GUIDELINES FORMANAGINGLARGEWASTE: COMPARATIVESTUDY OF THAI LAW AND JAPANESE LAW

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Abstract - Although large waste has a longer lifespan than solid waste, it affects the environment. The problem of large waste is not Thailand is the only country that has to deal with this problem, but it is also a problem that every country around the world must deal with. There are many different approaches to solve problems according to the social context. Currently, Thailand imposes penalties on violators who dispose large amounts of garbage outside designated locations according to the Cleanliness and Orderliness Act of 1992, but it is only a fine considered as a solution at the root cause and does not have adequate strict approach. There was only a request for cooperation from people. At the same time, Japan has achieved success in environmental management and waste management. In Japan, there are many interesting methods of large waste management and clear guidelines for large waste management and service tax collection. Also, there are also strict criminal penalties. From study and research, the author; therefore, came up with a suggestion that Thailand should provide knowledge building on how to properly dispose of waste. There is a clear large garbage disposing point and a waste disposal center in the district area along with a large garbage removal service. Entrepreneurs who produce large electrical appliances must receive waste from their companies. Large waste disposal tickets are sold for recycling and removal, and additional penalties for those who do not comply with the provisions.

Keywords - Large Waste, Management Guideline, Environment

I. INTRODUCTION

The world is facing the problem of global warming due to the global temperature that continues to rise every year. Part of this problem is caused by human behavior in consuming and consuming goods, which causes waste.[1] Waste problems affect both the individual and macro levels because when there is garbage, sewage and pollution caused by waste will inevitably follow whether it is air pollution and water pollution, and it affects the quality of life of the people. The government should try to find a way to manage the problem. Both the waste problems found are not just problems that occur in Thailand or other developing countries, but it has become a big global problem that every country must find a way to jointly solve and alleviate the problem.

At present, many countries have established guidelines for waste management within their own country according to the social context. The amount of waste in Thailand continues to increase annually. [2] Partly, it is from the growth of urban society economic and technological conditions. Also, some people lack awareness and neglect their duty to store properly. As a result, the amount of waste from consumption has increased. On the other hand, even though the amount of garbage has increased, the waste disposal area is insufficient for the waste waiting to be disposed, and due to the COVID situation, the amount of waste has increased even more.[3] Waste from product packaging that is difficult to destroy and decompose, such as Styrofoam boxes, plastic spoons, plastic bags, plastic gloves, and masks, etc. From the problem of waste arising, in addition to the amount of solid waste from various products, large waste has no less impact on the environment. Although the lifespan of large waste deteriorates more slowly than solid waste, due to the condition of large waste often contains chemicals, pathogens, it is not popular to recycle.[4] Moreover, it requires a lot of cost and is difficult to repair but cannot prolong the duration of use with quality like a first-hand product. Therefore, it is not popular to sell or donate to pass on to another generation. Buying such new product is also a better choice. For this reason, large-sized waste is often burned or dumped in various areas of the community, such as footpaths, public space, and abandoned private area. It is often seen in slum communities in the Bangkok area that mattresses, furniture, refrigerators, etc. are left into rivers and canals, causing clogging problems in the drainage system, resulting in wastewater clogged up and flooding.[5] In addition to the large amount of waste that affects the overall environment, it also indirectly affects the country's economic system due to tourism, which is one of the main sources of income in the country that tourists like to come to admire the beauty of various places. However, if the surrounding scenery that appears to the world becomes a collection of waste, there is an accumulation of waste that is a source of germs and harmful chemicals in addition to being unsatisfied and not making an impression on tourists and may lead to health problems for people and tourists. As a result, the state has to find a method and spend a lot of money to solve the problem in the end.

However, despite the enforcement of the Cleanliness and Orderliness Act of 1992 Thailand, it comes with

penalties imposed on those who leave large garbage. When considering, it is found that the determination of such legal measures alone cannot solve the problem of large garbage dumping which is a social problem in all aspects with the intention of enacting the Act for local agencies that have duties and powers to collect, transport, and dispose of sewage and waste to able to manage sewage and solid waste more efficiently. Even if the punishment is imposed for the offender, it is to create a coercive condition after the commission of the offence, which is to solve the problem at the end of the penalty rate under Chapter 6, which is inconsistent with the current social situation. Such legal measures therefore do not create good conscience to prevent to prevent the commission of an offense in the first place.

Whereas, Japan which is the only country in Asia that has an environmental performance index (Environmental Performance Index) or the cleanest country. In 2022, Japan was ranked 25th out of 180 countries around the world, while Thailand was ranked 108th.[6] Japan has a way to manage large waste from the source. There are also other interesting practices, including strict legal measures, making Japan successful in dealing with large waste and other types of waste as well. For this reason, it is advisable to study management guidelines and legal measures on large waste management in Japan to be used as a guideline for defining large waste management measures in Thailand.

II. MEANING AND TYPES OF WASTE

At present, Thailand provides priority and focuses more on solid waste management than other types of waste, including large waste. This can be observed from the clear guidelines for defining solid waste disposal. Solid Waste means waste in solid form which may be mixed with moisture. It is waste generated from the residence, industrial establishments, or fresh markets,[7] wastepaper, rags, food scraps, product scraps, plastic bags, food containers, ash, manure or carcasses, including anything else that is swept from streets, markets, animal husbandry or other places,[8] which can be divided according to the way. Physical waste can be divided into 4 types:

1. Recyclable waste (yellow bin) is waste that can be reused such as paper, glass, plastic, and metal.
2. Biodegradable waste (green bins) is waste that can decompose naturally, such as food scraps, fruit, and vegetable wastes.
3.Hazardous waste (orange bins) is waste that is contaminated with chemicals such as light bulbs, batteries, containers of hazardous substances such as aerosol cans.
4. General waste (blue bin) is waste other than recyclable waste, biodegradable waste or hazardous waste that is difficult to decompose and is not worth reusing, such as Styrofoam food boxes. Plastic bag containing detergent A packet of instant noodles[9]

The bulk of the garbage is not clearly defined as what it looks like. It is only understood that large garbage is garbage or items that are larger than general garbage, which are difficult to dispose of, such as mattresses, refrigerators, sofas, furniture, etc. Waste management is not as appropriate as it should be. causing the people to lack understanding to the point that they could not cooperate as expected. But in Japan, there is a clearly defined type of waste and covers all types of waste, along with methods for sorting and sorting for people to follow correctly. This reduces the workload of waste sorting staff and helps waste to be reused efficiently.

Japan's garbage classification differs depending on the prefecture, but most often divided into 5 types and separated into13 things:

Category 1Recyclable waste is divided into 9 types, including newspapers, cardboard boxes, magazines and other paper, paper packaging boxes (white inside), cloth, bottles, cans, PET bottles, plain white trays, and all plastic packaging marked as“プラ”(plastic)
Category 2 is combustible waste, including food waste, plastic parts, non-recyclable wastepaper and tree branches.
Category 3 Non-burnable waste such as small kitchen utensils, umbrella size not over 50cm., ceramic, and glass.
Category 4 Hazardous waste such as aerosol cans, charcoal, sharp objects, and light bulbs.
Category 5 Large pieces of garbage, size 50-250 cm., weight less than 100 kg, such as wardrobes, bicycles, skis, mattresses, that can be delivered to the center by yourself.[10]

In Japan, although waste is sorted out by using a sorting method similar to Thailand, it has also defined the characteristics of large waste in addition to other types of waste. In addition, Japan also prescribes methods for cleaning waste before throwing it away, for example, white foam trays should be washed and dried before being thrown away. Neon bulbs must be put in a paper box before discarding. Garbage in the form of cloth should be put in a transparent or semi-transparent plastic bag so that it can be seen inside and refrain from throwing it out on a rainy day with no more than a tree branch 50cm. to be bundled together and can be held with one hand before throwing away.[11] If you don't follow the instructions, you won't accept that piece of garbage. Thus, this is for efficient recycling.

III. THE IMPACT OF LARGE WASTE

Disposing or placing large garbage in public areas, footpaths, public waterways, or private wasteland,

can often be seen, especially in the districts of Bangkok and its vicinity. Although the government has methods and guidelines for managing different types of waste and have legal penalties, the people still lack conscience and do not follow strictly. As a result, large-sized waste dumped outside the specified location is not properly stored and disposed. There were various effects that followed.

3.1 Health and hygiene impacts

Mattresses and sofas are often discarded in public waterways, causing clogging of waterways. The water cannot be discharged normally until flooding occurs, and it can carry diseases from water, such as leptospirosis, dengue fever, and diarrhea.[12] If it accumulates around the sewer door, it will emit a foul smell as air pollution, causing headaches, nausea and vomiting.[13] In addition, some large waste contains components of electronic circuit boards, such as refrigerators, computers, air conditioners, and washing machine. Before disposing of this huge e-waste Therefore, the circuit board should be separated. Because it is a circuit board, there are dangerous chemicals such as lead, arsenic, cadmium, etc.[14] If these substances are ingested into the body, it can cause diseases such as Itai-Itai disease, pain in the bones, and brain symptoms, making a memory loss convulsions and loss of consciousness. Long-term exposure to these substances has effects on kidney, bone, and congenital malformations in pregnant mothers.[15]

3.2 Economic Impact

Large waste disposal outside designated areas also affects the country's economy as the tourism industry is another important source of income for Thailand. Factors that attract tourism is beautiful scenery clean environment. When the scenery is not beautiful and there is pollution that affects health, it may affect foreign tourists' travel decisions in Thailand.[16] Japan is a country that tourists are interested in because of its beautiful culture and delicious food. In addition, the survey found that clean environment is a factor that makes tourists return to Japan again and again.[17]

IV. MEASURES AND GUIDELINES FOR MANAGING LARGE WASTE IN THAILAND CONSTITUTION OF THE KINGDOM OF THAILAND B.E. 2560 (2017)

According to the Constitution of the Kingdom of Thailand, the duty of the state in relation to environmental protection is specified in Section 57(2)**,** which states that "the state must conserve, protect, maintain, restore, manage and use or provide for the utilization of natural resources, the environment and biodiversity for balanced and sustainable benefits. People and relevant local communities must participate and benefit from such actions as provided by law."[18] The problem of large waste is an environmental problem that affects people's health and quality of life. In the country, the state needs to be solved because the people are important resources for the development of the nation.

International Treaty

Thailand has also ratified several environmental treaties. This is in line with the problem of large waste, such as the Kyoto Protocol, which aims to reduce greenhouse gas emissions, especially in industrialized countries. On August 28**,** 2002**,** Thailand ratified the Stockholm Convention on Persistent Organic Pollutants to protect human health and the environment by reducing or discontinuing production, use and release of persistent pollutants that are toxic to humans and animals which Thailand has ratified as a party on January 31**,** 2005.[19]Large waste is waste that must be properly managed before disposing so that it can be recycled efficiently. If it is not handled properly, it will have to be burned, destroyed, or landfilled. Incineration harms the environment by releasing carbon dioxide into the atmosphere until the greenhouse effect landfills release hazardous chemicals into the ground. The ground is contaminated with chemicals and the chemicals can flow into water sources that are dangerous to humans. animals and environment [20] Thailand must urgently solve the problem of large waste to achieve the objectives of the ratified treaty.

Cleanliness and Orderliness of the Country Act, B.E. 2535 (1992)

Thailand has announced the enforcement of this Act for efficient management, storage, and transportation of sewage and solid waste and for cleanliness and order in municipalities, sanitation, Bangkok and Pattaya.[21] This Act contains provisions related to large-scale dumping of waste in section 31 (2)**,** which states that "No person shall **(2)** discard sewage or waste in a public place outside of containers or places arranged by the local government"[22] and section 33, the first paragraph states that "No one shall pour or dump sewage, solid waste, sewage water or anything else onto roads or waterways"[23] in the public area or outside the container or large waste collection meeting organized by the local government.

If any person violates this section, it is punishable by a fine under section 54of the Cleanliness and Orderliness of the City Act, 1992, and shall be liable to a fine not exceeding two thousand Baht. As for the provision of section 33, it is forbidden to dump large garbage, which is considered waste according to the meaning of this section, onto roads or waterways. If any person violates this section, there is a penalty of a fine under section 57of the Cleanliness and

Orderliness of the City Act, 1992, and a fine not exceeding ten thousand Baht.

Guidelines for managing large waste in Thailand

At present, Thailand still has only one way to deal with large waste, namely large waste pick-up in Bangkok area. There is a large garbage collection service on Saturdays or Sundays at various points within the area by circulating to serve people covering all districts of Bangkok, and people can check in advance via Application BKK Connect or http://prbangkok.com/th/corporate-news to take large, unused waste to be placed at the drop-off point on the date and time specified by the district office without charge. But if it is an appointment to collect outside the date or time specified by the district office or an appointment in the name of a juristic person, there will be a large garbage collection fee.[24] Other areas besides Bangkok also have similar practices.

V. MEASURES AND GUIDELINES FOR MANAGING LARGE WASTE IN JAPAN

The constitution of Japan, 1947 has stated about the rights of the people in line with the management of the waste problem. The state must strive to promote and improve social welfare, social security, and public health which is related to all aspects of life.[25] It can be seen that this section, although broadly defined, it is in line with the management of large waste and other types of waste because that waste, if poorly managed, will affect the health of people in the country.

Waste Management and Public Cleansing Act (Act No. 137 of 1970)

The objective of this law is to conserve the living environment and improve people's health by limiting emissions, sorting, storage, collection, transportation, recycling of waste[26] in accordance with Article 2 of this law. The definition of "waste" has been clearly defined as garbage, large waste, coal, mud, sewage, oil type waste, acidic waste, alkaline waste, carcasses of dead animals, including dirty things[27] and other types of unused items and has determined that waste management is the duty of all people, entrepreneurs, local government organizations and the government. And Article 4, paragraph one of this law stated that each municipality is responsible for formulating a plan to promote general emission reduction activities for citizens in their respective territories and to determine the necessary measures for proper waste management. Municipalities will also need to set up waste management facilities and improve waste management practices.[28] In addition, the municipality must try to manage the waste management business to be successful. Article 4 paragraph four also provides for the central government, provinces and municipalities to have a joint duty to prevent emissions, handle proper waste management, and establishing a plan to create a body of knowledge for the public and various entrepreneurs in waste management as well.[29] Also, this law has provisions related to the large waste disposal and other types of waste in Article 16, which stipulates that “Anyone shall not discard waste without reasonable grounds.” Any person who violates or fails to comply must be punished under section 25 of this law shall be imprisoned for more than 5 years or a fine of not more than 10,000,000 Japanese Yen, or about 2,500,000 Baht (amended in 2000)[30]

Guidelines for handling large waste in Japan

Each municipality has the authority to regulate large-scale waste management in accordance with Waste Management and Public Cleansing Act 1970 (Act No. 137 of 1970), allowing each municipality to establish management guidelines that different, but most practices are similar. For example:

Utsunomiya City, Tochigi Prefecture. There are four waste disposal centers within the city, with large waste pick-up services available for a fee, but free of charge if you bring it to the center yourself. Large garbage is defined as garbage that is larger than 50 centimeters but less than 2.5 meters and weighs no more than 100 kilograms, such as wardrobes, mattresses, bicycles. Four types of electrical appliances are air conditioners, televisions, refrigerators, and washing machines. Once these electrical appliances are turned into massive waste, they must be brought to the manufacturer for recycling and recycling fees and pay for recycling by purchasing a recycling ticket at your city post office.[31]

Choshi City, Chiba Prefecture: Garbage that is too large to be packed in the designated garbage bag, such as mattresses, furniture, and bicycles, cannot be taken to the garbage disposal site. It must be taken directly to the waste collection center or notify the intention to dispose of it to the environmental department to Choshi City Office. The fee must be paid in both cases.[32]

Toshima City, Tokyo Prefecture: It is stipulated that large garbage is an item with a length of one side greater than 30 centimeters. Large garbage disposal must contact the municipal waste disposal center, directly.[33]

Edogawa City, Tokyo Prefecture: The municipality's large-scale disposal requires a request to be submitted through the municipality's website before disposing of waste and must be filled out. Then check the information and confirm the intention. The next step is to purchase "Big waste disposal ticket" in Edogawa area. "For recycling fee, it can be purchased at convenience stores within the precinct after

purchasing the ticket. The name and code received at the registration must be written on the trash ticket and pasted over the bulky waste. If the ticket is not pasted on the large rubbish bin, no one will pick it up.[34]

VI. CONCLUSION AND SUGGESTION

From the study of guidelines and legal measures related to waste management, it was found that Thailand still has flaws in handling and solving the problem of large waste. There is only one way to manage large waste, which is to pick up at various points on Saturdays and Sundays only. As for the legal provisions on penalties for violators of dumping large garbage outside the designated place, that is inconsistent with the current social situation but vice versa. Japan has interesting approaches and methods which may be adapted to suit the Thai social context so that Thailand has a stable and sustainable environment that is clean and orderly. It promotes good hygiene for the public to improve the quality of life of the people which is an important driving force of the nation.

Therefore, the following recommendations are made:

1) Public or private sectors should work together to create knowledge for the public in proper separation of large waste to solve the problem from the beginning and can be recycled efficiently
2) Provide a large clear waste disposal point. All types of waste disposal centers and large waste removal services in the area to support the needs of those who want to dispose of large waste without having to wait for the big garbage collection day
3) Requiring large electrical appliance manufacturing companies to accept large waste recycling that their companies produce, there may be a service charge or a discount on the next purchase of new products.
4) Large waste dumping tickets are sold in the form of duty stamps. that can be purchased from the district office district office post office or convenience store to stick on the large garbage that is disposed of at the waste disposal point.
5) Increase the penalty rate for violators who dump large garbage outside designated places, public ways, and waterways, instead of just fines, may increase imprisonment or increase fines in higher amounts.

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