International Sato-umi Workshop
Summary Report

Sato-umi is a coastal zone rendered rich in biodiversity and productivity by proper human intervention and management. In recent years, this traditional practice of Sato-umi creation has started to gain recognition as an effective way to carry out coastal management.

At the 10th meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10) in Nagoya, the role of Sato-umi in enhancing coastal biodiversity was brought to attention, and through several side-event discussions, Sato-umi was reassessed as a vital place for ecosystem services and nature−human coexistence.

Following these developments, the International Sato-umi Workshop was held to further disseminate the concept and examples of Sato-umi by inviting Sato-umi-related individuals and biodiversity experts for an exchange of ideas and information. Below is the outcome of this workshop:

1. Date and Time: Monday, 20 December 2010 10:00-16:30 (Venue opened at 9:15)
2. Venue: Kanazawa Bunka Hall; Main Conference Room
   15-1 Takaoka-cho, Kanazawa, Ishikawa, 920-0865
3. Organized by: Ministry of the Environment (MOE);
   The United Nations UniversityInstitute of Advanced Studies
   Operating Unit Ishikawa/Kanazawa (UNU-IAS OUIK)
   Supported by: Kanazawa City; Ishikawa Prefecture
4. Number of participants: 90
5. Language: Japanese and English (simultaneous interpretation was provided)
6. Programme:

■ “Smiles of Sato-umi” (Slide show by Go Tabinuki)

■ Opening Remarks (10:00-10:10)

・Soichiro Seki (Director General for Water Environment, Ministry of the Environment)

・Ahmed Djoghlaf (Executive Secretary, Convention on Biological Diversity) [video speech]

■ Keynote Speeches (10:10-11:50) “Sato-umi and Biodiversity Seen from Local and Global Perspectives”

1）“Local and Indigenous Knowledge: Managing Biodiversity and Adapting to Change”
Douglas Nakashima (Head, Local and Indigenous Knowledge Systems (LINKS) Programme, UNESCO)

2）“The Role of Sato-umi in Implementing the Convention on Biological Diversity”
Marjo Vierros (Adjunct Senior Fellow, UNU-IAS)

3）“The Launch of the International Partnership for the Satoyama Initiative”
Fumiko Nakao (Satoyama Initiative Coordinator, UNU-IAS)

4）“The Activities and Future Roles of Japan Civil Network for Convention on Biological Diversity”
Susumu Takayama (Professor, Faculty of Bioresouces, Mie University)

■ Video Screening: “Salt of Life−Traditional Knowledge and Wisdom of Sato-umi”

(UNU-IAS OUIK video brief)

■ Case Studies (13:00-14:40) “Sato-umi Examples from throughout Japan”

1）“Sato-umi: Okinawa Example”
Shinichiro Kakuma (Senior Officer, Yaeyama Agriculture, Forestry and Fisheries Promotion Center, Okinawa Prefectural Government)

2）“Activity of Tidal Flat and Seagrass Restoration toward a New Sato-umi in Ago Bay”
Hideki Kokubu (Researcher, Mie Prefecture Fisheries Research Institute)

3）“Efforts to Conserve Seaweed Beds in Shiriya, Higashidori Village, Aomori”
Masahide Inui (President, Suidosha Co. Ltd.)

4）“Fishers’ Activities for Conservation of the Ecosystem in Toyama Bay”
Ryo Tsujimoto (Senior Researcher, Northwest Pacific Region Environmental Cooperation Center)

5）“Ecosystem Assessment for Revitalizing Sato-umi in Nanao Bay”
Genki Terauchi (Researcher, Northwest Pacific Region Environmental Cooperation Center)

6）“Preliminary Assessment of Ishikawa' s Ocean Coastline: Towards Sustainable Coasts”
Julius Ibukun Agboola (UNU-IAS OUIK Postdoctoral Fellow)

■ Round-Table Discussion (14:55-16:25) “The Role of Sato-umi in Enriching Biodiversity”

◇ Coordinators:

・Anne McDonald (Director, UNU-IAS OUIK)
・Osamu Matsuda (Professor Emeritus, Hiroshima University)
・Tetsuo Yanagi (Professor, Research Institute for Applied Mechanics, Kyushu University)

◇ With the participation of the invited speakers and the general public

■ Closing Remarks (16:25-16:30)

・Masahito Enomoto (Deputy Director-General, Hokuriku Regional Agricultural Administration Office, Ministry of Agriculture, Forestry and Fisheries)

7. Summary of Workshop Proceedings:

【Keynote Speeches: Sato-umi and Biodiversity Seen from Local and Global Perspectives】

1）“Local and Indigenous Knowledge: Managing Biodiversity and Adapting to Change”
Douglas Nakashima (Head, Local and Indigenous Knowledge Systems (LINKS) Programme, UNESCO)

Dr. Nakashima explained that the focus of the LINKS programme is on local and indigenous societies and their unique sets of experience, understanding and explanation of the natural world, and that such community-based knowledge has received increasing recognition at the international level. He then introduced two LINKS publications related to coastal management that utilizes such knowledge: Environmental Encyclopedia of Marovo Lagoon, and Fishers’ Knowledge in Fisheries Science and Management. Dr. Nakashima also spoke about the mercury contamination of fish in the dam reservoirs in James Bay Cree territories, to illustrate the need to build synergies between scientific and local knowledge in times of environmental change. He noted that, in the face of climate change, linking science and local knowledge is particularly important for adaptation, and that

UNESCO was working with SCBD, UNPFII and OHCHR on an initiative called Climate Frontlines, which focuses on community-based responses to adaptation. He argued that Sato-umi could make an important contribution in this area, framing locally relevant activities with national and international support in the context of adaptation to climate change.

2）"The Role of Sato-umi in Implementing the Convention on Biological Diversity"

Marjo Vierros (Adjunct Senior Fellow, UNU-IAS)

Dr. Vierros started by noting the timeliness of a discussion on Sato-umi given the recent developments in biodiversity-related initiatives at the international level. She pointed out that the third edition of Global Biodiversity Outlook (GBO-3) showed increasing pressures on and extinction risk for most species and called for strong, urgent action at international, national and local levels. Dr. Vierros also presented recent research findings indicating that the coastal and marine area around Japan was particularly high in biodiversity. She stressed the relevance of Sato-umi approaches to the provisions of the CBD, particularly the Programme of Work on Marine and Coastal Biodiversity, the Ecosystem Approach, Article 8(j) on traditional knowledge, and more recent concerns with the restoration of water quality and biodiversity in urbanized coastal areas. She observed that Sato-umi was also relevant to other international agreements, including the Ramsar Convention on Wetlands, the UNFCCC, the UNESCO Man and the Biosphere Programme, the World Heritage Convention, etc. Dr. Vierros also suggested some possible directions for future research, which included comparing Sato-umi with community-based coastal management activities in other countries, developing models for integrating science with local knowledge, creating connections between satoyama and Sato-umi management, and extending the scope of research to explore the links with areas further offshore.

3）"The Launch of the International Partnership for the Satoyama Initiative"

Fumiko Nakao (Satoyama Initiative Coordinator, UNU-IAS)

Ms. Nakao made her presentation on the "Satoyama Initiative," a global effort led by the Ministry of the Environment of Japan and the United Nations University Institute of Advanced Studies. Here, satoyama and Sato-umi are referred to as "socio-ecological production landscapes," shaped by interactions between people and nature. Such human-influenced natural environments are found throughout the world in different forms. Examples include catchment management by fishers and farmers in Northern Malawi, and sustainable paddy-field farming in Louisiana. Socio-ecological production landscapes have gained recognition for their ability to ensure biodiversity, sustainability, and human well-being. Yet they are increasingly threatened by the changes brought by urbanization, industrialization, overuse, and abandonment. Under these circumstances, the Satoyama Initiative has set a long-term vision to realize societies in harmony with nature, while striving to conserve and promote socio-ecological production landscapes. Moreover, in order to further promote such activities, the "International Partnership for the Satoyama Initiative" was launched at COP 10-Nagoya. Ms. Nakao explained that 51 organizations, including national and local governments, research institutions, NGOs, indigenous community organizations, intergovernmental organizations,

and the private sector have joined to cooperate in various areas including policy research, capacity building, and on-the-ground activities.

4）“The Activities and Future Roles of Japan Civil Network for Convention on Biological Diversity”
Susumu Takayama (Professor, Faculty of Bioresouces, Mie University)

Prof. Takayama introduced the activities of the Japan Civil Network for Convention on Biological Diversity (JCN-CBD), established in January of 2009. Prior to COP 10-Nagoya, the working groups of JCN-CBD had set out to prepare position papers to present their vision in line with the later adopted Aichi Targets, which stressed the importance of addressing the underlying causes of the loss of biodiversity. This vision points to the need for fundamental transformation in the management strategy that has failed to significantly reduce the rate of biodiversity loss. In order to realize this, JCN-CBD has laid out 4 approaches: green economy, responsible policy integration by the government, respect for self-determination by citizens and basic local government units, and strengthening of conservation policies. JCN-CBD is also credited for having conceived the idea of declaring 2011-2020 the “UN Decade of Biodiversity,” a proposal later put forth by the government of Japan to the UN Assembly. Prof. Takayama explained that, in renewing the national strategy to reflect the Aichi Biodiversity Targets, it is important to have policy integration while allowing for decentralized decision-making. He stressed that this approach has much in common with Sato-umi’s future directions.

【Case Studies: Sato-umi Examples from throughout Japan】

1）“Sato-umi: Okinawa Example”
Shinichiro Kakuma (Senior Officer, Yaeyama Agriculture, Forestry and Fisheries Promotion Center, Okinawa Prefectural Government)

Dr. Kakuma started his presentation by emphasizing that the definition of Sato-umi varies depending on the region, and that instead of being exclusive, it needs to embrace the diversity of Sato-umi. One major example of Okinawa’s Sato-umi is the ino, a quiet lagoon sheltered between the shore and the offshore coral reefs. Dr. Kakuma explained that the traditional, collective use of the ino resources by village residents (“commons”) on the one hand, and fishers’ practices in accordance with the fisheries rights system on the other, often lead to complicated relationships, hence the need for a better coordination. Dr. Kakuma also mentioned that there are views that are critical of Sato-umi, as they argue that Sato-umi is another excuse for coastal development and that human intervention does not enhance biodiversity. To respond, he suggested that Sato-umi creation be initiated at smaller scales with citizen participation, along with objective evidence to support its relevance to biodiversity. He also discussed the relationship between Sato-umi and Marine Protected Areas (MPAs), while also showing the fishers’ conscious efforts in resource management and their subsequent successes.

2）“Activity of Tidal Flat and Seagrass Restoration toward a New Sato-umi in Ago Bay”
Hideki Kokubu (Researcher, Mie Prefecture Fisheries Research Institute)

Dr. Kokubu introduced Ago Bay as historically being known as “Miketsu-kuni,” a name which refers to its flourishing marine products industry. Since 1907, the area has also been used for pearl farming. Yet approximately 70% of the bay’s tidal flat areas today have been lost to land reclamation. Dr. Kokubu also explained how the concrete dykes were constructed to shield the reclaimed land from the seawater, and the resulting situation was that the wetland behind the dyke (meant for cultivation) became hypertrophic, while the tidal flat in front of the dyke became oligotrophic. In both of these areas, biodiversity and productivity decreased as a consequence. Since 85% of the reclaimed land is unused today, efforts are now being made to restore the wetland (fallow field) to tidal-flat conditions. For example, by opening the floodgate of the dyke and promoting water circulation, biodiversity and productivity have been enhanced both in the wetland and the tidal flat in front of the dyke. Biodiversity was also increased by restoring zostera beds. Many stakeholders, including local citizens, fishers, researchers, and Shima City have come on board to form the Ago Bay Environment Restoration Committee; they are now paving the way for integrated coastal management based on a shared understanding that values both conservation and utilization of Sato-umi ecosystems.

3）“Efforts to Conserve Seaweed Beds in Shiriya, Higashidori Village, Aomori”
Masahide Inui (President, Suidosha Co. Ltd.)

Mr. Inui presented on the seaweed beds unique to the Shiriya area of Shimokita Peninsula, whose resources have been utilized by the inhabitants for over 600 years. He also explained how the fishers in this area have actively carried out resource management practices for more than a century. One such practice is the restoration of coastal vegetation (uotsukirin or “forest that brings forth fish”) in order to restore the fishing grounds near the shore. There has also been a great effort to restore the kombu (kelp) bed once destroyed by the 1942 eruption of Hokkaido-Komagatake volcano. Other practices include limiting the harvesting of kombu to those washed up on the shore, monitoring seaweed beds, and controlling the predation pressure of sea urchins by relocating them among kelp beds. Mr. Inui explained that those practices have been sustained through a philosophy unique to the region (San’yokai, which promotes autonomy and hard work), high degree of dependence on the nearshore resources, and shared understanding that these resources are to be used collectively. Mr. Inui added that these self-regulatory practices of resource management, which work to enhance ecosystem services, can also be observed in fishing villages of the Sanriku coastal region.

4）“Fishers’ Activities for Conservation of the Ecosystem in Toyama Bay”
Ryo Tsujimoto (Senior Researcher, Northwest Pacific Region Environmental Cooperation Center)

Mr. Tsujimoto started his presentation with a geographical overview of Toyama Bay--an inner bay which is open to the sea with many inflowing rivers, and because of this, the bay’s environment is prone to various outer influences. He also explained that that the main fishing method used in Toyama Bay is set net fishing (with the earliest Etchu-style having been developed over 400 years ago), which is considered passive and potentially more sustainable compared to other methods such

as trawling. Yet, in order to ensure continuous practice of set net fishing, there must remain a wide variety of fish species. While eutrophication, degradation of sea bottom environment, and development of artificial coastlines have greatly damaged the bay, attempts have been made, largely on the part of local fishers, to restore and conserve its ecosystem. These include releasing fish juvenile into the bay, tree planting in the upper reaches of the rivers that flow into the bay, and cultivating makombu kelp to utilize its capacity to absorb nutrients and prevent eutrophication. Mr. Tsujimoto also raised the issue of marine debris which is an increasing concern in the Sea of Japan. He pointed out that more involvement of people is necessary to support the efforts being made by the fishers.

5）"Ecosystem Assessment for Revitalizing Sato-umi in Nanao Bay"

Genki Terauchi (Researcher, Northwest Pacific Region Environmental Cooperation Center)

Mr. Terauchi made his presentation on the changes in Nanao Bay's ecosystem services by applying the framework of the Millennium Ecosystem Assessment. First, he noted the decline in provisioning services, as seen in the decreasing catches of oysters and sea cucumbers. Regulating services have also declined, as evident in the reduced functions of water purification and material circulation, which have been caused by the development of coastlines and concrete embankments. Eutrophication and deterioration of sea bottom sediments, meanwhile, have led to decreased supporting services. Cultural services, on the other hand, have increased due to emerging tourism activities that utilize local resources such as dolphin watching and diving. Based on these findings, Mr. Terauchi applied the SWOT (strengths, weaknesses, opportunities, and threats) analysis framework in order to consider management strategies for Nanao Bay. These strategies include development of an interactive tour program that pays attention to sustainable use of marine and cultural resources, appropriate management of fishery resources that takes into account the carrying capacity of Nanao Bay, and maintenance of watershed forests. He also noted that multi-stakeholder dialogues are needed to create sustainable Sato-umi.

6）"Preliminary Assessment of Ishikawa' s Ocean Coastline: Towards Sustainable Coasts"

Julius Ibukun Agboola (UNU-IAS OUIK Postdoctoral Fellow)

Dr. Agboola explained that his research on Ishikawa's ocean coastline would look at environmental gradients, their interactions and changes in coastal systems. With the goal of exploring the potential of Sato-umi in understanding coupled human-environmental drivers, the research will analyze the historical trajectories of coastal ecosystems within the last five decades, including changes in physical components, biodiversity and interconnected economic and political factors, the drivers and implications of the changes, and possible ways to address them. The project will classify coastal areas and habitats into biotopes, generate ecological baseline data and produce an ecological sensitivity map using GIS/RS images. Indicators used in the assessment and reporting will be based on the Coastal Vulnerability Index (CVI) and the DPSIR (Driver-Pressure-State-Impact-Response) framework. Questionnaires will be used to gather qualitative data on direct socio-economic impacts of climate change in various sectors and areas along Ishikawa's coastline. The research is expected

to document changes in order to help policy makers and the public better appreciate the current and likely future conditions of Ishikawa's marine and coastal areas for appropriate management action, while also improving knowledge of land use and aquatic systems through the Sato-umi concept.

【Round-Table Discussion: The Role of Sato-umi in Enriching Biodiversity】

◇Coordinators:

・Anne McDonald (Director, UNU-IAS OUIK)

Presented a video brief titled "Where the Sea Whistle Echoes" (co-produced by UNU Media Centre, OUIK and Ishikawa Prefecture), which shows sustainable marine resource management practices of ama women divers of Hegura Island.

・Osamu Matsuda (Professor Emeritus, Hiroshima University)

Stressed the need to combine the bottom-up approaches of community-based Sato-umi creation with top-down policy approaches within the larger context of the existing legislative system.

・Tetsuo Yanagi (Professor, Research Institute for Applied Mechanics, Kyushu University)

Summarized the presentations, highlighting the need for improved science, technology and management practices for the advancement of Sato-umi and opened the floor for discussion.

◇With the participation of the invited speakers and the general public

【Discussion】

Q: Fishers carry out their activities with consideration to environmental conservation and resource management. However, unlike forests and mountains where changes are visible, there are many things that are not known about the sea. What is the exact scope of Sato-umi? Without a clear understanding of its scope, it is difficult for fishers to have a clear image of how they should transmit Sato-umi to future generations. (Audience)

A: My definition is that as long as fishermen's livelihoods are sustainably assured, the conditions for Sato-umi are met. The activities of the San'yokai in the Shiriya area are a good example in this sense. (Tetsuo Yanagi)

Comment: Sea litter issues are becoming more serious in recent years and need also to be dealt with in Sato-umi approaches. (Audience)

Comment: Following the implementation of MOE's Sato-umi Creation Project in Nanao Bay under the leadership of the Ishikawa prefectural government, Sato-umi-related activities have gained momentum throughout the prefecture. Examples include the establishment of the Nanao Bay Sato-umi Implementation Committee, which has many diver members, and of the Satoyama-Sato-umi Implementation Committee in Anamizu Town. (Audience)

Q: What is the role of civil society in Sato-umi initiatives? How can citizens contribute to the

productivity mentioned in the Sato-umi definition? Is their role merely a supporting one? (Audience)

A: There are 200,000 fishers currently in Japan, accounting for 0.2% of the country's population. The remaining 99.8% are non-fishers. The challenge is to find a way of involving these 99.8% in the conservation of the marine environment. (Tetsuo Yanagi)

・The involvement of urban residents is important, particularly as consumers who are connected to the sea through the consumption of locally-produced food. (Osamu Matsuda)

・Sato-umi activities need to be carried out primarily by fishermen. If urban residents with no knowledge of the sea get involved in coastal management, there is a risk that they will just create trouble. (Masahide Inui)

・As the recruiting stage of the Sato-umi Creation Project has shown, it is often the case that the problems of coastal areas cannot be solved by focusing on the sea alone. One of the challenges faced by areas implementing Sato-umi approaches is how to make upstream residents interested in the condition of the sea. The improvement of the environment of Seto Inland Sea has been possible because of the indirect contributions of environmental education programs, etc., which need to be introduced in other areas as well. (MOE)

・The Ecosystem Conservation Project of the Fishery Agency is being carried out in cooperation not only with fishermen but also with other stakeholders. Urban residents can participate in amamo seagrass transplants, forestation and beach cleaning activities. It is important therefore to involve urban dwellers and other stakeholders. (MAFF)

Q: Around Hegura Island, the decrease in seaweed bed area has led to a drop in abalone populations. We need to come up with methods for restoring seaweed beds. (Audience)

A: More research will be needed on this topic, considering that the seaweed around Hegura Island prefers low temperature, while water temperatures in the area have been rising in recent years. The Tsushima warm current is also poor in nutrients. (Tetsuo Yanagi)

Comment: What is needed is cooperation among urban residents, fishers, scientists and other stakeholders. (Shinichiro Kakuma)

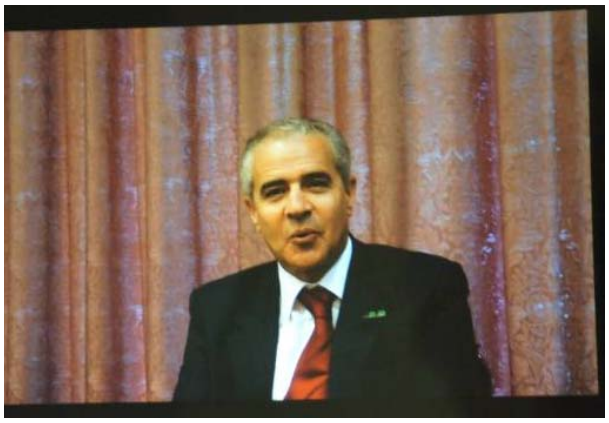
Comment: Divers and other recreational users of coastal areas also need to be involved in coastal management mechanisms. (Marjo Vierros)

Comment: UNESCO has also developed a coastal area-related manual which might be useful reference for the Sato-umi manual. With regard to local knowledge, it is important to differentiate between types of local users of resources and to create a forum that is appropriate for the sharing of knowledge with local knowledge holders. (Douglas Nakashima)

8. Scenes from the Workshop:

Workshop venue

Opening Remarks by Soichiro Seki, MOE



Video Speech by Ahmed Djoghlaf, SCBD

Douglas Nakashima, UNESCO

Marjo Vierros, UNU-IAS

Fumiko Nakao, UNU-IAS

Susumu Takayama, Mie University

Shinichiro Kakuma, Yaeyama Agriculture, Forestry and Fisheries Promotion Center

Hideki Kokubu, Mie Prefecture Fisheries Research Institute

Masahide Inui, Suidosha Co. Ltd.

Ryo Tsujimoto, Northwest Pacific Region Environmental Cooperation Center

Genki Terauchi, Northwest Pacific Region Environmental Cooperation Center

Julius Ibukun Agboola, UNU-IAS OUIK

Coordinators

Osamu Matsuda (Hiroshima University) Tetsuo Yanagi (Kyushu University) Anne McDonald (UNU-IAS OUIK)

Comments from the audience ①

Comments from the audience ②

Comments from the audience ③

Comments from MOE

Closing Remarks by Masahito Enomoto, Hokuriku Regional Agricultural Administration Office, MAFF