

INTERNATIONAL SYMPOSIUM ON CAPACITY BUILDING FOR SUSTAINABLE OCEANS

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SESSION FIVE: YOUTH AND COMMUNITY PROGRAMS

Photo credit: Nick Hall

Creation of “Forests in the Sea”

Otsuki Town, Kochi Prefecture, Japan

1) What is the focus of this project?

This project maintains and manages artificial, manmade forests through thinning, and maintains and manages “forests in the sea” (seaweed beds and corral groups), in order to help the different actors that live in both *satoyama* (areas between mountain foothills and arable flat land, where biodiversity, villages, farming and forests are closely linked) and *satoumi* (marine and coastal landscapes with a strong connection to peoples’ livelihoods) realize the connection between the forests, rivers and the sea. It also aims to promote conflict resolution and cooperation between fishermen and diving companies, as well as provide environmental education for children.

2) Which organizations and other partners are involved?

The lead organization for this project is the Kuroshio Jikkan Center, which is actively working to create a model for a “sustainable *satoumi*” through a range of activities, such as: (1) interactive activities with nature; (2) creating better lives by taking advantage of nature; and (3) protecting both the natural environment and peoples’ lifestyles, by treating Kashiwa Island at the southwestern tip of Kochi Prefecture – a treasure trove of marine life – as an “island museum.” The Center began activities in 1998 and became a non-profit organization in 2002.

Other partner groups involved in implementing this project are: Sukumo-Wan Japan Fisheries Cooperative, Sukumo Bay Diving, Otsuki District Subcommittee, Otsuki Municipal Otsuki Elementary School, Sukumo City (Okinoshima Elementary and Junior High Schools, Oshima Elementary School, Hashikami Elementary School), Mihara Village Mihara Elementary School, Otsuki Forestry Cooperative, Sukumo Forestry Cooperative, Mihara Village Forestry Cooperative, Otsuki Town, Sukumo Fishery Advisory Office (Kochi Prefecture).

3) What activities or tools have proven successful in building capacity?

More than 1,000 types of fish, the largest number in Japan, have been confirmed in the waters surrounding Kashiwa Island in Otsuki Town, including temperate and sub-tropical fish. More than 15,000 divers from all over the country come here each year, placing fishermen at odds with diving companies regarding the use of the sea. Some fishermen have spoken about the impacts of the ever-increasing number of divers on the lower catches of bigfin reef squid, which is a luxury seafood, and tensions between both parties reached a peak around 2000.

In order to repair the relationship between these two groups, the Kuroshio Jikkan Center reached out to fishermen and divers in 2001 to initiate efforts for each party to cooperate and increase the number of bigfin reef squid. Specifically, the Center installed branches and foliage, acquired from the necessary thinning of trees in the mountains, onto the seabed to create an artificial spawning bed for bigfin reef squid to use instead

of a seaweed bed, which is normally where squid lay eggs. As a result, we confirmed that the number of eggs laid was the highest in the nation from the first year (maximum of 70,000-80,000 eggs per spawning bed) and reported this situation to fishermen and divers through photos and videos taken in the sea (visualization of results). This success sparked dialogue between both groups and has gradually helped improve their relationship.

This method was inspired by the traditional wisdom of fishermen, called *shibazuke* (brushwood trap), a fishing trap that is made from tied pieces of brushwood. But it does not involve simply tying stones to branches and leaves and installing them onto the seabed; rather, it is a method requires divers diving into the waters and fixing a spawning bed by driving iron bars into the seabed. This prevents the eggs from being broken up due to waves and the tides, and makes it possible for a large number of eggs to be laid. The method is only possible due to the skill of the divers, which has caused the fishermen to recognize the importance of their existence and invaluable contribution to the project.

Since 2003, these activities have been further expanded and introduced as part of the environmental education of local elementary students. They are also taught that the original cause of the reduction in the number of bigfin reef squid was not the presence of divers., Instead, it is commonly thought that “rocky-shore denudation” has had a major impact through the reduction of the seaweed bed used by squid for spawning. The project conducted a learning activity for the children to show them the connection between forests, rivers, and the sea. Among other things, they learn the importance of thinning in artificial forests, and come to understand that the number of bigfin reef squid increases when a “forest in the sea” is created by submerging the branches and leaves gathered from forest thinning into the sea. In this way, local children learn about local mountains and the sea, and become proud of the fact that their ocean resources are increasing through their own actions.

These activities have been featured in various media, including television, newspapers, and magazines, and publicized throughout the country.

From the perspective of human resources development, the project believes that there is a growing number of children who can improve the local environment themselves, and that it is training people who can enhance relationships through dialogue and cooperation, even between members of society that may have conflicts of interest. Today, a good relationship between divers and fishermen is being maintained.

4) **What challenges have been experienced, specifically related to maintaining a focus on capacity building and/or replicating the project in other areas?**

When these activities are positioned within school education, it is essential to have the understanding and cooperation of the school. When activities are positioned as part of comprehensive learning, it is important to understand the purpose of learning and the implementation methods, as well as to properly coordinate with all parties concerned. One secret for project continuity is to make minor changes every year or every few years to prevent practitioners and those cooperating (including school teachers) from feeling that they are stuck in a rut.

In order to reproduce a similar initiative in other locations or countries, it is important to have an understanding of the unique challenges and background of the region (including human relationships, as well) and develop the program in such a way that considers their specific situation.

Although using media to publicize activities to many people is effective, when covering activities, the media must be correctly informed of the purpose, meaning, and sentiment behind the activities and good personal relationships must be built to ensure that coverage is conducted correctly. The media is apt to create individual heroes and heroines, and often creates programs by shining a spotlight on these people. This can make it difficult to conduct activities, as it can become the source jealousy among stakeholders if carried out

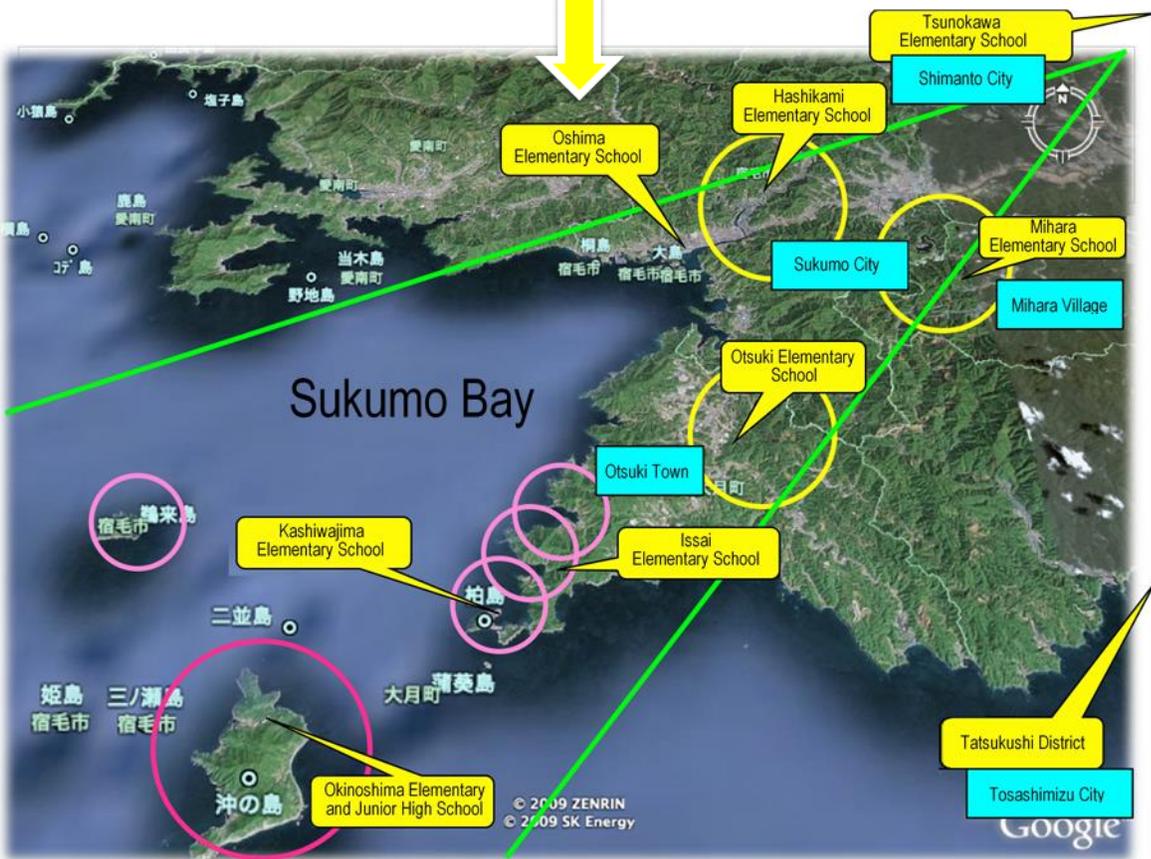
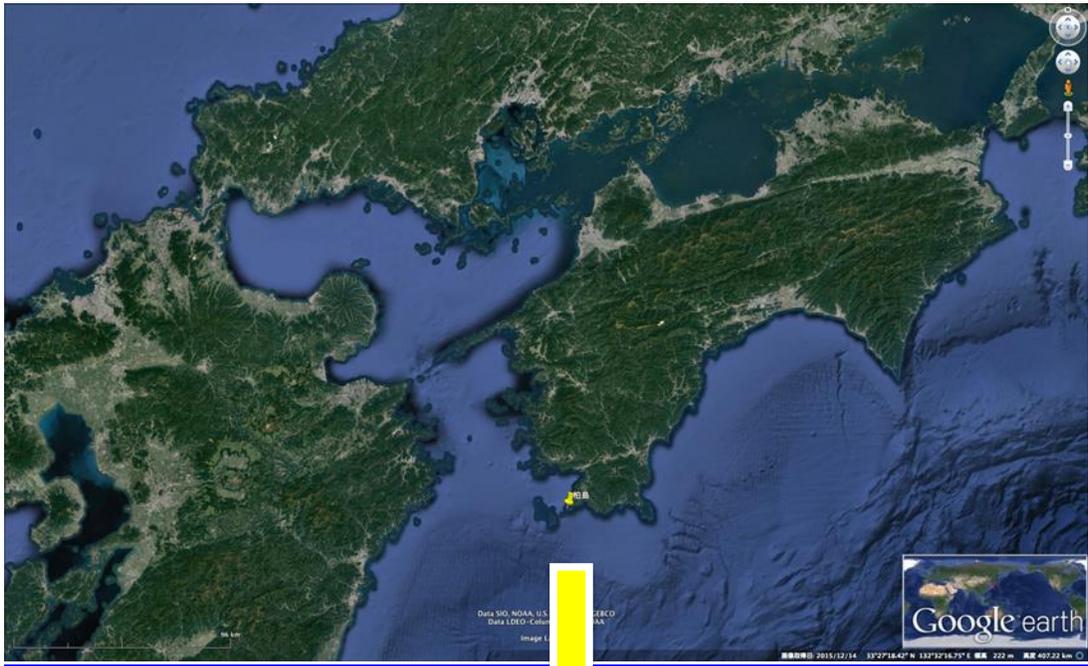
to excess. When the spotlight is on a larger number of the people involved, future activities can be carried out smoothly.

5) What are the next steps for the project?

The Center has started an ownership system for bigfin reef squid. Although this project was originally aimed at repairing the relationship between divers and fishermen on Kashiwa Island, it has also been developed into activities for environmental education of children and activities with the involvement of forestry stakeholders and the government.

The bigfin reef squid ownership system requests local residents from around the country to purchase spawning beds, which covers part of the costs for installing the beds. The resulting increased number of squid are purchased from local fisherman and sent to the owners. Here, owners are requested to write a message to the squid, which is attached to their spawning bed. Photos are then taken of the eggs and sent to the owners. This program started four years ago, and there have been about 80 applicants from around the country, with a growing number of fans of Kashiwa Island, in addition to divers. The project plans to create a three-way, win-win relationship that is beneficial for divers, fishermen, and squid owners. As this activity spreads throughout the country, it is also anticipated that the idea of creating a *satoumi* to “cultivate the sea” will spread.

<http://www.orquesta.org/kuroshio/>



Creation of "forest in the sea" with regional cooperation