

Component 8 Coordination

The Area-capability Concept: Promoting the Use of Local Resources

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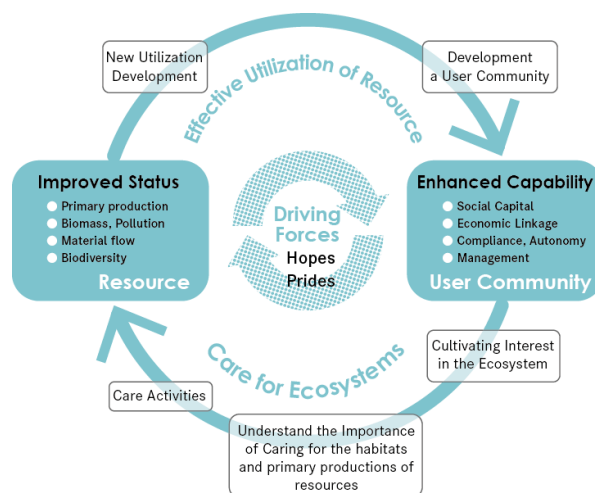
► Keywords: Area-capability, AC cycle, Local Resources, Community, Ecological service, Care

Field survey was conducted in the 3 different regions to understand back ground of success story of community based resource management. This study extracted universal elements from field surveys for better relationship between ecosystem and community in the specific area and created a concept which was named the “Area-capability”. In Amakusa region, few people have started the dolphin watching tourism. The dolphin was treated as nuisance by the local people before the tourism, but they gradually understood the value of dolphin as local resource as the number of tourist increase. Local fisherman in the Hamana Lake was negative to participate stock enhancement project of shrimp in this region and connection among fisherman groups was also too weak. As the number of production increase, however, local fisherman’s groups paid attention to the project and started production monitoring and stock enhancement activities, voluntarily. Two set nets was installed to local fisherman’s village by JICA foundation in Rayon province. After install them, local fisherman group succeed to exclude trawling and got new fishing field and the fish produced from Rayon has become famous. We realized that from this study 1) specific resource in an area should be connect to local community strongly, 2) resource user’s community should be understand the ecosystem which provides specific resource, 3) evaluation and involvement from outsider of community is needed to encourage pride or attachment to their hometown, community and local environment. The “Area-capability” concept provide a function to support creating local community based resource management system.

1. Forward

Since the United Nations Conference on the Human Environment was held in Stockholm in 1972, much research has been done to alarm the international community of global environmental risks. Following the conference, numerous actions were taken to solve the global environmental issues on local, national regional and world levels. Nearly all of these actions began as scientific evaluations and forecasts that simulated related aspects of the natural environment. Then, some restrictions of ecosystem services utilization are set in management and/or conservation of natural resources. Many people know about the risks of widespread environmental problems, and we have a lot of data and information on natural environments around the world, however, their circumstances are growing worse.

We searched for alternative ways to discussing global environmental degradation based on ordinary people’s viewpoints. We investigated how daily activities can help solve environmental issues in rural areas where there



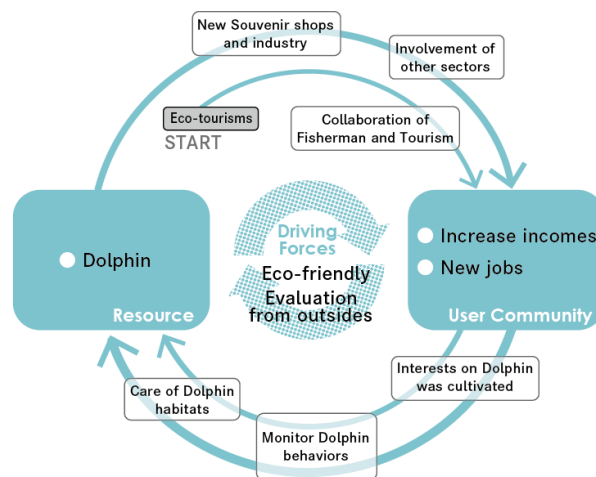
is a lot of nature. Yet the people who live in rural zone of developing countries want to lead very convenient lives without deep thinking about the environment. Our challenge is to establish a way to implement regional sustainable development that takes regional cultures and environmental features into account, in order to meet local residents' hopes and interests. Given the emphasis of recent regional development activities on utilizing local characteristics, the scale and types of resources used and the nature of the activities are extremely diverse. That said, we found that efforts which have been able to continue sustainably and expanded in scope share the following elements: (1) A local community uses resource unique to the region; (2) Resource users understand the importance and take care of the environment that supports the resources used, and (3) A balance is struck between using and caring for resources and the supporting environment, which is evaluated by outside entities.

We believe these shared components are essential to sustainable development, and use the term “Area-capability” (AC) to refer to the set of factors that comprise these elements. We developed a conceptual map showing the relationship between these three aspects, which we refer to as the Area-capability Cycle (AC Cycle). We believe that the set of factors included in AC and the AC Cycle will be useful as a checklist when developing proposals for regional development and revitalization activities, assessing the balance between use and care, and clarifying the standpoint and role of each stakeholder when evaluating projects. The principles behind AC are discussed in detail below.

2. Case Studies

1) Dolphin Watching: Itsuwa Town, Japan

Dolphin watching in Itsuwa-Machi was the brainchild of Hidenori Nagaoka, who moved to Itsuwa in 1993. Nagaoka, who was moved by seeing dolphins first hand, proposed dolphin watching to local fishermen as a means of community revitalization. The Itsuwa area had always been home to several hundred bottlenose dolphin, and their presence was taken for granted by the local residents, so no one had even considered the idea that they could be a tourism resource. In fact, to the fisherman, the dolphins,

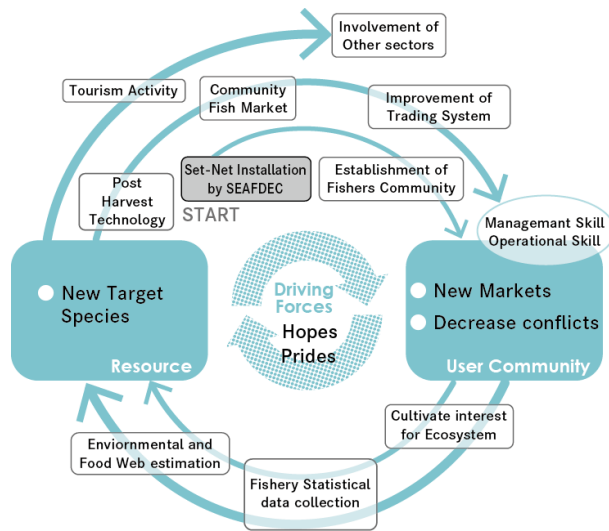


which ate the same fish they were after, were even considered enemies. For this reason, only five fishermen agreed in the beginning to offer dolphin watching tours. However, as the number of tourists steadily grew from year to year, the residents began to recognize that the dolphins were a resource for tourism, and the number of individuals engaging in dolphin watching businesses and gift shops increased. If we consider these changes in terms of the AC Cycle, the new means of resource utilization in the form of dolphin watching led to the creation of a new community of fishermen and tourist business operators, and the dolphins went from being ubiquitous enemies of fishing to an important local resource for Itsuwa. In addition, the transformation of dolphins into a resource caused fishermen to dramatically change their feelings toward dolphins and to deepen their understanding of the dolphins' ecology. Furthermore, the fishermen have made an effort to ensure a high rate of encounters with dolphins by taking steps to care for the dolphins and their habitat. This, in turn, has contributed to the branding of sustainable dolphin watching.

2) Village-based Set-net Fishing: Rayong Province, Thailand

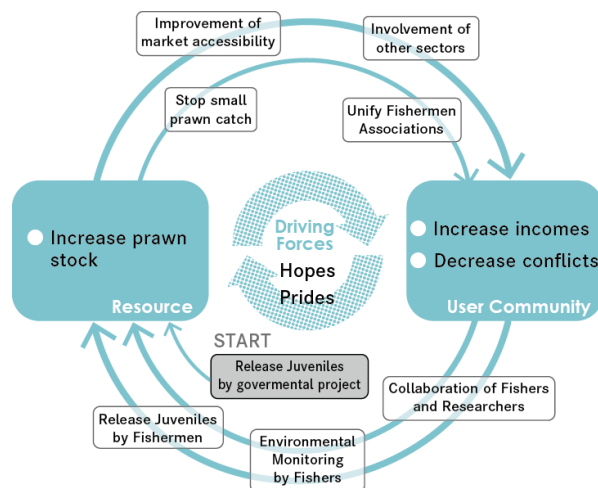
The adoption of set-net fishing technology in Rayong Province, Thailand is a prime example of the creation

of a new community as a result of new resource utilization enabled by the introduction of outside technology. Small scale fishing in the form of basket fishing and spear fishing and commercial fishing using round haul netter boats had long been practiced in the area, which resulted in conflicts regarding coastal fishing rights. In order to reduce conflicts among fishermen and to gather information needed for resource management, an international organization named the Southeast Asian Fisheries Development Center (SEAFDEC) headquartered in Bangkok, Thailand decided to introduce set-net fishing technology modeled after the village-based set-net system used in Himi City, Japan. To introduce set-net fishing, the SEAFDEC staff first contacted local small-scale fishermen and created a fishermen's organization to manage the set-net, after which they provided technical support and materials to the fishermen's organization. The catch in the first year was not very good. However, the catch was improved the following year thanks to the provision of technical instruction and better fishing gear. A cooperative sellers' market synced to the fishing operations was established, and the economic foundation and management skills were strengthened. As a result of this support, by the third year, there was no longer a need to rely on subsidies or research funds. Similarly, in terms of personnel, the set nets could be managed entirely by the fishermen's organization. In this case, the introduction of set-net fishing transformed large fish and various fish species that were previously inaccessible to the shore-based small-scale fishermen into a local resource for the user community of set-net fishermen. This new resource utilization, in turn, has become the driving force for a sustainable community. The cooperative marketing and fishing operations have strengthened local human resources and have stimulated interaction among local residents, opening up the possibility for other activities. These community activities have since spawned tourism and environmental education programs based around the set nets.



3) Tiger Prawn Aquaculture: Lake Hamana, Japan

During Japan's period of rapid of economic growth in which the nation was fixated on the growth of heavy industry, much of the seashore was landfilled and reclaimed. With the loss of spawning and breeding grounds, natural fisheries resources (supply services and fundamental services provided by coastal ecosystems) deteriorated rapidly. To compensate for the lost reproductive capacity of the coastal ecosystem, the government decided to stock (raise and release) fish species important to the fisheries industry. This was the start of the aquaculture. Aquaculture research centers were established in each prefecture and began breeding and releasing hatchery-raised fish. In Shizuoka Prefecture, an aquaculture research center was established on Lake Hamana, which



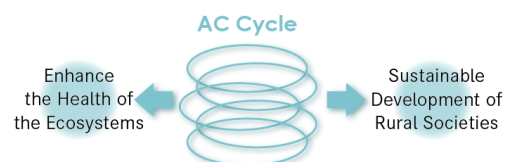
began stocking tiger prawns in 1980. The tiger prawn stocking program, which began as a top-down public works project, was not accepted by the local fishermen and received absolutely no cooperation from the local residents who did not believe stocking would be effective. Undaunted, the staff of the Shizuoka Prefecture Aquaculture Research Center persisted in collecting data for resource evaluation, researching aquaculture technology, conducting environmental surveys to identify suitable stocking sites, and continued to breed and stock tiger prawns, if only in small quantities. The young people of Shirasu village, who had watched the center's efforts in their own community, began to cooperate. With local support, the stocking of hatchery-raised tiger prawns increased dramatically. In turn, the increased harvest of small prawns resulting from this mass stocking opened the eyes of local fishermen to the potential of stocking prawns and led more and more fishermen to participate in each successive release. This series of changes aptly illustrates the AC Cycle: the obvious effectiveness of stocking heightened the fishermen's interest in the resource and supporting environment and promoted understanding of the importance of caring for the resource.

Thereafter, fishermen in the Lake Hamana area solidified as a community through the stocking of tiger prawns, and even went on to revise fishing regulations and improve distribution methods to more effectively use the tiger prawns, which they themselves had stocked. It is because so many local residents have come to participate and take action of their own accord that the community has succeeded in augmenting its resource.

3. Using the AC Cycle as a Development Index

Up to this point, we have discussed the principle underlying AC and the AC Cycle. As can be seen from the cases above, one AC Cycle can be drawn for each local resource. In other words, for a region with multiple resources, as many AC Cycles can be drawn as there are resources. Meanwhile, in the case of AC, one user community is responsible for the use of one local resource. For this reason, the existence of many AC Cycles means the existence of the same number of local user communities. Since each community is open to the people in the region, it is possible for new members to join an existing community and for members of a given community to leave whenever they choose. Furthermore, an individual may participate in multiple communities. Such changes notwithstanding, the existence of multiple communities means that individuals have that many more opportunities to interact and exchange information with others, which should facilitate cooperation among local residents in various contexts.

In other words, we believe the number of AC Cycles is an indicator of the abundance of local resources in a given region and, at the same time, an indicator of the potential for various types of cooperation. As such, we suggest that the number of AC Cycles could be used as an index for regional development.



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