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Enhancing Sustainability Development for Waste Management through National–Local Policy Dynamics

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Abstract: Sustainable Development Goals (SDGs) require nations to increase policy coherence for sustainable development, including waste management (WM). However, the policy implementation of sustainable WM in Indonesia is still questionable because pollution was detected from poor WM practices. Hence, a question arises: is the WM policy coherent with sustainable development across the government levels? This article aims to analyze the WM policy coherence for sustainable development. We chose the South Tangerang municipality for this study since this area represents a municipality that faces an overcapacity landfill problem. Our study undertakes a policy analysis of WM policy documents at government levels and uses interviews with regulators to strengthen our analysis. The results show that the WM policy is still far from sustainable development, that the municipal or provincial governments delayed translating the national WM policy, and that WM policy needs to shift from a linear to a circular economy of resources. We recommend for future studies further explore the WM stakeholder's connection to global, national, provincial, and local governments. The recommendation of our study for policymakers at all government levels is to consider circular economy concepts in implementing WM policy.

Keywords: waste management; policy; circular economy; sustainable development; Indonesia



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1. Introduction

SDG 17 requires every country to increase policy coherence for sustainable development. Indonesia is strongly committed to increasing the coherence of sustainable development policies by establishing national regulations concerning SDG implementation [1,2]. The regulations should be translated to the national ministries/institutions and local governments [3]. The contribution of national government policy [4,5] and local government policy [6,7] is needed to protect the world from degradation through sustainable production and consumption so that it can support the needs of present and future generations [8].

Sustainable consumption and production have the closest relation to sustainable waste management (WM). The sustainability principle for WM policy is vital to eliminating waste significantly [9] and to avoid environmental impacts [10,11] since it prioritizes waste reduction, reuse, and recycling from the early stages of waste production and minimizes burning and burying waste. This concept connects WM to the promotion of SDG 12 [6]. Furthermore, the circular economy concept has become a major topic of discussion for its contribution to sustainable production and consumption [12–19], as well as with respect to WM [12,20,21], although Millar et al. (2019) [22] argue that the circular economy does not meet the sustainable development criteria. On top of that, the circular economy has successfully influenced governments and institutions from many countries through policy instruments [14,23–26], particularly WM policy [20,27].

Alongside the national policy to pursue SDGs, implementing sustainable production and consumption in Indonesia still needs to be investigated because pollution was detected from poor WM practices [28]. It is mandated by Law 18 of 2008 concerning WM [29] that the national government set national WM policy, that the provincial government set WM

policy and strategy regarding government policy, and that the local government conduct WM and set local WM policy within the context of national and provincial policy. Hereafter, implementing national, provincial, and local WM policies depends on the outcome which has overcome the impacts of local WM practice.

We chose linear government levels from the bottom up for our study: South Tangerang at the local government level, Banten Province at the provincial level, and Indonesia at the national level. We selected this municipality because this area has been experiencing the impacts of WM problems; the municipal government's efforts cannot cope with approximately 799.07 tons of waste generation per day (in 2021) [30] due to its population of 1.3 million in the same year [31]. Furthermore, the municipality depends on the final disposal area, which has a capacity of 300 tons per day [28]; 41 waste stations based on reduce-reuse-recycle; and 313 waste banks [32]. However, these efforts still need to be more effective in reducing waste [33]. As a result, the landfill ran over its capacity in 2022 [32] and generated microplastic contamination in the nearby river [28].

The WM policy coherence among government levels helps to contribute to sustainable development. Previous research has discussed the policy lever to SDGs [3,7] from the national level [4,5] and local government level [6,34,35] for Agenda 2030 of sustainable development. Moreover, Ma et al. (2022) [14] have studied how circular economy policies have grown for decades among national ministries. However, there needs to be more discussion on policy coherence for sustainable development, particularly with respect to WM issues and their relationship with the circular economy and coherence at a global, national, and local level in Indonesia. Thus, this article analyzes WM policy coherence with respect to sustainable development and its relationship with the agendas of national, provincial, and local governments. Regulations and planning for WM policy are closely connected to the wider topic of environmental science and public policy since they have an important role in controlling public and institutional actions. This article's subject is important since Indonesia has committed to Agenda 2030 for sustainable development; however, it is still struggling with WM issues. As an implementor, the local government plays an important role in sustainable development. Hence, this study addresses the importance of policy coherence for sustainable development to cope with WM problems.

Later, our research question becomes, "Is the WM policy coherent for sustainable development across the government levels?" The hypothesis of our study is based on the assumption that the local government's WM policy is coherent with the national WM policy and Agenda 2030. However, the policy coherence of WM implementation is not in place, and the WM regulations do not reflect the sustainability principle; although the national government has made an effort to urge producers on the part of WM stakeholders, the implementation needs to form the closed loop with respect to stakeholders and the circular economy.

The results of WM policy coherence for sustainable development are divided into several sections. The first section provides data on the municipal WM policy. The second section discusses the WM regulation coherence at the national, provincial, and local government levels. The third section discusses WM program coherence using a conceptual framework. The fourth section concerns the WM policy for sustainable development. Later, the study continues with a discussion of the results, and recommends the adoption of a sustainability principle for WM policy, particularly national WM policy.

2. Literature Review

2.1. Policy Coherence

The Indonesian national planning system employs a hybrid approach to policy implementation; as stated, "The National Development Planning consists of integrated development planning by Ministries/Agencies and development planning by Local Governments by their authority" [36]. Later, the local governments were granted their rights according to autonomy and assistance mandates, with the broadest autonomy granted within the system and principles of the Republic of Indonesia as referred to in The 1945 Constitution of

the Republic of Indonesia [37]. Therefore, national and local governments should consider top-down and bottom-up approaches instead of a hybrid approach for policy coherence.

Policy coherence is closest to the policy implementation theory by Fischer et al. (2007) [38], who categorize policy implementation across levels into three approaches: top-down, bottom-up, and hybrid. The first approach, the top-down approach, is the starting point of policy implementation from national government decision-making. It focuses on the decision-maker's ability to create clear policy objectives and controls at the implementation stage [39,40]. Previous literature argues that policy must be passed down from superiors to subordinates under a commanding order and from the central government to subordinates who are governed [41]. However, the top-down policy has certain detrimental characteristics. The process tends to be linear and mechanistic; it takes time for decision-makers to study certain problems, and using it is no longer possible [42]. In other words, the top-down theory is a policy originating from the initiation and decision of the central government as the main actor. Hence, the national government plays an important role in policy implementation at the local government level.

The second approach, the bottom-up approach, can be interpreted for local regulations in reference to national regulation [5]. However, it is an opportunity for the local government to refrain from implementing the national policy [38]. This approach sees the local government as the main actor who delivers the policy and understands implementation as a negotiation process within the network [39]. Moreover, the bottom-up approach promotes inter-agency coordination and multi-sector cooperation [5]. Hence, the policy implementers are usually at the local government level to support the national level.

The third approach, the hybrid approach, emerges as a middle ground over the top-down and bottom-up debates and other models [38]. Yu and Xu (2022) [39] illustrate the hybrid approach as balancing local and central interests via the top-down implementation from central government and the bottom-up breakdown of policy by local states. This approach considers the cities worldwide which understand and leverage the opportunities of this revolution, with top-down and bottom-up acting from a holistic and integrated perspective, since the cities worldwide also pursue innovative solutions to various problems [42]. Hence, the hybrid approach considers the dynamics across scale and of the horizontal authority.

2.2. Waste Management Policy and Sustainable Development Goals

How the SDGs translate in the commitment of different countries in the world to pursuing SDGs reflects policy coherence; SDG 17 for partnership has a target for every country to increase its policy coherence for sustainable development [43]. However, each country has a different approach to pursuing SDGs. Previous research represents how top-down and bottom-up approaches differ. Mthembu and Nhamo (2022) [3] emphasized the alignment of the national policies in South Africa with SDG 13 but found that the policies still needed to be implemented into real scenarios since the policies are still shallow, difficult to implement, and there are too few available resources. Later, Zhu et al. (2021) [7] showed how local best practice had addressed the national policy perspective to achieve SDG 14 in China. Both kinds of research show the implementation of SDG 17 and other SDGs. Anderson et al. (2021) [44] show that each SDG and their related targets can contribute as triggers or obstacles to achieving other SDGs and their related targets. Therefore, implementing SDG 17 concerning policy coherence for sustainable development can support the pursuit of another SDG, including SDG 12, which has targets and indicators related to WM [18,45].

The United Nations (2015) [8] decided on SDG 12 to ensure sustainable consumption and production patterns along with the targets and indicators related to the protection of the world from degradation, thus supporting the needs of present and future generations. Therefore, countries need to take action to prioritize waste reduction through prevention, reduction, reusing, and recycling [43]. On the other hand, if the implementation of WM prioritizes waste collection, transportation, and disposal stages, it will increase waste prob-

lems for decades and affect human life [45]. Therefore, nations should increase economic development and environmental awareness to impact WM success [18,45] and pursue SDG 12—sustainable consumption and production. The United Nations (2020) detailed the targets of sustainable consumption and production, namely, (1) the program’s implementation of sustainable consumption and production schemes by adopting the implementation of policy instruments supporting the transition to sustainable consumption and production; (2) significantly reducing waste production through prevention, reduction, recycling, and reuse; (3) strengthening technological capacity for sustainable consumption and production by installing waste-to-energy; and other targets [43].

Several researchers [14] noticed the transition of policy instruments toward sustainable development for particular reasons: (1) a reaction to economic growth and environmental degradation; (2) national government, their interests, and objectives; and (3) policy education. However, these policies may address only small environmental benefits, which, unfortunately, can be reduced or canceled out by rebound effects or social behavior [20].

The waste-to-energy theme is related to the circular economy since municipal waste products are effectively used as an energy source and contribute to SDG 12; the greatest contribution of the circular economy comes from the ability to recycle waste [19].

2.3. Waste Management Policy and Circular Economy

The terms “waste management” and “waste handling” have similarities. However, our study employs the term “waste management” as the control of waste by reducing the damage caused by waste to the environment without seriously trying to reduce the amount of waste produced [9]. Indonesia conducts WM based on Law 18 of 2008 [29]. It divides WM into two stages, as described by Miller and Spoolman (2016) [9]: waste reduction, i.e., prevention, recycling, and reusing; and waste handling, i.e., sorting, collection, transportation, processing, and the final disposal processing for environmental protection.

To deal with WM, Miller and Spoolman (2016) [9] mention a sustainable principle for WM by prioritizing the production of less solid waste, reusing or recycling it, and the safe disposal treatment of the residual waste. Miller and Spoolman (2016) [9] illustrate this sustainability principle with an inverted pyramid that presents a priority sequence of five stages where priority is given to the top layer, “reduction”, and then the next stages in the order of “reuse”, “recycle”, “incinerate”, and “bury”. The ideal condition that should occur is that the largest portion of waste material is managed through the reduction method, followed by the second largest method, namely, reuse, then the third largest method, recycling/composting techniques, and the smallest method for waste is incineration; the smallest amount should be burnt waste [9]. Sustainable WM should be conducted to protect environmental degradation from WM activity and to avoid negative environmental and human health impacts for economic input [10].

Previous researchers defined the circular economy from different perspectives but make the same point concerning circularity matters, as summarized by Figge et al. (2023) [46]. The definition of the circular economy can be drawn from its characteristics: (1) a closed resource cycle that eliminates the use of unused resources; (2) in a perfect circular system, resource output and input must be equal; therefore, some resource flows may need to be reduced, while others may need to be increased in order to ensure that supply and demand for resources before use are equal; (3) it is always distributed over at least two complementary levels, each following a different logic; the circularity of resources themselves is manifested at a higher level (e.g., entire companies or industry clusters), and such circularity is supported by activities (recycling, remanufacturing, etc.) involving lower-level actors (such as companies) (on the other hand, the circular economy is a multi-level concept); (4) it should be noted that the laws of thermodynamics and the inevitability of human error mean that “perfect” resource circulation is unlikely, and the concept remains idealized [46].

Several researchers have noticed that the concept of the circular economy is also in line with sustainable development dimensions (economic, social, and environmental) [47], and functions as a tool for achieving SDGs [22]. However, the circular economy does not

meet sustainable development [22]. Nonetheless, Figge et al. (2023) [46] argue that a good definition of the circular economy will communicate its role in achieving the sustainable use of resources and separate it from other related concepts. This concept may provide an interesting perspective for the business sector in promoting sustainable development and reducing the use of natural resources such as raw materials, their emissions, and waste products [47]. This view is further encouraged by the circular economy definitions which lack precision and go beyond what “closing loops” can produce [46].

The circular economy has influenced the policy instruments in many countries, such as China [14], the European Union [23,27], Romania [26], and Finland [25]. Policymakers can evaluate the policy using life cycle thinking since it is a promising tool by which to assess the cross-sectoral impact of policies the characteristics of a circular economy operationally and strategically [20]. Elsewhere, D’ Adamo et al. (2022) [27] stated that regulatory guidelines are prioritized to promote resource circulation in WM.

Ma et al. (2022) [14] have studied how China’s policies have grown towards sustainable development by shifting the policy instruments from economically focused. This was due to several factors, such as: (1) the country’s economic pushing the government to focus on environmental protection; (2) the increased the participation at the national government level (ministries and commissions) contributed to environmental civilization thus increasing circular economic policies and the implementation of the circular economy; (3) the Chinese government has effectively stimulated the learning and dissemination of circular economy regulations, as well as training in the countries where they were created.

European Union policies and strategies address the development of a waste hierarchy and identify four broad waste management strategies ranked from most desirable to least desirable—reduce, reuse, recycle, and recover (disposal is still the fifth option to avoid)—for the circular economy [27]. EU policy also shifts the reformation of the green tax from labor to the environment to encourage enterprises to engage with a circular economy [23].

3. Materials and Methods

This study was conducted through policy analysis. Policy analysis has been used to assess regulation [7], the performance of the program [48,49], the project [50], and the planning [51] for social [52], environmental [7], and economic impacts [53] or sustainability dimensions [20,54]. Further, secondary and primary data were employed. The secondary data sources were national, provincial, and municipal document planning and regulations. Afterward, we applied the primary data from two informants with experience as WM policymakers in the study area.

This study was conducted through policy analysis based on an extended environmental impact assessment (EIA) table from Rogers et al. (2008) [55]. EIA aims to systematically recognize and assess a project or program’s possible impact. The goal of an environmental assessment is to verify the connection between local short-term use of the environment and the maintenance of long-term productivity since this is a sustainability issue [55]. Furthermore, Rogers et al. (2008) [55] redeveloped the EIA table by involving several levels of government, including national, regional, and local governments. Each level of government had four categories: policy, planning, program, and project [55]. EIA was usually used to evaluate or identify the potential impact of a project or program.

We specified our analysis to the WM policy documents implemented at the local government level to support the national WM goal. Then, we gathered the information as follows:

- a. We collected the regulations. For regulation documents, we started searching for South Tangerang municipal WM regulations by asking the EAB office about the WM regulation. Later, we searched and downloaded the documents from the official government websites, such as the regulations database from the Indonesian Supreme Audit Institution website and Banten Province. The regulation should be related to household WM for document selection. For global documents, we use the SDGs from the United Nations;

- b. For planning documents such as mid-term, strategic, and working plans, we searched and downloaded them from several ministries, the province or its bureau, and the municipality or bureau website. Further, our limitation was annual planning availability that could only be accessed for the last two years. Therefore, our study includes the last two years' WM activities;
- c. We chose the household WM program, activity, and project from national, provincial, and mid-term plans. We searched the program, activities, and projects related to household WM, particularly for the South Tangerang municipality. Some keywords in the Indonesian language, "sampah AND rumah tangga", were utilized to find them. "Sampah" means waste or trash, and "rumah tangga" means household;
- d. We chose the ministries and bureaus related to our study from the mid-term plans reading. Moreover, we searched their strategic and annual working plans on the websites to detail their actions for household WM;
- e. We reread the documents and confirmed with the governments to ensure the documents were valid. As a result, we collected 17 government planning documents and 12 regulations from national, provincial, and local governments for our study;
- f. We draw the regulation and document flows from reading each regulation for analysis.

We realized the weakness of the secondary data for analysis, or in this case, we used policy documents. The analysis document is flexible and can be used for finding processes if we follow systematic procedures [56]. Johnston (2014) [57] disclosed this weakness as follows:

1. Secondary data could not give further explanations in response to the questions;
2. The secondary researcher was not involved in the data collection process and needed to know exactly how it was handled.

Therefore, we also utilized primary data through interviews to verify our results from secondary data. We interviewed WM policymakers who represented the South Tangerang municipality and the national government.

4. Results

4.1. Waste Management Regulation Coherence

Six municipal regulations, two provincial regulations, five national regulations of household WM, and SDG 12 targets are gathered to understand WM policy coherence across the levels. Figure 1 describes the top-down approach of WM global, national, provincial, and municipal regulations. Each color describes the topics: orange color for fundamental WM; grey color for household regulation; yellow color for WM target; blue color for waste to energy; and green color for producer responsibility. However, we use SDG 12 sustainable consumption and production as the global direction for WM. In addition, there is no arrow between global and national since the SDGs were not stated directly in the presented regulations.

One of the SDG 17 indicators requires countries to have mechanisms by which to increase the coherence of sustainable development policies, so our analysis construction refers to the theme of SDG 12, sustainable production and consumption. SDG 12 has several targets, such as adopting policy instruments to support the shift to sustainable consumption and production; reducing waste generation by preventing, reducing, recycling, and reusing; installing renewable energy for sustainable production and consumption; and environmentally sound management for the waste life cycle. Moreover, these targets are related to Indonesia's WM policy.

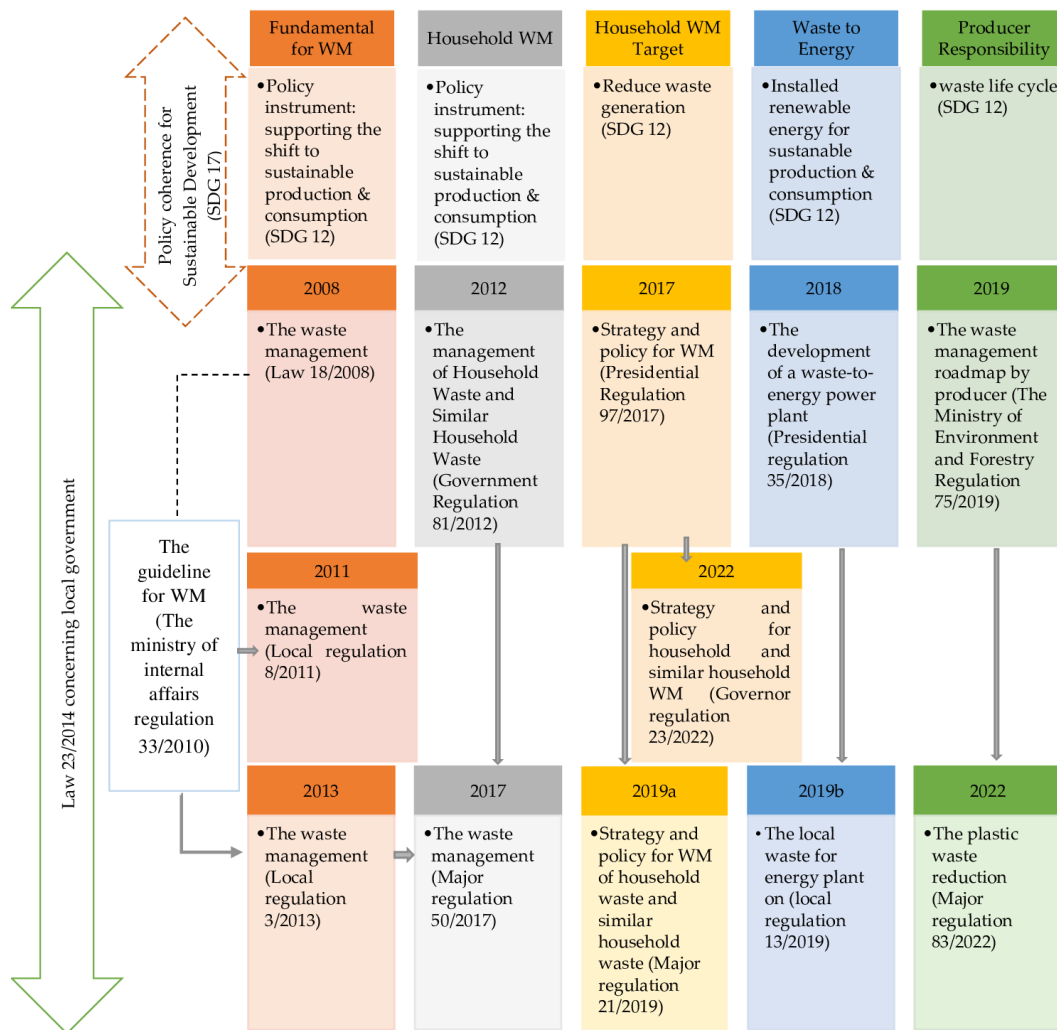


Figure 1. WM regulations coherence from the global: national, provincial, and local governments.

The South Tangerang municipality has a fundamental policy for WM to respond to national WM policy. It is connected to policy instruments supporting the shift to sustainable production and consumption or SDG 12. Moreover, the municipal government established Local Regulation 3 of 2013 concerning WM [58], considering Law 23 of 2014 concerning local government [37]. This was in response to the MoIA Regulation 33 of 2010 concerning guidelines for WM [59], which guides local government to understand Law 18 of 2008 for WM [29]. Moreover, these laws and MoIA Regulations also became fundamental guidelines for establishing provincial WM policies, as did Local Regulation 8 of 2011 concerning WM [60]. Later, the municipality strengthened the local policy instrument by translating Government Regulation 81 of 2012 concerning household WM [61] and the local regulation for WM into Mayor Regulation 50 of 2017 concerning WM [62].

The municipality has a household WM target through the establishment of Mayor Regulation 21 of 2019 concerning strategy and policy for WM of household waste and similar household waste [63]. Furthermore, the provincial government also established the regulation through the Governor of Banten Regulation 23 of 2022 concerning strategy and policy for WM of household waste and similar household waste [64]. Both regulations consider Presidential Regulation 97 of 2017 [65]. Moreover, these household WM target regulations are connected with reducing waste generation for SDG 12.

Since the municipality had the plan to install a waste-to-energy power plant, the municipality revised Local Regulation 3 of 2013 for Local Regulation 13 of 2019 [66] to accommodate the waste-to-energy power plant scheme and to revise the WM stakeholder

responsibilities. The municipality revised the regulation considering Presidential Regulation 35 of 2018 concerning the development of waste-to-energy plants [67]. Hence, this issue relates to installed renewable energy for sustainable production and consumption, SDG 12.

The last regulation, the South Tangerang Municipal, continued establishing Mayor Regulation 83 of 2022 concerning reducing plastic waste, which enhanced producers or business players to support WM [68]. This regulation establishment considered the Local Regulation to be the fundamental policy instrument for WM and the Ministry of Environmental and Forestry (MoEF) Regulation 75 of 2019 concerning the WM roadmap by the producer [69].

Based on time accumulation, the municipal WM policy translations took five years (2012 to 2017) for household WM regulation, two years (2017–2019) for household WM target regulation, a year for waste-to-energy regulation, and three years for producer responsibility. Moreover, the provincial government took five years to adopt national regulations of household WM targets, longer than the municipal government, and had no regulations for household WM, waste-to-energy, and producer responsibility during data accumulation.

4.2. National Plan for South Tangerang Municipal WM Programs

Table 1 presents two national sub-projects from national mid-term plans related to WM policy for the South Tangerang municipality: waste-to-energy power plant and waste generation reduction. We chose to study the waste generation sub-project because the waste-to-energy power plant construction was postponed.

Table 1. Summary of national sub-project related to the South Tangerang WM program.

Agenda	Program	Project	Sub-Project	Location	Stakeholders
Strengthening basic service infrastructure	Energy and Electricity	Energy and electricity efficiency and emission improvements	Waste to energy plant construction	South Tangerang, other cities, or regions	Municipal or regional government
Building the environment, improving disaster resilience, and climate change	Quality of Life Improvement	Household Waste and Plastic WM	Increasing the amount of national waste generation reduction	34 provinces	MoEF, local government, public, business sector, etc.

Source: National mid-term plan 2020–2024 [70].

4.3. Waste Management Programs Coherence

Figure 2 shows how the national mid-term plan has been arranged to achieve the Agenda 2030 for Sustainable Development since Presidential Regulation 59 of 2017 concerning the implementation of SDGs was renewed with Presidential Regulation 111 of 2022. The literature has mentioned that Agenda 2030 can be applied to all countries with consideration of different national capacities, realities, and levels of development, and that it can honor national priorities and policies. Hence, no specific target or program is listed; however, universal goals and targets exist.

The national government made an effort to converge national development planning with SDGs. Later, this national plan (mid-term plan) should be synchronized with the provincial and local government's plan regarding Law 25/2004 concerning the National Planning System. The planning documents of national, provincial, and local governments consist of a mid-term plan (5-year plan), a strategic plan (5-year plan), and a working plan (annual). Figure 2 presents the analysis of WM programs as detailed in Table 2, which describes the Indonesian planning system context and presents the policy-program coherence concerning WM policy across national, provincial, and local governments.

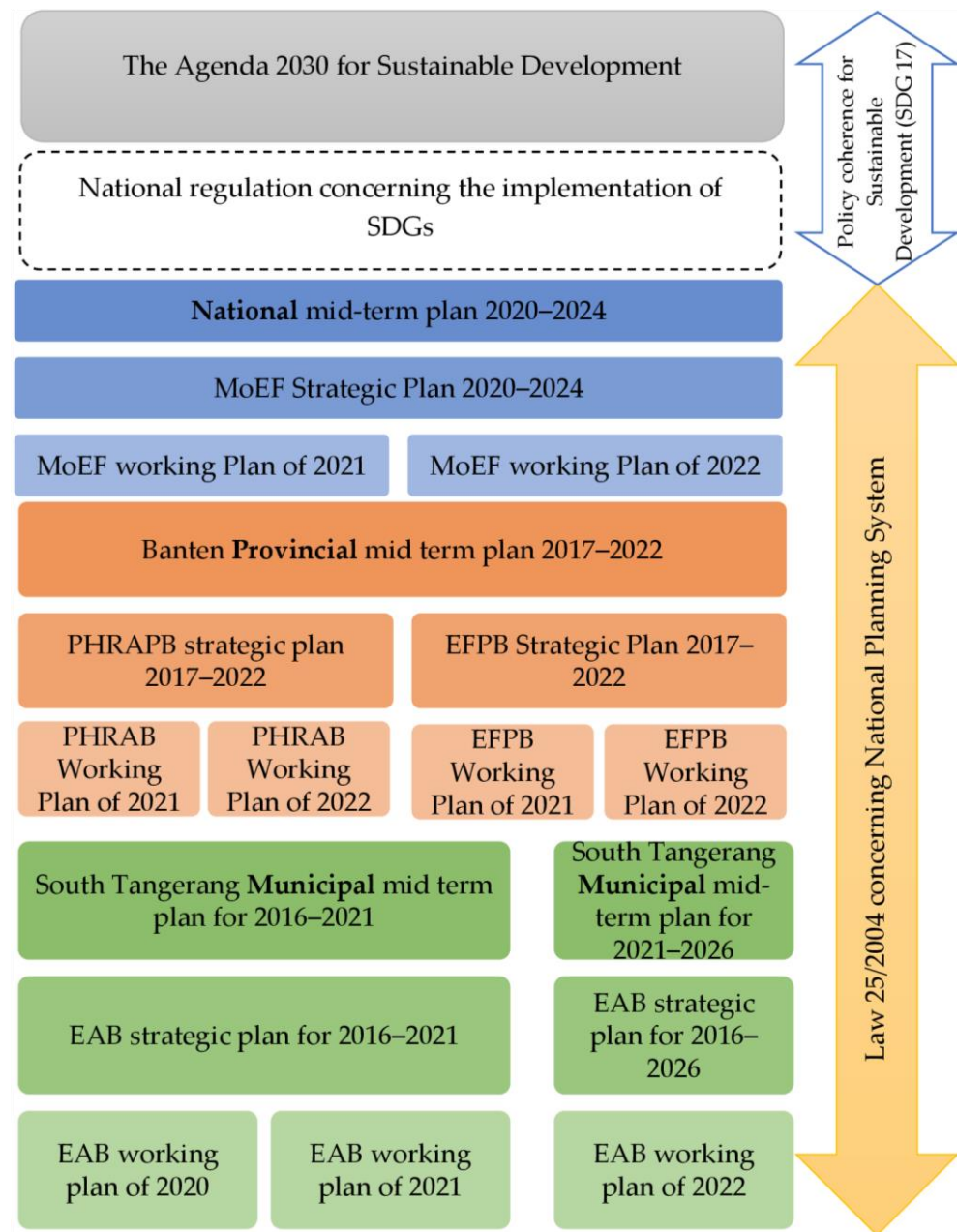


Figure 2. Data hierarchy for WM programs analysis.

Table 2. The policy mapping across national, provincial, and local governments on waste management programs.

Planning Level (Source)	Sectors and Multisectoral Action			
	Program	Activity	Project (Project Prior)	Stakeholders
National mid-term plan for 2020–2024	Increasing environmental quality	Management of Pollution and Damage to Natural Resources and the Environment	Increasing the Total Reduction and Handling of National Waste Generation (household waste and plastic WM)	MoEF, local government, public, business sector, and others.
	Mental revolution and development of Pancasila ideology to strengthen the nation's cultural resilience and form a nation's mentality that is advanced, modern, and has character	Strengthening the centers of change in the mental revolution movement	Increased synergy in the provision of supporting facilities and infrastructure (consolidating the implementation of the five programs of the National Mental Revolution Movement to realize Serving Indonesia, Clean Indonesia, Orderly Indonesia, Independent Indonesia, and United Indonesia)	Coordinating Ministry for Maritime and Investments Affairs (CMMIA)
	Basic service Infrastructure	Provision of Access to Adequate and Safe Drinking Water and Sanitation	Facilitation of institutional strengthening in sanitation management in the regions (development of adequate and safe drinking water and sanitation implementation)	MoIA (Ministry of Internal Affairs)
	Energy and Electricity	Sustainability of Energy and Electricity Supply	Construction of a waste-to-electrical energy processing onstallation (improvement of energy and electricity efficiency and emissions)	Municipals: including South Tangerang
MoEF Strategic Plan for 2020–2024 [71]	Environmental Quality	WM	Increasing the total reduction and handling of national waste generation	MoEF, producers, waste banks, regions, or municipalities
MoEF working plan of 2021 [72]	Environmental Quality	WM	Facilitation and development (Household waste and plastic WM)	Business sectors, micro, small medium enterprises, provinces, regions/municipalities
MoEF working plan of 2022 [73]	Environmental Quality	WM	Facilitation and development (Household waste and plastic WM)	Business sectors, micro, small medium enterprises, provinces, regions/municipalities
Provincial mid-term plan for 2017–2022 [74]	<ul style="list-style-type: none"> Environmental pollution control Create works 	WM and development	<ul style="list-style-type: none"> Water quality index, air quality index, increased participation in deep society protection and management environment, environmental laboratory service WM services 	EFPB, public, PHRAPB

Table 2. Cont.

Planning Level (Source)	Sectors and Multisectoral Action			
	Program	Activity	Project (Project Prior)	Stakeholders
PHRAPB strategic plan for 2017–2022 [75]	Create works	<ul style="list-style-type: none"> • WM and development • Improved sanitation 	<ul style="list-style-type: none"> • The arrangement and development of sanitation and WM • WM and development • Regional waste infrastructure development 	PHRAPB
PHRAPB working plan of 2021 [76]	Create works	WM and development	Not mentioned	PHRAPB
PHRAPB working plan of 2022 [77]	Regional WM and system development	Regional WM and system development	Not mentioned	PHRAPB
EFPB strategic plan for 2017–2022 [78]	Control Environmental Pollution	<ul style="list-style-type: none"> • Control environmental pollution • WM and toxic waste 	Not mentioned	EFPB
EFPB working plan of 2021 [79]	WM	<ul style="list-style-type: none"> • WM policy planning • Waste handling on the landfill or temporary, regional landfill 	Cooperation for waste handling on the landfill or temporary, regional landfill	EFPB, regions, or municipals
EFPB working plan of 2022 [80]	WM	<ul style="list-style-type: none"> • WM policy planning • Waste handling on the landfill or temporary landfill 	Cooperation for waste handling on the landfill or temporary landfill	EFPB, regions, or municipals
Municipal mid-term plan for 2016–2021 [81]	WM development	Waste transportation	Not mentioned	Ministry of Public Works (MoPW), EAB
	Integrated WM	Waste reduction through 3R	Not mentioned	EAB
Municipal mid-term plan for 2022–2026 [82]	WM	<ul style="list-style-type: none"> • WM through sorting, collection, transporting, processing, and final disposal processing 	Not mentioned	EAB

Table 2. Cont.

Planning Level (Source)	Sectors and Multisectoral Action			
	Program	Activity	Project (Project Prior)	Stakeholders
EAB Strategic Plan of 2016–2021 [83]	WM development	<ul style="list-style-type: none"> Increasing waste operation (collection) Waste processing technology development Community-Based WM Development Activities 	Not mentioned	EAB, waste bank, local community
	Integrated WM	Local landfill operation and management	Not mentioned	EAB
EAB Strategic Plan of 2021–2026 [84]	WM development	WM	<ul style="list-style-type: none"> Implementing minimum waste based on 3R Minimum waste for housing and restaurant Disposal WM 	EAB
EAB working plan of 2020 [85]	WM development	<ul style="list-style-type: none"> Increasing waste operation (collection) Waste processing technology development Community-Based WM Development Activities 	Not mentioned	EAB, public/community, other municipals
	Integrated WM	Local landfill operation and management	Not mentioned	EAB

Table 2. Cont.

Planning Level (Source)	Sectors and Multisectoral Action			
	Program	Activity	Project (Project Prior)	Stakeholders
EAB working plan of 2021 [86]	WM (before being buried in the landfill)	WM	<ul style="list-style-type: none"> • Formulation of waste policy/strategy • Waste collection, shorting, transporting • Community participation for WM • Procurement of waste equipment and supports • Compilation of Solid WM Cooperation Policy 	EAB, public/community, other municipals
	WM (landfill area)	WM	<ul style="list-style-type: none"> • Waste handling and disposal treatment • Waste handling infrastructure 	EAB
EAB working plan of 2022 [87]	WM (before being buried in the landfill)	WM	<ul style="list-style-type: none"> • Formulation of waste policy/strategy • Waste reduction with limitation, reuse, and recycling • Waste collection, shorting, transporting • Community participation for WM • Procurement of waste equipment and supports • Compilation of Solid WM Cooperation Policy 	EAB, public community, other municipals
	WM (landfill area)	WM	<ul style="list-style-type: none"> • Waste handling and disposal treatment • Waste handling infrastructure 	EAB

National WM programs are set on the national mid-term plan for 2020–2024. Four national programs are under three ministries, as revealed by our search process. The first program is Increasing environmental quality. This program is broken down into an activity labeled Management of Pollution and Damage to natural resources and the Environment and a project called Increasing the total reduction and handling of the national waste generation which concerns household waste and plastic WM. Several stakeholders are mentioned to support this program, including MoEF, local government, the public, the business sector, and others. Later, the second program was labeled. The mental revolution and development of Pancasila ideology strengthened the nation's cultural resilience and formed a national mentality that is advanced, modern and has character. As the program leader, CMMIA set an activity for strengthening the centers of change in the mental revolution movement: Increasing synergy in the provision of supporting facilities and infrastructure projects. The third program is Basic service infrastructure, which has a prior project to provide access to adequate and safe drinking water and sanitation. The MoIA leads a project to support the local government named The Facilitation of institutional strengthening in sanitation management in the regions. The fourth program is Energy and electricity through sustainability of energy and electricity supply, which was followed by a project of the construction of a waste-to-electrical energy processing installation. As in Table 1, the national government addressed the first program for local governments and the last for South Tangerang.

Our study focuses on the first national program. The MoEF sets a WM activity for a project labeled Increase the total reduction and handling national waste generation for five years by involving producers, waste banks, business sectors, micro-, small-, and medium-sized enterprises, provinces, and regions/municipalities. The mid-term program, activity, and related stakeholders are also stated on the annual working plans for 2021 and 2022. Both plans describe the facilitation and development activity for stakeholders. However, we did not break down the CMMIA and MoIA programs since they do not involve local government or the South Tangerang municipality.

There is no mention of the recent MoEF program by the Banten Provincial Government, particularly related to the MoEF project or program in Table 2. The Banten provincial government has two programs regarding WM. The first environmental pollution control program is under the authority of the Environmental and Forestry Province Bureau (EFPB). The EFPB translates its working program to support waste handling on the landfill and temporary landfill projects involving municipalities or regions. The second program was conducted by the Public Housing and Residential Areas Province Bureau (PHRAPB) with the activity, Regional WM and system development of WM, for the years 2021 and 2022, but this program does not mention the South Tangerang municipality as a stakeholder.

Table 2 shows that the municipality's mid-term plan for 2016–2021 mentioned two WM programs: one before (WM development) and one after disposal enters the landfill area (Integrated WM). These two programs are merged in the mid-term plan for 2022–2026. Moreover, the Municipal Public Housing and Residential Area Bureau (MPHRAB) has no specific planning for WM; thus, this study focuses on EAB planning documents. The EAB strategic plan for 2016–2021 has followed the municipality mid-term plan by establishing the same programs. Therefore, the municipality working plan for 2020 and 2021 has the same programs, and the municipality working plan for 2022 has the same programs as the previous working plan and adds waste reduction activity. However, the municipality has merged both programs' nomenclature into "WM development" in the EAB strategic plan for 2021–2026, although this program has two projects: before and after disposal entering the landfill area. Finally, the municipality is unrelated to the recent MoEF program or project.

4.4. Waste Management Policy for Sustainable Development

The literature has not mentioned the quantitative target of SDG 12 for WM. However, Indonesia has a national target to achieve WM targets by 2025, followed by the provincial

and municipal levels. Table 3 presents the WM target based on waste reduction and handling methods.

Table 3. WM target for the year 2025.

Level	Reduction Target (%)	Handling Target (%)	Source
World	Not mentioned	Not mentioned	[8]
National	30	70	[65]
Provincial	30	70	[64]
Municipal	30	70	[63]

Furthermore, Figure 3 illustrates the hierarchy of Table 3, the WM target for the year 2025.

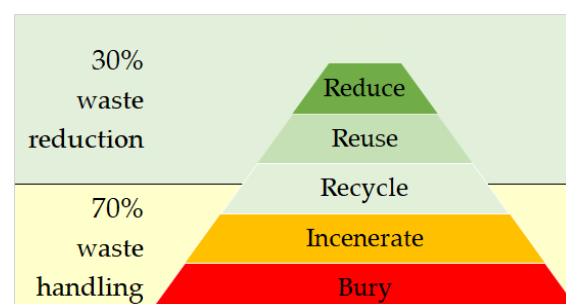


Figure 3. Governments' WM target for 2025.

4.5. The Hybrid Approach for Waste Management

4.5.1. The Background and the Future of the Municipality Waste Management Regulations

Interviewee 1 described the background to drafting the municipal WM regulations and programs as a departure from Law number 18 of 2008 and Government Regulation number 81 of 2012, particularly for household WM. The interview result is presented below.

- "... to the policy Law 18 of 2008 for waste management. Later, Government Regulation number 81 of 2012 and its technical derivatives are set on presidential and Mayor regulation for national policy and strategy ... " (Interviewee 1).

The WM policy coherence identified from the literature was the "Hybrid Approach". This evidence was confirmed by interviews in which the municipality emphasized their regulations considering the national government's Laws and regulations, which started from Law number 18 of 2008 and Government Regulation number 81 of 2012.

4.5.2. The Consideration for Waste Management Policy Implementations

Interviewee 1 considered its capability for WM policy implementation. The interview results are provided below.

- "we increase human resources in stages, not all at once. We improve them". (Interviewee 1);
- "... support for facilities and infrastructure in addition to maintenance as well as additions according to needs, we will continue to strive according to municipal capabilities". (Interviewee 1);
- "We have an Eco-Enzym Nusantara community. We have Langitku Biru Community, yes the earlier the waste bank association, which is called Perbas (The association of waste banks)". (Interviewee 1).

Although the municipal effort is to follow the national government, some considerations for WM program design include human resources, municipal capabilities and facilities, and social capital support.

4.5.3. The Producer's Responsibility—Waste Management for Program Implementation

From secondary data, the results show that there is yet to be producer involvement in the municipal WM program, while the national government program has stated producer involvement. Later, we asked the interviewee to explain the lasting WM policy implementation.

- “We already have this reduction in the latest Mayor regulation number 83 of 2022 concerning reducing the use of plastic container packaging”. (Interviewee 1);
- “So we socialize it to industry players, manufacturers, and the community, market waste actors”. (Interviewee 1).

The regulation is still new for the municipality and required socialization for implementation in the municipality. We also needed to understand producer responsibility when we asked about it.

- “What is that”? (interviewee 1).

Later, we asked how the national government sends its program to the local government, and vice versa, and how the local government translates the national program, particularly producer responsibility for WM. The results are presented below:

- “.. we have been doing that (waste reduction regulation socialization) since the beginning of 2020, but virtually, right during the pandemic, right”? (Interviewee 2);
- “For the regional government, we first tried to collaborate with the provincial government of Jakarta and Bali, so this is again with all our limitations”. (Interviewee 2);
- “We are currently looking for a strategy on how this can work at the local government level, especially for the retail and food service sectors. This is what we must find a strategy for” (Interviewee 2).

Interviewee 2 stated that the national government has limitations and finds the best strategy for the local government level to implement the policy.

The secondary data in Table 2 shows the broader stakeholder involvement in implementing the MoEF WM programs, such as business sectors, micro-, small-, and medium-sized enterprises, provinces, and municipalities, compared to the the South Tangerang municipality WM program that employed EAB itself, the public community, and other municipalities. Based on the secondary data, we asked what the meaning of business entity to Interviewee 2 is.

- “Our link in the RPJMN (National mid-term plan document) is how to verify a business entity, and our link goes there. So, the business entity is a producer”. (Interviewee 2).

Hence, the national WM program is important to enlarge multi-stakeholder inclusion, particularly from producers.

4.5.4. Sustainable Waste Management Policy

We asked the interviewees about their future strategies to achieve sustainable WM policy based on the WM targets for 2030. The results are stated below:

- “If the national and regional waste management strategy policy is only divided into two, namely handling and reduction. If the target is clear, up to 2030, it will be reduced by 30%, and 70% will be handled” (Interviewee 1);
- “Hopefully, slowly while implementing socialization, we can impose sanctions so that the volume of plastic waste will be reduced in the future, especially those that cannot be decomposed, can be reduced”. (Interviewee 1);
- “I imagine that in the future, it will be even bigger in the context of building a matter of placing these producers in sustainable waste management”. (Interviewee 2).

The governments have regulated the WM targets for 2030, which is a priority proportion of waste handling, as reflected in the percentage of each WM stage. Moreover, there are future expectations from the interviewees, such as engaging producers and imposing sanctions.

5. Discussion

5.1. Policy Coherence for Sustainable Development

SDG 12 has several target themes: policy instruments, household WM targets, waste-to-energy installation, and producer responsibility for the circular economy. SDG 17 policy coherence for sustainable development can contribute to leveraging the achievement of SDG 12, in line with Anderson et al. (2021) [44]. Our analysis from WM programs mapping presents a national government effort to connect with SDGs by regulation setting to connect between global demands and national plans. This alignment is in service of the fulfillment of the SDG 17 partnership target to enhance policy coherence for sustainable development [43]. Although the regulation provides the message for national planning systems to address SDGs, the policy must translate into real actions [3]. In our study, the term “real actions” can be translated as “local government programs” to be implemented in the program. For example, South Africa has established strategies and policies within the context of SDG 13, although it was reported that they are shallow, hard to implement, and have no resources available [3]. Mthembu and Nhamo (2022) [3] find that the problems arise from poor government coordination. In contrast with South Africa, a local government in China has taken the initiative and made the local policy with national policy consideration to enhance SDG 14 [7]. This local policy influences national policy toward policy coherence and SDGs [7].

The themes of Indonesian WM policy are presented chronologically, focusing on the policy towards sustainable consumption and production. The national government has set several regulations of WM themes from 2008 until 2019. Our analysis shows that Indonesia’s WM national regulations have not yet made significant progress toward a sustainable WM policy. However, there have been efforts recently to start the waste-to-energy power plant installation and waste reduction stage regulations. Even though Shehata et al. (2022) [19] noticed that the waste-to-energy theme contributes to SDG 12 since the greatest contribution of the circular economy comes from the ability to recycle waste, our analysis shows that the installation of this power plant has been canceled.

The implementation of WM in Indonesia prioritizes waste collection, transportation, and disposal stages. As a result, it will increase waste problems for decades and affect human life [45]. Hence, the household WM target at national, provincial, and municipal levels contrasts with the sustainable principle of WM [9,43] and European Union regulation; the “waste hierarchy” for WM strategies should prioritize, sequentially, reduction, reusing, recycling, and recovering (disposal is avoided or the last option) [27]. Our analysis uncovered the interesting fact that national regulations have usually been followed by establishing provincial and municipal regulations, including the “unsustainable” regulation of WM targets. This result aligns with the top-down approach in which the national government is the starting point of policy implementation [38]. It is vital in policy implementation at all government levels [41,42]. The policy must be translated into an implementation reflecting sustainable development [3]. However, we argue that WM’s policy themes—that is, those which reflect sustainable development—have not ensured the policy for sustainable development.

The top-down approach reflects how municipal and provincial governments took years to translate national policy; even the municipal government skips to considering provincial policy in policy-making. It confirms that our study aligns with Schwab (2016) [42], who stated that the top-down approach has limitations since it takes years for the provincial or municipal government to translate national regulation.

The implementation of WM policy has shown that only two programs are cascaded from MoEF to the South Tangerang municipality since the other ministries have targets for other regions, other programs, and other reasons. Our interview results also confirmed the coordination and information gap in WM policy understanding between national and municipal governments. It confirmed that the WM policy coherence needs more improvement in coordination and policy learning so that the ministries/institutions’ participation can help the successful implementation of the policy [14].

National WM regulation programs recently focused on waste reduction involving business players. For policy implementation, municipal and provincial governments should employ a hybrid approach. Our analysis shows that the municipality still needs to update its understanding of recent national interests since municipal and provincial governments have repeatedly conducted similar programs in recent last years. The national planning system employs a hybrid approach that balances local and national interests through the top-down administration of the national government and the bottom-up breakdown of policy by local governments [39]. However, the delay in updating the national government has shifted the country to a bottom-up approach for policy coherence. In line with Ficher et al. (2007) [38], the bottom-up approach provides an opportunity for the local government to refrain from implementing the national policy.

5.2. *The Waste Management Policy for the Circular Economy to Achieve SDGs*

Our analysis also criticizes the stakeholders for WM policy in a loop framework, since Figge et al. (2023) [46] summarize the circular economy as a circularity matter. The documents have mentioned two non-government stakeholders in the MoEF working plan documents and the national mid-term plan. The first group of stakeholders includes micro-, small-, and medium- sized enterprises and the waste bank that collects the waste. The second stakeholder is the business sector. Based on the interview, we were informed that the business sector is the producer who produces a product that ends up being wasted since the interview data uncovered the strategic role of the producer in sustainable WM. The national government designated producers as the starting point and waste bank for the waste flow stakeholders. Later, the stakeholders map from the provincial government shows that the government still needs to include the public, producers, and relevant circular economy players in its WM activities. The municipality, furthermore, involved other municipals, the public community, and waste banks for their WM. These facts are similar to the national government since both provincial and municipal governments follow “linear” material flow. This finding shows the WM policy does not cover the circularity actors, contrary to Figge et al. (2023) [46], who mentioned one of the key circular economy characteristics: such circularity is supported by activities (recycling, remanufacturing, etc.), involving lower-level actors (such as producers).

Nevertheless, the flow needs a material cyclical system to eliminate unused resources through a closed resource cycle [46] since the waste bank cannot recycle the waste itself and needs a recycling factory. Moreover, the waste bank also needs material support from the business actors who collect waste for a living, and the public who collect it for environmental awareness. The inability of the main actors to form a close loop cycle for resources in the WM policy at all levels of government is highlighted.

Indonesia started the fundamental WM policy fifteen years ago, and the WM policy has been growing towards sustainable development. China has gone ahead to shift its policies towards a circular economy three times earlier than Indonesia [14]. Indonesia can learn from China how to shift its policy towards sustainable development. To this end, Ma et al. (2022) [14] highlight encouraging environmental awareness in governments, increasing governments’ participation in, and contribution to, the ecological civilization, and policy learning or dissemination. Furthermore, Indonesia can learn to improve the WM strategy to address the circular economy via the development of a waste hierarchy to prioritize the early stage of WM.

For the future, the national government should set regulations for WM players concerning life-cycle thinking and the circular economy, then disseminate it broadly to all levels of government. Later, the national government needs to grow and improve the national regulation of WM strategy and policy regarding sustainable principles; and shift the WM policy towards a circular economy through policy learning and the dissemination of environmental awareness, encouraging ministries, local governments, and circular economy players to participate in sustainable development.

6. Conclusions

Every nation commits to achieving sustainable development through policy coherence; hence, the Indonesian national government commits to pursuing it, particularly with respect to WM. This article analyzes WM policy coherence for sustainable development from global demand to all levels of government in South Tangerang, Banten, Indonesia. We use WM policy documents from regulations and planning documents for policy analysis within the framework of environmental impact analysis. Our results show that WM policy coherence from local governments (municipal and provincial governments) has represented a delay in translating national policy; the national WM strategy and policy targets lead in the opposite direction the sustainable WM; and WM policy needs to shift to the circular economy as a sustainable development strategy for sustainable resources. We argue that WM's policy themes with respect to sustainable development have not ensured that the policy has enhanced sustainable development. Furthermore, the development policy coherence towards sustainable development needs time and multi-stakeholder participation.

We also notice that a top-down approach is important when addressing the global demand for sustainable development when the local government needs more initiative or knowledge to support SDGs. There are consequences if global and national governments do not voice the principles of sustainable WM in their documents; local governments, as implementers, cannot resolve the WM problem and its impacts, and the SDG achievement will not be on track.

We recommend the improvement of all-level government coherence through strong engagement. For stakeholders inclusion, we also recommend that the levels of government strengthen their communication with stakeholders via social media and technology and involve multi-stakeholders in sending the government message. However, the implementation of sanctions is also proposed for consideration. Moreover, the government needs to change its short-term perspectives into long-term perspectives through a sustainability approach for WM policy targets that prioritizes waste reduction over the waste handling stage. We also recommend exploring the WM multi-stakeholders connection to implement the WM policy through global, national, provincial, and local governments in future research.

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40ad0e27-RENSTRA-2021.pdf (accessed on 14 February 2023), <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renja/603a140ad0a96-RENJA-2020.pdf> (accessed on 14 February 2023), <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renja/603a140ad0a96-RENJA-2021.pdf> (accessed on 14 February 2023), and <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renja/603a140ad0a96-RENJA-2022.pdf> (accessed on 14 February 2023).

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References

1. Peraturan Presiden Republik Indonesia Nomor 59 Tahun 2017 Tentang Pelaksanaan Pencapaian Tujuan Pembangunan Berkelanjutan (Presidential Regulation Number 59/2017 Concerning the Implementation of Achievement of Sustainable Development Goals); Jakarta, Indonesia. 2017. Available online: <https://peraturan.bpk.go.id/Home/Details/72974/perpres-no-59-tahun-2017> (accessed on 14 February 2023).
2. Peraturan Presiden Republik Indonesia Nomor 111 Tahun 2022 Tentang Pelaksanaan Pencapaian Tujuan Pembangunan Berkelanjutan (Presidential Regulation No. 111 of the Year 2022 Concerning Implementation of Achievement of Sustainable Development Goals); Jakarta, Indonesia. 2022. Available online: <https://peraturan.bpk.go.id/Home/Details/227039/perpres-no-111-tahun-2022> (accessed on 14 February 2023).
3. Mthembu, D.E.; Nhamo, G. Aligning SDG 13 with South Africa’s Development Agenda: Adaptation Policies and Institutional Frameworks. *J. Disaster Risk Stud.* **2022**, *14*, 1155. [[CrossRef](#)] [[PubMed](#)]
4. Elder, M.; Ellis, G. ASEAN countries’ environmental policies for the Sustainable Development Goals (SDGs). *Environ. Dev. Sustain.* **2022**, 1–19. [[CrossRef](#)] [[PubMed](#)]
5. Abhayawansa, S.; Adams, C.A.; Neesham, C. Accountability and Governance in Pursuit of Sustainable Development Goals: Conceptualising How Governments Create Value. *Account. Audit. Account. J.* **2021**, *34*, 923–945. [[CrossRef](#)]
6. Beccarello, M.; Di Foggia, G. Sustainable Development Goals Data-Driven Local Policy: Focus on SDG 11 and SDG 12. *Adm. Sci.* **2022**, *12*, 167. [[CrossRef](#)]
7. Zhu, X.; Zuklin, T.; Zhang, Y. Enhancing and Promoting National Environmental Goals through Local Integrated Coastal Management Initiatives and Legislation: Evidence from Xiamen. *Ocean Coast. Manag.* **2021**, *207*, 104706. [[CrossRef](#)]
8. United Nations General Assembly. *A/RES/70/1. Transforming Our World: The 2030 Agenda for Sustainable Development*; United Nations: New York, NY, USA., 2015; Available online: <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement> (accessed on 5 March 2023).
9. Miller, G.T.; Spoolman, S.E. *Environmental Science*, 5th ed.; National Geographic—CENGAGE Learning: Boston, MA, USA, 2016; pp. 433–436.
10. Yalçıntaş, D.; Oğuz, S.; Yaşa Özeltürkay, E.; Gülmez, M. Bibliometric Analysis of Studies on Sustainable Waste Management. *Sustainability* **2023**, *15*, 1414. [[CrossRef](#)]
11. Hoehn, D.; Laso, J.; Margallo, M.; Ruiz-salmón, I.; Amo-setién, F.J.; Abajas-bustillo, R.; Sarabia, C.; Quiñones, A.; Vázquez-Rowe, I.; Bala, A.; et al. Introducing a degrowth approach to the circular economy policies of food production, and food loss and waste management: Towards a circular bioeconomy. *Sustainability* **2021**, *13*, 3379. [[CrossRef](#)]
12. Negrete-Cardoso, M.; Rosano-Ortega, G.; Álvarez-Aros, E.L.; Tavera-Cortés, M.E.; Vega-Lebrún, C.A.; Sánchez-Ruiz, F.J. Circular economy strategy and waste management: A bibliometric analysis in its contribution to sustainable development, toward a post-COVID-19 era. *Environ. Sci. Pollut. Res.* **2022**, *29*, 61729–61746. [[CrossRef](#)]
13. Rodríguez-Antón, J.M.; Rubio-Andrada, L.; Celemín-Pedroche, M.S.; Ruiz-Peñalver, S.M. From the circular economy to the sustainable development goals in the European Union: An empirical comparison. *Int. Environ. Agreem. Politics Law Econ.* **2022**, *22*, 67–95. [[CrossRef](#)]
14. Ma, W.; Hoppe, T.; de Jong, M. Policy Accumulation in China: A Longitudinal Analysis of Circular Economy Initiatives. *Sustain. Prod. Consum.* **2022**, *34*, 490–504. [[CrossRef](#)]
15. Ogunmakinde, O.E.; Egbelakin, T.; Sher, W. Contributions of the circular economy to the UN sustainable development goals through sustainable construction. *Resour. Conserv. Recycl.* **2021**, *178*, 106023. [[CrossRef](#)]
16. Sharma, H.B.; Vanapalli, K.R.; Samal, B.; Cheela, V.R.S.; Dubey, B.K.; Bhattacharya, J. Circular economy approach in solid waste management system to achieve UN-SDGs: Solutions for post-COVID recovery. *Sci. Total Environ.* **2021**, *800*, 149605. [[CrossRef](#)]
17. Belmonte-Ureña, L.J.; Plaza-Úbeda, J.A.; Vazquez-Brust, D.; Yakovleva, N. Circular economy, degrowth and green growth as pathways for research on sustainable development goals: A global analysis and future agenda. *Ecol. Econ.* **2021**, *185*, 107050. [[CrossRef](#)]
18. Širá, E.; Kravčáková Vozárová, I.; Kotulič, R.; Dubravská, M. EU27 Countries’ Sustainable Agricultural Development toward the 2030 Agenda: The Circular Economy and Waste Management. *Agronomy* **2022**, *12*, 2270. [[CrossRef](#)]

19. Shehata, N.; Obaideen, K.; Sayed, E.T.; Abdelkareem, M.A.; Mahmoud, M.S.; El-Salamony, A.-H.R.; Mahmoud, H.M.; Olabi, A. Role of refuse-derived fuel in circular economy and sustainable development goals. *Process Saf. Environ. Prot.* **2022**, *163*, 558–573. [[CrossRef](#)]
20. Camana, D.; Manzardo, A.; Toniolo, S.; Gallo, F.; Scipioni, A. Assessing environmental sustainability of local waste management policies in Italy from a circular economy perspective. An overview of existing tools. *Sustain. Prod. Consum.* **2021**, *27*, 613–629. [[CrossRef](#)]
21. Chioatto, E.; Sospiro, P. Transition from waste management to circular economy: The European Union roadmap. *Environ. Dev. Sustain.* **2023**, *25*, 249–276. [[CrossRef](#)]
22. Millar, N.; McLaughlin, E.; Börger, T. The Circular Economy: Swings and Roundabouts? *Ecol. Econ.* **2018**, *158*, 11–19. [[CrossRef](#)]
23. Ren, Q.; Albrecht, J. Toward circular economy: The impact of policy instruments on circular economy innovation for European small medium enterprises. *Ecol. Econ.* **2023**, *207*, 107761. [[CrossRef](#)]
24. Yadav, S.; Goyal, V.C. Current Status of Ponds in India: A Framework for Restoration, Policies and Circular Economy. *Wetlands* **2022**, *42*, 107. [[CrossRef](#)]
25. Lazarevic, D.; Salo, H.; Kautto, P. Circular economy policies and their transformative outcomes: The transformative intent of Finland’s strategic policy programme. *J. Clean. Prod.* **2022**, *379*, 134892. [[CrossRef](#)]
26. Topliceanu, L.; Puiu, P.G.; Drob, C.; Topliceanu, V.V. Analysis Regarding the Implementation of the Circular Economy in Romania. *Sustainability* **2023**, *15*, 333. [[CrossRef](#)]
27. D’Adamo, I.; Mazzanti, M.; Morone, P.; Rosa, P. Assessing the relation between waste management policies and circular economy goals. *Waste Manag.* **2023**, *154*, 27–35. [[CrossRef](#)] [[PubMed](#)]
28. Sulistyowati, L.; Riani, E.; Cordova, M.R. The Occurrence and Abundance of Microplastics in Surface Water of the Midstream and Downstream of the Cisadane River, Indonesia. *Chemosphere* **2022**, *291*, 133071. [[CrossRef](#)] [[PubMed](#)]
29. Undang-Undang Republik Indonesia Nomor 18 Tahun 2008 Tentang Pengelolaan Sampah (Law Number 18 of the Year 2008 Concerning Waste Management). Jakarta, Indonesia. 2008. Available online: <https://peraturan.bpk.go.id/Home/Details/39067/uu-no-18-tahun-2008> (accessed on 14 February 2023).
30. SIPSN. Available online: <https://sipsn.menlhk.go.id/sipsn/public/data/timbangan> (accessed on 15 December 2022).
31. BPS (Statistics Indonesia), Kota Tangerang Selatan Dalam Angka 2023(South Tangerang City in Figures 2023), South Tangerang, Indonesia. 2023. Available online: <https://tangselkota.bps.go.id/publication/2023/02/28/a3eec01205721451cf5a76a3/kota-tangerang-selatan-dalam-angka-2023.html> (accessed on 14 February 2023).
32. Wararatna, M.; Subekti, R. Efektivitas Dinas Lingkungan Hidup Dalam Mengelola Sampah Sebagai Upaya Perlindungan Terhadap Lingkungan (The Effectiveness of the Environmental Service in Managing Waste as an Effort to Protect the Environment). *J. Komun. Huk.* **2022**, *8*, 221–229. Available online: <https://ejournal.undiksha.ac.id/index.php/jkh> (accessed on 10 January 2022). [[CrossRef](#)]
33. Putri, M.O.; Djaja, I.; Agustina, H.; Fauzia, S. Solid Waste Reduction Through 3R-Based Waste Management Unit and Waste Bank in Indonesia in 2018. *Indian J. Public Health Res. Dev.* **2020**, *11*, 1005–1008. [[CrossRef](#)]
34. Eweje, G.; Sajjad, A.; Nath, S.D.; Kobayashi, K. Multi-stakeholder Partnerships: A Catalyst to Achieve Sustainable Development Goals. *Mark. Intell. Plan.* **2021**, *39*, 186–212. [[CrossRef](#)]
35. Raub, S.P.; Martin-Rios, C. “Think Sustainable, Act Local”—A Stakeholder-Filter-Model for Translating SDGs into Sustainability Initiatives with Local Impact. *Int. J. Contemp. Hosp. Manag.* **2019**, *31*, 2428–2447. [[CrossRef](#)]
36. Undang-Undang Republik Indonesia Nomor 25 Tahun 2004 Tentang Sistem Perencanaan Pembangunan Nasional (Law Number 25 of the Year 2004 concerning Development Planning System). Available online: <https://peraturan.bpk.go.id/Home/Details/40694> (accessed on 14 February 2023).
37. Undang-Undang Republik Indonesia Nomor 23 Tahun 2014 Tentang Pemerintahan Daerah (Law Number 23 of the Year 1999 Concerning Local Government). Jakarta, Indonesia. 2014. Available online: <https://peraturan.go.id/common/dokumen/ln/2014/uu23-2014bt.pdf> (accessed on 14 February 2023).
38. Fischer, F.; Miller, G.J.; Sidney, M.S. *Handbook of Public Policy: Theory, Politics, and Methods*; CRC Press (Taylor and Francis Group): Boca Raton, FL, USA, 2007; pp. 90–103.
39. Yu, L.; Xu, W. Institutional Conformity, Entrepreneurial Governance, and Local Contingency: Problematizing Central-Local Dynamics in Localizing China’s Low-Income Housing Policy. *EPA Econ. Space* **2022**, *54*, 508–532. [[CrossRef](#)]
40. Smith, K.B.; Larimer, C.W. *The Public Policy Theory Primer*; Westview Press: Philadelphia, PA, USA, 2009; pp. 166–179.
41. Moran, M.; Rein, M.; Goodin, R.E. *The Oxford Handbook of Public Policy*; Oxford University Press Inc.: New York, NY, USA, 2006; p. 10. [[CrossRef](#)]
42. Schwab, K. *The Fourth Industrial Revolution*; Crown Business: New York, NY, USA, 2016.
43. United Nations General Assembly. Global Indicator Framework for the Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development. Work of the Statistical Commission Pertaining to the 2030 Agenda for Sustainable Development. 2019. Available online: https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Eng.pdf (accessed on 25 March 2023).
44. Anderson, C.C.; Denich, M.; Warchold, A.; Kropp, J.P.; Pradhan, P. A systems model of SDG target influence on the 2030 Agenda for Sustainable Development. *Sustain. Sci.* **2021**, *17*, 1459–1472. [[CrossRef](#)]

45. Viljoen, J.M.M.; Schenck, C.J.; Volschenk, L.; Blaauw, P.F.; Grobler, L. Household Waste Management Practices and Challenges in a Rural Remote Town in the Hantam Municipality in the Northern Cape, South Africa. *Sustainability* **2021**, *13*, 5903. [CrossRef]
46. Figge, F.; Stevenson, A.; Gutberlet, M. Definitions of the circular economy: Circularity matters. *Ecol. Econ.* **2023**, *208*, 107823. [CrossRef]
47. Korhonen, J.; Honkasalo, A.; Seppälä, J. Circular Economy: The Concept and its Limitations. *Ecol. Econ.* **2018**, *143*, 37–46. [CrossRef]
48. Daniels, T.L. Assessing the Performance of Farmland Preservation in America's Farmland Preservation Heartland: A Policy Review. *Soc. Nat. Resour.* **2020**, *33*, 758–768. [CrossRef]
49. Ling, M.; Xu, L. Incentivizing Household Recycling Crowds Out Public Support for Other Waste Management Policies: A Long-term Quasi-Experimental Study. *J. Environ. Manag.* **2021**, *299*, 113675. [CrossRef]
50. Tsagkari, M.; Jusmet, J.R. Renewable Energy Projects on Isolated Islands in Europe: A Policy Review. *Int. J. Energy Econ. Policy* **2020**, *10*, 21–30. [CrossRef]
51. Grafton, R.Q. Policy Review of Water Reform in the Murray–Darling Basin, Australia: The “Do’s” and “Do’nots”. *Aust. J. Agric. Resour. Econ.* **2019**, *63*, 116–141. [CrossRef]
52. Roy, K.; Shinde, S.; Sarkar, B.K.; Malik, K.; Parikh, R.; Patel, V. India's Response to Adolescent Mental Health: A Policy Review and Stakeholder Analysis. *Soc. Psychiatry Psychiatr. Epidemiol.* **2019**, *54*, 405–414. [CrossRef]
53. Ko, S.; Kim, W.; Shin, S.C.; Shin, J. The Economic Value of Sustainable Recycling and Waste Management Policies: The Case of a Waste Management Crisis in South Korea. *Waste Manag.* **2020**, *104*, 220–227. [CrossRef]
54. Herberz, T.; Barlow, C.Y.; Finkbeiner, M. Sustainability Assessment of a Single-Use Plastics Ban. *Sustainability* **2020**, *12*, 3746. [CrossRef]
55. Rogers, P.P.; Jalal, K.F.; Boyd, J.A. *An Introduction to Sustainable Development*; Glen Educational Foundation, Inc.: London, UK, 2008; pp. 140–145.
56. Dallas, J.A.; Raval, S.; Saydam, S.; Dempster, A.G. An Environmental Impact Assessment Framework for Space Resource Extraction. *Space Policy* **2021**, *57*, 101441. [CrossRef]
57. Johnston, M.P. Secondary Data Analysis: A Method of which the Time Has Come. *Qual. Quant. Methods Libr. (QQML)* **2014**, *3*, 619–626.
58. Peraturan Daerah Kota Tangerang Selatan Nomor 3 Tahun 2013 Tentang Pengelolaan Sampah. Indonesia (South Tangerang Municipal Regulation Number 3 of the Year 2013 Concerning Waste Management), South Tangerang, Indonesia. 2013, pp. 1–34. Available online: <https://peraturan.bpk.go.id/Home/Details/22811> (accessed on 14 February 2023).
59. Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 33 Tahun 2010 Tentang Pedoman Pengelolaan Sampah (The Ministry of Internal Affairs Number 33 of the Year 2010 Concerning Guideline for Waste Management), Jakarta, Indonesia. 2010. Available online: <https://peraturan.bpk.go.id/Home/Details/175297/permendagri-no-33-tahun-2010> (accessed on 25 March 2023).
60. Peraturan Daerah Provinsi Banten Nomor 8 Tahun 2011 Tentang Pengelolaan Sampah (Banten Province Regional Regulation Number 8 of 2011 Concerning Waste Management), Banten, Indonesia. 2011. Available online: <https://jdih.bantenprov.go.id/produkhukum/perda/peraturan-daerah-provinsi-banten-nomor-8-tahun-2011-tentang-pengelolaan-sampah> (accessed on 14 February 2023).
61. Peraturan Pemerintah RI No. 81 Tahun 2012 tentang Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga. Indonesia (Government Regulation Number 81 of the Year 2012 Concerning Management of Household Waste and Similar Household Waste), Jakarta, Indonesia. 2012. Available online: <https://peraturan.bpk.go.id/Home/Details/5295/pp-no-81-tahun-2012#:~:text=PP%20No.%2081%20Tahun%202012,Rumah%20Tangga%20%5BJDIH%20BPK%20RI%5D> (accessed on 14 February 2023).
62. Peraturan Wali Kota Tangerang Selatan Nomor 50 Tahun 2017 Tentang Pengelolaan Sampah (South Tangerang Mayor Regulation Number 50 of the Year 2017 Concerning Waste Management). South Tangerang, Indonesia. 2017. Available online: <https://jdihn.go.id/files/1001/97f778057dd05e2a494e1c74475baff9.pdf> (accessed on 14 February 2023).
63. Pemerintah Kota Tangerang Selatan (Municipal Government of South Tangerang). *Peraturan Wali Kota Tangerang Selatan Nomor 21 Tahun 2019 tentang Kebijakan dan Strategi Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga (South Tangerang Regulation Number 21 of the Year 2019 Concerning The Management of Household and Similar Household Waste)*; Pemerintah Kota Tangerang Selatan: South Tangerang, Indonesia, 2019.
64. Peraturan Gubernur Banten Nomor 23 Tahun 2022 Tentang Kebijakan dan Strategi Daerah dalam Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Rumah Tangga (Governor Regulation number 23 of the year 2023 concerning Regional Policy and Strategy in the Management of Household Waste and Similar Household Waste). Banten, Indonesia. 2022. Available online: <https://jdih.bantenprov.go.id/produkhukum/pergub/peraturan-gubernur-banten-nomor-23-tahun-2022-tentang-kebijakan-dan-strategi-daerah-dalam-pengelolaan-sampah-rumah-tangga-dan-sampah-sejenis-sampah-rumah-tangga> (accessed on 14 February 2023).
65. Peraturan Presiden Republik Indonesia No. 97 tahun 2017 Tentang Kebijakan dan Strategi Nasional Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga (Presidential Regulation Number 97 of the Year 2017 Concerning National Policy and Strategy for the Management of Household Waste and Similar Household Waste). Jakarta, Indonesia. 2017. Available online: <https://peraturan.bpk.go.id/Home/Details/73225/perpres-no-97-tahun-2017#:~:text=PERPRES%20No.%2097%20Tahun%202017,Rumah%20Tangga%20%5BJDIH%20BPK%20RI%5D> (accessed on 14 February 2023).

66. Peraturan Daerah Kota Tangerang Selatan Nomor 13 Tahun 2019 Tentang Perubahan Atas Peraturan Daerah Nomor 3 Tahun 2013 Tentang Pengelolaan Sampah (South Tangerang Municipal Regulation Number 13 of the Year 2019 Concerning Revision for Local Regulation Number 3 of the Year 2013 Concerning Waste Management), South Tangerang, Indonesia. 2013, pp. 1–16. Available online: <https://peraturan.bpk.go.id/Home/Details/124213/perda-kota-tangerang-selatan-no-13-tahun-2019> (accessed on 14 February 2023).
67. Peraturan Presiden Republik Indonesia Nomor 35 Tahun 2018 Tentang Percepatan Pembangunan Instalasi Pengolah Sampah Menjadi Energi Listrik Berbasis Teknologi Ramah Lingkungan (Presidential Regulation Number 35 of the Year 2018 Concerning Accelerating the Development of Waste Processing Installations into Electrical Energy Based on Environmentally Friendly Technology), Jakarta, Indonesia. 2018, pp. 1–18. Available online: <https://peraturan.bpk.go.id/Home/Details/73958/perpres-no-35-tahun-2018> (accessed on 25 March 2023).
68. Peraturan Wali Kota Tangerang Selatan Nomor 83 Tahun 2022 Tentang Pengurangan Sampah Plastik (South Tangerang Municipal Regulation Number 83 of the Year 2022 Concerning Plastic Waste Reduction). South Tangerang, Indonesia. 2022, pp. 1–8. Available online: https://jdih.tangerangselatankota.go.id/frontend/jdih_produk_hukum/readmore.html?id=2819 (accessed on 25 March 2023).
69. Peraturan Menteri Lingkungan Hidup dan Kehutanan Nomor P.75/MENLHK/SETJEN/KUM.1/10/2019 Tahun 2019 (the MoEF Regulation Number 75 of the Year 2019 Concerning the Roadmap for Waste Eeduction by the Producer), Jakarta, Indonesia. 2019, pp. 1–54. Available online: <https://jdih.maritim.go.id/en/peraturan-menteri-lingkungan-hidup-dan-kehutanan-no-p75menlhksetjenkum1102019-tahun-2019> (accessed on 14 February 2023).
70. Peraturan Presiden Republik Indonesia Nomor 18 Tahun 2020 Tentang Rencana Pembangunan Jangka Menengah Nasional 2020–2024 (Presidential Regulation Number 18 of the Year 2020 Concerning National Mid-term Plan 2020–2024). Jakarta, Indonesia. 2020, pp. 1–7. Available online: <https://peraturan.bpk.go.id/Home/Details/131386/perpres-no-18-tahun-2020> (accessed on 14 February 2023).
71. Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.16/MenLHK/Setjen/Set.1/8/2020 Tentang Rencana Strategis Kementerian Lingkungan Hidup dan Kehutanan Tahun 2020–2024 (Ministry of Environmental and Forestry Number P.16/MenLHK/Setjen/Set.1/8/2020 Concerning Ministry of Environment and Forestry Strategic Planning for the Year 2020–2024), Jakarta, Indonesia. 2020. Available online: <https://peraturan.bpk.go.id/Home/Details/210843/permen-lhk-no-1-tahun-2022> (accessed on 14 February 2023).
72. Surat Keputusan Nomor 435/MenLHK/Setjen/Set1/22/2020 Tentang Rencana Kerja Kementerian Lingkungan Hidup dan Kehutanan Tahun 2021 (Ministry of Environment and Forestry Working Plan of the Year 2021). Jakarta, Indonesia. 2020. Available online: https://www.menlhk.go.id/site/single_post/3524/rencana-kerja-klhk-2021 (accessed on 14 February 2023).
73. Surat Keputusan Nomor 905/MenLHK/Setjen/Set.1.10/2021 Tentang Rencana Kerja Kementerian Lingkungan Hidup dan Kehutanan Tahun 2022 (Ministry of Environment and Forestry Working Plan of the Year 2022). Kementerian Lingkungan Hidup dan Kehutanan, Jakarta, Indonesia. 2021, pp. 1–116. Available online: https://www.menlhk.go.id/site/single_post/4956/rencana-kerja-klhk-tahun-2022 (accessed on 14 February 2023).
74. Peraturan Daerah Provinsi Banten Nomor 10 Tahun 2019 Tentang Perubahan Atas Peraturan Daerah No 7 Tahun 2017 Tentang Rencana Pembangunan Jangka Menengah Daerah Provinsi Banten Tahun 2017–2022 (Banten Provincial Regulation Number 7 of the Year 2017 Concerning Provincial Mid-Term Plan for 2017–2022). Banten, Indonesia. 2019. Available online: <https://peraturan.bpk.go.id/Home/Details/110272/pergub-prov-banten-no-10-tahun-2019> (accessed on 14 February 2023).
75. Dinas Perumahan Rakyat dan Kawasan Permukiman Pemerintah Provinsi Banten, Rencana Strategis Dinas Perumahan Rakyat dan Kawasan Permukiman Provinsi Banten Tahun 2017–2022 (Public Housing and Residential Areas Bureau of Banten Provincial Strategic Planning for the Year 2017–2022). Banten, Indonesia. 2018. Available online: <https://perkim.bantenprov.go.id/rencana-strategis-renstra> (accessed on 14 February 2023).
76. Dinas Perumahan Rakyat dan Kawasan Permukiman Pemerintah Provinsi Banten, Rencana Kerja Dinas Perumahan Rakyat dan Kawasan Permukiman Provinsi Banten Tahun 2021 (Public Housing and Residential Areas Bureau of Banten Provincial Working Plan of the Year 2021). Banten, Indonesia. 2021. Available online: <https://drive.google.com/file/d/1LutobZh8KsHKsmRqjjhjqE8rGnaKtA48/view> (accessed on 14 February 2023).
77. Dinas Perumahan Rakyat dan Kawasan Permukiman Pemerintah Provinsi Banten, Rencana Kerja Dinas Perumahan Rakyat dan Kawasan Permukiman Provinsi Banten Tahun 2022 (Public Housing and Residential Areas Bureau of Banten Provincial Working Plan of the Year 2022). Banten, Indonesia. 2022. Available online: https://drive.google.com/file/d/1Jf45o0IH9-907j_Z1Q479xHmXIFvE6MX/view (accessed on 14 February 2023).
78. Perubahan Rencana Strategis 2017–2022 Dinas Lingkungan Hidup dan Kehutanan Provinsi Banten (The Revision of The Provincial Banten Strategic Planning for the Year 2017–2022). Banten, Indonesia. 2019, pp. 1–26. Available online: <https://dlhk.bantenprov.go.id/read/renstra/229/Perubahan-Rencana-Strategis-2017-2022-DLHK-Provinsi-Banten.html> (accessed on 14 February 2023).
79. Rencana Kerja Dinas Lingkungan Hidup dan Kehutanan Provinsi Banten Tahun 2021 (Environmental Bureau of Banten Province Working Plan for the Year 2021). Banten, Indonesia. 2021. Available online: https://dlhk.bantenprov.go.id/upload/article-pdf/RENJA_DLHK_TAHUN_2021_MURNI_GAB.pdf. (accessed on 14 February 2023).
80. Rencana Kerja Dinas Lingkungan Hidup dan Kehutanan Provinsi Banten Tahun 2022 (Environmental Bureau of Banten Province Working Plan for the Year 2022). Banten, Indonesia. 2021. Available online: <https://dlhk.bantenprov.go.id/read/renja/314/RENJA-DLHK-2022.html> (accessed on 14 February 2023).

81. Peraturan Daerah Kota Tangerang Selatan Nomor 9 Tahun 2016 Tentang Rencana Pembangunan Jangka Menengah Daerah Tahun 2016–2021 (South Tangerang Municipal Regulation Number 9 of the Year 2016 Concerning the Municipal Mid-Term Plan for the Year 2016–2021). South Tangerang, Indonesia. 2016, p. 6. Available online: <https://peraturan.bpk.go.id/Home/Details/38411> (accessed on 14 February 2023).
82. Pemerintah Kota Tangerang Selatan (Municipal Government of South Tangerang). *Peraturan Daerah Kota Tangerang Selatan Nomor 6 Tahun 2021 Tentang Rencana Pembangunan Jangka Menengah Daerah Tahun 2021–2026* (South Tangerang Municipal Regulation Number 9 of the Year 2016 Concerning the Municipal Mid-Term Plan for the Year 2021–2026); Pemerintah Kota Tangerang Selatan: South Tangerang, Indonesia, 2021.
83. Rencana Strategis Dinas Lingkungan Hidup Kota Tangerang Selatan Tahun 2016–2021 (Strategic Plan of The Environmental Agency Bureau for the Year 2016–2021). South Tangerang, Indonesia. 2019. Available online: <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renstra/603a140ad0a96-RENSTRA-2020.pdf> (accessed on 14 February 2023).
84. Rencana Strategis Dinas Lingkungan Hidup Kota Tangerang Selatan Tahun 2021–2026 Strategic Plan of EAB for the Year 2021–2026). South Tangerang, Indonesia. 2020. Available online: <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renstra/603a140ad0e27-RENSTRA-2021.pdf> (accessed on 14 February 2023).
85. Rencana Kerja Dinas Lingkungan Hidup Kota Tangerang Selatan 2020 (EAB Working Plan of the Year 2020). South Tangerang, Indonesia. 2020. Available online: <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renja/603a140ad0a96-RENJA-2020.pdf> (accessed on 14 February 2023).
86. Rencana Kerja Dinas Lingkungan Hidup Kota Tangerang Selatan Tahun 2021 (EAB Working Plan of the Year 2021). South Tangerang, Indonesia. 2020. Available online: <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renja/603a140ad0a96-RENJA-2021.pdf> (accessed on 14 February 2023).
87. Rencana Kerja Dinas Lingkungan Hidup Kota Tangerang Selatan Tahun 2022 (EAB Working Plan of the Year 2022), South Tangerang, Indonesia. 2022, pp. 88–100. Available online: <https://e-sakip.tangerangselatankota.go.id/assets/UPLOAD/renja/603a140ad0a96-RENJA-2022.pdf> (accessed on 14 February 2023).

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