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Best Practice in Seagrass Management in Southeast Asia



Miguel D. Fortes, PhD Citizen Science & Blue Carbon Specialist University of the Philippines, Dil., QC <u>migueldfortes@gmail.com</u>



GOAL of SAP: SEAGRASS

"To conserve, manage & sustainably utilize seagrass habitats & resources"

CHALLENGES FOR SEAGRASS MANAGEMENT

- 1. Lack of sustainable financing
- 2. Lack of awareness among people who are causing damages to seagrass
- 3. Coastal development plans, if any, usually do not take seagrass into consideration.
- 4. Poverty of coastal communities.
- 5. Lack of effective seagrass management systems.
- 6. Weak law enforcement.

7. Lack of long-term regional & international cooperation/coordination

Some recent documented best practices addressing the challenges:

- at the site scale; &
- at multi-scale

At the site scale (not focused on seagrass):

Effectiveness & true success in conservation & management of coastal resources in SE Asia are predicated upon:

1. a scope that prioritizes the prevailing natural eco-geological conditions;

2. monitoring & adaptive management that underlie the decision making process;

3. involvement of local people in planning, monitoring & implementation;

4. identification of how, when & to whom the benefits accrue; &

5. ecocentric, not egocentric, leadership & intensions.

<u>At multi-scale (focused on seagrass):</u>

Change in community perception of the challenges



2007-2010 data from 43 seagrass sites in the Philippines; 2020 data from informal literature-based opinion polls



Some milestones in the recent global & regional efforts to manage seagrass

- 1998 Bolinao Declaration (Seagrass Charter) which gave birth to the World Seagrass Association
- 2002 Start of project, The UNEP/GEF South China Sea & Gulf of Thailand Project
 - Kirkman & Kirkman: First comprehensive work on management of seagrasses in SE Asia, (Bull Mar Sci, 71(3): 1379–1390,)
- 2009- COP15: seagrass as a blue carbon ecosystem; initiated the Blue Carbon Initiative & IBCSWG & IBCPWG
- 2014 Coles et al. 20 years of seagrass networking & advancing seagrass science: The ISBW Series. Pacific Conservation Biology Vol. 20(1): 1-10.
- 2016 Approval of the project Implementing the Strategic Action Programme for the South China Sea (SAP-SCS)
- 2018 Fortes, MD. Seagrass conservation in SE Asia needs to link science to policy & practice. (Ocean & Coastal Management 159 (2018) 51–56).
 - Fortes et al. Seagrass habitats in SE Asia: A review of status & knowledge gaps, & a roadmap for conservation. (Botanica Marina. Botanica Marina 2018; 61(3): 269–288)
- 2019 Duffy J. E. et al. A Coordinated Global Observing System for Seagrasses. (Frontiers in Marine Science vol. 6 p317
- 2020 United Nations Environment Programme. The value of seagrasses to the environment & to people. (UNEP, Nairobi)
- 2021 Stankovic M et al. Blue carbon in seagrass ecosystems of SE Asia & their potential for climate change mitigation. (Science of the Total Environment 783 (2021) 146858.)

- Sudo Kenji et al. Distribution, temporal change, & conservation status of seagrass beds in SE Asia: 2000–2020. (Frontiers in Marine Science vol 8)

Initial curation of the world's seagrass **Communities of Practice**. They are a platform linking the science-policy-practice interphase in seagrass management

Indicative locations of the initial 61 CoPs superimposed over the map of global seagrass distribution. 32 of these have clear seagrass science-to-policy mandates at different levels of governance



Advances in the following areas of concern*:

- 1. Seagrass ecosystem services but their trade-offs are lesser understood
- 2. Local & global natural & anthropogenic threats to seagrass meadows
- 3. Integrated management options that recognize the multiple benefits of seagrass ecosystems.
- 4. Regional, national & local practices that have led to proven benefits for seagrass ecosystems.
- 5. Citizen Science can be used to strengthening seagrass conservation.
- 6. Access to funds for seagrass conservation & restoration, with a mixed approach likely to be the most effective.

^{*} The same areas where more data & information are needed to meet project objectives

Next best thing to do:

- Assess where we are now vis-a-vis original intent of SAP
- Localize & contextualize those best practices using updated data & info;
- Put the region's seagrass initiatives within the broader global perspective of issues & scientific & social concerns

References

Coles, et al. 2014. Twenty years of seagrass networking and advancing seagrass science: The International Seagrass Biology Workshop Series. Pacific Conservation Biology Vol. 20(1): 1-10. Surrey Beatty & Sons, Sydney. 2014.

Duffy et al. 2019. Toward a Coordinated Global Observing System for Seagrasses and Marine Macroalgae. Frontiers in Marine Science vol. 6 p317 DOI=10.3389/fmars.2019.00317, URL=https://www.frontiersin.org/article/10.3389/fmars.2019.00317.

Fortes, MD. 2018. Seagrass ecosystem conservation in Southeast Asia needs to link science to policy and practice. Ocean and Coastal Management 159 (2018) 51–56.

Fortes, M.D. & K. Nadaoka (eds). Guidebook: The Coastal Ecosystems Conservation & Adaptive Management (CECAM) Approach as an Innovation of Existing ICZM Frameworks in the Philippines. 2015. Japan International Cooperation Agency (JICA), Japan Science and Technology Agency (JST), Commission on Higher Education (CHED). Quezon City, Philippines. 241pp.

Fortes MD, JLS Ooi, YM Tan, A Prathep, JS Bujang, and SM Yaakub. 2018. Seagrass habitats in Southeast Asia: A review of status & knowledge gaps, & a roadmap for conservation. Botanica Marina. Botanica Marina 2018; 61(3): 269–288.

Fortes et al. 2020. Part 2: Policy and Management Options, p.61-70, in United Nations Environment Programme (2020). Out of the blue: The value of seagrasses to the environment and to people. UNEP, Nairobi.

Kirkman H & Kirkman JA. 2002. Management of seagrasses of Southeast Asia. Bulletin of Marine Science, 71(3): 1379–1390

Stankovic et al. 2021. Quantification of blue carbon in seagrass ecosystems of Southeast Asia and their potential for climate change mitigation. Science of the Total Environment 783 (2021) 146858.

Sudo et al. 2021. Distribution, Temporal Change, and Conservation Status of Tropical Seagrass Beds in Southeast Asia: 2000–2020. Frontiers in Marine Science vol 8 2021 pages 779 URL=https://www.frontiersin.org/article/10.3389/fmars.2021.637722 DOI=10.3389/fmars.2021.637722. ISSN=2296-7745

Unsworth, R. et al. Part 1. Scientific Evidence, Transforming conservation and understanding of seagrass ecosystems through the use of citizen science, p. 56-60 in United Nations Environment Programme (2020). Out of the blue: The value of seagrasses to the environment and to people. UNEP, Nairobi.