

# **WASTE MANAGEMENT ISSUE IN INDONESIA**



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## **TABLE OF CONTENTS**

<b>I.</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>II.</b>	<b>CAUSES.....</b>	<b>2</b>
<b>III.</b>	<b>EFFECTS.....</b>	<b>2</b>
<b>IV.</b>	<b>PROPOSED SOLUTIONS.....</b>	<b>3</b>
<b>V.</b>	<b>CONCLUSION.....</b>	<b>6</b>
	<b>REFERENCES.....</b>	<b>7</b>

## **I. Introduction**

As stated by Wordlometer (2021), the current world population is 7.9 billion as of May 2021, according to the most recent United Nations estimates. Positioned as the fourth most populated country in the world, the Indonesian population has reached 273,523,615. Those massive numbers result in dynamic changes in lifestyle and consumption compared to human civilization decades ago. In simpler societies, much of the energy is provided by manual labor. As societies have become larger, more complex, and more productive, however, they have come to depend on supplemental energy, which comes primarily from burning fossil fuels: coal, oil, and natural gas most notably. As contemporary economies have learned to build larger buildings and cities, move freight around the globe, and grow more food by inputting fertilizers and pesticides (themselves made from petroleum), more energy is required, and so the combustion of fossil fuels increases apace. Modern civilization, put simply, is a carbon civilization (Robbins et al., 2014). Carbon civilization itself comes with abundant waste. More population means more waste.

Managing the waste of more than 250 million people is indeed not an easy task. This situation is worsened by the lack of 3R (reduce, reuse, recycle) knowledge and awareness. 3R is just a mere mandatory concept taught in schools without daily implementation. Everyone knows the theory, but when it comes to an easy step like sorting PET bottles and vinyl plastic bags, only a few know-how. To entangle such a problem, the government has issued the Republic of Indonesia Laws No. 18 the Year 2008 about Waste Management. Apart from the low recycling rate, the law was made as a result of an overload of main landfills, especially in urban areas, which has impacted the surrounding community's health. In 2006, the Ministry of Environment announced 21 February as Indonesian National Waste Care Day in commemoration of the methane explosion at the Leuwigajah landfill on 21 February 2005. This accident killed 157 people and the waste flood covered two villages (Department of Environment Paser Regency 2018). Since then, every 21 February, the Ministry of Environment (now the Ministry of Environment and Forestry) held a National Waste Care Day event every year with a series of seminars, workshops, and other interesting activities to raise waste management awareness.

## **II. Causes**

As mentioned above, the population is the biggest cause of the waste problem in Indonesia. The big population in vast archipelagic country made waste control difficult. According to The World Bank, the world generates 2.01 billion tonnes of municipal solid waste annually, with at least 33 percent of that—extremely conservatively—not managed in an environmentally safe manner. Worldwide, waste generated per person per day averages 0.74 kilograms but ranges widely from 0.11 to 4.54 kilograms. Though they only account for 16 percent of the world's population, high-income countries generate about 34 percent, or 683 million tonnes, of the world's waste. Based on this, if an Indonesian produces 0.74 kilograms of solid waste per day, multiplied by 273,523,615 people, there will be around 200 tons of solid waste—in only one day.

Other waste problems caused are inconsistent policies and people's lack of waste management awareness. The central and local government already have their own policies regarding waste sorting, collecting, and processing but nothing has been proven effective in the long run. Commonly, every new cabinet or elected high-ranked official doesn't want to continue previous programs and makes new programs instead so everything starts from zero. Moreover, even though there are waste management campaigns held by the government, they're not followed by significant acts and rules. Only a few people—who are considered “good people” in market-based solutions theory—really implement waste sorting and other good waste management behaviors in their households.

## **III. Effects**

Overcapacity landfills and poor hygiene are two major effects of waste management problems. Inadequate waste management leads to waste piling resulting in accidents. Besides Leuwigajah landfill tragedy on 21 February 2005, unfortunate events keep coming. In 2019 The Jakarta Post reported the Supit Urang landfill case in Malang, East Java, regarding a waste avalanche claiming the life of a scavenger. In July 2018, 45-year-old scavenger Agus Sujarno lost his life when a mountain of trash crumbled on top of him.

Landfills are central to the country's waste management system because they end up storing most of its household waste. Because of this, the 2008 Waste Management Law requires every region to manage its waste at a sanitary site rather than in an open-dumping site. In open-dumping sites, waste is piled and disposed of in a manner that is not environmentally friendly, increasing the risk of fires and trash avalanches. At a sanitary landfill, the waste is buried to accelerate decomposition and prevent it from burning or becoming a source of diseases. However, most regions still use open-dumping landfills. According to 2018 Environment and Forestry Ministry data, more than half of Indonesia's landfills operate as open-dumping sites. Supit Urang is one of them (The Jakarta Post 2019).

On the other hand, unsorted waste is another issue. Piled, unsorted waste containing food waste, milk cartons, bottles, and many kinds of garbage supports bacteria and insects to live in. Two of the common diseases that come from bad hygiene are diarrhea and typhus. Those illnesses are not only found in rural areas but also in urban areas since waste piles are everywhere.

#### **IV. Proposed Solutions**

To resolve the waste management problem in Indonesia, there are two possible market-based solutions that shall be implemented. They are green taxes and green consumption.

##### **1. Green Taxes through Indonesian Regulations of Waste Management**

The main waste management regulation in Indonesia came from Republic of Indonesia Laws No. 18 Year 2008 about Waste Management. In Chapter I Article 2, it is stated that waste types managed by Laws are household waste, household waste-alike, and specific waste. Furthermore, household waste means every waste comes from daily household activity, excluding feces and specific waste. Household waste-alike means waste produced by commercial areas, industrial areas, special areas, social facilities, public facilities, and/or other facilities. The last category—specific waste—refers to dangerous and toxic waste, waste from disaster, debris, technologically unprocessed waste, and/or waste produced occasionally.

Meanwhile, waste management enforcement is explained in Chapter VI. Household waste and household waste-alike management consist of waste reduction and waste handling. Waste reduction is conducted through waste pile limitation, waste recycling, and/or waste reuse. On this matter, central government and local government are obligated to set waste reduction targets in specific periods, facilitate environmentally friendly technology implementation, facilitate eco-label implementation, facilitate reuse and recycle activity, and facilitate recycled products marketing. In addition, the government shall give incentives to every person who reduces waste, and disincentive to every person who does not reduce waste.

The second management is waste handling, consisting (1) waste sorting into categories and waste separation according to type, amount, and/or waste characteristics; (2) waste collecting by collect and transport from waste source to temporary landfill or advanced landfill; (3) waste transporting from temporary landfill or advanced landfill to final processing unit; (4) waste processing by changing characteristics, composition, and amount, and/or; (5) waste final processing through waste and/or residue safely returning to environment.

To support this law, there are several additional regulations: (1) Government Regulation No. 81 Year 2012 about Household Waste and Household Waste-Alike Management; (2) Government Regulation No. 27 Year 2020 about Specific Waste Management; (3) Presidential Regulation No. 97 Year 2017 about National Policy and Strategy in Household Waste and Household Waste-Alike Management; (4) Ministerial Regulation No. 13 Year 2012 about Reduce, Reuse, and Recycle through Waste Bank Guidelines; (5) Ministerial Regulation No. P.59/Menlhk/Setjen/Kum.1/7/2016 about Quality Standard for Business and/or Final Processing Unit Activity; (6) Ministerial Regulation No. P.10/MENLHK/SETJEN/PLB.0/4/2018 about Local Policy and Strategy Composing of Household Waste and Household Waste-Alike Management Guideline; (7) Ministerial Regulation No.

P.75/MENLHK/SETJEN/KUM.1/10/2019 about Producer Waste Reduce Roadmap; (8) Ministerial Regulation No. P.76/ MENLHK/ SETJEN/ KUM.1/ 10/ 2019 about ADIPURA; (9) Ministerial Circulation Letters No. SE.1/ MENLHK/ PSLB3/ PLB.0/ 2/ 2021 about National Waste Care Day 2021; and (10) Ministerial Circulation Letters No. SE.1/ PSLB3/ PS/ PLB.0/ 5/ 2021 about Minimal Waste in Eid Al-Fitr.

The regulations mentioned above can be improved by green taxes, considering the market condition. One of the most direct ways to harness the market, and therefore to influence environmental decision-making by people and firms, is through artificially altering prices. Taxing certain goods or services, and so increasing prices, should result in either decreased use of these resources or creative innovation of new sources or options. Many examples of such “green taxes” exist. Facing landfill costs, labor expenses, and related costs in the provision of garbage disposal, for example, some municipalities have required households to dispose of all waste in special trash bags purchased by consumers themselves, often costing a dollar or more each (Robbins et al., 2014). This solution has been implemented in Korea with their volume and weight-based waste disposal. In many stores, people are obliged to pay for certain plastic bags—varied in volume—needed for bringing their groceries. Those bags later can be used for disposing of waste. A bigger bag means a bigger cost. It will be more effective rather than relying on waste sorting into categories and waste separation according to type, amount, and/or waste characteristics only as stated in Republic of Indonesia Laws No. 18 Year 2008 about Waste Management.

## **2. Green Consumption through Social Movements**

As stated by Robbins et al (2014), market-based solutions to environmental problems also tend to stress the power of consumer demand for changing environmental conditions. Pointing to an overall social shift toward green values, market advocates suggest that the most powerful way to change production systems is to allow consumers to “vote with



their own money”, and select and purchase green products, often at a premium. The success of organic foods, which are now very much in the mainstream of consumer culture, provides an example of consumers paying extra and creating incentives for more producers to change their methods and technologies. In Indonesia, green consumption in solving waste issues can be seen in the emergence of waste social movements and bulk stores.

Large-scale social movements in managing waste are described as follows.

- a. Waste4Change: provides waste sorting drop box, waste management education, in-store recycling, and many more.
- b. Sustaination: provides waste management education and eco-friendly products.
- c. Ewasterj: provides e-waste management service.
- d. Cleanomic: provides waste management education and eco-friendly products.
- e. EcoBali: promotes responsible waste management, create green knowledge and eco products towards achieving zero waste

Another green consumption trend is bulk stores. This is a concept where the store doesn't provide commodities in individual packaging to reduce plastic waste. Instead, they store their products in big boxes, jars, and other big storage. Consumers will collect products in their own storage (e.g., lunch boxes and shopping bags) and shopkeepers will count the products mostly based on weight. Nowadays, bulk stores are not only can be found in big cities but also in rural areas.

## **V. Conclusion**

The waste problem in Indonesia is caused by population, inconsistent policies, and people's lack of waste management awareness. Furthermore, poor waste management leads to overcapacity landfill and poor hygiene. To resolve such an issue, two possible market-based solutions shall be implemented green taxes and green consumption. Existing waste management regulations can be improved by green taxes in creating volume and weight-based waste disposal policies, while green consumption is manifested in social movements.

## REFERENCES

- Borawska, A (2017). The Role of Public Awareness Campaigns in Sustainable Development. *Economic and Environmental Studies (E&ES)*, ISSN 2081-8319, Opole University, Faculty of Economics, Opole, Vol. 17, Iss. 4, pp. 865-877. Retrieved from [https://www.econstor.eu/bitstream/10419/193047/1/ees\\_17\\_4\\_fulltext\\_14.pdf](https://www.econstor.eu/bitstream/10419/193047/1/ees_17_4_fulltext_14.pdf) (accessed May 30 2021, 01.34)
- Department of Environment Paser Regency (2018, 17 March). *History of National Waste Care Day*. Retrieved from <https://dlh.paserkab.go.id/detailpost/sejarah-hari-peduli-sampah-nasional> (accessed May 29 2021, 23.50)
- EcoBali. About EcoBali Recycling. Retrieved from <https://eco-bali.com/about-us/> (accessed June 11 2021, 15.13)
- Federal Ministry for the Environment, Nature Conservation and Nuclear Safety Germany. *Waste Management*. Retrieved from <https://www.bmu.de/en/topics/water-waste-soil/waste-management/> (accessed May 30 2021, 01.40)
- Federal Office of Environment Switzerland. *Current campaigns of the FOEN*. Retrieved from <https://www.bafu.admin.ch/bafu/en/home/documentation/campaigns.html#> (accessed June 25 2021, 14.34)
- Gunther-Grey, J. Applying Theory in the Evaluation of Communication Campaigns. Retrieved from [https://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/tools/pdf/apply\\_theory.pdf](https://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/tools/pdf/apply_theory.pdf) (accessed May 30 2021, 13.04)
- Ministry of Environment and Forestry Republic of Indonesia. *Waste Management Regulations*. Retrieved from <https://sipsn.menlhk.go.id/sipsn/public/regulasi> (accessed June 5 2021, 14.00)

Robbins, P., Hintz, J. and Moore, S.A. (2014) *Environment and Society: A Critical Introduction*, 2<sup>nd</sup> ed., West Sussex: Wiley Blackwell.

The Jakarta Post. (2019, 3 March). *Inadequate landfills worsen Indonesia's waste problems*. Retrieved from <https://www.thejakartapost.com/news/2019/03/03/inadequate-landfills-worsen-indonesias-waste-problems.html> (accessed June 11 2021, 13.46)

The World Bank. *Trends in Solid Waste Management*. Retrieved from <https://datatopics.worldbank.org/what-a-waste/trends-in-solid-waste-management.html> (accessed June 11 2021, 12.44)

Waste4Change. About Waste4Change. Retrieved from <https://waste4change.com/official/about> (accessed June 11 2021, 14.55)

Worldometer. (2021, May). *World Population Clock: 7.9 Billion People (2021)*. Retrieved from <https://www.worldometers.info/world-population/#:~:text=The%20current%20world%20population%20is,Nations%20estimates%20elaborated%20by%20Worldometer> (accessed May 29 2021, 16.25)