

Legal Measures on Pollution Control

A case study of marine cargo handling in Map Ta Phut

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Abstract

This article discusses pollution caused by marine cargo handling in Map Ta Phut municipality, such as garbage disposal and wastewater spills, mooring organization, and dispersion due to cargo handling that affects the environment, such as oil spill that including studying legal problems related to pollution control arising from the transshipment of marine products found that enforcement of relevant laws is not yet comprehensive in all areas and the lack of an agency specifically responsible for the prevention and suppression of pollution arising from marine cargo handling.

Suggestion current legislation should be improved to ensure clarity in enforcement. Moreover, higher penalties should be imposed for offenses committed in Thai waters. Also, Thailand should consider legislation on the protection of the marine environment directly, such as the Marine Pollution Prevention and Control Act, instead of applying

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environmental laws. Furthermore, environmental laws should be enforced, and the Environment Court should be a particular jurisdiction of the Thai courts. Enforcement measures should be fully effective, and the victims should be given justice and more responsibility for marine pollution.

Keywords: Marine cargo handling, Map Ta Phut, Legal

1. Introduction

The country's current development in the economy, technology, and society has resulted in the country's economic growth, for example, in terms of increasing international trade and modern technology. Maritime transport plays an essential role in rapidly increasing the value of exports and imports. It generates excellent value for international trade by transporting export and import goods through the port. One of the critical areas in this activity is Map Ta Phut, Rayong Province.

Map Ta Phut Municipality is located on the border between Mueang Rayong District and Nikhom Phatthana District. It covers five sub-districts, namely Map Ta Phut and Huai Pong, and some areas of various sub-districts, namely Map Kha, Thap Ma, and Noen Phra. There is also an island, Koh Saket.

Map Ta Phut is one of the municipalities in Mueang Rayong District and some parts of Nikhom Phatthana District, Rayong Province, with a population of 21,468 people in 2019³ and an area of 165,565 square kilometers. The usable land area is about 144,565 square kilometers, or 87.32% of the total area. The sea area in the rest of 21,000 square kilometers is the location of the Map Ta Phut Industrial Estate, which is the world's eighth-largest center for the petrochemical industry.⁴

³ Department of Health, "Map Ta Phut Population Pyramid, 2020," DOH Dashboard กรมอนามัย, Accessed July 15, 2022, <https://dashboard.Anamai.moph.go.th/dashboard/population/pyramid/tambon?year=2020&tb=210114>.

⁴ Longtunman, "Map Ta Phut Industrial Estate, the 8th petrochemical center in the world," Longtunman, Accessed July 22, 2023, <https://www.longtunman.com/43265>.

Regarding the sub-district territory,⁵ Map Ta Phut municipality is located southeast of Bangkok. Along National Highway No. 3 (Sukhumvit), a distance of about 204 kilometers and away from Rayong City Hall (Rayong Provincial Government Center), about 8 kilometers away from Rayong, about 20 kilometers, with the following territories:

North: Map Kha Sub-district, Mueang Rayong District
Nikhom Phatthana District

South: Gulf of Thailand

East: Noen Phra Subdistrict, Thap Ma Subdistrict, Mueang District, Rayong Province

West: Ban Chang District, Rayong Province

At the same time, rapid development has resulted in environmental problems such as air pollution, water pollution, marine and coastal pollution, and the destruction of natural resources.

The Definition of “Marine pollution” is something humans bring into the marine environment, such as wastewater and garbage, whether deliberately or not or directly or indirectly. When such actions cause adverse effects on living beings, endanger human health, or impair the quality of the environment, the sea has deteriorated and reduced its aesthetic value by dividing the types of marine pollution sources into two types:

1. Coastal pollution sources include communities, tourist attractions, industrial areas, agricultural areas, ports, and coastal and marine natural resources.

⁵ Map Ta Phut Town Municipality, “Information about the general state of the municipality,” Map Ta Phut Town Municipality, Accessed July 15, 2023, <https://www.mtptown.go.th/content/general>.

2. Sources of marine pollution include harbors, navigation, fishing, mining at sea, digging, and natural gas drilling, resulting in pollution contamination and diffusion, such as dust and oil.

The Map Ta Phut area was originally near the sea, rich in natural marine resources such as fish, shellfish, and other aquatic animals. Although it is sandy, it can cultivate crops such as mangoes, cassava, pineapples, and sugar cane, including rice farming. Therefore, the traditional occupations of the people in the Map Ta Phut community can classify into three main categories: trade, fishery, and farmers. Later, the government planned to develop the Eastern Seaboard (ESB) by Map Ta Phut into an industrial location to promote economic development.

Eastern Seaboard (ESB) Since 1981, it has been a proactive strategy for national development. It has been defined in the 12th National Economic and Social Development Plan (2017-2021) based on the vision of the national strategic framework: “Thailand is stable, prosperous, sustainable, being a developed country. With development according to the philosophy of sufficiency economy.” The goal is for areas in 3 provinces that have previously been developed, namely Chachoengsao, Chonburi, and Rayong, to develop economic links to special economic zones of countries in various regions and internationally to support the growth away from Bangkok by developing modern infrastructure, industries targeted for export A new way of life for tourism development urban development educational development Health care, environment, essential utilities, and community development.⁶

⁶ Pranee Orak, “Environmental management in the Eastern Special Development Zone (EEC),” Pollution Control Department, Accessed July 17, 2022, <https://epo13.pcd.go.th/th/information/more/1427>.

However, later on, the region's people and environment encountered nightmares. This is for individuals, health, diseases, and the continuing effects of pollution emissions from industries, especially the petrochemical industries. Several communities have collapsed, especially the coastal fishing community, which is a source of sea-based protein to the people in the area, so many measurement schools and health stations have been forced to flee because they cannot withstand toxic environmental conditions and consequently cannot live everyday life.⁷

It makes Map Ta Phut start gradually. It has changed until it has led to various problems in the area, especially conflicts that arise between villagers living in the community and industrial factories that come to set up factories in the area due to the leading cause of environmental pollution.⁸

Map Ta Phut is considered one of the important industrial areas and is the area where large ships transported found problems in various areas, including natural resources and environmental issues:

1) Garbage disposal and wastewater spills waste from ship cleaning in the sea around Map Ta Phut will pollute the seawater, and villagers will be unable to utilize this water.

2) Mooring organization

3) Dispersion due to cargo handling that affects the environment, such as oil spill, in addition to causing seawater to become

⁷ Banjong Nasae, "Eastern wounds," MGR Online, Accessed July 15, 2022, <https://mgronline.com/daily/detail/9550000029013>.

⁸ Thanyarak Punyajirachotsakul and Anurat Ananthanathon, "Health and Environment Impact and Self Adation of People in Map Ta Phut Industrial Estate, Rayong Province," *Journal of Politics, Administration and Law* 13, no. 2 (May/August 2021): 19-43.

contaminated and the villagers are unable to take advantage of that water, also affects the living conditions of various underwater creatures, being exposed to toxins and leading to the loss of balance of the underwater ecosystem in that area.

These issues have been found in the marine cargo handling in Map Ta Phut, Rayong. This is a long-standing issue, but current laws still need to be established. Alternatively, they can help sufficiently fully protect the environment in this area. Thus, pollution and environmental impacts in the Map Ta Phut area are essential problems that should be prevented and solved urgently. The above problems affect the ecosystem and marine resources and the livelihood of the people in Map Ta Phut in terms of economy, society, environment, and tourism. These problems should be urgently solved, such as diffusion due to cargo handling, garbage disposal in the Map Ta Phut area sea, and organizing moorings.

2. Related laws, rules and regulations

2.1 Maritime law

2.1.1 Navigation Act in Thai Waters, 1913: Navigation Act in Thai Waters, 1913, prescribing safety criteria for navigation in Thai territorial waters and contiguous zones, which prescribes measures related to marine pollution prevention on ballast discharge into rivers, port areas, or in anchorage areas according to Section 119 and Section 119 bis as follows:

Section 119: No one shall pour, dump, or do in any way whatsoever cause gravel, sand, soil, mud, ballast, any object, or waste except oil and chemicals into rivers, canals, marshes, reservoirs, lakes,

public transportation, or everyday use or seas within Thai waters, which will cause shallow sludge to be precipitated or dirty unless authorized by the Harbor Master. Anyone who violates this is liable to imprisonment for a term not exceeding six months or a fine not exceeding ten thousand baht or both and must reimburse the expenses incurred by eliminating them.

Section 119 bis: No person shall pour, dump, or do anything to cause oil and chemicals or anything into rivers, canals, marshes, reservoirs, or lakes that are public transportation or used by people or seas within Thai territorial waters, which may cause toxicity to living beings or the environment or is dangerous for boating in rivers, canals, ponds, reservoirs, or lakes. Any person violating this is liable to imprisonment for a term not exceeding three years, a fine not exceeding sixty thousand baht or both. Moreover, it must pay for the expenses incurred in fixing toxic substances or compensation for those damages.

It was found that the criminal punishment consisted only of imprisonment and penalties. It did not specify who was responsible and which agency was responsible. There was also no indication of the amount of compensation, environmental costs, or compensation for damage to the affected areas.

2.1.2 Act on Prevention of Collision of Ships B.E. 2522 (1979): (Prevent the ship from accidents that can cause damage to the environment.): Measures implemented regarding the ship's practice, such as guarding safety speed, risk of collision, and practice to avoid collision to prevent ship accidents that can cause damage to the environment.

2.1.3 General Average in Maritime Adventure Act B.E. 2547 (2004): It applies measures for damage from pollution, are averaged only at costs that accepted international maritime practice.

2.1.4 Marine and Coastal Resources Management Promotion Act B.E. 2558 (2015): “Marine and coastal resources” means things that exist or occur naturally in the sea and coast, including coastal peat. These coastal wetlands of canals, Kuprak, lakes, and estuary areas are in contact with the sea or influenced by seawater, such as mangrove forests, beach forests, beaches, seashores, islands, seagrasses, corals, oyster hills, marine plants, animals, or manufactured things for the benefit of marine and coastal ecosystems such as artificial coral reefs, wave reduction reefs and protection against coastal erosion and has laid down the law on the protection of marine and coastal resources that in case it appears that any person causes severe damage to marine and coastal resources, the Director-General or a person entrusted by the Director-General shall have the power to order that person that, as appropriate, temporarily suspend acts or activities that cause damage to marine and coastal resources.

2.2 Environmental Law

2.2.1 Public Health Act, 1992: Laws relating to the prohibition of dumping sewage or solid waste in public places or ways, including the sea, by Letting the local authority issue the requirements.

2.2.2 Cleanliness and Orderliness of the Country Act, 1992: Laws prohibit the discharge of sewage into waterways, including the sea.

2.2.3 Enhancement and Conservation of National Environmental Quality Act, 1992: Laws on establishing coastal water quality standards, defining environmental protection areas, stipulating projects that conduct environmental impact assessments, controlling pollution at source, and draining or discharging waste. Designate environmental protection areas and pollution control areas.

2.2.4 Regulation of the Office of the Prime Minister on the prevention and elimination of water pollution due to oil, 2004: Regulations on the prevention and elimination of water pollution due to oil.

2.2.5 Hazardous Substances Act, 1992: Laws to control the introduction of environmentally destructive materials into the Kingdom by sea.

Marine Environment Convention⁹ are:

1) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.

2) International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties.

⁹ Jittichai Rudjanakanoknad, *Transportation System*, (Bangkok: Transportation Institute Chulalongkorn University, 2561), 185-190.

3) International Convention for the Prevention of Pollution from Ships.

3. Summary and Recommendations

Map Ta Phut is an important industrial area under the responsibility of Map Ta Phut Municipality, located on the border between Mueang Rayong District and Mueang Nakhon Phanom District. With a total area of 165,565 square kilometers, it is a usable land area of approximately 144,565 square kilometers or 87.32 percent of the total area. The rest is the sea, about 21,000 square kilometers. Moreover, where the cargo of large cargo ships was found in the past, natural resource and environmental problems arose in the Map Ta Phut Sea as follows: 1) Garbage disposal in the sea of Map Ta Phut 2) Mooring arrangements 3) Dispersion due to cargo handling that affects the environment.

From the above information, Marine pollution problems and environmental impacts in marine transportation around Map Ta Phut have significant problems such as dust problems from cargo handling, garbage and sewage from ships, wastewater from ships, and ship washing. That is a significant problem in the Map Ta Phut port area, which is used to transport various bulk products such as cement, cassava flour, coal, and chemical fertilizers. There are also packaged products such as sugar, rice, and corn. It is, therefore, essential to find preventive measures and take corrective action quickly. In order not to cause any impact on the surrounding environment around the pier. Map Ta Phut Municipality and related agencies have taken various measures to solve such problems; for example, the Department of Marine and Coastal Resources has

enforced the law by issuing measures prohibiting dumping, venting, wastewater, solid waste, sewage, or anything else on the Map Ta Phut area. The problem that the legislative organization has always given priority to and found a way to solve the problem.

However, the study of scholars to solve the problem of marine pollution still found a problem in the enforcement of relevant laws, such as the issue of law enforcement zones that do not extend to the exclusive economic zone and the problem of agencies involved in the prevention and suppression of the offenses related to the discharge of garbage from marine vessels that are unclear in the part of the law that specifies specific powers and duties.

Therefore, we should urgently find a solution to solve the dust problem from marine cargo handling in the Map Ta Phut area to prevent pollution that will affect the environment and people in the area of loading and unloading products efficiently, such as strictly enforcing relevant laws. For the transportation of bulk products, the closed system, as well as the use of environmentally friendly handling equipment like Eco Hopper to reduce dust while handling. In addition, there should be an organization or designation of the mooring area used for loading and unloading ships at sea to be far from shore or community areas to reduce the impact of dust diffusion from bulk cargo handling and strictly inspecting the ship's loading and unloading operations.

3.1. Temporary problem-solving

3.1.1. Current legislation should be improved to ensure clarity in enforcement.

3.1.2. Higher penalties should be imposed for offenses committed in Thai waters, and more penalties should be introduced for Thai vessels committing offenses outside Thai waterways as an expression of responsibility for preventing international marine pollution.

3.2. Extensive problem-solving

3.2.1. Thailand should consider legislation on the protection of the marine environment directly, such as the Marine Pollution Prevention and Control Act, instead of applying environmental laws that are characteristic of highly close laws so that the prevention and control of marine pollution is directly protected, which makes marine environmental laws more effective and potential. It should also consider examining the draft Law on the Prevention of Marine Pollutions Due to the Discharge of Waste or Other Materials into the Sea, which, although not directly protecting pollutants, is more comprehensive to prevent the treatment of sea waste that pollutes Thailand.

3.2.2. Environmental laws should be enforced, and the Environment Court should be a particular jurisdiction of the Thai courts. Enforcement measures should be fully effective, and the victims should be given justice and more responsibility for marine pollution.

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