Recent Status and Sustainable Mangrove Conservation in Myanmar

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Abstract

Myanmar is the largest country in mainland Southeast Asia with a continuous coastline of almost 3000 km extending along the Bay of Bengal and Andaman Sea. Global climate change and the associated risk of sea level and extreme weather events have further underlined the importance of mangrove as a buffer protecting coastlines in the tropics and sub-tropics. In Myanmar, due to over exploitation, the mangrove forest areas are decreasing at rapid rate and rising sea levels and increasing unstable weather coastal resilience is an issue of ever growing so that cannot handle environmental problems therefore need international collaboration and technology transfer for conservation of mangrove forest and to pursue to local people for sustainable mangrove ecosystem. Methodology includes field visits, direct observation, data gathering and interview survey. Some areas of the mangroves in the Ayeyarwaddy delta improved by the Forestry Department's rehabilitation programmes, including the establishment of the Department plantation, and the protection of natural mangrove forests in selected places in Ayeyarwaddy and Tanintharyi regions. Rapid and often unsustainable development is jeopardizing the fragile relationship between these crucial habitats and the livelihoods of rural people who make up a high proportion of the population of Myanmar.We need to do three programs for sustainable mangrove conservation in future plan,awareness program, conservation program and capacity building program. Sustainability entails a continuous process of decision making, so there is never and end-state just a readjustment of the equilibrium between development and the protection of the environment.

Keywords: mangrove; coastlines; buffer; sustainable; rules and regulation

Introduction

In Myanmar, Latitude 20˚ N and 10˚ N Longitude 94˚E and 98˚ E, from East to West 936km and from North to South 2051km, Coastal length 2300km in Rakhine, Ayeyarwady delta and Tanintharyi with forest covering 52%. The two other principal formations are formed along sheltered coasts in the Rakhine and Tanintharyi regions. The original area of

the mangrove forest in Myanmar was 320,106ha in the early 20th century, about 275,000ha in (Ohn, 1992). Myanmar hosts 32 species of mangrove trees of which *Rhizophora*, *Sonneratia*, *Avicennia*, *Bruguiera* and *Xylocarpusspp* are dominant. (FAO, 2010)

According to a FREDA report (2012), another 30 percent of the remaining mangrove disappeared between 2003 and 2008. A list of common brackish water animals associated with mangroves and mangrove waterways, including 39 species of fish, 11 species of shrimp, 8 species of crab, one *Thalassina* (mud lobster), 2 oysters, 2 mussels, 1 cockle, 9 gastropods and one *Xiphosura* (Horseshoe Crab) was compiled.

Mangroves along the Myanmar coast are of immediate value to local people, particularly as firewood and charcoal for cooking, timber for construction and as productive habitat for fisheries. A positive correlation between fish and shrimp catches in near shore waters and the extent of mangrove area has been widely proven (Matosobroto & Naamin 1977; Saeskumar et al. 1992).

In addition, development of poor rural communities and establishment of plantations by UNDP Programs and other non-governmental organization have encouraged the rehabilitation of mangrove forest throughout the whole mangrove area of Myanmar, including the Ayeyarwaddy delta. In this report emphasize the recent status of mangrove forest, to high light on the importance of the conservation of mangrove forest and to pursue to local people for sustainable mangrove ecosystem. In this report, available information on coastal biodiversity is summarized and Key Biodiversity Areas, as well as knowledge gaps, are highlighted. Any project arising from this report will also raise awareness of the need for sustainability in all aspects of coastal and infrastructure development, and partners and alliances are being sought in the local and national governments, and among NGOs and private investors.

Methods

Methodology includes field visits, direct observation, data gathering and interview survey.

Results and Discussion

Mangroves are destroyed by natural damage (climatic factors) and human impacts especially local people are traditionally used mangrove for different purposes such as fuel wood, timber for building, boats, conversion to agriculture, honey, fish, crustaceans, crabs farming and molluscs and recreation and ecotourism. Although most of the mangroves are depleted some area are already recovered by non-governmental organization especially in

Ayeyarwady Delta region and Rakhine coastal region. A project, Costal Livelihood and Environmental Assets Restoration in Rakhine (CLEARR) (July 2011 to June 2014) already done by Ministry of Environmental Conservation/Department of Forestry for supporting to mangrove restoration of Myanmar with a three year research project to produce a national plan. This project gave to food and livelihood security of coastal communities in Gwa Township and Kyeintali sub Township increased through agricultural and livelihood support, cooperative mangrove rehabilitation and management, and improved capacity for livelihoods development and environmental governance. Another project of Forest Department of the Ministry of Environmental Conservation and Forestry and Worldview International Foundation is already completed on 2.5.2014 to support Capacity Building, Research and Development activity of Mangrove Reforestation in the Ayeyarwady Delta. According to the World Database on Protected Areas (WDPA) only six areas are protected at present. The only sizeable marine sites designated so far are at Meinmahla Kyun, Lambi, Moscos and Thamihla Island, all of which are mangrove and coral reef reserves. This means that the total Myanmar coastline is currently less than 0.1% protected. This might, however, change and the government initiative to expand coastal protection by including the Gulf of Martaban and potentially other sites such as Nan Thar island in the Ramsar sites register is most welcome. We propose, however, that the protected area network should be expanded much more widely to include most of the Tanintharyi coast and much of the Rakhine coast. This is necessary to ensure the protection of vital ecosystem services, the last remaining marine turtle and dugong breeding sites and other important sites for wintering water birds. All these will provide essential economic incentives for the development of sustainable tourism.

The Key Biodiversity Areas (KBAs) were introduced by IUCN in 2010 as an extension of Bird Life International´s Important Bird Area (IBA) concept. KBAs are places of international importance for the conservation of biodiversity through protected areas and 'other governance mechanisms'. They are the building blocks for implementing the ecosystem approach to conservation and maintaining effective ecological networks. Although KBAs cover large parts of the Myanmar coast, the network lacks many areas rich in biodiversity, such as mudflats on the Eastern side of the Gulf of Martaban and mangroves in the Dawei region. This is a reflection of the lack of information on coastal biodiversity in Myanmar. Meinmahla Kyun Wildlife Santuary prohibited and natural conditions were maintained, 50 species of mangrove trees, 53 species of medicinal plants, 19 species of mammals, 2 species of turtles, 1species of crocodile (Department of Forestry, MKWS, 2004).

Conclusion

Department of Forestry has implemented 30 years master plan and being carried out from 1999 to 2031 in Myanmar. At present there is an initiative by IUCN to explore a tentative list of potential World heritage Sites on behalf of UNESCO. Although these are still in draft form (IUCN in prep) two large marine corridors are listed. The Rakhine Marine Corridor is the largest area with over 40,000 km2. The second area, the Myeik Archipelago is even larger with over 45,000 km2. Both areas would cover large parts of the Myanmar coast and the extension of World Heritage status to these areas would be most welcome. It will provide a unique opportunity for the country and the local communities to develop the coastal area sustainably for the benefit of biodiversity and the long term security of the local people that live in these areas. For successful securing of the future of the mangroves, public awareness of mangroves and integrated conservation program are needed. The conservation and management planning of the coastal areas should be based on proper understanding, analysis and assessment of the various complex geomorphologic, fluvial, oceanic and natural climatic characteristics of the whole area plus the unnatural influence by human interventions.

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