

LEGAL STUDY ON PRESERVATION AND PROTECTION OF INLE LAKE

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Abstract

The Inle Lake is one of the most prominent landmarks in Shan State. It is very important to the living organisms. Human activities have led to degradation and loss of lake ecosystems, loss of biological diversity and climate change. This paper aims to protect the Inle Lake's ecosystem legally, to get the benefits from the lake's resources and to explore the adequacy of the current legal provisions on conservation of the Inle Lake. This study utilized the qualitative interview questionnaires conducted with 30 respondents living in the Inle Lake. Among them, fifteen persons said that the main problem of Inle Lake's loss and degradation are extremely disposing the garbage and sewages. Moreover, five persons said that the Lake is facing gardens and ten persons said that it is degradation by deforestation in the catchment areas. While there are more than 90 volunteer groups dedicated to preserving the Inle Lake, only three groups are working effectively. The key findings include a lack of awareness about the Inle Lake conservation, lack of wise use of lake resources and lack of funding. Degradation of the Inle Lake ecosystem poses a big challenge for their local community. Despite their awareness about the degradation of the lake's ecosystem, they lack knowledge about how to conserve and maintain it. In order to address this issue, the Inle Lake Conservation Law was enacted in 2019, but this law deals only with the Inle Lake. The National Wetland Policy was enacted in 2019. There are many important wetlands, such as the Inle Lake in Myanmar. Therefore, a specific law for all the areas of wetlands should be enacted in Myanmar.

Keywords: Inle Lake, Wetland, degradation, preservation, wise use, law, policy.

Introduction

The Inle Lake is one of the priority conservation areas in Myanmar due to its unique ecology, historical, religious, cultural, and traditional background, and natural beauty. People, nature, and culture coexist in a unique wetland. The Inle Lake is the second largest lake in Myanmar and also known as the heart of the country. It is an invaluable source for biodiversity protection and sustainability of the environment. It constitutes a resource of great economic, scientific, cultural and recreational value for the community. The main threats are deforestation, pollution, unsustainable agriculture and tourism. It is being threatened by changes in global climate patterns. Moreover, the overuse of lake resources and pollution of the lake have caused several environmental damages. In order to resolve these issues, the Government of Shan State enacted the Inle Lake Conservation Law on 19 December, 2019. Myanmar has also adopted the National Policy for wetland conservation in 2019. The Myanmar government ratified the Ramsar Convention on the Wetlands of International Importance Especially as Waterfowls Habitats, 1971 and is intended to be conserving wetland areas and their ecological systems by the wise use of them through local, regional, and national actions and international cooperation. Marshes, ponds, lakes, streams, floodplains, and swamps include inland wetlands. Such international instruments as Convention Concerning the Protection of the World Cultural and Natural Heritage 1972, the Convention on the International Trade in Endangered Species of Wild Fauna and Flora 1973, the Convention on Migratory Species of Wild Animals 1979 and the Convention on the Biological Diversity 1992.

Making policy and legislation initiates the development of infrastructures and efficient systems that ensure wise use of the Inle Lake and protect against environmental degradation. The

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establishment of a comprehensive measure is essential for its conservation to properly implement the effective mechanism. Therefore, the creation of legal frameworks is a crucial step of the states at both national and international levels.

Objectives

This paper aims to preserve ecosystems of the Inle Lake and share the awareness of the value of the Inle Lake and wise use of the Inle Lake resources, as well as encourage the indigenous people to preserve and protect the Inle Lake and its watershed areas. They also need to know what facts they have faced when threatening the Inle Lake ecosystem and to preserve and control the loss and degradation of it as well as to ensure the socioeconomic development.

Research Methodology

This study is conducted by a qualitative legal research approach comprising a doctrinal (legal analysis) method. A combination of descriptive and analytical research is used: Data collection methods include doctrinal (library-based) research based on primary sources such as Myanmar's environmental laws, regulations, and policies, and secondary sources such as books, journal articles, and reports from government agencies and international organizations. Data analysis methods are used for examining status, case laws, and legal commentaries to identify strengths and weakness in the legal framework.

Research Findings

The biggest challenges facing the Inle Lake preservation are a lack of awareness to understand the values of the Inle Lake, a lack of wise use of lake's resources, a lack of coordination for appropriate measures at the private or public level, and a lack of funding. In addition, there are no deterrent sanctions to enforce the offence in the Inle Lake Law. Moreover, a specific provision should be enacted in order to protect the deterioration of the lake ecosystem.

Discussion

Definition of the Inle Lake

The Inle Lake is a freshwater lake situated in Naung Shwe Township, Taunggyi District, Southern Shan State, and it is the second-largest freshwater lake in Myanmar.

Inle lake region means Inle Lake, Sankar Inn, Moby Reservoir, and all their watershed areas.² There is no provision that defines the "Inle Lake" in the Inle Lake Wetland Conservation Law, 2019.

According to the Ramsar Convention, 1971, Inle Lake is one of the types of wetlands. Wetlands are areas of marsh, fen, peatland, or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salt, including areas of marine water the depth of which at low tide does not exceed six meters.³ Wetlands may incorporate riparian and coastal zones adjacent to the wetlands and islands or bodies of marine water deeper than six at low tide lying within the wetlands.⁴

² Section 2 (e) of the Inle Lake Conservation Law, Myanmar, 2019.

³ Article 1.1 of the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1971.

⁴ Article 2.1 of Ibid.

In Myanmar National Policy, 2019, it is stated that all lakes and rivers, underground aquifers, swamps and marshes, wet grasslands, peatlands, estuaries, deltas and tidal flats, mangroves and other coastal areas, coral reefs, and human-made sites such as fish ponds, rice paddies, reservoirs, and salt pans are included in the wetland. In the National Wetland Policy, the definition of wetlands is used by Article 1 of the Ramsar Convention, 1971.

Importance of the Inle Lake

The Inle Lake is an integral component of the country's natural and cultural heritage. It is very important for the national economy and ecology and local survival livelihoods. The Inle Lake is an important habitat for freshwater fish, and they are useful for local people, or Lake People.

The lake is also the source of livelihood for the lake-dependent people, the Intha. It was declared a Wildlife Sanctuary in 1985. It was also included in the list of UNESCO's World Heritage Sites in 1988. In addition, it was declared an Important Bird and Biodiversity Area (IBA) in 2004. It became an ASEAN Heritage Park in 2013 and a Man and Biosphere Reserve in 2015. It was also designated as a Ramsar Site on September 7, 2018, which is providing added value of technical and financial support, information sharing among groups, and education.⁵

In addition, the Inle Lake is very important to the health and development of local communities. The species are living on and around the lake and the ecosystem that supports freshwater, air and soil. The lake is a vital source of income for many people.⁶ The people residing in villages near the lake pluck lotus flowers, seed pods, and roots from the lake and sell them in the markets. They have also been producing lotus fiber for use in their famous traditional weaving business. Every year, this lake is covered with different varieties of colorful lotus, except in the winter season, and birds flock to the lake to rest. Moreover, it is the main water reserve for the Law Pi Ta hydropower plant and is a major tourist area.

Wetlands play an important role in water-related disaster risk reduction. Wetlands have special cultural, spiritual, or historical values associated with them. It is also attracting people for recreational activities, including boating, bird watching, and photography.⁷

Threats to the Inle Lake

The Inle Lake is threatened by human activities that directly or indirectly affect the lake's ecosystem development. Its health can be damaged by losses of lake areas, changes to the water regime, changes in water quality, over-exploitation of products, and introduction of alien species.

Moreover, overuse of chemical fertilizers and pesticides, population growth, increased utilization of fuel wood, rapid tourism development and climate change are threatening the Inle Lake ecosystem. Lake People who drink water from the lake and eat its fish face serious health risks.⁸

⁵ Bishnu B.Bhandari, Reiko Nakamura, Amado S. Tolentino, Jr. Shiina Suzuki., (2014) *Catalyzing the Wise Use of Wetlands in Myanmar: Efforts and Ways Forward*, p.11.

⁶ Ketevan Khurtsia., (2015) *Inle Lake Conservation and Rehabilitation*, p.9.

⁷ Myanmar National Wetland Policy and Strategic Actions, 2019, p.6.

⁸ Ketevan Khurtsia., (2015) *Inle Lake Conservation and Rehabilitation*, p.8.

Agriculture is the primary source of livelihood for the majority of rural communities in and around the Inle Lake. But it has also been a major problem for the lake ecosystem. Floating gardens spread rapidly, encroaching into the diminishing area as the floating beds become solid ground. The availability of open water area has declined, the level of sedimentation in the lake has increased, and the lake is becoming smaller, shallower, and polluted in water quality. The lake's biological diversity and ecosystems have been seriously endangered.⁹

Drainage and reclamation, agricultural and land expansion, and fish and shrimp pond expansion—these activities are leading to wetland loss and degradation. Wetlands are indirectly driven to water regime change by deforestation in the catchment, development activities, illegal settlement, and mining of the watershed and catchment areas. The wetlands water quality is threatened by irrigation, eutrophication, pollution and erosion and silt deposition, intrusion of salt water, desiccation, and salinity. Overfishing, destructive or illegal fishing, overgrazing, trapping, and poisoning aquatic species can cause the deterioration of wetland ecosystems.¹⁰

Wetlands are threatened by human activities or human-generated processes occurring around the river basin, catchment area, or coastal region. The main processes that affect wetlands may be loosely grouped into five main categories: loss of wetland area, changes to the water regime, changes in water quality, over-exploitation of wetland products, and introduction of alien species.¹¹

Lakes of the ASEAN countries are threatened by the building of dams, extreme use of water resources, untreated waste materials from industries and domestic sectors, development of infrastructure, deforestation, and introduction of invasive alien species, increasing agriculture and aquaculture farms, and over-exploitation of lake's resources.¹²

Ramsar Sites in Myanmar

The Ramsar Convention¹³ encourages the designation of wetland sites containing representative, rare, or unique wetlands or wetlands that are important for conserving biological diversity. According to the obligations of Ramsar Contracting Parties, nations need to designate their wetlands as International Importance of Wetland (Ramsar Sites).

Under the Ramsar Convention, these countries designated their wetlands as International Importance of Wetland (Ramsar Sites). The number of wetland areas and total surface area are designated.

According to the Ramsar Convention, a wetland can be considered to be internationally important provided one of the nine criteria applies. Under the Ramsar Convention, any wetland that meets at least one of the criteria for identifying wetlands of international importance and has been designated by the appropriate national authority can be added to the Ramsar List.¹⁴

In order to maintain the wetlands, Myanmar became a contracting party to the Ramsar Convention on 17 March, 2005. It can be found that there are many wetlands that meet the

⁹ Ketevan Khurtsia., (2015) *Inle Lake Conservation and Rehabilitation*, p.8.

¹⁰ Myanmar National Wetland Policy and Strategic Actions, 2019.

¹¹ Clare Shine and Cyrille De Klemm., (1999) "Wetlands, Water and the law", (Using Law to Advance Wetland Conservation and Wise Use), IUCN, p.8.

¹² Forest Mirror Journal, Forest Department, the Ministry of Environmental Conservation and Forestry, 2018, p.39.

¹³ The Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1971.

¹⁴ www.ramsar.org. > wetland > Myanmar.

Ramsar Criteria in Myanmar. Myanmar currently has 7 Ramsar Sites designated as Wetlands of International Importance (Ramsar Sites). The Moeyungyi Wetlands Wildlife Sanctuary in the Bago Region was designated as a Ramsar Site on May 22, 2004; the Indawgyi Wildlife Sanctuary in Kachin State was designated as a Ramsar Site in May 2016; the Meinmahla Kyun Wildlife Sanctuary in the Ayeyarwaddy Region was designated as a Ramsar Site on February 2, 2017; the Gulf of Mottama, Mon State, was designated as a Ramsar Wetland Site on May 8, 2017; Inlay Lake in Shan State was designated as a Ramsar Site on September 7, 2018; the Nantha Island and Mayyu Estuaries were designated as a Ramsar Wetland Site on May 22, 2020; and Pyu Lake in the Mandalay Region was designated as a Ramsar Site on February 2, 2014.

Although seven Ramsar Sites have been designated as wetlands of international importance, there are many wetlands that meet the Ramsar Criteria as wetlands of international importance in Myanmar.

Provisions for Inle Lake Preservation

Inle lake is a freshwater lake and it is including in the wetland types. And it has played an important role in the support and development of community. Threats are drainage for agriculture, settlements and urbanization, pollution and hunting. The Inle Lake Conservation Law and the National Wetland Policy were provided to preserve and protect the Inle Lake ecosystem. In addition, other related laws were enacted.

The government of Shan State passed its Inle Lake Conservation Law, which took effect on 19 December 2019. It aims to ensure that a good natural environment will be inherited by future generations and to sustain socioeconomic development in conformity with the Inle region. Its other purposes are to carry out a systematic cooperation administrative system; to conserve ancient pagodas, ancient buildings, and other ancient cultural heritage and literature; to promote conservation of the environment and biological diversity; to promote the sustainable multi-development of the Inle Lake area; and to elevate human resource's ability.¹⁵

The basic principles have been adopted by the government. They are implementation of the environmental policy and the implementation the water resources policy based on the Union Government's and Shan Governments' Policies; implementation of executive and management methods in conformity with the Inle Lake Region based on the methods of the all-round executive and management methods for lakes and their catchment areas.¹⁶

Moreover, UNESCO's Man and the Biosphere (MAB) management methods; implementation of policies in accordance with international agreements which are related to forest conservation, natural environment and biodiversity conservation; conservation of ancient heritage buildings, culture heritage and customs of the local people; carrying out measures to impose responsibility upon those responsible for the problems which cause pollution in the area; carrying out social-economic development with the participation of the local people and the development of human resources related to environmental management of the natural resources of the Inle Lake and the creation of employment opportunities based on the ecosystem.¹⁷

¹⁵ Section 3 of the Inle Lake Conservation law No.8 /2019.

¹⁶ Section 4, Ibid.

¹⁷ Ibid.

According to the Inle Lake Conservation Law, 2019, the governing body shall be screened for long term use of nature resources of Inle Lake before planning; shall cooperate with relevant department comply with applicable Laws by the land or water user to prevent the loss of natural resources; shall direct to control the inflow and outflow of the lake; shall designate environmental pollution standard that pollution arose from the industry, guest house, machinery, agricultural, industrial wastes by negotiate with the Government Department as well as take action in accordance with the existing Law; shall publish the regulations, notifications, prohibitions, directions, rules for carrying out of the sustainable development of Inle Lake for facilitating work; and shall inform to the public that the designated wetland as core zone, buffer zone and transition zone.¹⁸

If the case of any offense occurs in the Inle Lake Conservation Area, the governing body shall cooperate with the relevant departments for taking action in accordance with the existing law and regulations. This law does not explicitly describe penalties for violation of any offense. If the provisions of legal liability enacted in the Inle Lake Conservation Law, 2019, are followed, it will be more effective for wetland protection.

The National Wetland Policy was promulgated in 2019. The major goals of the National Wetlands Policy are to conserve wetlands and to promote their wise use to secure habitats for biodiversity as well as wetland benefits for human beings. This policy supports targets for protection, conservation, restoration, and sustainable use of wetlands to achieve the 2030 Agenda for Sustainable Development's goals of sustainable management of water and halting land degradation and biodiversity loss. In addition, the formation and implementation of the National Wetland Policy contribute to achieving the overarching goals and objectives of Myanmar's other environmental and natural resources-related policies.¹⁹

There are the related laws for Inle Lake conservation. They are the Penal Code, 1861; the Constitution of the Republic of the Union of Myanmar, 2008; the Myanmar Environmental Conservation Law, 2012; the Marine Fisheries Law, 1990; the Conservation of Water Resources Law, 2006; the Conservation of Biodiversity and Protected Areas Law, 2018; the Pesticide Law, 1990; the Fertilizer Law, 2002; and the Vacant, Fallow, and Virgin Land Management Law, 2018.

According to Section 188 of the Penal Code, 1861, it is provided that a person not following an order of a public servant who is legally permitted to give such an order shall be punished with imprisonment of description for a term that may extend to six months, or with a fine that may extend to one thousand rupees, or with both. In addition, whoever pollutes a spring or reservoir that is used for the public benefit will be punished with imprisonment for a term that may extend to 3 months or a fine or both under this Code.

Under the Constitution of the Republic of the Union of Myanmar, 2008, every citizen has the duty to assist the Union in carrying out the preservation and safeguarding of cultural heritage and environmental conservation.²⁰

¹⁸ Section 11 of the Inle Lake Conservation law No.8 /2019.

¹⁹ Myanmar National Wetland Policy and Strategic Actions, 2019.

²⁰ Section 390 of the Constitution of the Republic of the Union of Myanmar, 2008.

The Myanmar Environmental Conservation Law, 2012, provided that the authority shall carry out the conservation management, beneficial sustainable use, and enhancement of regional cooperation of the freshwater resources and marine resources.

In the Conservation of Biodiversity and Protected Areas Law, 2018, Section 3 provided that to protect geophysical unique areas, endangered wildlife and wild plants, and their habitats. According to Section 17 of this Act, the authority shall protect and conserve living organisms and their natural habitats.

The Conservation of Water Resources Law 2006 aims to conserve these water resources and river systems for beneficial utilization by the public. However, this law does not include inland water conservation. It addresses the lake derived from the rivers and creeks. Therefore, it is also protecting the lake by conservation of the rivers and creeks. Lake ecosystems are protected and conserved by the protection and prevention of their water resources. The loss of these water resources can be prevented by systematically extracting underground water, the conservation of catchment areas, and the systematic disposal of wastewater. Therefore, lake ecosystems and water resources are interdependent.

In the Pesticide Law, 1990, and the Fertilizer Law, 2002, the spraying of pesticides and fertilizers can be a cause of water pollution and impact others resources and human health. In this law, the user of pesticides or fertilizer shall follow use instructions shown on the label and shall follow the pesticide safe handling instructions of the authorities as well as comply with the directives of the authorities regarding the disposal of empty containers, wrappers, and packages of pesticides and fertilizer because they are impacted by wetlands by overusing them. Therefore, the Pesticides Law and the Fertilizer Law are also relevant laws for the Inle Lake conservation.

In the Myanmar Vacant, Fallow, and Virgin Land Management Law, 2018, the central committee shall work in coordination with the Ministry of Natural Resources and Environmental Conservation and other relevant ministries to conserve the natural lakes, watershed areas, natural lands, ponds, islands, and archipelago.

Preservation of the Inle Lake

Protection is to keep the Inle Lake's ecosystem safe, while preserving the lake ecosystem is to sustain its resources. The Inle Lake conservation was made with the Ministry of Environmental Conservation and Forestry, the state authorities, and village administrators with support from the Norwegian government.

Logging within the Inle Lake's watershed loosens the soil in the shrinking forests. The case for fuel-efficient stoves is strong. It reduces the use of wood, soil erosion, and sediment as well as polluting the air. Moreover, it preserves the water regime of the Inle Lake, which contributes to indigenous people. Unregulated and harmful fishing practices threaten the lakes' habitat. They decrease ecosystem productivity and adversely affect focal and other species. In an effort to address indiscriminate fishing practices all year round without a closed season, UNDP encourages the establishment of Fishing Free Zones in the lake. The boundaries of the zones are demarcated, and all fishermen are required to respect them. Local fishermen and local CBOs, which are concerned about the health of the lake's ecosystem, have been mobilized to patrol the zones. Encroachers are intercepted and handed over to the lake's administration. The

participation of government officials provides the patrols with the authority to arrest and fine perpetrators. Those penalties send a clear message that the FFZs need to be respected. A practical decision was made jointly by the local communities, the lake's administration, and the Department of Fisheries. The patrol is organized in shifts, and perpetrators are intercepted.²¹

The Farmer Field Schools training covered good agricultural practices. Moreover, bio-septic tanks are built for avoiding affecting the health of the village population and polluting the water in the lake, endangering its ecosystem. In addition, UNDP has partnered with the Innthar Literature, Culture, and Regional Development Association, an Indigenous community, to establish an Environmental Education Center to educate the population about the environment and the importance of sustainable use of resources.

Conclusion

The Inle Lake plays the crucial role in preserving the natural resources of Myanmar. There are many problems for the conservation of lake ecosystems. Under Shan State's Inle Lake Conservation Law 2019, the respective authority endeavors to control the drying up of water by reducing the agricultural land extension and human dwelling extension extremely; moreover, it seeks to restore the lake by seeking migrant farm system protection, constructing a siltation reservoir, controlling the flow of water, and conserving watershed areas and the lake ecosystem. Concerning penalties for violation of the offenses, the prohibition and the liabilities should be provided in this law in order to be effective protection. In this law, there should be a legal definition of what constitutes a lake based on geographical features of the state. The provisions of this law are very important for the Inle Lake, as it will be likely to dry up in the near future if it is not put under the control of a law in time. The enactment of this law is a major milestone for the long-term conservation and management of the Inle Lake. However, this law is local to the Inle Region. The specific law, therefore, should be adopted like in China (Taipei), where there is a specific law for wetland conservation. It is the Taipei Wetland Conservation Act, which was enacted in 2013. The Taiwan Wetland Conservation Act provided that an offender who violates it by disturbing, poisoning, hunting, abusing, or killing wildlife; logging; gathering; setting free captured animals; fishing; or hunting for biodiversity resources in the wetland area without permission from authorities shall be punished by a penalty of over 60,000 Taiwan dollars and up to 300,000 Taiwan dollars, and for causing wildlife to die, shall be punishable by a penalty of over 100,000 Taiwan dollars and up to 500,000 Taiwan dollars. The Act adopted those found to fall under the circumstances, which are not only subject to penal actions stipulated by four to eight hours of environmental education. The environmental education program was established by the competent government authorities. The law protects their wetland resources by strong enforcement and implementation of the regulations. It is not only providing an effective measure for the country but also protecting its wetland (lake) resources. The biggest challenges facing Inle Lake are a lack of awareness to understand the benefits of the lake and a lack of wise use of lake resources. Thus, the public shall participate in disclosing the lake resources information and increasing the awareness about wetland protection.

²¹ Ketevan Khurtsia., (2015) *Inle Lake Conservation and Rehabilitation (UNDP)*, p.8.

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