

Waste Management of Community for Health and Environment

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Received March 18, 2021 & Revise March 22, 2021 & Accepted June 28, 2021

Abstract

Economic development results in an increasing population in a limited area, thus increasing the use of natural and human-made resources. As a result, more pollution and waste are increased every year and consequently cause a huge impact and problem on the environment and community health. Such public health problems found include conjunctivitis, asthma, chest pain including carriers of diseases mostly found like flies, mosquitoes, rats, cockroaches. And the most found impacts are air pollution, bad smell disturbing living, dirty and spoiled water, and clogged water pipes, getting social support like information from television and village volunteers, from the village broadcast tower, getting advice on the issue of disease prevention, giving children to vaccination, procedures to solve the environmental problems for the community. This article introduces Waste Management of Community for Health and Environment.

Keywords : Waste Management, Community, Health , Environment

Introduction

Nowadays, marine pollution is a global concern. Therefore, littering and pollutants released from marine vessels are studied and also regarded as an important problem that has a significant impact on the environment and marine ecosystems. Since the current situation where marine transportation is popular resulting in a large volume of ships traveling at sea, paying attention to controlling marine pollution from ships is, therefore, important and requires multi-sector cooperation. And when considering the nature of pollution caused by marine vessels, there are three main forms of causes including dumping, incidents of navigation, and discharging the waste generated from ship operations. Polluted wastes caused by ship's operation include oil, noxious liquid substances discharged from the vessels, harmful substances, sewage, garbage, and air pollution, especially the emissions caused by ship operations, particularly in the garbage portion. As for international measures regarding the control of pollution caused by littering from the ships, it is considered for how much the measures of Thailand regarding such matters are consistent with those of foreign countries as international measures. In addition, the condition and solution of the problem of waste arising from the marine transportation system, from cargo ships and transport ships at the anchorage area, it is found that the current problems include no statistical record of cargo ship waste and the waste management system is inefficient, no system development since there is a low frequency of using the service while the ship owners or ship agents influence to the decision in using waste collection services including discontinuity of the current service pattern of the service provider according to state regulations as well as the inadequacy of facilities to handle the garbage since, at the destination, the waste has not been effectively eliminated. Guidelines in solving these problems include organizing a center for waste management for cargo ships as a facility to accommodate in handling a complete range of waste from cargo ships starting from



storing, transporting, sorting, organizing, and processing the waste from cargo ships and transport ship under the supervision of the relevant departments including Marine Department, Pollution Control Department, and the Department of Industrial Works.

The development of urban solid waste management requires the development of management and the use of appropriate technologies for the disposal of solid waste which must be constantly and continuously communicated with people in the area. Waste management includes four stages including collection and transportation, as well as processing and disposal, in which key guidelines for urban municipal waste management such as improving the management of waste gathering, and recycling must be urgently educated for people and youth to know how to sort solid waste and to reduce the number of trashes located the road or in the community. This is to align the behaviors of the people, encouraging the communities to use the sorted wet waste as bio-fertilizers for agricultural application as well as the waste disposal using a zero-pollution incinerator, to reduce the problem of transporting the waste to landfills. Or in eliminating the waste in the area far from the municipality, the solid waste from the public is bought which must be segregated and processed in different ways to increase the income for the community. And the establishment of an integrated waste management center must be studied and the cultivation of waste management should start at the youth level with a process to promote knowledge and consciousness in community environmental management and create alternatives to apply knowledge to manage the community environment properly

Urban waste management guidelines for utilization by the constructing waste power plant to eliminate solid waste and convert it into energy will be an approach to help solve the problem of solid waste management and energy shortage. However, since the burning process in the incinerator causes air pollution which inevitably affects the environment and people, the study reveals that legal measures related to air pollution control of waste power plants are still unsuitable with some drawbacks. Therefore, the relevant legal measures should be revised to become more stringent and comprehensive in order to control air pollution from waste power plants that use incinerator technology to be effective and to minimize the impact on the environment. In addition, the 100% waste plastic diesel oil (P100) is tested on the engine to determine performance and emissions and to compare the results with commercial diesel by using a 4-cylinder diesel engine.

It was found that diesel fuel from plastic waste provides lower torque and braking power of about 10% better than commercial diesel fuel at 2,400 rpm, with less fuel consumption resulting in a specific fuel consumption rate lower than 2.0%. Therefore, diesel from plastic waste is an alternative energy that has the potential to replace commercial diesel without additional modification to the engine and can be applied to agricultural applications. In addition, e-waste also causes health and environmental impacts in many countries around the world, the government and the electronics industry, therefore, pay attention to the increasing volume of e-waste as the characteristics of electronic products have a shorter life cycle. The E-waste reduction concept using the reverse logistics process began to rapidly receive more attention. It was found that product design, the responsibility of the manufacturer to protect the environment, reverse production for reuse, minimizing production losses including the establishment of facilities for handling and eliminating electronic waste are important factors in electronic waste management using reverse logistics where most of the electronic waste collected in the garbage bins include various batteries of different types of electronic equipment.

Besides, it was found that Thailand has imported recycled electronic products which need to avoid the risk of using expired or out of date items, and proper and correct disposal of



expired electronic devices is needed. In addition, people's knowledge and understanding of participation in waste management are important. It was found that, as for the level of knowledge of the people about e-waste and the management from households, Thai people use e-waste management methods with expired or damaged e-waste mostly by selling to Saleng (trader tricycle) or antique shops without sorting or separation from other saleable the wastes. Moreover, the technology used to dispose of electronic waste and to recycle metals is studied. Therefore, it is a technology that has attracted attention using several methods for recycling metal from electronic waste. Biological extraction technology is another option due to its environmental friendliness and low cost. However, to eliminate waste and recycle metal, other technologies must be used in conjunction with biological extraction. Such an effective method includes resin adsorption. In the optimum resin selection for bringing copper from synthetic complex solution to mimic the complex compound obtained from e-waste extraction using micro-organism or in biological extraction using adsorption and desorption techniques by selecting three types of resins, the Dowex m4195 is found to be effective and suitable in absorbing copper from a solution obtained from e-waste extraction using biological extraction while the copper can be recycled.

Garbage disposal in cities with a high density of population, the most common waste disposal guidelines are landfill disposal, biogas fermentation by applying the gas obtained for use as fuel then the residue will be used to make fertilizer, and sorting and then bringing to direct incineration. However, in the case of organic waste, digestion technology is often used to produce biogas and to apply in many forms of utilization such as cooking or generating electricity using a gas engine or using as fuel for a boiler to produce hot water or steam. And by-products obtained will be used as fertilizer for soil conditioning that can be further used in crop cultivation. There are many examples of studies related to the utilization of waste, especially biomass waste, in which many raw materials such as wood firewood, rice husk, sugarcane, corncob, corn, and animal dung can be used as a biomass energy source including waste from agricultural processing plants and garbage like community waste, sawdust, etc. Processing these wastes for use as a heating fuel in both households and industries using biomass or waste process must be conducted through a physical process including chopping, compressing, and drying. For thermal and chemical processes, it includes carbonization, liquefaction, gasification, and thermal degradation (pyrolysis) and biological processes like fermentation.

However, in producing fuel rod using agricultural and household wastes, the fuel properties such as calorific value, volatile content, ash, moisture, stable carbon must be assessed. And the selection of forms, process, and tools needed to produce the fuel rods and utilization must be evaluated. It was found that in Thailand, there are leftovers from the household sector in different quantities according to the type of agricultural waste material. Therefore, the process of producing fuel rods in each area is different depending on the density and the moisture of the coagulation of the waste material. And in another example of the study of waste utilization, especially biomass waste, it was found that the biogas production system from 200 kg of food waste per day, it provides an average of 4,147 kg of biogas (gas) / year. And in the study in bringing materials used for mushroom cultivation to be applied with various gasification technologies where sample population of the research is mushroom-growing materials that have fuel properties including calorific value, static charcoal, ash and volatile matter at various moisture values, this will be used as a guideline for applying as renewable energy and reducing the amount of waste from agricultural activities. And in the study of the efficiency of the power generation of BGFC system, it's found that the power factor of the



system increases when increasing air /biomass feeding rate, steam/biomass feeding rate, fuel cell temperature, and the pressure of the fuel cell to the system. In addition, the power generation efficiency of the system increases when the temperature and pressure of the fuel cell in the system are high. In addition, in the production of the biogas from rice straw in combination with animal manure through two-stage degradation, acid fermentation tank system, and gas fermentation tanks, it's found that the composition of methane is 84.87 percent.

Conclusion

The economic development of the country and the world must be carried out in conjunction with appropriate waste management and waste recycling must be conducted through research and development, innovative waste management to reduce impacts, and solve various types of waste problems. However, the reduction, use, and reuse, and transformation should be promoted as values and behavior and participation at the family, community, social, national, and global levels. in accordance with Toprayoon Y.et al, (2018) there should be a campaign for the people in the dumping of solid waste And if something can be reused, it should use the same thing. to reduce the amount of waste Also, bring a cloth bag. or other materials to replace something that is difficult to decompose I want you to help me find out if there are any agencies that are doing projects about toxic waste. can be disposed of Or where can I send it

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