

## Myanmar and Environmental Conservation

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### Abstract

The concept of Environmental Conservation has been existed since the monarchical period. Myanmar kings had faithfully carried out environmental protection. Old irrigation works were maintained, and new ones were constructed. By royal order, parks and sanctuaries were created. In Myanmar, the National Commission for Environmental Affairs (NCEA) formulated Myanmar Agenda 21 in 1997 and it was the expression of the political commitments by the government for achieving sustainable development and environmental conservation in Myanmar. It is intended to serve as a framework for integrating environmental considerations into future national development plans as well as for sectoral development programmes. This paper is an attempt how the respective ministries and NCEA carried out the preservation and conservation of environmental conditions in Myanmar in the recent years.

**Keywords:** Forest, Season, Agriculture

### Introduction

Today the world is facing with environmental problems. Every country in the world has its own environmental problems. Natural disaster such as forest, fire, storms, flood, lightening, avalanche, heat or cold wave, deforestation occurred in the world. People become the environmental refugees because of the destruction of ecosystem. Myanmar is also facing with natural disasters. World leaders are doing their best to lessons the natural disaster. Myanmar as one of the family members of world is attempting to carry out forest protection, environmental and biodiversity conservation and protected areas system. This paper attempts to highlight the role of Myanmar in environmental conservation. Special emphasis is made on conservation of forest.

### Myanmar and Environmental Conservation

Since humankind appeared in the earth, they have to rely mainly on its natural environment for their existences. All the deeds of humankind are mainly depended on the good and bad effects of their physical environment. Thus, the interactions between the physical environment and human societies are interdependent.<sup>1</sup>

In the past, natural environment gave humankind how to cope their lives, and in the course of time, humankind tried to make the changes of its environment. Thus, the drastic changes of physical environment appear in every part of the world in 20<sup>th</sup> century.<sup>2</sup>

The physical environment of the earth has been changing because of the increasing world population in the recent years. It has negative impacts as the people recklessly cut trees in forests, over extraction of natural resources in land and water, energy consumption

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<sup>1</sup> Maung Hsu Shin, “လူ့ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး မျက်နှာစာများ” (“The Frontage of Human Environmental Conservation”), မြန်မာ့စွယ်စုံကျမ်းနှစ်ချုပ် (*Yearbook of Myanma Encyclopedia*), Yangon, Sarpe Beikman Press, 1997, p.57 (Hereafter cited as Maung Hsu Shin, “The Frontage of Human Environmental Conservation”)

<sup>2</sup> Dr. Kyaw Win (Yangon University), “လူသားနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆက်နွှယ်မှု” (“The Relations between Man and Environmental Conservation”), *Thuta Padethar Magazine*, Yangon, 2017, July, Vol.44, No.7, p. 15 (Hereafter cited as Kyaw Win, “The Relations between Man and Environmental Conservation”)

in industries and chemical utilization.<sup>3</sup> Because of these impacts, natural disasters frequently break out in the world.

Natural disasters break out because of its natural causes, or because of man deeds carelessly or sometimes intentionally. The natural disasters such as forest fire, storms, flood, lightening, and avalanche, heat or cool wave and Tsunami and eruption of volcanoes can causes killing many human lives and animals, destruction of cultivation fields, buildings and roads, and outbreak of diseases.<sup>4</sup>

The excessive use of physical environment and natural resources causes the unbalance of ecosystem and the climatic changes cause draught and worldwide insufficient food shortages and hunger. In some parts of the world, the people become the environmental refugees because of the destruction of ecosystem.<sup>5</sup>

In fact, the industrialization raises the socio-economic life of a country. However, the smoke which produced from the factories damages ozone layer. Moreover, smoke from the eruption of volcano also damages ozone layer. The ozone layer shields the Ultra-Violet which is harmful to human and animals and it can cause inner cataract in eyes and skin cancer.<sup>6</sup>

The other causes of the damage of ozone layer are outbreak of El Niño or a band of warm ocean water current, destruction of forest, extension of deserts and pollution of ocean, storms, melting down of icy mountain and the rise of ocean water level and other bad impacts.<sup>7</sup>

The increase of world population is one of the causes of danger for wild life. People have always depended on wildlife and plants for food, clothing, medicine, shelter and many other needs.<sup>8</sup> The illegal trafficking of endangered spices is frequently found in developing and under-developed countries.

Moreover, the acid rain which has a deleterious influence on the environment in and around urban-industrial centers and greenhouse gas which exacerbate global warming, and air and water pollution around the world cause most of the damages to environment and society.

Since the monarchical period, environment protection was part of royal duties which Myanmar kings had faithfully carried out. Loving kindness to all beings and providing safety, security and peace for all living beings in the kingdom was one of the ten moral precepts of the king. Old irrigation works were maintained, and new ones were constructed. By royal order, parks and sanctuaries were created. In the recent years, National Commission for Environmental Affairs was formed for the sustainable development of environmental condition of Myanmar.<sup>9</sup>

Myanmar Agenda 21 formulated in 1997 is an indicator of the political commitment in incorporating environment and development. The specific aim of

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<sup>3</sup> Ibid, p. 16

<sup>4</sup> U Han Nyunt (Law), “သဘာဝဘေးအန္တရာယ်နှင့်ဥပဒေအမြင်” (“Natural Disasters from Law Perspectives”), *Thuta Padethar Magazine*, 2017, July, Vol. 44, No.7, p. 5

<sup>5</sup> Kyaw Win, “The Relations between Man and Environmental Conservation”, p. 16

<sup>6</sup> Ibid, p. 17

<sup>7</sup> Maung Hsu Shin, “The Frontage of Human Environmental Conservation”, p. 58

<sup>8</sup> Kyaw Win, “The Relations between Man and Environmental Conservation”, p. 17

<sup>9</sup> Ibid, p. 20

Myanmar Agenda 21 is to facilitate the incorporation of environmental and sustainable development policy considerations into the decision-making and policy formulation processes of the government in the economic and social sectors. In broad view, Myanmar Agenda 21 covers the three broad dimensions of sustainable development - the social, economic and environmental dimensions.<sup>10</sup>

Myanmar is rich in forest resources and valuable teak and other wood are abundant in Myanmar forest. In 2015, 42.92% of the total area of the country is covered with natural forest. In spite of its rich forest resources, it is essentially needed for the protection of soil, water, wildlife, biodiversity and environment ; sustainability of forest resources to ensure perpetual supply of both tangible and intangible benefits accrued from the forests for the present and future generations. The comparative data of the total area of forest covered in the country 51.54% in 2000 and 42.92% in 2015 shows that the total forest area in the country is degrading year after year.<sup>11</sup>

The Forest Law of Myanmar, 1992, highlights forest protection, environmental and biodiversity conservation, security of permanent forest estates and protected areas system. To carry out these measures, the servants and officials from Department of Forestry should encourage for the promotion of private sector involvement in reforestation and timber trade; and community participatory approach in managing forest resources, particularly to satisfy the basic needs of the rural people.<sup>12</sup>

With specific objectives and activities, Myanmar Agenda 21 has identified the following programme areas: (1) Accelerate sustainable development of forest resources, (2) Develop the forestry sector to meet basic needs, (3) Promote efficiency in the production of forestry goods and services, (4) Strengthen forestry policies, legislation and institutions, and (5) Enhance people's participation in forestry development and management.<sup>13</sup>

According to the 30-Year National Forest Master Plan (2001/2002 to 2030/2031), at the beginning of 2001 the types of forest can be legally classified as reserved forests, protected public forests and protected areas for biodiversity conservation. The significant measures for the sustainable development of forestry conservation in Myanmar are:

- The prohibition of extraction of timber production for 10 years in Bago Yoma Mountain starting from 2016-2017 fiscal years and accelerate plantation and preservation of new forests,
- Conservations and plantation of headwater forests and implementation for the rehabilitation of Myanmar Forest Project (2017-2018 to 2027-2028) in states and regions of Myanmar,

<sup>10</sup> *National Sustainable Development Strategy for Myanmar*, National Commission for Environmental Affairs (NCEA), Ministry of Forestry, Myanmar, p. 23 (Hereafter cited as *National Sustainable Development*)

<sup>11</sup> Thaug Naing Oo, Dr. (Forest Research), “သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးကို စဉ်ဆက်မပြတ် စွမ်းဆောင်ကြိုးပမ်း သစ်တောဝန်ထမ်း” (“Forestry Servants Who Endeavoured for the Sustainable Development of Environmental Conservation”), *Myanmar Alin Newspaper*, p. 27 September, 2017, p.6 ( Hereafter cited as Thaug Naing Oo, “Forestry Servants”)

<sup>12</sup> Ibid

<sup>13</sup> *National Sustainable Development*, p.32

- Planning and implementation of special forest projects in the headwater area of the main rivers, fresh water lakes areas, in coastal areas and mountainous regions,
- Systematic planning for extension of 30 % of evergreen forest area and 10% of natural forest area of the total area of Myanmar,
- Development of sustainable research, measurements and assessment for the quality of fresh water lakes and main rivers in Myanmar by establishing a forest research department.<sup>14</sup>

The development of Forest Rehabilitation Projects can be found in Bago Yoma Mountain. Silvicultural and cultural treatments are be done effectively in plantation. Beside the reserved forest areas in Bago Yoma Mountain, 400 acres of teak plantation, 250 acres of teak plantation in Saingya reserved forest plantation plot No.37 and No.61 and 50 acres in old Saingya reserved forest plantation No. 68 are planted.<sup>15</sup>

The Dry Zone in Central Myanmar is the most problematic region in terms of degradation of land resources due to past continued deforestation in addition to its severe climatic conditions. The Dry Zone Greening Department of Ministry of Forestry is responsible for greening 13 Districts in central dry zone of the country, which covers 12 percent by area and 20 percent by population of the whole country. Amid Dry Zone, there is an oasis called Mount Popa area covered with green forest. The greenery project of Popa area was started in 1983 and Popa Mountain Part was designated as ecotourism site in 1993. Since Myanmar monarchical period, this area was regarded as royal sanctuary. Over 130 species of wildlife are inhabited in this over 49 square miles wide mountain park. Moreover, zoologists claimed that over one hundred butterflies' species are available there.<sup>16</sup>

All social and economic activity relies heavily on freshwater resources. Water is becoming scarce in many countries and the management of water resource is of paramount importance in the world. Issues associated with freshwater are population growth in big towns, industrialization, urbanization, overuse, inadequate supply in big towns, pollution both from industrial and domestic wastes and gold mining and the use of chemical fertilizers in the headwaters areas.<sup>17</sup>

The main waterhead areas of Myanmar from Kagaborazi Mountain in the north to Taninthayi coast in the south, and from Shan Hill in the east to Chin Hill, Rakhine Yoma Mountain and Bago Yoma in the east has 80 % of the total area of the country. The water resources of these areas can cause pollution and other damages because of natural disasters and other man-made causes.<sup>18</sup>

Myanmar is home to an extraordinary diversity of wetlands, which include mountainous wetlands; large freshwater marshes and lakes; and coastal mangroves,

<sup>14</sup> Thaug Naing Oo, "Forestry Servants", p. 22

<sup>15</sup> Ko Lwin (Swa), "ပဲခူးရိုးမစိမ်းလန်းစိုပြေရေးသစ်တောထူထောင်ရေးလုပ်ငန်းများ အရှိန်မြှင့် တင်ဆောင်ရွက်နေ" ("Forest Rehabilitation for Greenery of Bago Yoma is accelerated"), *Myanmar Alin Newspaper*, 11 October, 2017, p.16

<sup>16</sup> Science Author Ko Ko Aung, "ပုပ္ဖားရယ်သာ ...လာချင်ပါရဲ့လေ" ("Want to Visit Pleasant Popa"), *Myanmar Alin Newspaper*, 28, September, 2017, p.17

<sup>17</sup> Thaug Naing Oo, "Forestry Servants", p. 15

<sup>18</sup> Ibid

mudflats and coral reefs. A wetland is a place where the land is covered by water, either salt, fresh or somewhere in between. Marshes and ponds, the edge of a lake or ocean, the delta at the mouth of a river, low-lying areas that frequently flood—all of these are wetlands.<sup>19</sup>

The ecosystem of wetland support fisheries, provide clean water, store carbon and protect local people from the impacts of floods, tsunamis and landslides. As such, local livelihoods depend on the ecosystem goods and services provided by wetlands. The wetland areas in Myanmar are endangered because of the extension of cultivation areas, and excessive fishing and colonization of other species. Myanmar's wetlands are also threatened by unsustainable water extraction, agricultural encroachment, overfishing and invasive species that reduce their capacity to support human development.<sup>20</sup>

To better protect its wetlands, Myanmar ratified the Ramsar Convention on 14 March 2005. Established in 1971, the Ramsar Convention, the world's oldest global environmental agreement, is an international treaty for the conservation and “wise” (i.e. sustainable) use of wetlands. In Myanmar, three sites have already been designated as Ramsar sites: Moeyungyi Wetlands Wildlife Sanctuary in Bago Region, the Indawgyi Wildlife Sanctuary in Kachin State and the Meinmahla Kyun Wildlife Sanctuary in the Ayeyarwady Delta. On 8 May 2017, the northern part of the Gulf of Mottama was designated as Myanmar's fourth Ramsar site. The 45,000-hectare site is situated at the mouth of the Sittaung River, stretching along the eastern shore of the estuary in the Kyatho and Bilin Townships of Mon State. It meets six out of the nine Ramsar criteria, a comparatively high proportion.<sup>21</sup>

The Gulf of Mottoma is one of the most dynamic estuaries in the world and his home to one of the largest mudflat areas in the world, making it of outstanding global conservation value. The highly-productive gulf, fed by sediment and nutrients from three major rivers, supports abundant invertebrates that provide food for up to 150,000 migratory water birds in the non-breeding season. The gulf is one of the world's most important wintering areas for the Critically Endangered spoon-billed sandpiper, hosting probably more than half of the remaining global population in the world during wintering season. The site also supports the livelihoods of tens of thousands of people who make their living through fishing.<sup>22</sup>

The Ramsar site was designated after extensive consultations with local communities and the Mon State government, as well as the Forest Department, the national Ramsar focal point. The Community-led coastal management in the Gulf of Mottama project of the Swiss Agency for Development and Cooperation is supporting this process. The project, which is implemented by HELVETAS -- a Swiss NGO -- in cooperation with IUCN and two local NGOs, Network Activities Group and Biodiversity and Nature Conservation Association, is assisting the preparation of a management plan for the Gulf of Mottoma that incorporates the “wise use” principles of the Ramsar Convention. The designation of this Ramsar site is of special significance because it is the first in Myanmar that is outside a legally-designated protected area. It therefore sets an

<sup>19</sup> “မုတ္တမပင်လယ်ကွေ့မြောက်ဘက်အား မြန်မာနိုင်ငံ၏ စတုတ္ထမြောက် ရမ်ဆာဒေသအဖြစ်သတ်မှတ်” (“Northern Part of the Gulf of Mottama is designed as the Forth Samar Area of Myanmar”) *Mirror Newspaper*, 10 June, 2017, p.10 (Hereafter cited as “the Forth Samar Area of Myanmar”)

<sup>20</sup> “the Forth Samar Area of Myanmar”, p. 10

<sup>21</sup> Ibid

<sup>22</sup> “the Forth Samar Area of Myanmar”, p. 10

important precedent for Myanmar's many other wetlands of global importance that merit Ramsar status.<sup>23</sup>

Myanmar is endowed with impressive fauna and flora. There are about 11,800 number of plants in Myanmar including 1696 species of climbers, 65 species of rattans, 841 orchid species and more than 300 species of mammals, 360 reptiles, and about 1,000 bird species have been recorded. This biodiversity richness contributes to environmental sustainability of the country.

Today, many ecologically fragile and endemic species are highly endangered and risk extinction. Without official permits, no one is allowed to hunt, collect and trade in any wildlife species according to the 1992 Myanmar Forest Law and the 1994 Protection of Wildlife, Wild Plants and Conservation of Natural Areas Law. The aims of wildlife management are sustainable use of wildlife resources within the capacity of renewable rates while giving conservation priorities for rare and endangered species. Toward this end, the 1994 Protection of Wildlife, Wild Plants and Conservation of Natural Areas Law, provides for declaring, any of the three categories (completely protected, normally protected and seasonally protected) for any species of either flora or fauna.<sup>24</sup>

Currently 40 species of mammals, 50 species of birds, and 9 species of reptiles have been listed as "Completely Protected"; 12 species of mammals, 43 species of birds and 6 species of reptiles are listed as "Protected" and 2 species of mammals and 13 species of birds are "Seasonally Protected" (FD 1994). However, the depletion of Myanmar wildlife and forest resources cannot be checked unless the huge consuming markets in neighboring China and Thailand are taken into serious consideration through CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora and CBD (Convention on Biological Diversity), and measures adopted urgently.<sup>25</sup>

To ensure environmental sustainability, so far 42 protected areas encompassing 49383 km i.e. 7.30 % of the total areas of the country have been notified, proposed and included in the protected area system. Out of 34 protected areas with 26612 km covering 3.93% of the total area of the country, only 20 are under Nature and Wildlife Conservation Division of Forest Department and are being well managed. The remaining protected areas, managed under Directorates of State/Divisions of Forest Department are badly in need of conservation inputs for effective biodiversity conservation. These are poorly or inadequately managed on account of institutional, financial and human capacity constraints.<sup>26</sup>

Of the seven living turtle species found around the globe, six are known to reside in Southeast Asia, Myanmar has 4 species namely, Green turtle (*Chelonia mydas*), Loggerhead (*Caretta caretta*), Hawksbill (*Eretmochelys imbricata*) and Leatherback (*Dermochelys coriacea*). Because they migrate thousands of kilometres and take decades to mature, turtles serve as important indicators of the health of coastal and marine environments on both local and global scales. To ensure the survival of economically important species of both marine and non-marine reptiles, additional safeguards will be required.<sup>27</sup>

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<sup>23</sup> Ibid

<sup>24</sup> *National Sustainable Development*, p.14

<sup>25</sup> Ibid

<sup>26</sup> *National Sustainable Development*, p.15

<sup>27</sup> Ibid

Four species of endangered or vulnerable birds in Myanmar are namely, White-bellied Minivet (*Pericrocotus erythropygus*), resident at 2,000-6,000 feet in Myanmar except the central, Hooded Treepie (*Crypsirina cucullata*), resident below 3,000 feet in north, central and southern Myanmar, White-browed Nuthatch (*Sitta victoriae*), resident at 7,500-9,200 feet on Mt. Victoria in western Myanmar and Whitethroated Babbler (*Turdoides gularis*), common resident on plains of western, central and southern Myanmar.<sup>28</sup> Myanmar is among the most important 14 tropical countries for threatened birds but under protected and underfunded.

### **Conclusion**

In conclusion, management of natural resources is the most important factor for the sustainable development of environmental conservation. Management of natural resources is concerned with conservation of natural resources and minimizing negative impacts primarily due to human activities on physical and biological resources. Environmental protection shall constitute an integral part of the development process. All activities and practices which could cause damage and vulnerability to the environment must be avoided and must be in harmony with nature. The environment can give special priority in any development activities. Environmental quality management including air and water quality management, hazardous solid waste management, etc. and enhancement are very important. Environment impact assessment can be undertaken prior to major development activities to circumvent significant adverse impacts on the environment. The State can enact a national land use policy for sustainable management of land resources; the State can develop and conserve water sources to ensure sustainable supply of fresh water; and all types of ecosystems can be well conserved. Moreover, the State can conserve and utilize all above-ground and below-ground natural resources in an efficient and sustainable manner. Overexploitation and degradation of the natural resources should be avoided to maintain adequate and sustainable supply of all natural resources in the country for the interests of the country and for present and future generations.

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<sup>28</sup> Ibid, p. 16

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