

## **International Conference on Climate Change and Coral Reef Conservation Chair's Summary**

The International Conference on Climate Change and Coral Reef Conservation was jointly held by the Ministry of the Environment of Japan and Okinawa Prefecture on June 29-30, 2013 in Okinawa Prefecture, at the Okinawa Institute of Science and Technology Graduate University (OIST). Appreciating the fact that the cultural lifestyle of Okinawa was nurtured by the rich surrounding coral reefs, Mr. Nobuteru Ishihara, the Minister of the Environment of Japan, Dr. Mariyam Shakeela, the Minister of Environment and Energy of the Republic of Maldives, Mr. Elbuchel Sadang, the Minister of Finance of the Republic of Palau, Dr. Rajendra K. Pachauri, the Chair of the Intergovernmental Panel on Climate Change (IPCC) and a wide range of experts on climate change and coral reef conservation attended the conference and shared their knowledge.

At the beginning of the conference, Mr. Nobuteru Ishihara, the Minister of the Environment announced his “Comprehensive Support for Island Countries”, an initiative providing comprehensive support for adaptation to climate change as well as climate change mitigation measures, such as the introduction of independent and decentralized energy, and waste management and water treatment. The initiative was welcomed by participants. Participants also welcomed the fact that Japan, itself having many isolated islands, has been utilizing its own experience and technologies and demonstrated leadership in solving the unique issues faced by island countries.

Furthermore, participants were grateful for the warm hospitality provided by the Okinawa Prefecture for this occasion. They appreciated the opening presentation by the Dr. Rajendra K. Pachauri, Chair of the IPCC, followed by the panel discussion by Dr. Mariyam Shakeela, the Minister of Environment and Energy of the Republic of Maldives, Mr. Elbuchel Sadang, the Minister of Finance of the Republic of Palau, and a wide range of panelists, as being extremely informative and valuable, covering issues and measures related to climate change and coral reefs in a multifaceted way.

Participants exchanged views in four section meetings and a side event. The section meetings discussed topics on coral reef conservation, mitigation measures on climate change in Okinawa and in island countries, the current status and prospect of ecotourism in island countries with coral reefs, and adaptation to climate change

impacts.

[Coral reef conservation]

Participants recognized that both in the world and in Okinawa, coral reef ecosystems are extremely important to island economies from the viewpoints of promoting tourism and fisheries and protection from disasters such as storm surges, exasperated by climate change. They also recognized that coral reefs are vulnerable to various environmental impacts including climate change, and therefore, we should be seriously concerned about the declining trend of corals caused by the runoff of red soils etc., the outbreak of crown-of-thorns starfish, ocean acidification, and other factors in addition to the global bleaching phenomenon. They also shared the need for conservation that takes into account the relationship between coral reefs and onshore ecosystems, as well as the importance of measures aimed at minimizing anthropogenic pressures on coral reefs including the evaluation of local anthropogenic pressures. Participants shared a common view that it is necessary to share and signal to the world the experiences of the island countries in the area of conservation and restoration of these coral reefs which have such diverse functions.

Participants welcomed the presentation by the Palau International Coral Reef Center on the advanced coral reef research and establishment of Marine Protected Areas, the presentations on the establishment of the Red Soil Erosion Prevention Ordinance, control of crown-of-thorns starfish, implantation of corals, and Sato-umi initiatives in Okinawa Prefecture, and the introduction of coastal conservation projects by JICA. It was pointed out that further coral reef research with a wide spectrum including genetic diversity and economic evaluation would be important in appropriately conducting coral reef conservation. In this regard, participants shared their perception on the importance and value of forming a hub of an international network on research to promote coral reef conservation, human resources development, and awareness-raising in collaboration with the Okinawa Institute of Science and Technology Graduate University, the University of the Ryukyus and other domestic and overseas research institutions.

[Mitigation measures on climate change in islands]

Participants largely agreed that the need for climate change measures in islands is no different from other regions and that those measures can also address other issues

including costly imports of fossil fuels and unstable energy supply in islands. They shared recognition that, for example, autonomous and decentralized low carbon energy systems utilizing renewables can reduce the dependence on imported fossil fuels and can be effective to improve energy security.

In addition, participants shared their experiences in climate change mitigation measures, including among others, utilization of bio ethanol and bio methane power generation in Okinawa, the offshore floating wind power demonstration project implemented by the Ministry of the Environment of Japan near the Goto Islands, tidal power and other marine energy technologies, low carbon city development in Koh Samui Island of Thailand, and renewable energy and hydrogen utilization in Lolland Island in Denmark. They also recognized the importance of cooperation among governments, industries, academia and the general public.

At the same time, participants acknowledged that some of the challenges involved in increasing renewable energy are costs, grid stabilization, enhancement of transmission system, and electricity storage, and they shared the need for continued research and development, strengthening of the grid system and international cooperation.

Participants also expressed strong expectations regarding Japan's leadership, with its own experiences as an island nation, in disseminating low carbon technologies across the world, including floating offshore wind power and marine energy as well as autonomous and decentralized low carbon energy systems.

#### [Ecotourism]

The tourism industry is an important industry for the island countries, and participants shared a common view that the industry supports the local and national economies, and that in order to sustainably promote the tourism industry it would be essential to take advantage of the rich natural environment of the island countries including the coral reefs, conserving the coral reefs for future generations as natural capital for tourism.

In this regard, participants shared the perception that the promotion of ecotourism not only brings about economic benefits based on the environment that match the properties of island countries, but is also an important approach that enables local residents and travelers to recognize the values of the local nature, history, and culture. However, it

was emphasized that a balance between conservation and use of natural resources was significant, based on the concerns raised about the problems such as increasing inbound waste and impacts from overuse by visitors. With regard to sharing the incurred cost, good practices regarding the policies imposed on visitors in the islands were presented. In addition, participants expressed their appreciation for the sharing of good practices in ecotourism in Okinawa Prefecture, Iriomote Island, Bali Island, and the Great Barrier Reef in Australia, and they pointed out the importance of sharing such experiences in island countries which possess similar geographical characteristics. Participants shared the understanding that for the development of ecotourism in the region, it is important to have coordinators to facilitate the interactions between areas, as well as between actors in the area and the local authorities.

Moreover, participants shared the recognition that a number of islands and coral reef areas retaining rich natural environment are inscribed on the World Heritage List as natural heritage properties and that sustainable tourism based on appropriate management plans support local economies in the area. In this regard, participants expressed their hope that “Amami-Ryukyu,” which Japan is aiming to nominate for inscription in the World Heritage List as an island arc, will achieve the inscription in the near future, and stressed the importance to promote necessary measures for conservation of rich natural environment and sustainable tourism in the area.

[Adaptation to climate change]

It was reported that the impact of climate change is already apparent in the island countries and that the impact on oceans, coral reefs, and other fishing and tourism resources is gradually emerging. It was further reported that the greater impacts of climate change such as sea level rise and ocean acidification are expected to occur. Furthermore, participants shared the perception that climate change is a major threat to the economic development, societies, environment, and security of island countries, and therefore, it is necessary to formulate adaptation measures urgently.

Participants took special note of the fact that in order to further promote adaptation measures, the mainstreaming of adaptation measures in development is essential, and that implementation of adaptations utilizing the breakwater functions of natural features such as coral reefs and mangrove forests, etc (ecosystem based adaptations), which can also be described as ecosystem based disaster risk reduction, would be effective.

Various measures of adaptation were presented, namely protection, accommodation, and retreat. Participants also recognized the importance of formulating adaptation plans and development of human resources. In addition, taking into account the significant uncertainties associated with climate change, the promotion of no regret policies was emphasized. Recent international discussions on “loss and damage” were also presented.

Furthermore, at the 38th Session of the IPCC to be held in Yokohama, Japan in March next year, approval of the Fifth Assessment Report on the impact of and adaptation to climate change, etc. is expected, and participants welcomed the support of the Government of Japan. Moreover, they shared the importance of ecosystem based disaster risk reduction, and welcomed discussions on “the role of protected areas with respect to post-natural disaster reconstruction and disaster risk reduction” in various fora including the 1st Asia Parks Congress to be held by the Ministry of the Environment of Japan in Sendai City in November this year, the sixth IUCN World Parks Congress, and related discussions at the third International Conference on Small Island Developing States to be held in Samoa next year.

In addition to the four themes of the section meetings, other important issues such as marine litter were also raised and discussed during the meetings, and it was emphasized that we should integrate these issues for an effective response.

In the general summary and closing starting at 2pm on June 30, 2013, based on the reports from section meetings, Dr. Ryutaro Yatsu (Vice-Minister for Global Environmental Affairs, Ministry of the Environment, Japan) as the Chair, pointed out the importance of Japan and other island countries cooperatively working on the unique issues faced by island countries, and the importance of adopting comprehensive approaches in light of the fact that the various issues are closely interrelated. It is expected that the ‘Comprehensive support to island countries’ announced by Minister of the Environment Mr. Nobuteru Ishihara will be materialized and environmental measures in island countries will be further promoted through Okinawa following the success of this conference. The need for holding another international conference on promoting environmental cooperation among island countries next year in Okinawa was stressed, so that countries can report the progress made. In conclusion, this Chair’s Summary was adopted and the conference was adjourned.