conference - PNG's commitment to implementing World's Sustainable Development Goal
- ▶ SERACS Engagement - Work in Progress - proposed pilot MPA project covering the entire Bootless Bay Ecosystems

Ecosystem Goods and Services

- ▶ Ecosystem consists of a biological and physical environment containing biological community occupying a habitat
 - ▶ Complex interactions between different organisms in each habitat and the environment sustain and fulfill human needs
 - ▶ Ecosystems Services - Benefits people get from the ecosystems including;
 - ❑ *provisioning* in the form of food, water, timber and fibre;
 - ❑ *regulatory* services that affect climate, floods, water quality, diseases, and wastes;
 - ❑ *Cultural* - recreation, aesthetic and spiritual benefits; and
 - ❑ *Supporting* - soil formation, photosynthesis and nutrient recycling
- (MEA, 2005)

Relationship and influence of Ecosystem services on human well being



Source: Millennium Ecosystem Assessment

Ecosystem Services and Protected Area Management

- ▶ Protected area
 - ❑ a clearly defined geographical space, recognized and managed for a specific timeframe to achieve a long term conservation of nature, with associated ecosystems services and values (IUCN; PNG Policy on Protected Areas)
 - ❑ Includes any area with a restraint (allowing sustainable and non-destructive uses or prohibition (no take) on biodiversity harvest
 - ❑ A Marine Protected Area range from small parks established to protect an endangered or threatened species, a unique habitat, or a site of historical or cultural reserves to vast reserves intended to achieve a range of conservation, economic and social objectives (Agardy, 2000)
- ▶ An ecosystem-based management approach is adopted when a large multiple-use area is considered for protection (Hatcher et al., 1989; Dayton et al., 1998), with many types of linked marine habitats (Lauck et al., 1998) and ecosystems.
- ▶ The Bootless Bay MPA takes on an ecosystem-based management approach to marine protection

The PNG Policy Context

- ▶ The PNG Policy on Protected Areas (2014) draws from the Constitution's 4th National Goal referencing *Natural Resources and Environment* which recognizes the relationship between people and the natural environment and made provision for “...all necessary steps to be taken to give adequate protection to valued birds, animals, fish, insects, plants and trees”.
- ▶ Provides guidance for communities, organizations and agencies to harmonise their efforts in a structured and logical manner to the sustainability of existing and the development of new protected areas.
- ▶ Built on five pillars. They are
 1. Protected Area Governance and Management
 2. Sustainable Livelihoods for communities
 3. Effective and adaptive biodiversity management
 4. Managing the PNG Protected Area Network, and
 5. Sustainable and equitable financing for Protected Areas.

Policy Context cont'

- ▶ Existing Policy on Protected Areas (2014), no corresponding act or legislation
- ▶ Draft National Protected Areas Bill (2016) - Work in progress to get Parliament endorsement
- ❑ Provide for and give effect to the Policy pillars in accordance with the Constitution, other National laws and obligations in international law;
- ❑ (a) in providing for conservation and replenishment of the environment,
- ❑ (b) in regulating the management of protected areas matters (protected area, protected area policy, protected area network) including measuring, reporting and verification and, the establishment of targets for both current and future protected areas

Key Policy Guiding Principles

Customary land ownership (92% land and 90% near shore marine areas)

- ❑ traditional landowners own and manage most existing protected areas,
- ❑ biodiversity is important to traditional cultures,
- ❑ people are connected to their land and sea
- ❑ experience and wisdom in living sustainably on land and sea
- ❑ traditional values contribute to conservation

Free Prior Informed Consent

- ❑ full involvement of customary landowners and communities in conservation decision-making and management relating to their land and seas - part of consultation process

Protection

- ❑ shared responsibility for the stakeholders - benefit sharing; management & conservation costs, degradation costs

Benefit Sharing Agreements

- ❑ Conservation Benefit sharing via Agreements

Proposed Pilot Bootless Bay Marine Protected Area Project

Bootless Bay,

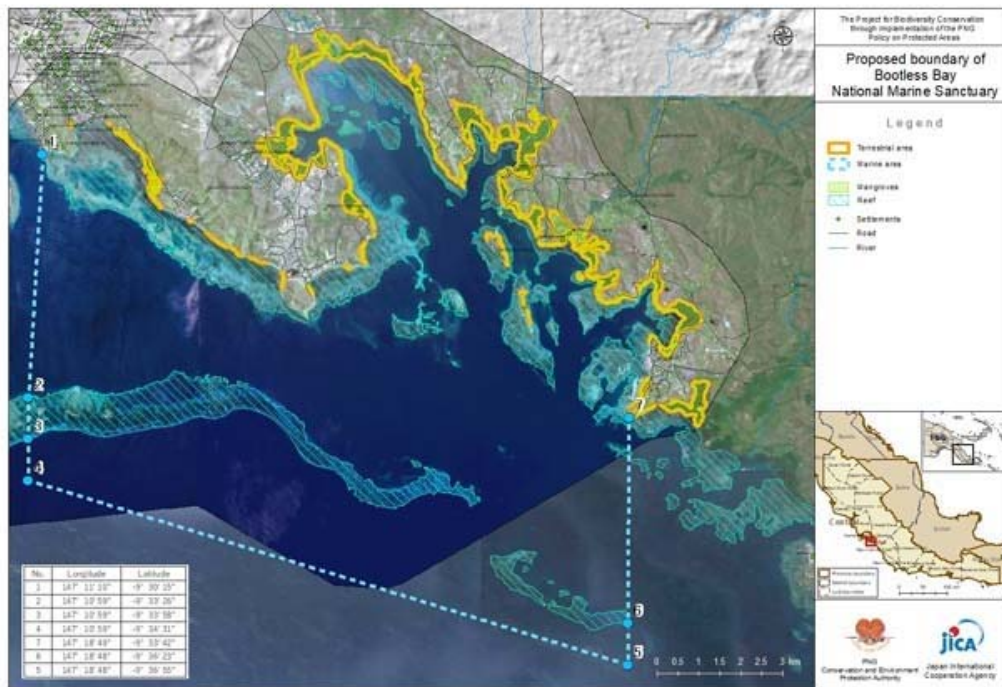
- ❑ semi-enclosed bay on the southwest coast of PNG, 20mins drive from Port Moresby.
- ❑ bordered by the great Papuan Barrier Reef, 3-5km off-shore and coastline of south eastern New Guinea.
- ❑ approximately 9.5km long (northwest-southeast) and 2km wide.
- ❑ Shallow, maximum depth of approx 30m, hence, "*Bootless*" - deceptively shallow depth
- ❑ Proposed MPA - Tubuseria village coastline, East Hiri LLG, Central Province to Joyce Bay, Moresby South electorate of National Capital District.
- ❑ Voluntarily declared an MPA in 2017

Bootless Bay Satellite Map

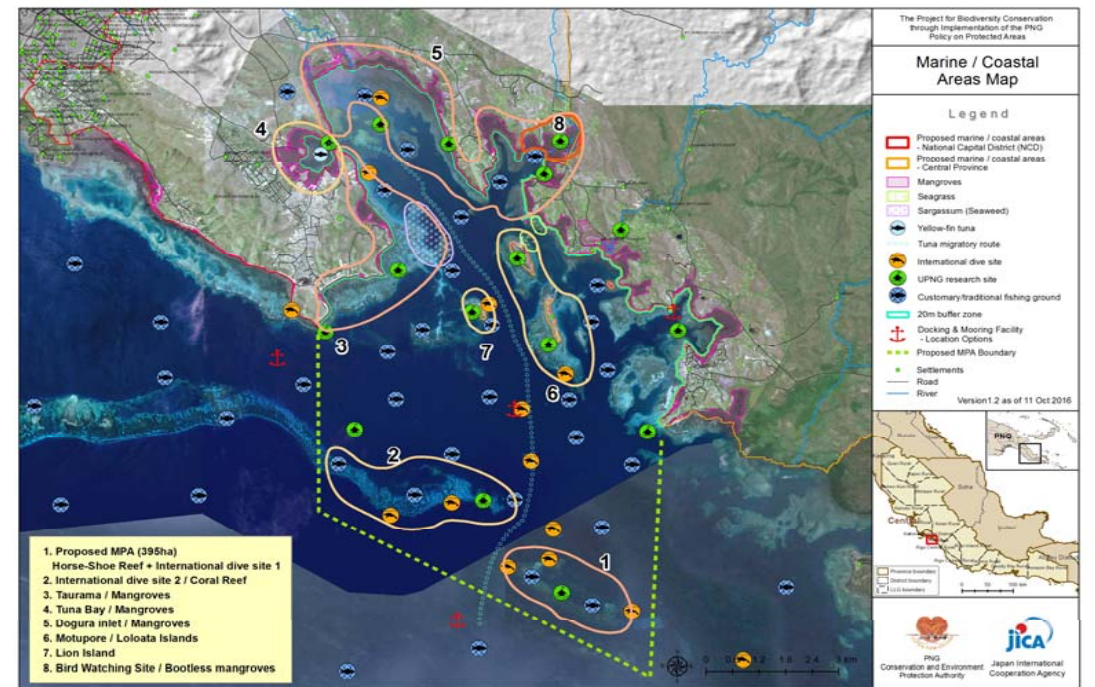


Bootless Bay Map

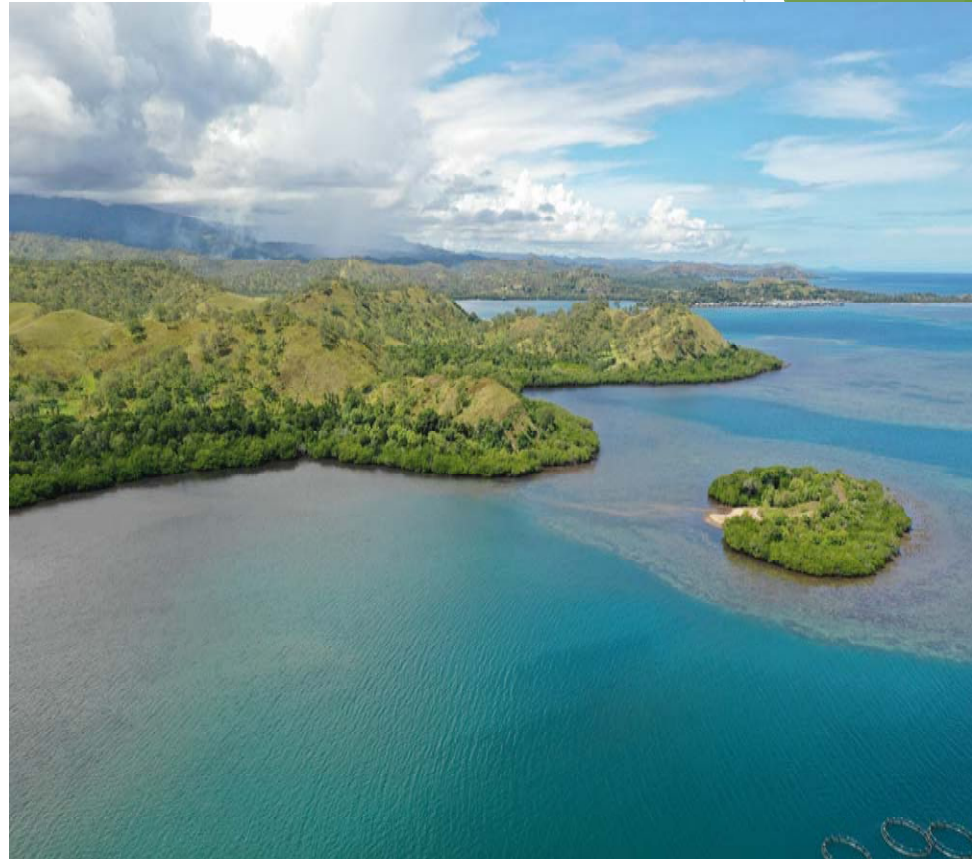
MPA Boundary



Coastal/Marine Habitats



Images of Bootless Bay



Bootless Bay Ecosystem

- ▶ *The Marine Life of Bootless Bay* (Baine & Harasti, 2007), colourful photographs of marine biodiversity, most unique and diverse in the world.
- ▶ *Rapid Biodiversity Survey* (UPNG, 2018) - biodiversity assessment to inform the development and establishment of the MPA.
- ❑ diverse flora and fauna - Mangroves, Sea grass beds, saltmarshes, fish, corals, sea cucumber, diverse bird species - high conservation value.
- ❑ degrading mangrove forests, extensive fishing, bleached corals, and sediment siltation,
- ❑ Survey conclusion - protect this unique and diverse ecosystems

Social Environmental Research & Consultancy Services Engagement

- ▶ Customary land ownership (92% land and 90% near shore marine areas)
- ▶ Key challenge: harmonizing protected areas and peoples' livelihood strategies
- ▶ Contracted by CEPA-JICA, undertake social baseline studies - Social Mapping and Household Survey
- ▶ Engagement is a Work in progress,
 - ❑ identify key stakeholders, including customary landowners as partners in conservation decision making and management plans
 - ❑ pioneering the feasibility and establishment of the proposed pilot MPA,
 - ❑ create awareness on the community's use of the marine ecosystem services for their livelihoods,
 - ❑ Contribute to development of the MPA management plan,
 - ❑ ongoing social impact monitoring (overall project, and community use of the marine ecosystem)

Purpose of the Baseline Studies

► Social Mapping

- ❑ Understand cultural and historical factors shaping traditional and contemporary relationship between people and their land
- ❑ Resource issues within MPA- offshore geographical areas sections used, how often and what times of the year
- ❑ Types of Products harvested and the value if sold

► Key Areas of Focus

- ❑ **Distribution of people between resources** - relationship between local population, and the environment, use of land and sea and other natural resources, ownership and rights issues over marine environment (noting ownership impacts on social relationship between groups)

Cont'

- ▶ **Distribution of resources between people**
 - ❑ Allocation of rights to natural and cultural resources
 - ❑ Referencing cases where rights are subject to dispute (noting ownership and user right are interlinked)
 - ❑ Unifying factor - sharing arrangements between groups - communal ownership and use of marine resources for sustenance and livelihoods
 - ❑ Issue of decreasing resource stock and impact on livelihood and distribution
- ▶ **Distribution of Products between people**
 - ❑ Pattern of economic transactions, flow of money connecting the local people, and in MPA context, links them to use of marine resources for domestic consumption and income generation
 - ❑ Issues of traditional distribution patterns - bride price and feasts - impacting on monetary aspects of distribution

Baseline Social Mapping and Household Survey

- ▶ Baseline Information will
 - ❑ analyze the necessity of establishing an MPA
 - ❑ clarify bottlenecks; reasons for degradation of habitats of wildlife such as mangrove and coral; degradation of marine resources such as fish, shellfish, and sea cucumber; alternative income sources of fishing such as agriculture, ecotourism, etc
 - ❑ identify activities for MPA Management such as coastal clean-up event, awareness activity, mangrove planting, etc.

Baseline Study Methodology

1. Literature review

- ❑ technical documents and reports,
- ❑ archival research,
- ❑ Library Research, and
- ❑ general web search

2. Checklist Interviews -

3. Focus Group Discussion -

4. Stakeholder Analysis



Progress to date

- ▶ Social Mapping and Household Survey Questionnaires - currently piloted out
- ▶ 3 scoping trip and 15 stakeholder consultations
- ▶ Introductory meetings and brief discussions
- ▶ General observation on the landscape and seascape
- ▶ Identification of significant historical sites
- ▶ Identification of key issues and challenges
- ❑ LLG Election
- ❑ Waste Management - whole area requires a major coastal clean up
- ❑ Community Ownership and Livelihood options
- ❑ Lack of Awareness
- ❑ Stakeholder coordination and collaboration
- ▶ Development of Key awareness messaging - Canvas Banner, A3 Posters and Flip Charts

Next Step

- ▶ Planned Community Engagement and Awareness
- ▶ Baseline Studies - Social Mapping and Socio-economic Survey

Conclusion

- ▶ How Ecosystem Services in the MPA area will contribute to sustainable livelihoods and enhance community well being?

The End

