Abashiri, Shiretoko, Tokyo Bay, Hiroshima, and Ishigaki, Japan: Five Communities Practicing Coastal Ecosystem Conservation

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Key Messages

- Japan's diverse climate produces a wide range of marine ecosystem types, which influences the range of coastal ecosystem conservation being practiced.
- Increasing urbanization throughout Japan has resulted in widespread conservation efforts relating to coastal resources, to protect lifestyles and traditional cultures.
- Differences in the dynamics of local cultures can be linked to coastal ecosystem changes.

Community Introduction

Japan is an island country comprised of 4 large islands and thousands of smaller islands which stretch between Russia to the north and Taiwan and the Philippines to the South. Located in the middle latitudes in the northwestern Pacific, Japan is bordered by the Pacific Ocean to the east and the Sea of Japan to the west. Due to ocean currents and climate conditions, Japan has wide-ranging marine ecosystems from sub-arctic to tropical (Figure 1).

Figure 1: study sites

With a population of approximately 127 million[1], land and resources are of high value and protecting these areas are of high priority. Although known for its urban development, Japan is home to many coastal, rural communities which rely on primary resource production for their livelihoods.

Conservation and Livelihood Challenges

Abashiri is a coastal community on a sub-arctic, salt-water lake on the northern coast of the northern island of Hokkaido. Distant from big cities, it has a small population and relies heavily on its fisheries production. Due to the amount of fishing that takes place, sea grass and sand beach conservation is a top priority for the Abashiri community (Figure 2).

Figure 2: sea grass bed in Abashiri community

Shiretoko, a sub-arctic ecosystem, is also located on the island of Hokkaido, specifically its most northeastern part. Recently gaining status as a World Heritage Site, locals are concerned with how the management and conservation of this site impacts their traditional fishing lifestyle (Figure 3).

Figure 3: Shiretoko fishing community

Tokyo-bay is a temperate, enclosed bay located in Tokyo, on the largest island of Honshu. This area is highly industrialized with a huge nearby population. Especially over the last 60 years, urban development has increased as new residents move into the area, putting further strain on the already at-risk resources. As a result, locals have taken action in order to protect and restore the sea grass beds and their traditional seafood culture (Figure 4).

Figure 4: Tokyo Bay

Also on Honshu Island, but its western side, Hiroshima suburb lies on a temperate, inland sea in the Hiroshima prefecture. Distant from big cities and with a decreasing population, sea grass bed conservation (Figure 5) is very important to the traditional sea grass culture that is vanishing in the region.

Figure 5: Hiroshima Suburb

Ishigaki Island, a tropical lagoon, is a remote island southwest of the 4 main islands, and located close to Taiwan. Coral reefs and sea grasses are at risk due to an increasing population and a fast growing tourism industry (Figure 6).

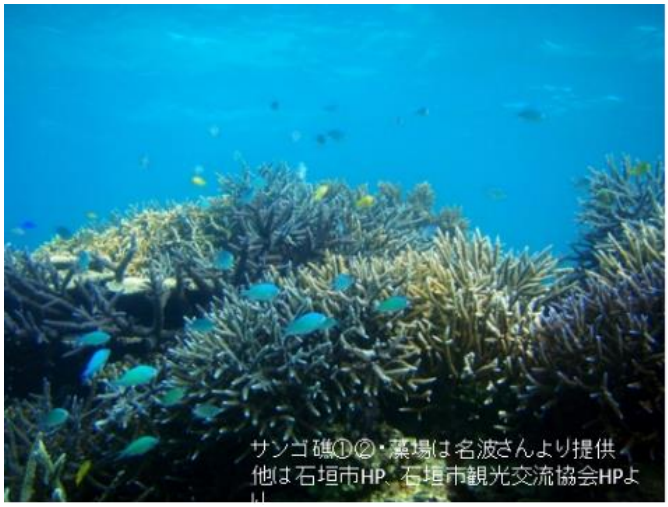

Figure 6: Ishikagi coral reef

Community Initiative

The coastal ecosystem conservation activities conducted by the local communities have been

Abashiri ecosystem functions, forms of ecosystem services uses & SHs

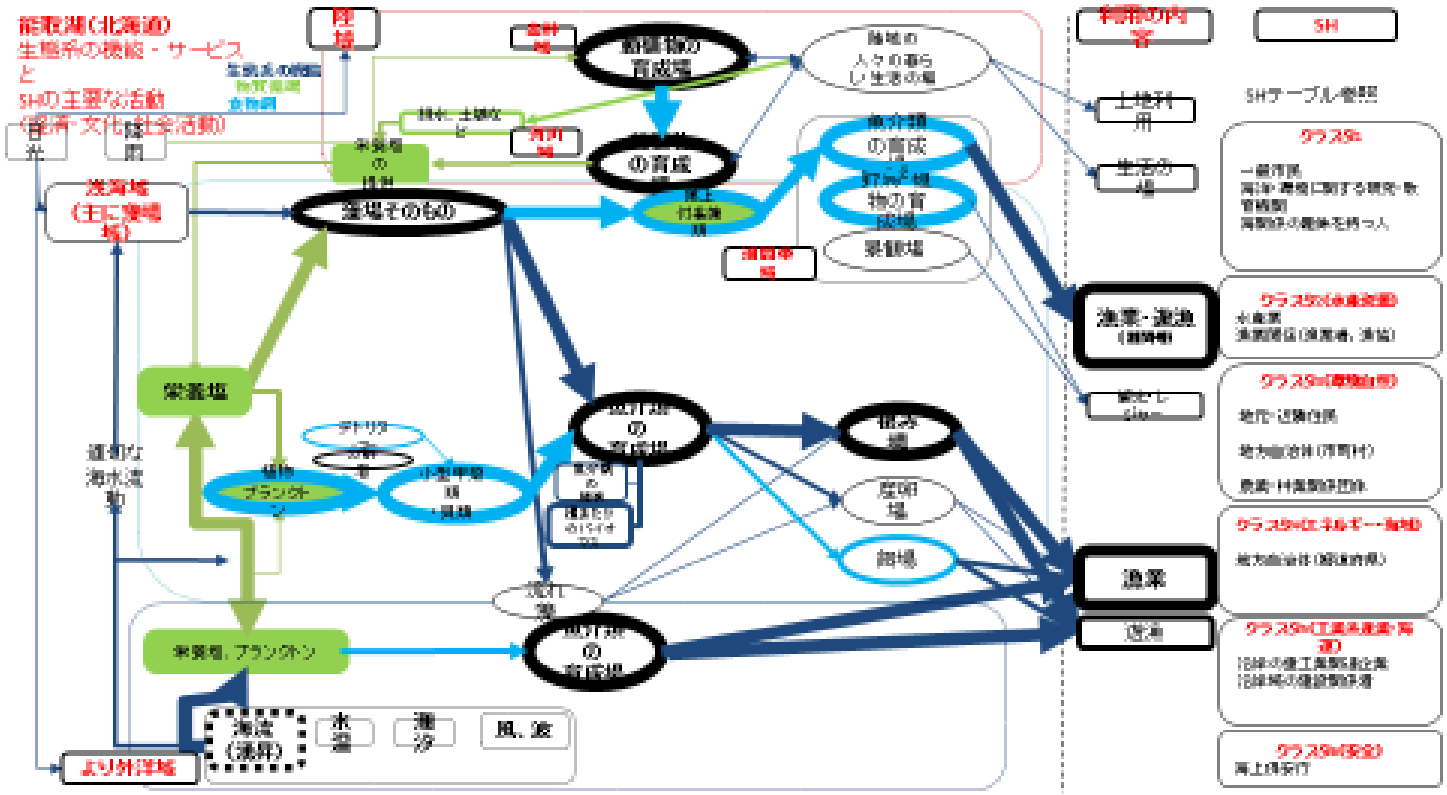

Figure 7: summary of the ecosystem functions, ecosystem service uses and stakeholders (case of Abashiri)

studied as part of a comparative analysis of the social and ecological conditions that each community experiences, and their influence on the nature of community conservation. In particular, this study seeks to assess coastal ecosystem functions, services, uses, and stakeholders, in collaboration with local officers and local ecosystem researchers (Figure 7). A focus is placed on interviewing a range of stakeholders about their interests, activities, concerns and conflicts, as well as collecting statistics relating to the stakeholders. Such information will lead to a comparative analysis among the sites.

Practical Outcomes

Meanings and motivations for conservation are dependent on how the local culture interacts with the ecosystem service uses. In other words, the meanings and motivations are reflecting the local way of living in harmony with the coastal ecosystems.

- In Abashiri, local people have a strong fisheries-oriented culture, and the culture is still at the very core of the local motivations for conservation, and underlying meanings for conservation.

- In Hiroshima, seagrass is deeply linked to the local traditional lifestyle, but the community itself is diminishing now.

- In Ishigaki, the traditional coral reef culture is surviving, but the population and the tourism industry is growing very fast.

- In Tokyo, the traditional lifestyle was almost totally destroyed, but local people (mainly the new residents) are very proud of the local seafood culture.

- In Shiretoko, engaging in consistent interactions and incorporating local-ecological knowledge provided some successes in connecting management authorities and local communities.

We found that such differences in local culture dynamics can be linked to coastal ecosystem changes. In Tokyo bay, where the coastal ecosystem was almost totally destroyed, the objective of the conservation efforts was the revival of traditional lifestyle and culture. In Abashiri, as an opposite case, the coastal ecosystem has remained relatively unchanged, and the only objective/motivation for community conservation efforts is resource sustainability and productivity.

The comparative analysis shows that with higher biodiversity, we will have more diverse use-types and stakeholders, more conflicts, and thus more public initiatives are important for community conservation activities. Also, the dynamics of ecosystem and cultural changes are synchronized, and the meanings/motivations for local conservation activities are linked to those dynamics.

These relationships among the social system conditions, ecological system conditions, and the nature of the community conservation activities, should be properly incorporated when designing the conservation activities in specific areas. There is no one-size--fits-all approach when it comes to conservation.

References

1. World Bank. 2013. Japan. From http://databank.worldbank.org/data/reports.aspx?source=2&country=JPN&series=&period

Acknowledgements

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