Multiple benefits of blue carbon ecosystems in promoting blue economy and reinforcing resilience in coastal communities

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Blue carbon ecosystems (hereafter BCEs) such as seagrass beds and mangrove forests have recently been paid international attention due to their capability in effectively absorbing and storing carbon dioxide and thus mitigating climate change impacts when they are managed properly. BCEs could also be beneficial to the coastal communities in terms of preventing or minimizing climate change impacts, offering better environmental settings for aquaculture and fisheries, and in turn reinforcing their resilience. For instance ecosystem-based disaster risk reduction (Eco-DRR), sustainable food production through fisheries and aquacultures, and sustainable tourism could enhance adaptation capacity of the coastal community to climate change. The properly managed coastal ecosystems are thus the basis for the secure, safe, and circular coastal society, which is one of the main targets of the sustainable blue economy.
In this presentation, the definition and characteristics of BCEs such as mangrove forests, seagrass beds, coral reefs, and their interlinkages will be introduced first. Then some good examples and lessons learned from coastal communities in Japan as well as Palau will be introduced. Restoration of seagrass beds and coral reefs has involved multi-stakeholders and strengthened socioecological systems in Japanese coastal communities with some innovative ideas or continuing efforts of locals. In Palau, beautiful, unique marine ecosystems have attracted tourists from overseas and environmental fees paid by these tourists have contributed to the conservation and monitoring of these ecosystems in return. Through cataloguing and networking of these good examples from world coastal areas with similar natural or socioeconomic backgrounds, sustainable use of BCEs could be mainstreamed for promoting the blue economy and combating loss of these important ecosystems globally.

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