Empowering Multi-stakeholder Participation in Sustainable Coastal Management:

Transdisciplinary Approaches on Climate Change Education and Awareness

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Current Issues And Challenges In Environmental Management In Coastal Environments

Participatory approaches need timely and relevant transformation

- Participatory approaches on environmental protection and climate change adaptation is neither fully harnessed nor capitalized
  - Technical versus local knowledge, localization of technical knowledge on climate change that can be understood by local culture ('technocratic' versus 'democratic' approach)
  - Climate change adaptation levels vary based on development context (rural vs. urban)
  - Reactive vs. proactive - due to slow onset of climate change effects and natural hazards
- Cooperation among the private and public sectors were not seen as effective in addressing current environmental issues and challenges (lack of political force in implementation, weak monitoring)

Current Issues And Challenges In Environmental Management In Coastal Environments

Various challenges for many coastal communities around the world

- Resource management is often in conflict with livelihood
  - Reconciling biodiversity conservation vis-a-vis livelihood sustenance of people
  - Coastal areas heavily rely on fishing and marine resources as livelihood source
  - Coastal areas gain income through tourism (ie. ecotourism practices)
  - Varying land use context of coastal environment (commercial, leisure/recreation, residential)
- Managers of the environment is often 'political' in nature
- Local government vs. local people, legal frameworks in place to protect 'marine conservation/protected areas'

Innovation, Compelling Synergies and Cooperation

Reconciling development goals of the encompassing goals of environmental management (ie. climate change adaptation, disaster risk reduction/mitigation/management, biodiversity conservation)

- What needs to be done to **integrate innovation** in climate change adaptation and disaster risk mitigation?
- What needs to be done to **enable synergies** among many competing interests of stakeholders?
- What needs to be done to **induce cooperation among stakeholders** in the process of environmental management?

Defining the Participatory Process

Transitioning the 'technical' to 'democratic' environmental management process

- Harmonize contributions of various stakeholders (determine the essentials)
- Connect and relate contributions to the development planning process that can be understood by all stakeholders
- Use communication tools that will enable relationship and trust building among stakeholders

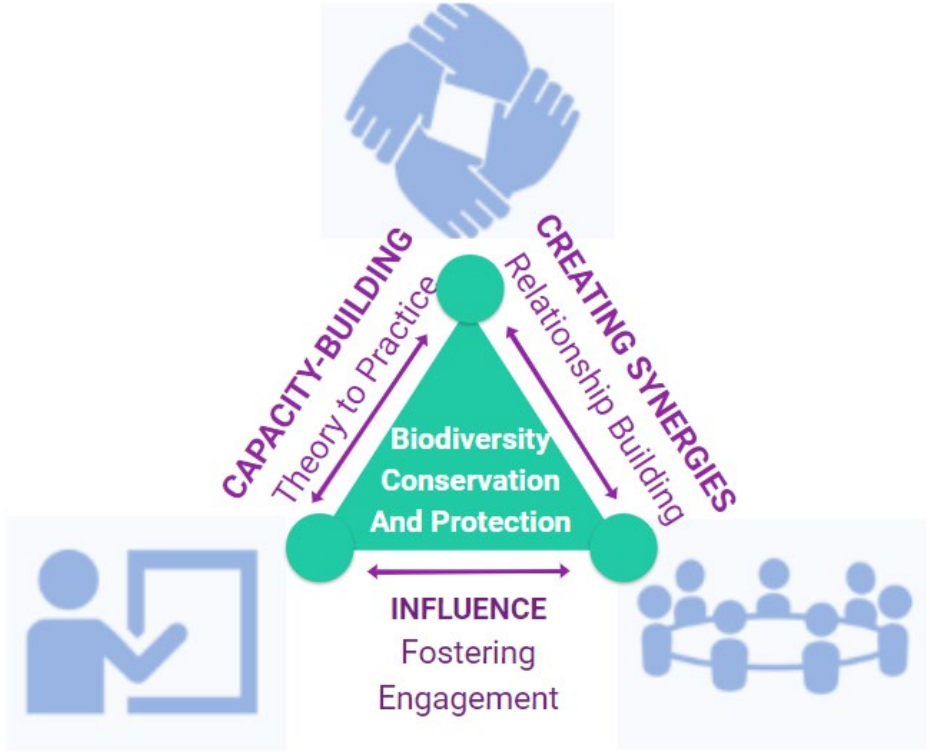
Introduction of a Transdisciplinary Methodology

Environmental management requires transdisciplinary effort in arriving a technical, rigorous, and comprehensive environmental management plan:

- **Involvement of experts in the environmental sector** (ie. ecologists, foresters, experts in various environmental sectors ie. flora/fauna (biodiversity), water, air and meteorology, land use and resource management
- **Engagement of other technical professionals**, who can relate the environmental management to specific urban/rural development context ie. architects, engineers, environmental/spatial planners
- **Strategize environmental management communication** to various stakeholders ie. clients, community/local people, end-users (context of tourists), and alike, through dynamic, transformative communication strategies

Introduction of a Transdisciplinary Methodology

- **Involvement of experts in the environmental sector** (capacity-building and transfer of knowledge to local community)
- **Engagement of other technical professionals** (through relationship and trust building)
- **Strategize environmental management communication** to various stakeholders (to increase influence and awareness)



Transforming Technocratic To Participatory Approach Through Variety Of Roles And Responsibilities

How to harness and optimize community empowerment in
(1) CONTRIBUTING, **(2) CO-DEVELOPING**, and **(3) CO-IMPLEMENTING** environmental solutions?

(1) CONTRIBUTING - Determining **potential roles in contributing** technical knowledge as basis of development framework (ie. adaptation/mitigation)

(2) CO-DEVELOPING - Defining **existing local culture and practices**, learning, re-learning, un-learning methods and practices

(3) CO-IMPLEMENTING - Developing **standard practices in implementation, monitoring and evaluation**, delegating varied responsibilities among stakeholders

Enabling 3 C's In Environmental Solutions Through Participatory Approach

How to harness and optimize community empowerment in
(1) CONTRIBUTING, **(2) CO-DEVELOPING**, and **(3) CO-IMPLEMENTING** environmental solutions?

(1) CONTRIBUTING - Potential contribution to **situational analysis**, **observation of existing practices, asset inventory**

(2) CO-DEVELOPING - Creating environmental co-management practices that are grounded on **local culture**, understood by **local people**, transferable

(3) CO-IMPLEMENTING - **Implementation**, as well as in **monitoring and evaluation** of these determined practices (varied roles

Benefits [preconditions] of a Participatory Process

- Defined functions and contributions in the management process
  - Inventory (technical professionals)
  - Participatory engagement (social scientists, development planners, community workers)
- Iterative process requires time and perseverance, consistency of length of engagement are prerequisites of relationship and trust building
- Competing claims and narratives need comprehensive and factual discussions to reconcile
- Strategy in communicating/translation of technical knowledge appropriate to intended audience is vital in effective management implementation and sense-making

Varied nature of stakeholders in environmental management

Revealing the varied interests, roles, and influences of stakeholders in the process:

The Client (Private/Public): Owner, an entity funding the study, or any organization that may have interests in the conservation area - NGO, a government agency, a developer, or a private individual.

The Experts: This can be a group of technical professionals in various sectors (social, economic, environmental, infrastructure, institutional)

The Local Stakeholders: This may be a group of local fishermen, farmers, or other players of industries (ie. tourists, consumers, businesses)

Key Challenges for Clients

The Client (Private/Public): Owner, an entity funding the study, or any organization that may have interests in the conservation area - NGO, a government agency, a developer, or a private individual.

- Private clients interest to highest-use-best-use of the property
- Public clients interest to balance conservation and consumption

Connecting to local communities and other stakeholders is highly dependent on the willingness of the client to engage, also may act according to 'political' purpose ie. business interest, or market competition.

Key Challenges for Experts

The Experts: This can be a group of technical professionals in various sectors (social, economic, environmental, infrastructure, institutional)

- As technical professionals, they may not [necessarily] have the skill to translate technical knowledge into local consumable knowledge for other stakeholders' appreciation
- Faithful to their technical expertise, siloed approach based on their specialization
- Participatory approach is tedious and time-consuming

Generating 'technical versus local knowledge' may arise into conflicts, determining competing interests, may bring into surface 'political' issues (community)

Key Challenges for Local Stakeholders

The Local Stakeholders: This may be a group of local fishermen, farmers, or other players of industries (ie. tourists, consumers, businesses)

- Depending on the existing relations among various stakeholders, involvement may vary according to the quality of existing relations
- Competing interests, varied characteristics, potential/existing conflicts may arise
- Relationship and trust building are key factors to enable participation and involvement

'Not in my backyard', 'indifferent', 'varied interests', are among typical impressions, usually impenetrable depending on the nature of 'middle-man' that will connect the 'client' and the 'technical professionals'

Reconciling the challenges of Participatory Approach

Holistic and systematic approach on sustainable environmental management:

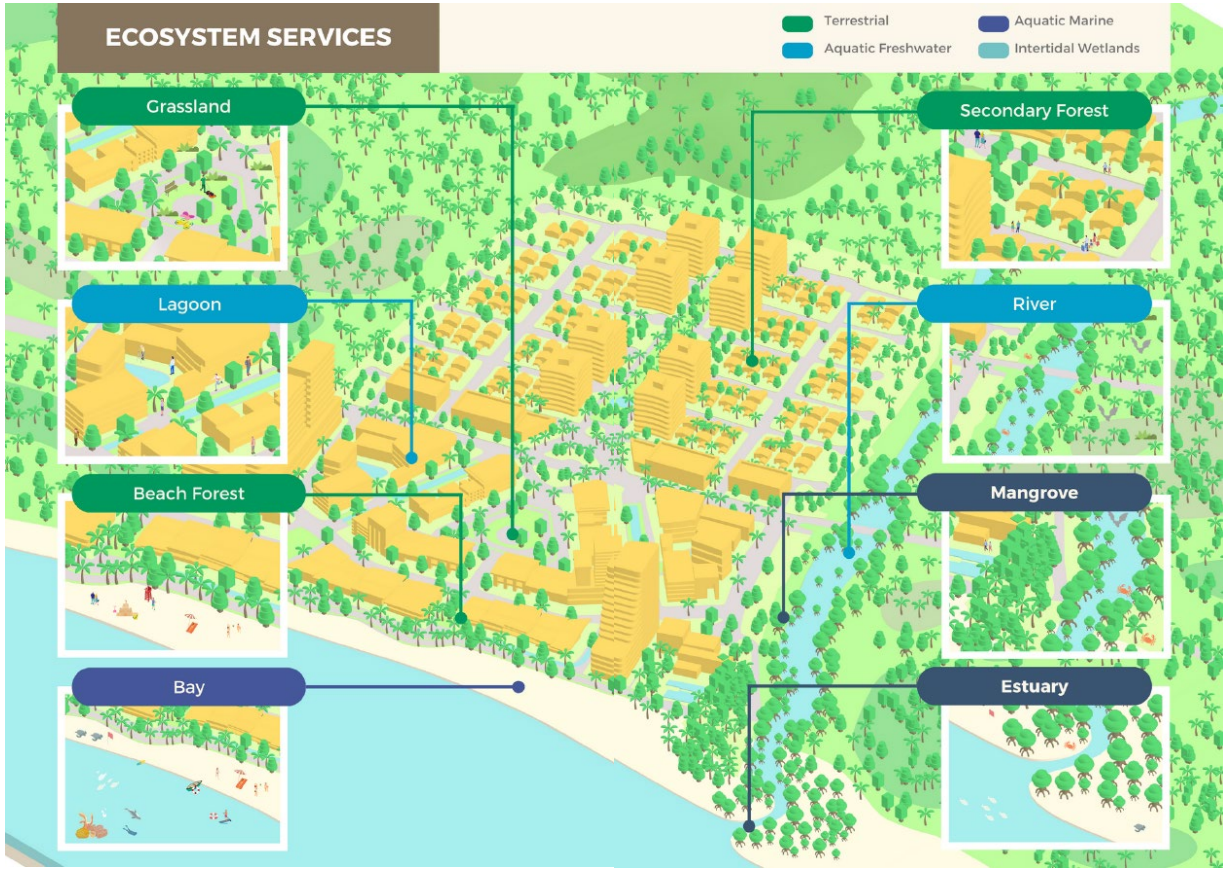
(1) Formulating and implementing environmental management practices rooted to local culture,

(2) implementing delegated roles and responsibilities among stakeholders, and by

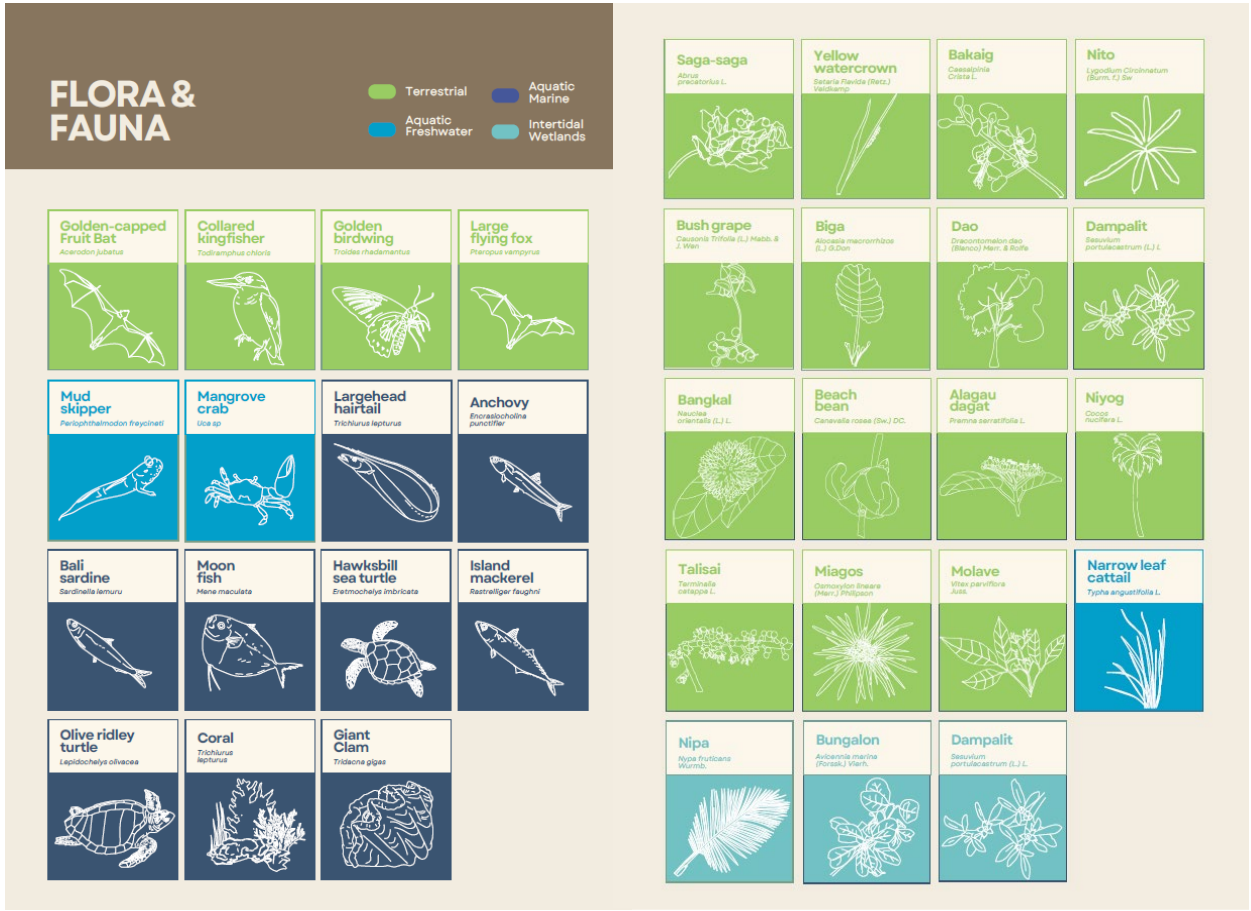
(3) establishing community-based management practices would also result in increased community relations and better promote climate change education and awareness.

Innovation in Climate Change Education and Awareness

- **Exploring innovative and creative communication strategies** in awareness raising on environmental management
- Utilizing climate change education and awareness in non-conventional methods ie. information and education campaign materials
- Use of technology (drone, online meeting platforms, collaborative spaces for workshops)



Innovation in Climate Change Education and Awareness



Wayforward

Recommendations for furthering and improving participatory approaches

(1) Transdisciplinary approaches by blending 'technical'/environmental to social science
(2) Ethnographic methodology implementation on climate change adaptation, education and awareness on coastal environments
(3) Cultural documentation of best practices on climate change adaptation, education and awareness on coastal environments through local knowledge

Questions?

Thank you very much for your kind attention!

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