

The Impact of Legislation Related to the Biodiversity of Mangroves Located in Thailand

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Abstract

The objectives of this research are to: 1) study the effects of existing laws on mangrove biodiversity in Thailand and 2) prepare suggestions on improving the relevant laws for relevant government agencies. The researcher used the qualitative research method and collected data by studying legislations regarding mangrove forests from different types of references including documents, textbooks, judgements and academic articles as well as interviews with local people. Research findings were that there is no law directly stipulating the protection of mangrove forest use. However, relevant laws that could probably be enforced were the National Reserved Forest Act B.E. 2507 (1964) which defines invasion as occupying, possessing, utilizing or residing in any area without permission from officials and any person in violation shall be subject to imprisonment and fine; and the Promotion of Marine and Coastal Resources Management Act B.E. 2558 (2015) in which Section 18 and Section 19 stipulate protection measures for mangrove forest areas. However, after hearing the opinions of local people, most of them thought that the problem wasn't caused by an existing or non-existing law, but caused by law enforcement. They thought that the discretion to allow occupancy of reserved mangrove forests was improper and did not take into consideration the community's interest. They also thought that directly responsible agencies did not seriously play their roles and local administrative organizations were the only organizations that took care of local people.

Keywords : Biodiversity, Mangroves Located, Thailand

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I. Introduction

Natural resources and the environment are the key to human life because they rely on these elements, including plants, animals, microorganism, mineral, herbs, etc. So far, humans are increasingly using natural resources without realizing their true value. The usage is so excessive that limited resources are rapidly decreasing. The outcome is a shortage of natural resources. Therefore, the problem regarding loss of natural resources has received the interest of many and has become one of the most widely discussed topics. The cause of the decrease of biodiversity in Thailand is excessive use of nature, illegal trade of wildlife and wood, activities that disturb natural inhabitants and loss of shelter.

Forests in Thailand can be classified into evergreen forests and deciduous forests with 30% being evergreen forests. One of the four types of evergreen forest is mangrove forests which are located along the sea coast with mud and seawater, such as along the west coast from Rayong to Satun, Gulf of Thailand from Samut Songkhram to Trat, and from Prachuap Khiri Khan to Natathiwat. Important trees include *Rhizophora apiculata* Blume, *Rhizophora mucronata* Poir, and *Aegiceras corniculatum*.

Nowadays, Thailand has regulating laws regarding mangrove forest preservation, namely the Forest Act B.E. 2484 (A.D.1941), Wild Animal Preservation and Protection Act, B.E. 2535 (A.D.1992), Promotion and Conservation of National Environmental Quality Act, B.E. 2535 (A.D.1992), National Reserved Forest Act, B.E. 2507 (A.D.1964) and recent laws including the Act on the promotion of Marine and Coastal Resources Management, B.E. 2558 (A.D.2015)

Moreover, Thailand signed the Convention on Biological Diversity, 1992, on 12 June 1992 and deposited the instrument of ratification as the 188th member of the convention on 31 October 2003 effective 90 days after the submission date or 29 January 2004, whereby Thailand must follow the convention obligations in different aspects, such as obligations related to land use, conservation and sustained use, access to genetic resources, etc. The current law can be revised or added in some issues.

Convention on Biological Diversity, 1992, is an international attempt to outline the regulations on preserving and the sustained use of biodiversity, including exercising sovereign rights, promoting and preserving local wisdom, transferring technology, funding biodiversity conservation to developing countries as member of the convention. However, there are some problems in the content of the convention regarding policy and laws regulating member countries. For example, when the convention requires exercising sovereign right over biological resources, first it must be indicated whether it is a property of state, farmer, or community. It depends on the law and policy of each country. The researcher, therefore, thinks that the impact of the law relating to biodiversity of mangrove forest needs to be studied. The research will be based on the Panthainorasingha community, Khokkham sub-district, Samut Sakhon province to find opinions that lead to revising the law to be aligned with the needs of the community while not conflicting with the Convention on Biological Diversity of which Thailand is a member.

II. Research Objectives

- 1) To study laws related to biodiversity and mangrove forests in Thailand.
- 2) To study the impact of current laws towards biodiversity of the mangrove forests.

III. Research Methodology

This research uses qualitative research methodology by collecting information of Thai law in relation to mangrove forest conservation and Convention on Biological Diversity, 1992 through literature review. Then, the information will be utilized in conducting a structured interview to gather opinions of community residents about the impact they received from such law. The opinions can also be used in developing the law. The subjects are residents of Panthainorasingha community, Khokkham sub-district, Samut Sakhon province, Thailand, which is a mangrove forest area where people live. Moreover, it is also traveler's destination and there is a learning center for local wisdom, culture, local lifestyle, and natural resources of Samut Sakhon province.

IV. Research Results

The results of the study on “Legal Impact over Biodiversity of Mangrove Forest around Panthainorasingha Community, Khokkham Sub-District, Samut Sakhon Province”, will be presented in two parts: 1) law related to biodiversity of mangrove forests and; 2) the opinions of the community residents as follows.

Part 1 Law related to biodiversity of mangrove forest

The law related to biodiversity of mangrove forests in Thailand consists of national and international levels such as Convention on Biological Diversity, 1992, Forest Act B.E. 2484 (A.D.1941), Wild Animal Preservation and Protection Act, B.E. 2535 (A.D.1992) with revised version B.E. 2546 (A.D. 2003), National Reserved Forest Act, B.E. 2507 (A.D.1964), Marine and Coastal Resources Management, B.E. 2558 (A.D.2015) and Promotion and Conservation of National Environmental Quality Act, B.E. 2535 (A.D.1992) with revised version B.E. 2561 (A.D. 2018). The content of these law are described below.

- 1) Convention on Biological Diversity: Nowadays, this convention consists of 193 members, with Thailand as the 171st member. The purpose of this convention is to encourage the government of every country to develop their country without ignoring the conservation of the environment and natural resources. This convention is accepted by international biologists and lawyers as the first international collaboration that covers all aspects of biodiversity, including species, genes and ecosystem conservation. The key obligations are 1) General measures for conservation and sustainable utilization 2) Classification, identification, and monitoring 3) Conservation of internal natural habitats 4) Conservation of external natural habitats 5) Sustained utilization of elements in biodiversity 6) Measures encouraging research

and training, public education and awareness building; and impact evaluation and damage reduction 7) Information exchange and collaboration within academic and scientific areas 8) Access to genetic resources; and access and transfer of technology and benefit management 9) Finance resource and mechanisms 10) Report writing 11) Conflict management.

2) Forest Act B.E. 2484 (A.D.1941): This law is utilized in managing mangrove forests limited to mangrove areas that are considered “forest” as specified in this law only. The content of this law covers measures on inspecting initial cycle of forestry and forage, mowing, transferring logs and natural products, wood manufacturing, establishing wood manufacturing factory, manufactured wood trade, invented product trade, possessing manufactured wood or logs.

3) Wild Animal Preservation and Protection Act, B.E. 2535 (A.D.1992): Since today there is an international agreement to collaborate in preserving and protecting local wildlife, which is an important global resource, Thailand, therefore, established a measure to properly preserve and protect wildlife in accordance with international agreement. The key content of this act is to identify wildlife preservation areas, to prohibit hunting and possessing, ceasing, or cutting down, mowing, burning forests or plants in preserved areas as well as establishing general regulations in prohibiting hunting or attempting to hunt preserved and protected wildlife. Also, possessing, breeding, and trading wildlife, body, and product from wildlife bodies are prohibited with exceptions. Moreover, today there are various wildlife that are already extinct in Thailand. The rest is endangered of extinction. This law classifies wildlife into two categories: preserved wildlife and protected wildlife. The difference of the two categories is that although protected wildlife is not allowed to be hunted or possessed or traded just as preserved wildlife, they can be utilized by officials in studying, researching, breeding, or nurturing in public zoos. It is because although the number of protected wildlife are few, they are enough to study, research, breed, or nurture in public zoos. Unlike protected wildlife, preserved wildlife is wildlife that is so near extinct that it cannot be allowed to be studied, researched, or bred because it is endangered of extinction. However, in A.D. 2003, Wild Animal Preservation and Protection Act (2nd Edition) was issued because at that time there were several individuals illegally possessing wildlife and they did not take the protected wildlife to the officials or did not declare the breed and number of protected wildlife. Therefore, officials could not control the individuals with proper regulations and conditions of possessing protected wildlife. It is illegible for individuals possessing protected wildlife illegally to declare wildlife possession and to register wildlife possession with officials within indicated period of time without receiving punishment. Therefore, if individuals possessed such protected wildlife and declared the species and quantity of possessed protected wildlife within 120 days after this law was regulated, there will be no punishment.

4) National Reserved Forest Act, B.E. 2507 (A.D.1964): The key content of this law is to indicate that all reserved forests according to protected and reserved forest law prior of this law become national reserved forests. The national reserved forest committee was assigned with this responsibility. Also, it indicates that possession for

utilizing or living as well as mowing, burning, forestry, forage or any acts damaging the condition of national reserved forests are prohibited. Forestry or forage in national reserved forests are allowed only after receiving license from officials or when officials announce seasonal permission in a specified natural reserved forest. In case any national reserved forest is in decadent condition, the director-general appointed by authorized minister will assign someone to improve or regrow trees in such deteriorated forests within the specified time and condition indicated in the assignment letter. In case that the area is larger than 2,000 rai, permission from the Council of Ministers must be obtained. Mangrove forests that are included as a national reserved forest shall receive protection and be prevented from beneficial access by people from this law. Any activities deteriorating a national reserved forest such as living, building, mowing, burning, forestry, and forage are prohibited. In other words, according to this law, the National Reserved Forest Act, B.E. 2507 (A.D.1964) shall cover only mangrove forests that are included as a national reserved forest.

5) Marine and Coastal Resources Management, B.E. 2558 (A.D.2015): Due to the lack of marine and coastal management in Thailand in terms of unification, integration, and participation of local residents and community; invasion and transformation of the land for benefit causing deterioration of marine and coastal resources; and the law does not cover all areas, a new law was regulated to determine the practices in managing, maintaining, preserving and restoring marine and coastal resources and natural transformation. Also, it allows the local communities to take part in maintaining, preserving, and restoring marine and coastal resources with balance and sustainability under the responsibility of the Department of Marine and Coastal Resources. There is also a national policy committee and provincial committee which consist of representatives from relevant governmental units, senior consultants, and representatives from the locals or coastal community to participate in managing the marine and coastal resources. This law indicates that the minister with approval of the council is able to enact ministerial regulations to determine specific mangrove forest areas to become preserved mangrove forest areas in order to preserve and restore the area to maintain its fertile natural condition, environment and ecosystem. However, the area must not already be included in a national park area or wildlife sanctuary or non-hunting area or owned or possessed by anyone. In case a mangrove forest or national mangrove forest belongs to a national reserved forest or forest, it is under responsibility of the director-general.

6) Promotion and Conservation of National Environmental Quality Act, B.E. 2535 (A.D.1992) with revised version B.E. 2561 (A.D. 2018): This law serves the following purposes 1) to encourage people and private organizations to take part in promoting and preserving the quality of the environment 2) to manage the environment according to the principles of environment quality management 3) to indicate duty and responsibility of governmental authorities, state enterprise, and local authorities for collaboration and shared responsibility in promoting and maintaining environment quality and to indicate practices in areas where there is no direct responsibility of any unit 4) to indicate measures for pollution control such as treatment for air and water pollution, waste management, tools or devices in solving pollution 5) to clarify the duty and responsibility of agents relating to producing

pollution and 6) to indicate measures that support funds and help in various areas to encourage work on maintaining environment quality. This law indicates measures in protecting and managing preservation areas in relation to mangrove forests only in some sections that can be legislated such as section 42, Protecting and Managing National Park and Wildlife Preservation Areas to follow the environment quality management plan according to section 35 in which law indicates that the minister along with the approval of the national environment committee shall create environment quality management plan according to the national environment promotion and maintenance policy and plan. The plan can be short-term, medium-term, or long-term as appropriate according to section 36. Regarding the legal section in indicating an area to be a general preserved mangrove forest which does not belong to a reserved forest area nor a national park, section 43 can be applied in some cases for mangrove forest where ecosystem is endangered of damage or impact from human activities. Section 43 concludes that if a mangrove forest ecosystem becomes endangered from human activities, the minister with recommendation from the national environment committee is authorized to legislate ministerial regulation to indicate the mangrove forest to become a protected environmental area according to section 43, meaning that this section only slightly helps in preserving mangrove forests.

Part 2 Opinion of the Community

The researcher interviewed local residents in the study area with questions structured as follows 1) Do you know there are laws related to mangrove forests? 2) How do you control, preserve and protect the mangrove forests in your community? 3) How do you want the laws related to mangrove forests to be revised or added for the protection of mangrove forests? The researcher interviewed three population groups and received the following answers.

Mangrove trees are planted around this area every day. Each of them takes one year to grow into a strong tree. However, the growth rate is relatively low. In the local's perception, mangrove forests are divided into four areas, namely preserved forest, conserved forest, community forest, and economical forest. When they are divided into different types, there must be different laws controlling each area. The locals do not know about the details of the law. Preserving mangrove forests in the opinion of the locals is that in the past there was no concrete practice because they have been living normal and natural lives in harmony with the mangrove forest since their ancestors, so there was no preservation or anything involved. However, they want the government to indicate the mangrove control regulations more clearly as there is already law that is legislated for each of the areas. Then, inform the local residents about such control measures, namely where is the preserved forest, where is the economical forest, and what area can be used as a community forest. It is because although the control has been announced for many years, there remains no concrete indication so the locals do not know which area belongs to which category. As a result, sometimes the locals go into the restricted areas without intention. Furthermore, they need the governmental unit to work on water management because water is important in their everyday life. The main problems for them are caused by

water. In fact, the Sub-District Administrative Organization has been working on this issue but they also need other units directly in charge to provide additional care.

V. Discussion

According to the key obligations in the Convention on Biological Diversity, 1992, covering 1) General measures for conservation and sustainable utilization 2) Classification, identification, and monitoring 3) Conservation of internal natural habitats 4) Conservation of external natural habitats 5) Sustained utilization of elements in biodiversity 6) Measures encouraging research and training, public education and awareness building; and impact evaluation and damage reduction 7) Information exchange and collaboration within academic and scientific areas 8) Access to genetic resources; and access and transfer of technology and benefit management 9) Finance resource and mechanisms 10) Report writing 11) Conflict management; these are included in the five law of Thailand. General measures for conservation and sustainable utilization and conservation of internal and external natural habitats are included in the Forest Act B.E. 2484 (A.D. 1941), Wild Animal Preservation and Protection Act, B.E. 2535 (A.D.1992) and National Reserved Forest Act, B.E. 2507 (A.D.1964). Measures encouraging research and training, public education and awareness building, impact evaluation and damage reduction, access to genetic resources, and access and transfer of technology and benefit management are included in the Marine and Coastal Resources Management, B.E. 2558 (A.D.2015) and Promotion and Conservation of National Environmental Quality Act, B.E. 2535 (A.D.1992) with revised version B.E. 2561 (A.D. 2018).

VI. Conclusion and Suggestion

From this study, we have found that there are laws relating to biodiversity of mangrove forests in the national and international level. In Thailand, there are five of them that are aligned with the Convention on Biological Diversity A.D 1992 in many areas. There is no conflict or opposition towards the Convention. However, there is no Thai laws covering directly and specifically to mangrove forests. The closest and the most applicable is the National Reserved Forest Act, B.E. 2507 (A.D.1964) which defines invasion as an act of ceasing, possessing, taking advantage or living without permission from officials. Anyone violating this law shall be imprisoned and fined. Marine and Coastal Resources Management, B.E. 2558 (A.D.2015) also contains measures to protect mangrove forest areas which indicates in section 18 that the minister with the approval of the council and national marine and coastal management plan is able to enact ministerial regulations to determine specific mangrove forest areas to be preserved mangrove forest areas in order to preserve and restore the area to maintain its fertile natural condition, environment and ecosystem. However, the area must not already be included in a national park area or wildlife sanctuary or non-hunting area or owned or possessed by anyone. In case a mangrove forest or national mangrove forest belongs to a national reserved forest or forest, it is under the responsibility of the director-general. These abovementioned laws are the only laws that are specified directly about mangrove forests. However, when we interviewed the local residents, most of them think that the problem is not about whether the laws

exist but it is how the laws are legislated in practice. The locals think that the consideration that allows people to possess preserved forest areas which are mangrove forests is not appropriate and benefits of the community are not counted. Moreover, governmental units with direct responsibility are not sufficiently involved in this matter.

The researcher suggests that Thailand should legislate Acts relating directly to mangrove forests and such laws shall be applicable for people to practice and aligned with ASEAN and the Convention on Biological Diversity A.D. 1992.

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