



Waste Disposal Efforts and Policies in BPSDM Kemendagri Jakarta

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Abstract

Offices as one of the waste-producing locations have contributed to the volume. Challenges in waste management strategies differ between formal and non-formal institutions. Waste management needs a collaborative management strategy in its management. An effective waste management strategy as a solution to improve employee performance in implementing waste management regulations. This study aims to analyze Collaborative management with an office waste management strategy at the BPSDM Kemendagri Jakarta office. Collaborative management to manage environmental problems, especially waste generated from activities on weekdays. Waste management regulations need to be upgraded to become policies in the Ministry of Home Affairs offices. The method used in this study is descriptive qualitative with literature review and survey techniques. Collaborative management in office waste management is not optimal. a policy proposal for a waste management strategy and for responding to contextual changes involving the problem of formal government office waste. This finding has implications for being a policy proposal for a waste management strategy and for responding to contextual changes involving the problem of formal government office waste sustainability.

Keywords: waste disposal in office; plastic waste; waste office.

INTRODUCTION

Activities at work generate waste in the form of paper, ink, and other items needed by the office. Problems arise in the office environment from office activities that are not carried out efficiently and uniformly resulting in offices (No Title, 2008) and (Pemerintah & Spcsihk, 2008) in the Government Regulation of the Republic of Indonesia. There are 31 most relevant documents from data sources for the period 2018 to 2023, based on the types of documents used, namely journals/articles and doctoral theses. Open knowledge maps with Keyword waste from government offices gave rise to 14 clusters. The areas within each are 1) Areas: solid waste management, healthcare waste management, and electronic waste. From this area, there are seven articles in this keyword cluster. 2)

Adaptation, BNEP (Office of Production Aesthetics Surveillance). There are four articles in this cluster. 3) Solid waste management, two articles in this cluster. 4) Construction competence, cooperation in the construction sector, and environmental law. Two in the literature in this keyword cluster. 5) Administrative capacity, civil society, organization, collaborative governance; there is one literature. 6) Treatment plant management; one literature. 7) Smart city, development for smart; two literatures. 8) Plastic bags; one literature. 9) Pollution conditions; two literatures. 10) E-office, eco-office, environmentally friendly; one literature. 11) Indonesia, CPI, waste pollution; two literatures. 12) Waste management, waste for pick-up system; one literature. 13) Waste management; two literatures. 14) Human Capital; one literature. In this study, several articles were reviewed in the keyword cluster area which was summarized in Table 1 below: sewage pollution; two literatures. 12) Waste management, waste for pick-up system; one literature. 13) Waste management; two literatures. 14) Human Capital; one literature.

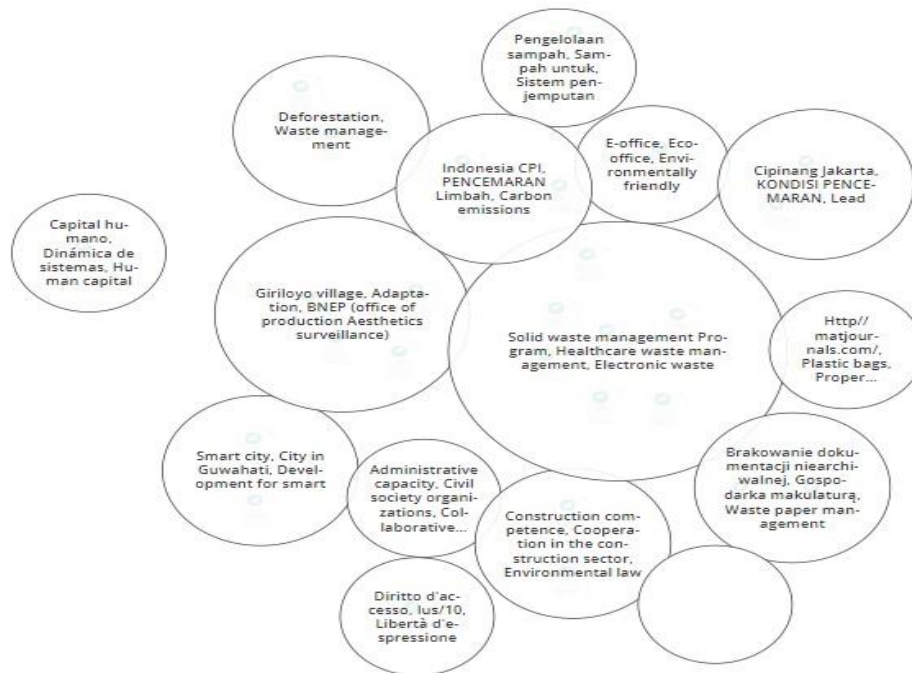


Fig 1. Visualization of the map of waste from government offices

Source: (*Overview of Research on Waste from Government Offices - Open Knowledge Maps*, n.d.)

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Table 1. Matrics from overview research on waste from government offices

No	Source	Topic	Methods	Findings
1	(Nuzir et al., 2011)	Study to find out the percentage of hospitals that follow health waste	Survey-based study	There is a 71.2% maximum average waste generation in private hospitals, 25% in government hospitals, and 3.8% in semi-government hospitals. Waste

No	Source	Topic	Methods	Findings
		management practices.		management techniques in private hospitals are more widely used than in government or semi-government hospitals.
2	(Mansanadez, 2019)	Study to determine solid waste management and disaster preparedness in a risk city in Zamboanga del Norte.	Descriptive research method, using a questionnaire checklist and purposive sampling technique.	<ol style="list-style-type: none"> 1. Most household waste is generated, and the majority of households manage waste to become compost by digging holes in the backyard of the house. 2. Offices operating in the commercial areas of the city use open dumps. 3. Routine disposal of garbage in TPA city. 4. The team and volunteers are alerted as standby personnel with functional equipment against the risk of flooding.
3	(Science, 2019)	Solid waste management and urban disaster mitigation	Qualitative research, surveys, and field studies at senior high schools in Depok City	Informal actors are the main force in collecting and sorting e-waste from households.
4	(Zabawek & Lat, 2021)	Production of children's toys from waste	Literature review	Poland has succeeded in innovating by processing waste into toys for children.
5	(Grzegorz, 2021)	Management and destruction of important state documents.	Literature review	Documents from ministries and state administration offices written on paper are sorted and destroyed through strict procedures. The destruction is carried out by the forestry ministry department closed to the public.
6	(Pap & Pap, 2020)	The polemic over the disposal and destruction of paper documents of important state	Literature review	There is a dilemma in destroying important documents from state archives because in the process document security and how important old documents are can be

No	Source	Topic	Methods	Findings
		records before 1950		destroyed because of different policies from one department to another.
7	(Lichnerová & Marišová, 2020)	Municipal solid waste management uses construction materials by policy and law	Literature review	Separation of waste for each household in urban communities can reduce the problem of accumulating municipal waste and sending waste to other small towns because it conflicts
8	Dissertation (de la Riva Agüero, 2022)	<ol style="list-style-type: none"> 1. Complex social services in waste management by civil society organizations. 2. Governance of municipal waste management by the government. 3. Local collaborative waste management. 	Qualitative by interview and quantitative field ethnography in Peruvian cities.	The municipal solid waste management program has not yet been achieved because of the non-optimal resources the complexity of management and simple services related to administration.
9	(HAUR et al., 2018)	Disposal of excess excavated waste from construction and use of UAVs	qualitative	The management of tracking the surplus of excavated soil needs to be carried out by the installation and transport fleet so that it does not cause environmental pollution. Adoption of Unmanned Aerial Vehicle (UAV) as the technology used.

Source: Author's finding, 2023

From the matrix described in **Table 1**, a research gap can be formulated for the study topic. Analyzing management collaboration in office waste management is the aim of this research

METHODOLOGY

Collaborative management analysis of office waste management at BPSDM Kemendagri Jakarta office with eco-office, environmentally friendly, plastic bags, solid

waste management program, waste paper management using descriptive qualitative research method (Prof. Dr. Ir. Raihan, 2019)(Sugiyono, 2018). Field survey techniques to obtain data and conduct a literature review which can be a source of reference in the problems encountered at the research location. In addition to the literature from indexed articles, an open knowledge map is also used to obtain research gaps to obtain novelty in this study. The research was carried out at the Jakarta BPSDM office, and the time used to conduct research was from May 2022 to May 2023.

RESULT AND DISCUSSION

a. Eco- Office

Paper waste can be processed by extracting Cellulose Nanocrystal (CNC) (Lei et al., 2019). The eco-friendly material extracted from waste paper and recycled waste paper can solve the problem of byproducts caused by paper-to-paper recycling. Fawzy et.al., (Fawzy & Gomaa, 2020) explain that waste paper can be combined with pulp in the paper-making industry. The majority of paper is made from wood fiber materials obtained from nature, not from cultivated forests, thus affecting natural sustainability (Risidiana et al., 2021). With a commitment to being environmentally friendly, it will have an impact on green office behavior in offices. Policy makers and the public in the consequences of actions on the environment that; education, motivation, social awareness, and participation can be driving green offices. Need integrated action in the workplace to direct employees to integrate to support the environment (Sugiarto et al., 2022).

b. Environmentally Friendly

How to solve the waste problem by introducing environmentally friendly food packaging because, in the global packaging market, it is estimated that there will be 4300 billion packaging units in 2015, of which 73% are for food and beverages (Ketelsen et al., 2020). The application of nanotechnology and nanoscience offers new methods and capabilities for use in environmental research (Abdur Rahman et al., 2023). Waste sorting and recycling is an environmental problem. Recent research analyzes social and public concerns and official government policies (Abdur Rahman et al., 2023). One of the recycling processes to remove ink from digitally printed paper requires a level (Ataeefard et al., 2022) shown in Fig 2:

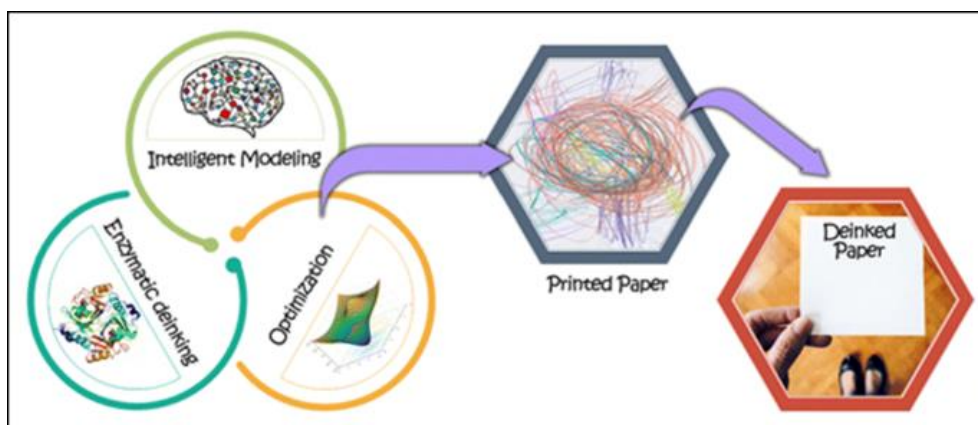


Fig 2. Environmentally friendly recycling innovation to remove ink from paper

c. Plastic Bags

Environmental impact of mixed municipal solid waste (MSW) waste needs to be collected (carrying bags, bins, road containers, and vehicles) using a life cycle method, utilizing local data collection (Fernández-Braña et al., 2019). Plastic value used energy

source and to produce materials of economic value (Ghodrat et al., 2019). Plastic waste made from polypropylene (PP) and polyethylene (PE) polymers, has opportunities as alternatives (Shanker et al., 2023). Municipal solid waste (MSW) can provide a valuable energy source for sustainable development. Each country needs to follow WHO guideline procedures to manage communicative and accountable MSW(Das et al., 2021). Plastic that accumulates with other waste materials can certainly be a medium for transmitting disease contamination which is not good for human health. Picture 2 is a temporary disposal site for office waste at the BPSDM Kemendagri Jakarta office. Even though it is handled by a private party that is responsible for its management, its performance has not been optimal. Figure 2 Environmentally friendly recycling innovation to remove ink from paper

The environmental impact of mixed municipal solid waste (MSW) waste needs to be collected (carrying bags, bins, road containers, and vehicles) using a life cycle method, utilizing local data collection. Plastic value uses energy to produce materials of economic value (Ghodrat et al., 2019)(Anggoro et al., 2023). Plastic waste is made from polypropylene (PP) and polyethylene (PE) polymers. Municipal solid waste (MSW) can provide a valuable energy source for sustainable development. Each country needs to follow WHO guideline procedures to manage communicative and accountable MSW. Plastic that accumulates with other waste materials can certainly be a medium for transmitting disease contamination which is not good for human health. Picture 2 is a temporary disposal site for office waste at the BPSDM Kemendagri Jakarta office. Even though it is handled by a private party that is responsible for its management, its performance has not been optimal.



Fig 3. Plastic waste and contamination effects

Forest resources experienced a high acceleration in the problem of cutting prohibited plants. Waste paper recycling is expected to overcome the environmental burden. Waste paper recycling can reduce the problem of environmental pollution and crop harvesting. Efforts to recycle the deinking of waste paper using chemical methods involve the use of highly toxic chemicals (NaOH, Na₂CO₃, Na₂SiO₃, MgSO₄, EDTA, and H₂O₂) (Singh et al., 2020). Distrust of government, so smart management can improve public sector performance (Fuka et al., 2023). The entire paper material has bioconverted relatively differently. By optimizing the bioconversion process, waste materials from paper reduce environmental pollution used for the development of bioproducts (Ndlovu & van Wyk, 2019)(Sasaki et al., 2022). When decomposing and cleaning used paper, recycling does not need to be bleached as intensively as new paper. Apart from being related to the economy, recycling paper waste is a public pressure stockpile because the physical properties of used paper materials such as type, base weight, dimensions, and humidity are significantly affected by waste paper processing (Rezaee et al., 2022)(Sango et al., 2021)(Agrawal et al., 2022).

d. Waste Management Models

Government offices in Indonesia cooperate with third parties in waste management within the office area. In transporting garbage at a scheduled time so that the environment is less clean, there are piles of garbage that should be transported immediately. In the collection of Smash, there is also no realization of program implementation. Misztal et al. (Misztal & Dziekański, 2023)(Buntaine et al., 2021) stated waste management from the point of view and principles. Creating revolution to help governments and people achieve sustainable development goals. Modified Three-Layer Business Model Canvas (TLBMC). This platform conveys information through websites or platforms created by suppliers to service users with business sustainability (Abbasnia et al., 2023)(Andersen & Halse, 2023). Waste management as a complex issue is assumed by public authorities and recorded results vary due to investment and budget spending as well as increasing participation in ecological and educational programs for sustainable development (Gabor et al., 2023)(Ferraro et al., 2023). Sustainable Solid Waste Management in waste management management paying attention to (Bui & Tseng, 2022)(AlHumid et al., 2019)(Bizcocho & Llatas, 2019).

Municipal Solid Waste (MSW) strategy for environmental impacts with potential scenario estimation together with adjusted LCA procedures (Viotti et al., 2020). The three largest producing countries of urban waste are the US, China, and India (Nanda & Berruti, 2021)(Zhu et al., 2021). An alternative that is proven to recover value from non-recyclable materials is Waste to Energy (WTE) (Bourtsalas, 2023)(Tisi et al., 2023). LCA and implementation standard Indonesian government (Wiloso et al., 2019)(Sari et al., 2021). Various methods in waste management management have been implemented. This of course adjusts to the conditions of each region and the availability of resources

CONCLUSION

Office waste management is a means for the government to provide implications for the implementation of a program and management model. Mixed solid waste that is not immediately transported from temporary landfills will certainly accumulate and cause problems, both air pollution and environmental risks.

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