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# A FRAMEWORK FOR THE SUSTAINABLE MANAGEMENT OF COASTAL TOURISM AND FISHERIES NEXUS

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Small islands like Boracay, Gigantes, and Guimaras are good case studies of natural resources utilized for various purposes, with focus on mainly tourism and fisheries sectors. Boracay represented tourism sites with mass tourism as a developmental goal where the contribution of the fisheries sector to the economy of the island is very minimal. Meanwhile, Guimaras represented tourism sites with ecological tourism (ecotourism) as a developmental goal, with considerably high contributions or activities of the fisheries sector. Gigantes represented tourism sites which are still considered in the middle developmental goal (in between mass tourism and ecotourism) with active mass tourism marketing despite low tourist arrivals and equitable contributions from the fisheries sector. These crucial differences are important inputs to the resilience and sustainability of both coastal tourism and fisheries in the respective islands.

## SMALL ISLANDS AS SOCIAL- ECOLOGICAL SYSTEMS

The link between tourism and fisheries has been a topic of interest for many researchers for some time. The

interlink between tourism and fisheries has been termed as coastal tourism and fisheries nexus (CTF), where CTF in the context of small islands is basically one social-ecological system (SES) with both non-extractive (i.e., coastal tourism) and extractive (i.e., fisheries) human activities interact within one coastal area and utilize the same coastal resources. The unique, scenic, and relaxing characteristics of coastal areas entice tourists to visit islands, while abundant and diverse coastal resources provide livelihood to island residents and food for both islanders and tourists alike. However, unregulated coastal tourism and fisheries activities may negatively impact coastal areas and resources. Overfishing and overtourism can cause fish biomass reduction and coastal/marine habitat degradation, respectively. This phenomenon, in turn, has socioeconomic repercussions as exemplified during the temporary closure of Boracay.

Our study revealed that tourism developments in the three small islands are largely private sector-initiated. The government came in later to regulate activities and sustain the surge of investments and revenues. The study also shows the similarity in perceptions of various stakeholders in the three islands, regardless whether

they are high-ranking local government officers, owners of a tourism enterprise, fishers, or even visitors. Data showed that all users of coastal resources in small islands have the same level of knowledge of their importance and uses. Residents are familiar with the characteristics of their respective island and the importance of conserving the natural resources to maximize gain more the influx of new money from investors and visitors who actively participate in the dynamic interaction between nature and people. Moreover, as recreational needs of increasing tourists are satisfied, more fishers directly benefited from coastal tourism in the three small islands with indirect advantages to fishery resources. As coastal tourism activities become sources of supplemental or alternative livelihoods for a significant number of fishers, an expected reduction in fishing operations is reported in waters off small islands. Fishers and their families find additional jobs in carpentry, fish trading or vending, value-adding of fishery products, souvenir-making, small variety store ownership and tending, farming, shellfish shucking, and motorcycle driving

## DRIVER-PRESSURE-STATE-IMPACT-RESPONSE IN SMALL ISLANDS

The most crucial drivers in small islands related to CTF-SES are the provisioning needs of residents and visitors with the recreational needs of tourists. Findings indicate that provisioning services of natural resources in the small islands are no longer the sole source of livelihood, since tourism development provides supplemental or alternative livelihoods related to tourism. Upon the entry of tourism, fishers and other residents become construction workers and carpenters in infrastructure development; drivers of e-trikes and motorcycles that cater to tourists; vendors of food, souvenirs, and other items; and workers or crew members of passenger pump boats. However, recreational activities of the increasing number of tourists pressure the natural state of social and ecological subsystems. Disruptions or changes to this balance negatively impact these islands through the rise in social (e.g., prices of local goods way above the buying capacity of local people, loss of cultural distinctiveness) and ecological (e.g., solid and liquid pollution) problems. The response to the undesired impacts of tourism development is exemplified in the 21 programs and initiatives implemented in these islands, which include regular coastal cleanup, marine protected area management, strengthening of people's organizations, coastal law enforcement, networking with

national government agencies and/or non-government organizations, public awareness and education, protection of the major ecosystems, and training on alternative/supplemental livelihoods identified by the local CTF-SES actors. Interventions are tailored to the intricacies of the small island CTF with adaptive management strategy as the preferred approach. More mechanisms are in place to provide support and livelihood to the local community as more outsiders expressed interest to enter the islands. Focus is on allowing fishers and their families, with other members of the island community to live decently, comfortably, and safely amidst tourism development.

## RESILIENCE IN SMALL ISLANDS

Another important part of understanding CTF-SES is the examination of the islands' resilience to determine their readiness to support more investments and influx of tourists. Fortunately, the Disaster Risk Reduction and Management (DRRM) structures in all study sites are well-placed as mandated by Republic Act No. 10121 and required by the Local Government Code. Each level of government has its own DRRM fund derived from at least 5 percent of the estimated revenues from regular sources to finance their respective programs and initiatives. The CTF-SES actors are fully aware of the threats posed by natural events and other hazards through a high level of hazard awareness. The small island residents' exposure to natural hazards have developed strategies to mitigate the impacts of these events. Such knowledge is reflected in high overall resilience perception ratings of local actors. Similar perceptions were found for each resilience indicator, namely: connectedness, risk and vulnerability, procedures in planning for disaster response and recovery, and resources available to the community for emergency planning, response and recovery. Our study showed that, overall, Guimaras is extremely resilient to any disaster, whereas Boracay and Gigantes are perceived as "improving." Disaster preparedness rating in all islands is above average.

## SUSTAINABILITY IN SMALL ISLANDS

The most essential task in understanding CTF is the analysis and determination of the sustainability of CTF-SES in small islands. Since the ecological sustainability scores of the three islands ranged from 64 percent to 74 percent, the ecological sustainability status of these islands are classified as potentially sustainable based on

the sustainability barometer. This means that the CTF-SES programs and initiatives in the islands are acceptable and sustainable goals are almost achieved. Among CTF-SES actors, fishers had the lowest ecological sustainability rating, while visitors had the highest rating. This is due to the fact that fishers are more adept to the true state of ecological subsystems and have livelihoods that would suffer the most when the integrity of the ecosystems is compromised, than the tourists who stay in the islands for only a very short time. In terms of the socio-economic sustainability scores, Guimaras was highest with a mean rating of 87 percent, equivalent to a sustainable status in the sustainability barometer. Meanwhile, the two other islands were potentially sustainable. Overall, these islands are classified as “sustainable” with respect to the socio-economic dimension, implying that the CTF-SES program and initiatives in the islands are either in acceptable or desirable performance for the sustainable goals to be achieved. In terms of the institutional sustainability scores, the trend is similar to the socio-economic dimension, with Guimaras having the highest institutional sustainability status while the two other islands are potentially sustainable. With an overall institutional sustainability mean score of 77 percent, the small islands are classified as potentially sustainable with respect to the institutional dimension.

## MANAGEMENT FRAMEWORK FOR THE SUSTAINABLE DEVELOPMENT OF COASTAL TOURISM AND FISHERIES NEXUS IN SMALL ISLANDS

After knowing the attributes of CFT in small islands, it is imperative to develop a management framework to be used as the basis of decision towards sustainable tourism and resiliency. With the protection of the natural environment in mind, islanders are likely to support activities and programs that will ensure quick recovery after a disaster and sustained socio-economic benefits. Since everybody knows practically everyone else in a small island, hypothetically, the social and ecological subsystems in an island move and work like one big family. The system of networks in a small island is not as complex compared to larger islands, where there are more players with varying roles. Information and education campaigns are easily effective and efficient in a small island setting. People in small island communities are more connected to their natural environment, making involvement of all family members in small

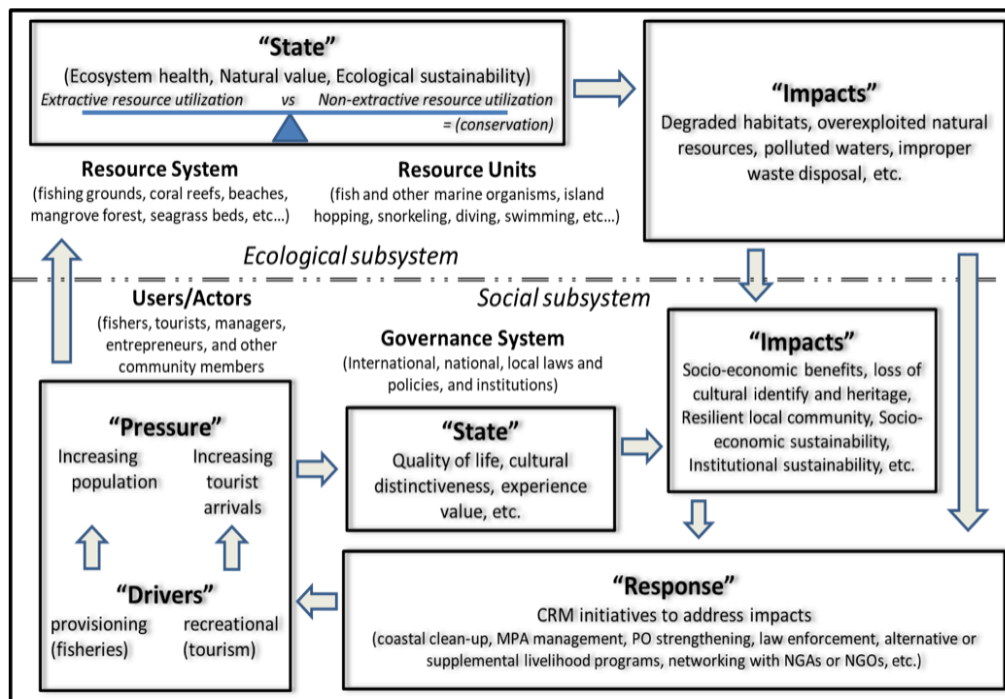
island coastal and fisheries tourism possible. The only obstacle towards making coastal and fisheries tourism sustainable and small islands disaster resilient are greedy pursuits of external players. Investors provide additional infrastructure and money to develop tourist attractions, without the same attachment as small islanders to the natural resources in the area.

This study considered all the factors that may further improve disaster resiliency and sustainability of small islands in relation to coastal and fisheries tourism based on the respondents’ perceptions on tourism’s characteristics, disaster resiliency, and sustainability in small island settings. The first case scenario is exemplified by the famous island of Boracay, with highly developed coastal tourism, high investments from outsiders, large volume of visitors, and private sector overpowering local government managers. In this case, self-regulation by the private sector would have been the best strategy. However, it appears not to work well. Intervention from the national government to regulate activities was the best option, as done by former President Rodrigo Duterte. The second scenario is exemplified by the new coastal tourism startup island of Gigantes, where tourism is beginning to pick up with few private sector participants and outside investors. The role of the local government is critical at this stage. Planning is a crucial endeavor that helps islanders develop coastal tourism from within through capacity building and capital sourcing. The third scenario is exemplified by Guimaras. An advantage of the island is its proximity to Iloilo City, helping it become a recreational haven for local tourists from Iloilo City and the province. Guimaras has become a sub-urban entity of the Iloilo metropolis. The partnership of the provincial government and local community became stronger due to oil spills. Stakeholders have become more adept at taking immediate and appropriate actions to address hazards and unsustainable practices. Partnerships with shared responsibilities may work well in the case of Guimaras.

Considering these scenarios, Figure 1 illustrates the management framework proposed. To ensure the long-term viability of CTF-SES in small islands, the drivers, pressures, state, impacts, and responses (DPSIR) must be continuously revisited. Provisioning and recreational ecosystem services must co-exist, becoming the main drivers in small islands with recreational services and allowing an increase of tourist influx which in turn, possibly translates to a population increase. These put pressures on the resource systems and resource units,

but may be conserved if the CTF actors/users agree to put more weight on non-extractive utilization through preferential rights for recreational services. This opens opportunities for new money to pour in. It may create temporary disruptions in the state or natural balance of ecological and social subsystems within the island, creating either negative or positive impacts. However, balance between ecological and social subsystems may return if a functioning governance system and appropriate responses are put in place to immediately address adverse impacts. Non-extractive utilization of natural resources directly leads to their conservation, increasing their natural value and enhancing ecological sustainability.

Supplemental or alternative livelihoods may focus on enterprises that are non-extractive while regulated fishing can be allowed as part of the CTF services. Local stakeholders must be given preferential rights to benefit from tourism development. These initiatives allow sustainable development of coastal tourism in the islands by improving the quality of life of locals while allowing tourists to optimize experiential value of the recreational services offered. Adopting a multi-sectoral, holistic, and integrated approach in the management of small islands leads to sustainable tourism development and creates stronger communities that are resilient to natural hazards.



■ **Figure 1.** Proposed management framework for the sustainable development of CTF-SES in small islands.

Short- and long-term strategies are necessary for sustainable tourism development. Short-term CTF strategies include coordination and synchronization of programs among related agencies both vertically and horizontally. Consistency among programs/activities and budget allocations, well-informed planning, implementation monitoring, and evaluation of development programs are carried out in a participatory manner. Long-term strategies may include development (related to tourism, infrastructure, housing, etc.) which supports the authenticity of the local cultural landscape, reduction of potential adverse impacts on

the resource systems, and empowerment of local actors to develop tourism products and services that uphold the values of local wisdom while meeting international standards. Aspirations of local actors are important in the process of planning and development sustainable tourism. Moreover, solving the challenges of tourism development requires a stable governance system, including the maximum participation of local actors, especially in decision making, implementation of plans, and supervision.

## COASTAL TOURISM AND FISHERIES NEXUS AS COASTAL RESOURCE MANAGEMENT STRATEGY

Ultimately, CTF's potential to serve as a coastal resource management (CRM) strategy in small islands is its most significant contribution. Management of resources in coastal areas is challenging, considering the involvement of different actors and the variety of natural wonders present, especially in small islands where the interactions of the natural resources and people are more pronounced. CRM aims to sustain the use of these resource systems for the benefit of the actors. However, conservation takes center stage as an overriding strategy to mitigate and minimize the usual impact of unmanaged development. Human behavior tends to push towards overdoing things such as overfishing and mass tourism to gain economic returns at the shortest time possible. Unknowingly, the rush to overexploit natural resources pushes the main source of the socio-economic opportunities to collapse. This is especially true in small islands where limited space and the little room for the natural capacity of the terrestrial and coastal ecosystems to renew itself after disturbance due to human activities are realities. Hence, CRM interventions become practical pursuits by environmental and tourism managers. However, developing CRM programs that do not consider tourism as the main driver of economic development becomes challenging due to their conservative, rather than liberal, approaches. Conflicts soon arise when environmental issues are resolved by outright protection of natural resources. On the other hand, all stakeholders want to pursue sustainable tourism that provides long-term economic benefits. Stakeholders are expected to protect natural resources, but at the same time, continue to earn from tourist influx. Environmental and tourism managers, tourism enterprise owners, as well as fishers if included in the chain of beneficiaries, will pursue protection if they continue to share in the economic benefits. In this win-win process, both the environment and society benefit from this type of tourism, making it a worthy pursuit for small islands.

Non-extractive utilization of coastal resources in small islands for recreational purposes must be pursued in the context of the participatory CRM process of planning, implementing, and monitoring for sustainable uses of coastal resources through collective action and sound decision making. Since CRM is a continuous and dynamic process by which decisions are made

for the sustainable use, development, protection, and conservation of coastal and marine areas and resources, it should be integrated to avoid fragmentation inherent in both the sectoral management approach and the splits in jurisdiction among government levels at the land-water interface. Allowing full local actors to participate in the management process provides opportunities for understanding and learning that non-extractive resource utilization through CTF can lead to conservation and preservation of coastal resources. They may appreciate that they have higher and lasting gains from conserved and preserved natural resources.

With the potential benefits of non-extractive resource utilization through tourism development in small islands, governance can focus on making CTF sustainable, improving resilience of small island communities and supporting the participation of local actors in the management and protection of coastal resources in the island through direct involvement in tourism activities. CTF is one strategy for the attainment of the CRM programs. Development of this type of tourism will naturally provide supplemental or alternative sources of income for the fishers, and the benefits gained from non-extractive resource utilization for recreational purposes will lead to conservation and protection of coastal resources. The goals of CRM are easily attained by a sustainable CTF development and a resilient small island community. Protected and conserved coastal resources, in turn, naturally provide better and long-lasting provisioning and recreational ecosystem services.



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