



The Implementation of Regional Waste Policies and the Improvement of Public Health

Abstract

Government policies in waste management aim to improve public health, environmental quality, and waste as a resource. Data shows that 73.6% of residences have not classified waste into organic, inorganic, and hazardous waste types. This qualitative research uses sociological jurisprudence and legal sociology approaches. Data was obtained through literature review and case studies. Results show that waste banks are used as a form of waste management, where recyclable and/or reusable waste with economic value are sorted and collected. The waste bank implementation was synergized with manufacturers in the form of corporate social responsibility. These CSR funds are not yet maximized for waste management groups established by the West Nusa Tenggara Province, which has reached 99 units in 2017 and 54 in 2018. Funds are dominated by local governments in fostering, socializing programs, and providing facilities, infrastructure as well as capital assistance. In addition to local governments, manufacturers participate in ensuring everyone's right to gain a good and healthy environment through waste banks. Another form of responsibility was efforts to change the society's paradigm and behaviour on sustainable waste management from its source, namely household waste. This has not run optimally, nor has it been synergized with volunteer-based academics.

Keywords: waste policy; waste bank; manufacturer; Public Health

Introduction

The Republic of Indonesia's central and regional governments have accommodated waste management and waste banks in various laws and regulations. Law No. 18 of 2008 on Waste Management states that waste management aims to improve public health and

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Answers: authors added the source namely household source (in red Highlighting)

environmental [quality](#). [As well as](#) to make waste [as](#) a resource. Waste as a resource [was](#) a concept of a circular economic system, namely a design of integrated waste management by involving communities and stakeholders.

A waste bank [was](#) a place to sort and collect recyclable and/or reusable waste with economic value. An implementation of the household-level circular economy [was](#) the [waste bank](#) program. Communities can independently sort, process, and use their household waste.

To accommodate this circular economy concept on waste management, the government issued the Regulation of the Minister of Environment No. 13 of 2012 on Guidelines to Reduce, Reuse, and Recycle through Waste Banks and Regulation of the Minister of Environment and Forestry No. 14 of 2021 on Waste Management in Waste Banks. The West Nusa Tenggara Provincial Regulation No. 5 of 2019 on Waste Management [was issued as](#) a derivative of the Ministries' regulations. This local regulation [was](#) the basis of waste banks in West Nusa Tenggara.

In 2021, the Ministry of Environment and Forestry (KLHK), recorded 11,556 waste bank units across 363 districts and cities throughout Indonesia. [These waste bank gained](#) 419,204 customers and a monthly turnover of approximately Rp. 2.8 billion up to July 2021. These waste banks reduce 2.7% of the total national waste. There [was](#) also a positive trend of waste bank implementation in West Nusa Tenggara.

Malang Waste Bank (MWB) is an example of a successful pioneering waste bank. It formed waste bank units that cooperate and synergize with waste collectors and scavengers. So that this [MWB](#) coaching pattern is unique, there is synergy with each other. MWB is a temporary developer of units. [Waste](#) collectors become the members-in-training. MWB classified 70 to 100 types of waste. It undergoes three empowerment programs, [which are](#) savings service program [business financing](#)

without usury. and waste processing training program for creative business [1]. The type of usury is divided into 2 (two) models, namely Dayn Usury and Ba'i Usury. In term of exploitation, these types of usury are found in several contracts and transactions. Dayn Usury exists in debt contracts such as borrowing money and non-cash buying and selling. (Nurjannah Septyanun 2019)

Several factors inhibit the implementation of waste bank programs, including the absence of initiators in society, the stalling of the value cycle [2], and the lack of independency. The funding of this program was still depend on local government grants, for the funding. This is a high operational costs program, but community participation as waste bank customers was still low.

The central and local governments were responsible for sustainable waste management. Waste banks were often initiated by the city/regency government, universities, and the local community. People obtain two benefits from good waste management, which are increased income and a clean environment. However, there was still a lack of organic waste management from food waste. In addition, the roles of large industrial producers through social funds or corporate social responsibility (CSR) funds are not yet optimum.

Academics and local governments have socialized waste banks through training and coaching to give the public understanding about the importance of zero waste management behaviour. They also socialize waste banks as an effective method to create a clean environment [3]. So far, there were still no action nor enforcement for socializing regulation in - waste management. The paradigm is still based on the linear economy (take-make-dispose). It has not touched on the root of the

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Answers: we hope so. Thank you

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problem, especially concerning the circular economy paradigm, which is a solution to waste management as a resource.

This research analyzes the implementation of regional waste policies and the social responsibility of manufacturers through [waste banks](#). It aims to analyze the application of the regulations governing waste management, which entrusts the central government, local governments, waste producers, community, and academics to [properly synergized in order](#) to create resource-based waste management through [waste banks](#).

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Answers: authors changed all the word “garbage bank” to “waste bank”

Methods

Results

So far, the waste management in West Nusa Tenggara is not yet sustainable, causing negative impacts on public health and the environment. Therefore, the West Nusa Tenggara Provincial Government issued Law No. 5 of 2019 on Waste Management mandates all [stakeholders](#) to play an active role in sustainable waste management to improve public health and environmental quality. [Also](#) to make waste [as](#) a resource that can be used to meet the needs of society. The Regulation of the Governor of West Nusa Tenggara Province No. 14 of 2020 on Regional Policies and Strategies in Waste Management was also issued. It stipulates a sustainable and integrative strategy to reduce and manage domestic waste at the provincial level.

A waste bank is a place to sort and collect recyclable waste and/or those with economic value. The regional waste bank operates at a regional scale. Local Waste Management Units are individuals, community groups, or companies that carry out waste management activities.

Manufacturers that produce waste from their businesses, and/or activities, [are contributing by](#) Corporate Social Responsibility (CSR) funds that are [allocated to](#)

[waste banks program](#). CSR is closely related to sustainable development, where the company must also consider social and environmental aspects in undergoing economic activities. CSR programs may empower communities and make them independent [by](#) participating to achieve certain goals to be achieved.

Manufacturers and industries are urged to direct their clean production programs towards sustainability in the long term. It must implement the principle of a circular economy, where the value of products and materials is maintained and utilized as long as possible, and also [limiting the](#) waste [produced](#). The circular economy aims to sustainably balance [the](#) environment and economic aspects [5].

Data from Campus and Municipal waste in 2021 shows that 90.6% of respondents stated that they understood the waste sorting process. This [was](#) supported by the acknowledgement that this understanding was obtained because 22% had participated in waste management socialization; 56.6% participated once or twice, and 21.4% never participated in socialization. Thus, the campus and urban communities have understood the waste sorting process. However, in the campus area, research shows that 58.4% of the area [was](#) sometimes clean and 40.3% of it [was](#) always clean. Then, in the urban environment, 60% of the area [was](#) sometimes clean and 38.1% of it is always clean [6]. Thus, the campus and city communities' understanding [about](#) waste management is not directly [correlate](#) to the environmental conditions in their areas. Thus, there [have](#) to be real actions to increase the cleanliness of the environment.

In the aspect of regulation and urgency, 80% [respondents](#) agree that everyone is obliged to sort [the](#) waste. [They were know about the](#) [regulations and also "fine" on its violation](#).

[Communities were](#) very concerned about waste management and its regulations. Fines are one of the normative and

administrative efforts to [enhance](#) the awareness of campuses and cities. Therefore, there must [be a](#) sustainable socialization of waste management regulations based on a circular economy through waste banks as well as training to increase awareness of campus and city communities.

Discussion

The waste management law mandates manufacturers to minimize the impacts of the waste they generated. A waste producer is any person and/or as a result of natural processes that produce waste. Law No. 18 of 2008 Articles 14 and 15 states that "Every producer must include a label or a sign concerning the reduction and management of waste on the packaging and/or its products. Producers are obliged to manage the packaging and/or goods they produce which cannot or are difficult to decompose by natural processes."

Business actors must reduce waste by recycling and reusing them. It [is including the use of](#) production materials that generate as little waste as possible, which can be reused, recycled, and/or are easily decomposed by natural processes. To balance social, economic, and environmental conditions, the producers' social responsibility program must pay attention to the financial, social, and environmental aspects [7].

[So that](#) people's quality of [life will be improved](#) and [environment could be protected](#).

The World Economic Forum (WEF) predicts that by 2050, there will be more plastic in the oceans than fish. They predict that by 2050 the amount of plastic produced globally will triple. In 2019, waste in Indonesia will reach 68 million tons. Meanwhile, plastic waste is estimated to reach 9.52 million tons. This data explains that waste in Indonesia increases by 1 million tons every year [8].

The issue of plastic waste has prompted the government, manufacturers, and the public to be more serious about improving the waste management system. It is estimated that plastic waste pollution in Indonesia will continue to increase as a result of modern and traditional beverage industries that use single-use plastic packaging.

Based on waste audit data conducted by the Matching fund team at the University of Muhammadiyah Mataram, in October 2021, the majority of plastic waste comes from bottled drinking water. The waste is consisting of 58% plastic waste, 20% residual waste, and 22% kitchen waste. The plastic waste data comes from a local bottled drinking water company. Thus; it has the responsibility to carry out social programs. However, this social responsibility is not yet carried out optimally.

At the national level, to support plastic waste management and reduction in Indonesia, PT. Veolia Services Indonesia (Veolia Indonesia) collaborated with PT. Tirta Investama (Danone-AQUA) to create the largest and the most advanced PET (Polyethylene Terephthalate) plastic bottle recycling plant in Indonesia. Its construction started in March 2019. The food-grade and halal-certified recycled PET (rPET) production capacity is 25,000 tons/year [9].

Local producers' social responsibility may be carried out by maximizing waste banks. If the main and the unit waste banks obtain support from manufacturers or companies that produce plastic waste, then this becomes both short-term and long-term solutions to the waste problem.

The Indonesian legal system, which is the civil law system, greatly influences the implementation and the form of regulation. **It contrasts states with the common law system (England, Malaysia and Singapore) that experience faster economic growth. The difference reflects the common law's a greater orientation toward private economic activity and the civil law's greater orientation toward government intervention. This impacts the regulations and**

implementation of waste management. Research data on waste management regulations shows there is highly dominant intervention and roles of the government. On the contrary, private sectors have not maximized their role in managing the waste they generated [10].

The Regulation of the West Nusa Tenggara Province Governor No. 14 of 2020 on Regional Policies and Strategies in Waste Management has involved manufacturers. This regulation aims to strengthen the involvement of businesses through partnerships with Regional Governments, to apply environmentally-friendly and effective Household Waste and Waste Similar to Household Waste management with incentive and disincentive systems. Article 30 of this law states that "The Governor is responsible for the procurement of land, facilities, and infrastructure for the management of Household Waste and Waste Similar to Household Waste at the Provincial Level following the provisions of the legislation." This provision provides greater space for local governments to ask plastic waste producers to socially and environmentally be responsible by allocating their CSR funds, to the government. Then, the CSR fund will be allocate to the waste bank centres and units.

The National Electricity Company (*Perusahaan Listrik Nasional/PLN*) has created a CSR program where people can pay their electricity bills with waste through waste banks. This is to minimize the cost of transportation and parking that are usually spent in the process of paying bills. The PLN CSR-Environmental Development Team created this program in 2011. So far, this program has establish 125 waste banks in Surabaya and 280 in Malang, East Java. This program aims to empower the community by increasing the income of residents and organizations in the village; to improve environmental cleanliness; to preserving nature. The electricity payment counter at waste banks is hoped to increase the waste bank's income obtained from the electricity bill

administration fee collected from each payer. The profit will return to the local community to be used to develop waste bank businesses [11].

In West Nusa Tenggara, the government has created a waste bank program by issuing a policy through an agreement with stakeholders, as the waste management in Mataram City is getting more complicated. Efforts to overcome the waste problem need to be directed at improving upstream waste management. One of them is to turn waste into commodities [12]. The corporation also has a high commitment, by helping support waste banks through its CSR funds.

Conclusion

The central and regional governments have issued various regulations on waste management and strategies. The waste bank is one of the government's efforts to implement waste management as a resource. Central and unit waste banks of the region sort and collect waste with economic value that can be recycled and/or reused. For the implementation, must synergize there have to be a synergy with producers in the form of corporate social responsibility. The manufacturers' social funds have not been maximized for waste management. Local governments allocating the funds for coaching, socializing, and providing facilities, infrastructure, as well as capital assistance. Both the government and the manufacturers guaranteeing the right of citizens to live in a good and healthy environment through waste banks. This has been exemplified by the National Electricity Company who established several hundred waste banks in East Java and the West Nusa Tenggara provincial government

-. Recommendations to local governments are to carry out preventive and repressive supervision and regulate fines for people who do not sort waste by type.

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