

Community-Based Coastal Resource Management in Nasidman Island, Iloilo, Philippines¹

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ABSTRACT

This paper explains and analyzes the forces that sustain and inhibit a community-based coastal resource management (CBCRM) system in Nasidman Island, Iloilo Province, Philippines. Field work for this study was conducted periodically from 2000 to 2002 using qualitative research techniques. The paper reveals that wider international and national socio-political, economic and environmental processes have helped shape local decision making in Nasidman Island, particularly in the adoption and sustainability of a CBCRM program. The case study provides evidence that local coastal communities are not hapless “victims” that can be engulfed by external socio-political and economic processes. The fishing community in Nasidman Island conducted networking activities and devised practices to utilize and neutralize forces and actors that were not supportive of their CBCRM initiatives. Notwithstanding the destabilizing effects of global and national integration to small ecoregions, the CBCRM dynamics in Nasidman Island have resulted in the general increase in fish stocks, improved household livelihood and the enhanced capacity of fishers to influence coastal resource management plans and programs.

Problem, Objectives and Method of the Study

This paper on the CBCRM experience of Nasidman Island in Ajuy, Iloilo provides a case study on problems and issues concerning the sustainability and scaling-up of community-based coastal management systems. The general goal is to contribute to the on-going discussion and debate on how best to sustain and scale-up coastal and fisheries resource management and development efforts. The study provides a documentation on the processes involved in creating a CBCRM program in Nasidman Island, Ajuy, Iloilo and the factors that sustain contemporary management efforts and institutions. Specific study objectives are:

1. To describe the cultural context, legal framework and strategies employed by the community of Brgy. Nasidman to sustain coastal area development efforts and institutions;
2. To explain the political ecology of CBCRM efforts and institutions in Brgy. Nasidman.

Accessibility and familiarity with the case of Nasidman Island, Ajuy, Iloilo prodded the researchers to select the area as a possible case study site for the UP in the Visayas-Center for West Visayan Studies (CWVS) conference on “Culture, Environment and Sustainable Resource Management.” This study made use of different sources of data, namely: content analysis of municipal and technical papers; focused group discussion on the CBCRM system in the area with representatives (officers as well as young, old and women members) of the Nasidman Small Fisherman’s Association (NSFA) on 3 August 2000, and; intermittent interviews with key informants that include Efren Cuesta (Agricultural

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Technician of Ajuy), Salvacion Molina (Barangay Captain of Nasidman, 1987-1997) and Maricon Molina (Barangay Captain of Nasidman, 1998-present) from 4-6 August 2000.

Content analysis of primary and secondary documents provided information on: the creation of the CBCRM scheme in Brgy Nasidman, and; an overview of the socio-economic and demographic profile of the community. The focused group discussion with NSFA representatives and the interviews with key informants provided information on CBCRM arrangements, processes and framework in the study site. The various data sources were reviewed and analyzed together so that findings are based on convergence of information from different origins. The development of converging lines of inquiry through the process of triangulation facilitated the corroboration of evidence.

The study adopts a political ecology perspective that veers away from a strict focus on a particular cultural group's interactions with the environment (cultural ecology) and places that relationship within a wider political economy context. The approach goes beyond a classical cultural ecology perspective that views culture (ritual practices or social structure) and the adaptive capacities of local communities (intimate knowledge of their surroundings and structural similarity to all biological systems) as a regulator of the natural environment. Political ecology stresses that human-environment relations can be adequately understood only by reference to the relationship of patterns of resource use to political and economic forces. This perspective requires an examination of the impact of the State and the market on the ways in which particular cultural groups/communities utilize their resource base (Keil et al. eds. 1998).

International and National Context

As far back as the late 1970s attempts have been made to reverse the decline in production and continued poverty in coastal areas in the Philippines. In recent years, a number of showcases of coastal resource management employing mostly community based and participatory methods have proliferated in the country (Fernandez et al. 2000). The cases of Apo Island and Sumilon Island in Negros Oriental (White 1989), and other similar researches have contributed to the collective national understanding regarding "community-based coastal resource management" or CBCRM. Lessons from these cases reveal that successful CBCRM is due to:

1. Funding support from foreign countries and lending institutions that want to support democratization, open and competitive markets, as well as environmental protection conservation;
2. Technical assistance from the academe and development-oriented non-government organizations;
3. Presence of a small, culturally homogeneous community with clustered private and public spaces;
4. Support, acceptance of responsibility, and commitment of community members to carry out their functions, and;
5. Support of the local and national government through enabling legislation (Fernandez et al. 2000).

The acceptability of community-based and participatory development initiatives in less-well managed economies like the Philippines was bolstered by the paradigm of "sustainable development" that came out of the United Nations Conference on Environment and Development (UNCED) in 1992. Sustainable development was first codified in The World Conservation Strategy, prepared by the International Union for the Conservation of Nature and Natural Resources (IUCN) with finance provided by the United Nations Environment Program and the World Wildlife Fund (IUCN 1980). But the most popular definition came out of the Brundtland Commission in Our Common Future that saw sustainable development as a "development which meets the needs of the present without compromising the ability of

the future generations to meet their own needs” (Brundtland 1987:43). . These documents became the driving force behind the “Earth Summit” or the United Nations Conference on Environment and Development (UNCED) in Rio in 1992 which was attended by 128 Heads of State and some 178 governments. A parallel summit was also held by non-government organizations to influence the debate through the Global Forum (Holmberg et al. 1993). From these conferences emerged a relatively clear vision of sustainable development.

The elements of the sustainable development ideas in Our Common Future extend the ideas in The World Conservation Strategy and both blend environmental concerns (of the need to achieve a sustainable level of population, conservation of the resource base and the reorientation of technology) with development concerns (fundamental goal of meeting people’s basic needs and the need to build environmental factors into economic decision-making). Economic growth was still seen as the only way to tackle poverty and to broadly achieve environment-development objectives. It was, however, to be conceived as a new form of growth: “material- and energy-intensive and more equitable in its impact” (Brundtland 1987:52). In other words, the new goal is growth that is sustainable, environmentally aware, egalitarian, and integrates economic and social development. The Brundtland Report’s vision of sustainable development is based on the need to maintain and revitalize the world economy. It calls for “more rapid economic growth in both industrial and developing countries, freer market access for the products of developing countries, lower interest rates, greater technology transfer, and significantly larger capital flows, both concessional and commercial” (Brundtland 1987:89). Although the document seems to revert back to the narrow economic approaches to development of the past, the document also calls for people-centered development that concentrates on improving the human condition, and the protection and conservation of nature and its diversity. The general idea is to consider development and conservation as not opposing concepts but are part and parcel of one important process. Consequently, the discourse and practice of various actors at the international and national level shifted from the “use” to the “management” of coastal areas. In the case of the Philippines the devolution of financial and natural resource management powers to municipal/city local governments through the Local Government Code of 1991 and the strengthening of multisectoral coordination between state³, market⁴ and civil society⁵ forces under the Fisheries Code of 1998, provide enabling legislation to decenter coastal and ocean management and development. Although the Philippines is considered by most countries as a model in CBCRM, sustaining and scaling-up of resource management efforts remain a special concern that need attention. The CBCRM experience of Nasidman Island in the Province of Iloilo is a good case in point.

Background Information on Nasidman Island and its CBCRM System

³The basic unit by which people are organized politically with specific effects on class, religion, ethnicity, identity, gender and is often casually called “country” or “nation.” The state is often seen as a mechanism to counteract failures in the market (an institutionalized connection between buyers and sellers). But states can also be rigid and inflexible mechanisms for allocating resources, they may be poorly coordinated, may create rents for particular classes or groups, or may simply colonize civil society.

⁴An institutionalized connection between buyers and sellers. It is a venue in which buyers and sellers bid against one another or a broker-organized market. Traditionally, market forces have been viewed as the most efficient mechanisms in allocating or distributing scarce goods and resources. Whatever purported virtues of the market, however, they may be monopolistic, imperfect or inflexible in managing a common resource.

⁵A non-state sphere of influence commonly called “private” where exercise of power and consent is organized, and which possesses the potential for rational self-regulation and freedom. Non-governmental organizations (NGOs), people’s organizations (POs), and the academe may fall under this category. Civil society is often seen as a critical mediating space between state and market, and a repository of rights, participation and associational life. Nonetheless, civil society may equally bring forth religious, ethnic, or other identity-based fanaticism and strictures.

Nasidman Island is approximately 2.5 kilometers east from mainland Panay and is part of the Municipality of Ajuy (consult Figure 1) in the northeastern Province of Iloilo, Western Visayas. The island has an estimated area of around 25 hectares of sloping and reforested terrain surrounded by a limited coral cover. The island's name came from its reputation as a shelter ground for sailors and travellers who are paralyzed or lost due to nightfall or storm. The

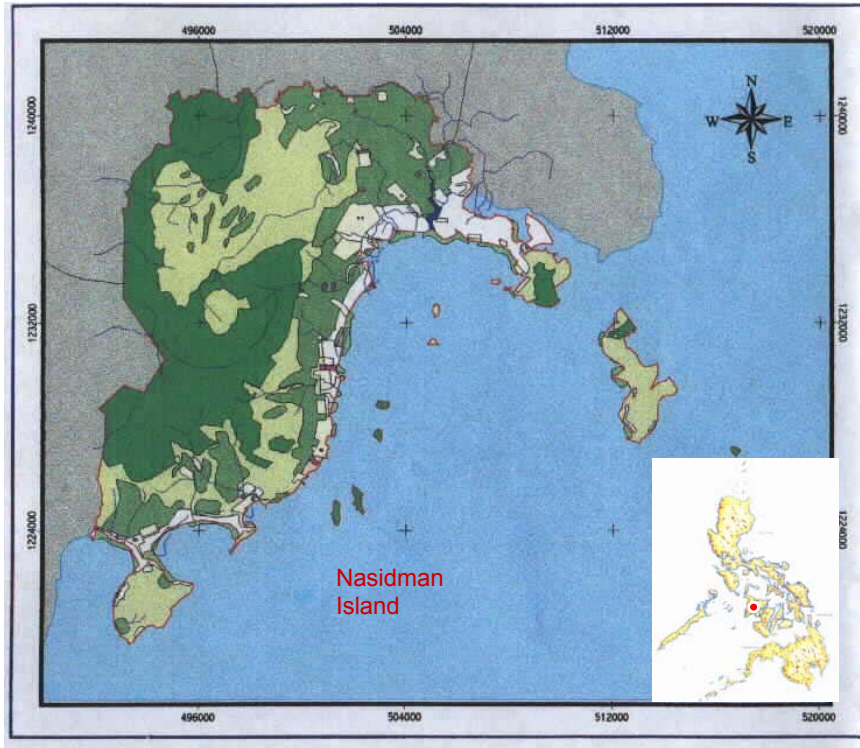


Figure1. Nasidman Island in the Municipality of Ajuy, Iloilo in Northeastern Panay Island.

fastest trip to the island is via motorized pumpboats from Barangay Barrido located 7 kilometers south of the plaza complex of Ajuy. The municipality of Ajuy is a member of the Northern Iloilo Alliance for Coastal Development or NIACDEV, an intermunicipal coastal management council founded in 1998 and inspired by the Fisheries Code of 1998.

Nasidman Island is inhabited by a community or a *barangay* (the smallest political unit in the country) with a dominantly *Ilonggo* (Visayan ethnic group) population of 490 individuals or around 85 families. The households are clustered together in mostly semi-concrete homes in the northwestern side of the island facing Kalabasa Island and sheltered from strong monsoon winds (see Figure 2). The inhabited northeastern portion of the island is surrounded by a coral and shell beach while the rest of the coastline is rocky.

The majority of the residents in Nasidman Island are full-time subsistence fishers. Most fishing vessels are small (*baroto* or *banca*) and number around 90 (a total of 40 are motorized). Hook-and-line and net fishing are common fishing techniques, with the former being practiced

Figure 2. Homes made of light and concrete materials are clustered in the northwestern side of the Nasidman Island.



within a one kilometer radius from the shore while the latter is used offshore. Other sources of livelihood include: fish drying (*tabagac* or Indian sardine); animal husbandry; fish trading (conducted by five middlemen/women who buy and sell local catch produce to Banate, Iloilo City and even Japan), and; water transport (11 motorized pumpboats that ply the Nasidman-Barrido route). Family-owned convenience stores (“sari-sari” store) also provide additional income to the residents.

Of the 108 fishermen in Nasidman, a total of 66 (five are women) individuals are members of the NSFA. The association was founded in 1998 and is registered as a non-government organization (NGO) in the Securities and Exchange Commission. The NSFA takes the lead role in implementing the CBCRM program in the island. A monthly due of five pesos is collected from the members of NSFA for operating expenses. NASFA funds also provide members with a social safety net by providing soft loans (at 500 pesos with three percent interest) and emergency assistance to members.

Two families, who are related by blood and affinity, own most of the parcels of land in Nasidman. They have also dominated local *barangay* politics since 1987. These local elites are also engaged in the lucrative fish trading business, fuelled by an estimated two tons of fish products that land in Nasidman annually. Recently, one of the elite families built an 800 square meter beach resort in the northwestern coast of the island.

Major Findings on Sustainability and Scaling-up of CBCRM Efforts

During focused group discussions and interviews, elders and key informants in Nasidman Island recall a time of teeming marine life in the area that could be caught effortlessly. Fishers did not have to venture offshore to gain a decent catch for the day and even children could easily gather crabs and shellfishes for home consumption. By the interwar years offshore sailfishing, conducted by a crew of ten fishers using stick held fish net (*basnigan*) made from abaca, was a popular and highly successful fishing method that provided the livelihood needs of Nasidman residents. This fishing method was conducted at night with the help of fish-luring torches and/or lamps. The expansion of fishing grounds towards the offshore area and the expansion of operations of commercial fishery continued throughout the post-World War II era. These changes were driven by the influence of Japanese and Chinese fishers (Yano 1994) who introduced large scale and more lucrative fishery technologies such as *muro-ami* or drive-in net fishing⁶ (involves hitting the ocean floor with a blocks of stones tied to nylon lines to scare fish into nets), blast fishing (main ingredient during post-war years was gunpowder left by soldiers, today rice fertilizer or potassium nitrate is the main ingredient) and trawl or *manchurria* fishing (anchor scrapes bottom of sea floor destroying corals and seafloor nutrients). Today, these large scale fishing operations are banned and/or considered culprits for the destruction of coral reefs and the marine environment. An overexploited and degraded coastal and ocean environment has in turn led to increased poverty among fishers and the maintenance of smallscale fishing operations.

The origins of the present CBCRM framework in Nasidman dates back in the mid-1990s as a response to the low fish catch of two to three kilos a day for every fishing household. The original CBCRM plan framed by local officials of Nasidman in 1995 called for the creation of a marine/fish sanctuary that will prohibit all forms of fishing and motorized water transit in specified sites through a *barangay* resolution. After passing a *barangay* resolution to this effect, the resolution was passed to the municipal government for endorsement. Through an official letter, however, the *barangay* resolution was not supported by the municipal government citing the need to further study the proposal to ensure its consistency with NIACDEV’s resource management plans and programs.

As an alternative, Nasidman policymakers settled for the creation of a marine protected area program that maintains a regulated fishery system where only hook-and-line fishing is allowed within a one kilometer radius “buffer zone” between Nasidman Island and the neighbouring Kalabasa Island.

⁶Studies indicate that this fishing technique was introduced in Manila from Okinawa, Japan. Large scale operations were noted in the late 1920s after the introduction of motorized boats. Previous reports indicate that Japanese fishers set up three *muro-ami* net operations in Iloilo City employing 150 fishers (Kataoka 1991, cited in Ushijima and Zayas 1994: 42).

Barangay officials and *tanods* (town marshals) serve as lookout for violators who are fined P1,000 for each offense. Those who fish for subsistence, on the other hand, are encouraged to donate P25 to the *barangay* each time they fish using hook-and-line.

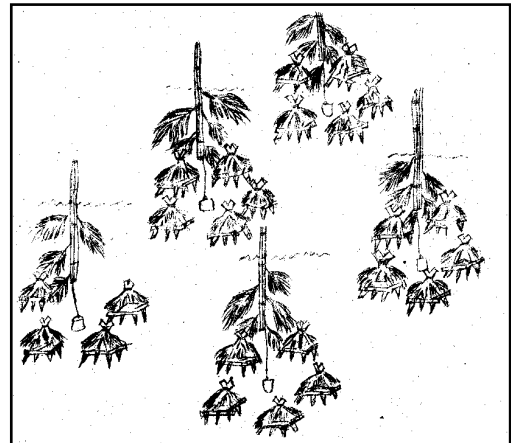
The creation of a marine protected area in the northern part of Nasidman Island were initially resisted by some local fisherfolks. During the first few weeks of the program, violators were caught using fishing nets within the protected zone. But a marked increase in catch using hook-and-line fishing within the first month of the program provided positive incentive for residents to comply with regulations. It was further noted that as plankton and green algae increased in number in just one month, a fishing boat carrying one or two fishers using hook-and-line can catch more than eight kilos (sometimes even 20 kilos) of fish daily (interview with Mr. Efren Cuesta, agricultural technician in the municipality of Ajuy). Increased fish catch and fish stock has been maintained and sustained in the last three years through the strict implementation of regulations and compliance of residents.

It is within the protected area or buffer zone that the concrete ARs donated by the provincial government were deployed. Today there are 72 concretized ARs and hundreds of indigenous ARs (replaced or refurbished four times a year by NSFA) in and around the marine protected area (see Figure 3). ARs are fish aggregating devices that are controversial especially when used under open access regimes. Nonetheless, the residents of Nasidman consider the deployment of ARs as a successful CBCRM practice especially under regulated conditions. Artificially-made reefs can hasten the depletion of fish stock when fishing activities near these devices are unregulated. The Nasidman Island experience in CBCRM reveal, however, that ARs are not dangerous and can in fact improve the livelihood of fisherfolks through strict implementation of fishing regulations and community compliance. Nasidman's CBCRM program is complimented by a Visayan Sea-wide moratorium on fishing during the spawning season from March-November. Due to the large area coverage, however, the Visayan Sea-wide moratorium is difficult to implement.

Since 1997 the Iloilo provincial government claims that a total annual benefit of P4.0 million is enjoyed by the municipality of Ajuy as a result of the CBCRM program of Nasidman Island. It was further observed that residents of Nasidman Island have experienced improved quality of life as evidenced by improved housing structures, the purchase of a generator for electricity needs and the general improvement of the health and education status of their children (Technology and Livelihood Development Center, Province of Iloilo pamphlet). The result of a focused-group discussion with some members of NSFA on 3 August 2000 confirms the positive benefits that the CBCRM program has brought in their lives.

In the summer of year 2000 a resolution was passed by officials of Barangay Malayuan (located in the mainland fronting Nasidman Island) to set up a CBCRM program, similar to Nasidman, in their area. The resolution was passed for endorsement by to the municipal government but has suffered the same fate as that of Nasidman. Plans are now underway to seek the support and assistance of the provincial government to replicate the CBCRM program of Nasidman.

Figure 3. NASFA members deploying Artificial Reefs (ARs) within their marine protected area. The ARs are made of concrete and indigeneous materials.



The CBCRM program in Nasidman has been sustained thus far through the efforts of a small, culturally homogeneous and geographically proximate community in the northern part of the island. The community is formally organized through NASFA and has cooperated in the program by: 1. creating and deploying indigenous ARs; 2. creating and deploying concrete ARs donated by the provincial government, and; 3. complying with fish sanctuary regulations (only one community member has been caught and fined for violating regulations). The sustainability of CBCRM efforts is spurred by market incentives and socio-political factors such as;

1. Donation of cement and metal frames provided by the provincial government for the construction of concrete ARs in 1995;
2. Support provided by the Molina clan who own many parcels of land in Nasidman Island and who have maintained their status as local political leaders since 1987. The Molina clan have been instrumental in persuading tenant fishers to follow the fish sanctuary regulations;
3. Improvement of fish catch within a month after the implementation of the CBCRM plan;
4. Lucrative market for first class fish species in the local (Banate and Iloilo City) and international market (fresh whittings, sea shrimps and other white flesh fish species command excellent prices

abroad and marketing is facilitated by companies such as Seaplus, a Japanese-owned fish processing plant in the neighbouring municipality of San Dionisio);

5. Strong political will of barangay officials who actively pushed for and monitored the implementation of the CBCRM program (only hook-and-line fishing is allowed within a one-kilometer radius around the island, especially in areas where ARs have been deployed); and
6. Influence of environmentalists like Benny Beatingo (relative to the Molina clan who works as a librarian in Silliman University) and Efren Cuesta (municipal agricultural technician in Ajuy) who devoted their time and effort to educate Nasidman residents about CBCRM and environmental conservation/protection.

Conclusion

This case study illustrates that a political ecology perspective provides a useful framework to better understand the political and economic processes that affect the nature of local CBCRM efforts in Nasidman Island and their consequent impact on environmental stability. It is revealed that cultural homogeneity and adaptation alone is insufficient to explain coastal management schemes and environmental stability in Nasidman Island. In actuality, the society in Nasidman is part of a larger, more complex and open political economy. Wider international and national socio-political, economic and environmental processes have helped shape local decision making in Nasidman Island, particularly in the adoption and sustainability of a CBCRM program. The CBCRM configuration in Nasidman, on the other hand, has modified the local socio-political, economic and environmental structures and contexts it now faces.

Historically, fishing operations in Nasidman Island in the prewar years were small in scale using indigenous and non-mechanized technology. An expansion of fishing grounds as well as operations, however, was noted due to the adoption of Japanese and Chinese fishing technology that were large in scale and utilizing motorized boats. Although fishery trend in the post-World War II era was towards the dominance of active or larger scale fishery, its proliferation was checked by overfishing and coastal degradation (due to blast fishing, trawl fishing and *muro-ami*). The result has been the maintenance of a culturally homogeneous and smallscale nearshore fishery that is a less expensive to undertake and maintain under a CBCRM framework compared to large scale or commercial fishery.

The current CBCRM framework in Nasidman Island is a product of a number of factors. The first factor is the increased international interest on “participatory” development efforts and environmental conservation (exemplified by the concept of “sustainable development”) that has opened up theoretical, legal and financial avenues to create locally-based decisionmaking systems. A second factor is the enabling legislation of the State through the Local Government Code of 1991 and the Fisheries Code of 1998. Both these legislations (especially when complemented by the genuine cooperation among various State, civil society and market actors/institutions) can enhance people’s participation in development activities and devolve coastal resource management functions and finances from the national to the local level. The third factor is the lack of coordination and cooperation in provincial and municipal coastal resource management plans and programs. While the provincial government showcases Nasidman Island as a successful CBCRM test case due to deployment of ARs and compliance to fishing regulations, the municipal government opts to be indifferent citing the importance of abiding by NIACDEV’s resource management plans/programs. The impact of State impasse on this issue has provided Nasidman residents the opportunity to pursue their own brand of resource management. A fourth factor is the continued importance of Nasidman Island as a strategic fish landing site in Ajuy that has enjoyed market incentives (eg., a strong local and international demand for fish products). The fifth and final factor that has shaped the CBCRM system in Nasidman has been the socio-

political support provided by the provincial government, local elites and environmentalists. In other words, the CBCRM program in the island is a product of favourable socio-political and economic factors that is now sustained by the NSFA, a popular and legitimate local fisher's organization. The legitimacy enjoyed by the CBCRM system, coupled with the improvement of fish stocks and catch, has in turn resulted in high fisher compliance to fishing regulations in the area.

The case of Nasidman Island is a good example of how issues and structures surrounding a CBCRM system can become a discursive arena for various actors and their institutions on the ground. The provincial government of Iloilo, for example has gained media mileage through pamphlets and research studies that depict the Nasidman success story as their pet project through the ARs they donated. The municipal government, however, views the CBCRM program in Nasidman as a potential threat to the municipality's role and commitment to the NIACDEV. To date, the municipal government has not officially endorsed the resource management program of Nasidman, as well as similar efforts to scale up CBCRM in areas such as Barangay Malayuan. For local politicians and fish traders in Nasidman, the experimentation with ARs and fishing regulations was a rational move as the island faced low livelihood potential and depressed business revenue. For environmentalists and the academe, the Nasidman case exemplifies the capacity of local community members to rise above the threat and challenge posed by resource degradation, municipal government apathy and profit-orientation of business. For the local people, the CBCRM program has not only provided them with material benefits but has also enhanced their security, political unity and voice through the formation of NSFA. Although the discourse on CBCRM in Nasidman Island continues to undergo evolutionary change there is no doubt that the fishing households of Nasidman Island, through NSFA, has succeeded in strengthening their capacity to improve their livelihood, and in helping reconstruct or enhance their identity and image as a community.

Nasidman Island is not an isolated rural and coastal community but a society in the throes of complex forms of democratic and capitalist transition. State and market integration, commercialization, and the dislocation of customary forms of resource use and management are the dominant forces that contextualize contemporary society in Nasidman Island. The case of Nasidman Island reveals that local coastal communities are not hapless "victims" that can be engulfed by external socio-political and economic processes. Local communities, even in a small island context, are not inert population aggregates. They do networking and device practices to utilize and neutralize forces that seem to be beyond control as exemplified by the CBCRM configuration in the case study site. Amidst the context of global and national integration the case study reveals that CBCRM dynamics have resulted in the general increase in fish stocks, improved household livelihood and the enhanced capacity of fishers to influence coastal resource management plans and programs in Nasidman Island.

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