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Legal systems

1 Introduction

In Japan, laws, which are related to conservation and to fisheries management, restrict some activities, such as capture/ harvest of certain sea organisms, reclamation or dredging in certain areas. Consequently, those laws contribute to conserve coral reef ecosystems. Okinawa prefecture, southernmost part of Japan has unique regime relevant to coral reefs. For example, in the Okinawa Promotion and Development Plan, coral reef conservation is highlighted. In addition, Government of Okinawa prefecture established the “Red Soil Prevention Ordinance” which also contributes to coral reef conservation. This section explains about laws and ordinances related to the management and protection of coral reefs in Japan.

2 Legal systems aiming at nature conservation

1. New National Biodiversity Strategy of Japan

In March 2002, the Japanese government formulated the ‘New National Biodiversity Strategy’, with the aim of achieving a society that can coexist with nature. This strategy presents a future of Japan as “across the coral reefs of the southern islands, myriad brightly colored fish will form schools, while herds of dugong will pass through lush seagrass”. In the Strategy, the government proclaim of implementation nature restoration projects to rehabilitate degraded environment, while strengthening conservation efforts to preserve healthy environment.

2. Natural Parks Law

Some areas are protected as Marine Park Zones that are designated based on the Natural Parks Law. Activities such as collection of marine fauna and flora specified by the Minister of the Environment, reclamation, and dredging are regulated inside marine park zones. Corals are a specific conservation target, both for their inherent aesthetic value and because their protection is key to con-

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serving the biodiversity of reef communities. As of December 2003, there are 64 Marine Park Zones (totally 2664 ha) in Natural Parks, and 13 of those (1616 ha) contain coral reefs. Besides those 13 zones, 29 (718 ha) contains coral communities (see Appendix ‘1-6’). However, the area of many Marine Park Zones are not big, and most of the sea areas inside Natural Parks are designated as Ordinary Zones, where regulation is lenient. In addition, even within designated Marine Park Zones, fish and marine mammals are not subject to protection, which may threaten the conservation of intact ecosystems (Nature Conservation Bureau Environment Agency 2002c).

3. The Nature Conservation Law

Areas worth protecting for both environmental and social reasons are designated as Nature Conservation Area under the Nature Conservation Law. In the case of marine waters, this law states that Natural Conservation Areas should include ‘areas that sustain well-preserved nature including native fauna and flora, e.g., tropical fishes, corals, and seaweeds’. In addition, Nature Conservation Areas which are thought to deserve special protection, such as those inhabited by rare species, biota of particular value, or unusual ecosystems, may be designated as Marine Special Areas. In these areas, collection of marine fauna and flora specified by the Minister of the Environment reclamation and dredging are prohibited. A part of Sakiyama Bay off Iriomote Island, Okinawa (totaling 128 ha), is an example of a Marine Special Area, designated for its diverse coral communities (Sakiyama Bay Natural Environment Conservation Area).

4. The Law for the Promotion of Nature Restoration

In December 2002, the ‘Law for the Promotion of Nature Restoration’, which aims to make human coexist with nature by preserving biodiversity was established. The law provides a framework for nature restoration by defining restoration as a joint effort among various actors (e.g., administrative bodies, local authorities, local residents, non-profit organizations, and experts). More specifically,

it aims to recover lost or degraded ecosystems, to implement conservation and the restoration or creation of natural spaces, and to manage such natural environments. This law specifies that restoration should be undertaken (1) co-operatively and with the input of affected stakeholders, (2) using the best available scientific information, (3) with the inclusion, where possible, of monitoring of the outcomes of restoration following implementation, and (4) with the inclusion of feedback, in a context of adaptive management. Preliminary researches for restoration of coral communities are underway in Sekisei Lagoon in Okinawa Prefecture, and in Tatsukushi Bay in Kochi Prefecture, respectively (see also Section '5-2').

3 Trade of rare wild fauna and flora

The 'Law for Conservation of Endangered Species' regulates the capture and trade of rare species from wild sources, as specified by the cabinet order. Coral reef related species of which trade and capture is restricted include sea turtles and dugongs, which are categorized as "International Endangered Species" (the same species as in Appendix I of the Washington Treaty). Import of those species is prohibited by the Import Trade Control Order. In addition, the Order requires people who want to import hermatypic corals, which are listed in Appendix II of the treaty, to have permission from the governing authority of the exporting country.

4 System to protect fishery resources

Coral reef organisms, including hermatypic corals, are also protected by three regulations in Japan: the Living Aquatic Resources Protection Law, the Fisheries Law, and the Fishery Adjustment Rule.

The Law for Conservation of Aquatic Resources aims to protect and sustain fisheries resources, and governs procedures for mariculture and aquaculture. The law prohibits destructive fishing methods such as blast-fishing (in Article 5) and poisoning (in Article 6). This law also promotes sustainable fisheries and establishes the protected waters. The protected waters are designated by the Minister of Agriculture, Forestry and Fisheries, based on Article 14-18 of the law. The measures pertaining to these areas are implemented by the appropriate prefectural governments to protect the spawning and nursing

grounds of aquatic plants and animals. In the designated water areas, developmental projects such as reclamation and the capture of species specified by the governor are restricted. The designated water areas that support coral communities are: Kabira Bay and Nagura Bay in Ishigaki, Okinawa Prefecture, and Kuroshima (Ushibuka) and Fukami in Kumamoto Prefecture. The specified species in the Kabira Bay area are; *Pinactada margaritifera*, *Tridacna* spp., *Panulirus versicolor*, *P. ornatus*, *Melicertus latisulcatus*, and *Tripneustes gratilla*. In contrast, the harvest of all aquatic plants and animals is prohibited in Nagura Bay and Kuroshima, and all except *Undaria* spp. and *Monostroma nitidum* are also prohibited in the Fukami area.

The Fishery Adjustment Rule, established by the governor, regulates the collection of biota, as well as the permissibility of particular fishing gears and boats. The rule also regulates the close seasons, and the minimal size and weight for target catches. In line with the Fishery Adjustment Rule, collection of hermatypic corals is completely prohibited in Okinawa and Ogasawara Islands, which administratively belongs to the Metropolis of Tokyo. In many prefectures, fishing methods for leisure fishermen are strictly restricted. Even for professional fishermen, fishing using scuba is controlled with license system. The collection of aquarium fish is also controlled in Okinawa and requires special licensing.

The marine environment of Okinawa which has coral reefs with high biodiversity is a precious national heritage. Comprehensive conservation of the marine and land environment and multiple utilization of marine resource and space should be promoted.

5 Related systems in Okinawa

The Okinawa Promotion and Development Plan (established in 2002) specifies the direction and basic policies of Okinawa Prefecture. In this plan, Okinawa is cited as having 'beautiful coral reefs with a clear contrast of blue sky and white sands'. The plan, therefore, sets out conservation and sustainable utilization of the marine environment as basic directional concepts for the prefecture. It states that "coral reef environments of high diversity are a national property, and integrated conservation is necessary to include land areas with sea areas, as one united body. Multiphase and comprehensive utilization of marine resources and marine space should be promot-

ed.” In addition, the law also states that we should aspire to conserve, rehabilitate, and create coral reefs, seagrass beds, tidal flats, and mangrove forests, in order to sustain the function of self-restoration and purification, along with their diversity. Specific strategies to achieve these objectives include preventing soil run-off/erosion, controlling the crown-of-thorns starfish (*Acanthaster planci*), and fostering responsible eco-tourism in coral reefs.

The Okinawa Prefecture Red Soil Prevention Ordinance is a local ordinance that was enacted in 1995 by Okinawa’s Prefectural Governor. Its purpose is to prevent contamination of public waters by controlling soil outflow from enterprise projects, and to promote appropriate land-based management. In this ordinance, developmental works of 1,000 m² or more are obliged to implement countermeasures that prevent soil run-off, using grit chambers or filtering devices. Consequently, sedimentation from construction works has been reduced. However, since farmlands are not obliged to take measures, effective improvements remain to be seen.

6 Conclusions

A diversity of laws exists to conserve coral reef ecosystems in Japan, and have had some positive effects. Further success in the conservation of coral reef ecosystems may be achieved by coordinating the various available systems. As a first step, it will be necessary for the full cross-section of stakeholders (e.g., the administrative bodies associated with fisheries and nature conservation, local authorities, non-governmental organizations, local citizens, and scientists) to cooperate in order to generate a consensus on the measures needed for the conservation of coral reef ecosystems.