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International Cooperation

1 Introduction

Coral Reefs and related ecosystems, such as mangrove forest and seagrass bed, retain great biodiversity, and therefore constitute an important common property. However, those precious ecosystems have been depleted by global threat such as mass coral bleaching caused by anomaly of seawater temperatures, as well as local event such as effect of destructive fishing and soil flows from land-based development. In addition, most of coral reefs are distributed in developing countries in tropical and sub-tropical regions, and sustains people's life by providing food and livelihood. Considering those situation, the importance of international cooperation in coral reef conservation is obvious.

Japan cooperates in various international coral reef conservation efforts, mainly those occurring in a multilateral framework, such as the International Coral Reef Initiative (ICRI) and the Global Coral Reef Monitoring Network (GCRMN). In addition, the Japanese government provides technical and financial support, including training programs for developing countries. The following discussion presents some of Japan's international cooperative activities that are related to the conservation of coral reefs.

2 International Coral Reef Initiative (ICRI)

1. Background

Agenda 21 is a global-scale action program that aims to achieve sustainable development in the 21st century. It was adopted at the Rio Earth Summit (UNCED: United Nations Conference on Environment and Development) in June 1992. Agenda 21 describes the current status of various aspects of the global environment, notes points at issue, and outlines future preventative or remedial programs for problems such as atmospheric pollution, defor-

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estation, desertification, marine conservation, and the protection of freshwater resources. Coral reef conservation is treated in Chapter 15 (conservation of biodiversity) and Chapter 17 (conservation of coastal areas). In Section 85 of Chapter 17, it is stated that each nation should prioritize the promotion of conservation projects for important ecosystems by specifying regions with high biodiversity and productivity, and then legally designating them for protection. Ecosystems intended to be the target of conservation in this manner include coral reefs, tropical and temperate wetlands including mangrove forests, seagrass beds, river estuaries, and other spawning and breeding grounds.

In addition, the Barbados Plan of Action for Sustainable Development of Small Island Developing States (SIDS) was adopted in 1994 (in April-May at Bridgetown, Barbados). At this meeting it was stated that the promotion of coral reef conservation was essential for SIDS, from the joint perspectives of preserving coastal resources and biodiversity. Following these documents, coral reef conservation was stated as being an important item on the Japan-U.S. Common Agenda for Cooperation in Global Perspectives at bilateral summit in November 1994. ICRI was established in line with this agreement, founded by eight governments: Australia, France, Jamaica, Japan, the Philippines, Sweden, the United Kingdom, and U.S.

The first international ICRI workshop was held at Dumaguete City, in the Philippines, in May 1995, and was attended by participants from 33 countries and related international organizations (e.g., World Bank and UNEP). This workshop resulted in adoption of a 'Call to Action' and a 'Framework for Action' for coral reef conservation. The Call to Action provided broad unifying principles intended to fashion ICRI into a forum for international partnership; this objective set the direction for the workshop. Four points were particularly emphasized: 1) coastal management, 2) research and monitoring, 3) capacity building, and 4) review. The Framework for Action responded to the aforementioned four points, and was developed to

mobilize stakeholders in order to implement the Call to Action.

2. Management

ICRI functions as a worldwide network for reef conservation, involving 80 or more member countries or international organizations. Each member participates in the framework and works towards conservation of coral reefs, in accordance with the ICRI documents mentioned above. Cross-sectional networks such as GCRMN, which promotes coral reef monitoring, and the International Coral Reef Action Network (ICRAN), which aims to strengthen reef management by exchanging traditional knowledge and current research, and by sharing experiences.

The ICRI Coordination Planning Committee (CPC) meets to make decisions, approximately twice per year, generally in conjunction with major coral reef conferences or workshops in Asia, the Pacific, or the Indian Ocean, in order to enable wider participation on the part of members. The ICRI Internet Forum allows supplemental CPC discussions, deeper discussions of certain themes, and offers a place for input and debate to those not able to participate in the CPC. ICRI is co-ordinated by a Secretariat voluntarily hosted for two years by the governments of member countries. The first secretariat was administered by the U.S. in 1994-1996, the second by Australia in 1997-1998, and the third by France in 1999-2000. In order to ensure that the opinions and viewpoints of developing countries are adequately presented, the head office is now jointly administered by one developed and one developing country. Sweden and the Philippines were in charge in 2001-2002, and the United Kingdom and the Seychelles took over in 2003 (concluding July 2005).

The roles of the Secretariat include; developing a Plan of Action, organizing and chairing General Meetings, representing the Initiative to international conventions.

3. ITMEMS

The International Tropical Ecosystems Management Symposium (ITMEMS) provides a forum for managers of coral reefs and related ecosystems to discuss and share experiences. It is held every four years by ICRI, and is attended by relevant administrative officials and researchers. The first symposium was held in Townsville, Australia, where 'The New Call to Action' was adopted. At this meeting, it was clear that the decline of coral reefs was continuing, due to the 1998 worldwide bleaching

event in particular, in which 40-50% of coral reefs were affected. However, some of the positive achievements of ICRI include the deployment of local action plans, improved coordination between scientists and non-governmental organizations, and advances in coral reef monitoring owing to implementation of GCRMN and Reef Check, among other programs. The second symposium was held in the Philippines in March 2003, where the ITMEMS II Action Statement was adopted; this statement contained resolutions related to marine protected areas (MPAs), sustainable fisheries, mass bleaching events, and the role of the private sector in conservation.

4. Regional workshops

Regional ICRI workshops, at which regionally relevant strategies are formulated, have been held in various regions (e.g., tropical America, the Pacific, South Asia Seas, East Asia Seas, East Africa, the West Indian Ocean, and the Middle East). The first East Asia Seas Region (including East Asia and Southeast Asia, and Japan) workshop was held in Bali, at which the 'East Asia Seas Region Regional Strategy' was adopted. This strategy encouraged the participation of more countries in GCRMN, and regional bases for the promotion of monitoring were established (The Ministry of Foreign Affairs of Japan 1997). The second workshop was held at Ginowan in Okinawa, at which the 'Okinawa Declaration' was adopted (The Environment Agency, the Government of Japan 1997). The third workshop was held at Sebu City in the Philippines in 2001.

5. GCRMN

GCRMN was established within ICRI as a network for the integration of monitoring data from regional nodes; this initiative aims to achieve coral reef conservation and sustainable use. The Australian Institute of Marine Sciences (AIMS) and the World Fish Center in Malaysia have cooperated to secure funding, provide advice on monitoring methods, and manage the data collected from nodes and the resulting database; they have also been making biennial reports on the state of world coral reefs since 1998 (GCRMN 1997).

In 2000, Ministry of the Environment, Japan established the International Coral Reef Research and Monitoring Center in Ishigaki Island, Okinawa prefecture. The center is promoting GCRMN in the East Asian Sea Region, by compiling the monitoring data of East Asian Countries, as well as assisting South East Asian countries. In this context, Ministry of the Environment has been holding work-

shops on monitoring method, database management with cooperation of GCRMN and Worldfish Center. The details of the workshops are as follows.

- a) The socio-economic monitoring workshop: This workshop was held in Bolinao City in the Philippines in 1997. A manual for socio-economic assessment was developed (The Environment Agency, the Government of Japan 1998).
- b) Capacity building workshop on coral reef monitoring methods: This workshop was held in Nha Trang in Vietnam 1999, and field training in monitoring methods for coral reefs (e.g., manta tow and line transects) was provided (Marine Parks Center of Japan 1999).
- c) GCRMN meeting of the East Asia Seas Region: This meeting was held at the International Coral Reef Research and Monitoring Center in 2002. Monitoring information was exchanged and database issues were discussed; in addition, the 'Ishigaki Agreement' was adopted (Ministry of the Environment, Government of Japan 2002).
- d) International workshop on database and data management: This workshop was held in Penang in Malaysia, in cooperation with the World Fish Center, in 2003. Methods of exchange of national databases were discussed, and a policy for the development of a common database, useful for all member countries, was agreed.

The Japanese government has also assisted to hold workshop for the establishment of domestic monitoring and database systems for the Philippines (in 2002), Malaysia (in 2002), and Cambodia (in 2004).

3 Cooperation by the ODA

1. Bilateral cooperation

In terms of bilateral cooperation, the Japan International Cooperation Agency (JICA) offers 'technical cooperation', in which an expert is sent to the developing country to facilitate human resources development and technology transfer, and 'Grant Aid' to support the construction of facilities for coral reef conservation is negotiated.

Japanese Grant Aid funded the construction of the Palau International Coral Reef Center in January 2001; this is an international center for conservation-oriented research and education about coral reefs and related ecosystems in Palau. The Center has three divisions: management,

research division, and exhibition and education division.

The research division studies corals and crown-of-thorns starfish, and promotes the monitoring of coral reefs in Palau; it also serves as a node for GCRMN in Micronesia, compiling monitoring data from surrounding countries. The exhibition and education division operates the 'Palau Aquarium'. This aquarium exhibits various marine organisms from around Palau, and tries to emphasize the tight ecological relationships and continuity of coral reefs, sea-grass beds, and mangrove forests. It is also used for the education of children and tourists. The Japanese government has assisted in its management, from the initial construction to present day operations, by providing experts and human resources development.

In 1995, funds were granted for the repair of facilities and technical equipments for the expansion of the Albion Fisheries Research Center in Mauritius. A five-year project (Coastal Resources and Environment Conservation Project) was conducted from 1995, with a strong emphasis on research training, in order to invest equally in environmental conservation and human resources. Databases and field guides were developed and ecological surveys (e.g., studies in population ecology) were conducted.

Besides those projects, Japanese Government send experts and conduct scientific and socioeconomic research and develop management plan in several coral reefs; Marine Parks in the Kingdom of Tonga (Marine Parks Center of Japan 1997), Tubataha Reef in Philippines (DENR and MPCJ 1996), Northern Sulawesi in Indonesia (JICA 2002), the Red Sea in Saudi Arabia (JICA 2000).

2. Capacity building through training

The Okinawa International Center of the JICA has run a training course on the sustainable use of coral reefs and conservation management since 1995 (Photo. 1). The course is aimed at administrative officers and experts from developing countries who are engaged in coral reef research and planning. During the about 80 day course, participants acquire general knowledge about, and techniques for, the conservation, sustainable management, and utilization of coral reefs. They attend workshop courses about coastal management and designing educational materials, as well as lectures on coral ecology, taxonomy, and restoration methods. In addition, they receive training in fieldwork research and monitoring, which includes underwater filming. In the past eight years, 53 participants from 24 countries have completed the train-



Photo. 1. JICA Group Training Course "Conservation and Sustainable Management of Coral Reefs " Trainees learning about coral taxonomy.

ing program.

4 Conclusion

In May 2002, the Japanese government established the 'New National Biodiversity Strategy'. International activity was set as one of the four basic national policies for the conservation of biodiversity. With particular regard to coral reefs, Japan will cooperate and be actively engaged in international monitoring programs, and will also be active in research and the conservation of important biodiversity components (e.g., tropical rain forests, coral reefs, wetlands, and the stopping points of migratory birds). Additionally, the Japanese government will cooperate with relevant countries, international organizations, and local residents on important issues related to the conservation of coral reef ecosystems (such as total coastal management, capacity building, implementation of research and monitoring, and the monitoring and assessment of conservation).

Japan is located in one of the central regions of coral reef biodiversity. As one of the few developed countries which has coral reefs, Japan has played a role in global coral reef conservation through such activities as the promotion of ICRI, GCRMN, bilateral cooperation, and group training. Further active participation in these matters is expected, following the 10th International Coral Reef Symposium, which is to be held in Okinawa in June 2004.



Sekisei Lagoon. (photo by Tatsuya Suzuki)