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# Issues in Acceleration of Establishment of Domestic Wastewater Regulation in Indonesia

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## Research Article

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# Issues in Acceleration of Establishment of Domestic Wastewater Regulation in Indonesia

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## Abstract

Statistical data showed that in 2017 only 67.89% household in Indonesia had access to proper sanitation. On the other hand, the National Medium-Term Development Plan targeted 100% universal access in 2019 that means in 2019 each household should have access to proper sanitation. However, the 2017 data of the Ministry of Public Works and Public Housing showed that, only 34, out of 541 municipalities/ cities in Indonesia, have domestic wastewater regulations. This study aims to identify some issues hindering acceleration of the establishment of regional regulations on wastewater management; the goal of the regulations is 100% universal access in 2019. Establishment of domestic wastewater management regulation in the regions in Indonesia is hampered by multisectoral regulation in the national level that is closely related to the domestic wastewater sector. Domestic wastewater management is influenced heavily by the regulations in other sectors. Health, public housing and drinking water are three sectors connected to domestic wastewater. However, Indonesian government simplified domestic wastewater management in the regional level by putting Ministerial Decree on Domestic Wastewater Management System as the major guideline in establishment of local regulations.

**Keywords:** universal access, proper sanitation, domestic wastewater management, regional regulations

## 1. Introduction

The Preamble of the 1945 Constitution of the Republic of Indonesia (The 1945 Constitution) stated that one of the goals of the nation is to create social welfare. Social welfare is also elaborated into the body of the 1945 Constitution through the constitutional rights that guarantee creation of social welfare. Constitutional rights of citizen include elementary aspects of human, for example economic, political, social, environmental, and cultural. The constitutional rights on environmental aspect is represented in Article 28H Paragraph (1) of the 1945 Constitution that "each citizen has the rights to prosperity (both physical and psychological), housing, and healthy environment as well as health service."

The right to healthy environment can be guaranteed to the role of the state in both micro and macro scope. To establish regulations protecting the ecosystem is an example of the macro role of the state in macro scope. Indonesian government has established the Decree on Environmental Protection and Management. On the other hand, sanitation is an example of the micro role of the state.

Based on the Decree on Regional Government, sanitation (domestic wastewater and waste)

is concurrent responsibility of the central, provincial and city/municipality government, and the authority of the provincial and city/municipality government. However, a lot of provincial and city/municipality government is facing sanitation problems. On the other hand, the National Medium-Term Development Plan targeted 100% universal access in 2019 that means in 2019 all Indonesian citizens, those who live in the cities or rural areas, should have access to proper sanitation. In reality, only 67.89% household in Indonesia had access to proper sanitation (Socio-Economic Survey of the National Bureau of Statistics, 2017) or 100 million of citizens based on the 2015-2019 National Medium-term Development Plan. It shows that Indonesia should establish a set of policy to increase the percentage of access to proper sanitation. Chaplin as cited in Owusu (2010) stated that one of the approaches in solving sanitation issues is to establish a set of regulation.

Domestic wastewater management is influenced by 6 (six) aspects (Nalle, 2017), namely: (a) legislation as a legal basis for the government (both central and regional) in planning, implementation, development and supervision to realize the rights of the citizen and facilitate responsibility of the public including business actors in domestic wastewater management; (b) institution or organizing institution in the scope of regional government or the society; (c) human resources including apparatus in terms of both quality and quantity; (d) adequate infrastructure and facilities; (e) sufficient funding for domestic wastewater management; and (f) public participation towards business actors. All of these aspects lead to the demand for an integrated and comprehensive wastewater management starting from: facilities and infrastructure for wastewater management; funding for operating activities and maintenance of the facilities and infrastructure for wastewater management; public participation, organization/ institution responsible for wastewater management, regulations on wastewater management, and others. A method to establish an integrated and comprehensive wastewater management is to establish regional government regulations on domestic wastewater management.

The regulatory approach can also be seen in the policy direction for the expansion and improvement of basic services in sanitation in the policy direction of the 2015-2019 National Medium-Term Development Plan. The policy direction is to encourage the regional government to develop legal instruments to support the implementation of Minimum Service Standards in sanitation. One of the legal instruments is in the form of regional government regulations on domestic wastewater management as an attribution of the authority of the regional government regulated in the Decree on Regional Government. The policy direction is in line with Rosensweig, et.al (2012: 17) that the establishment of regulations on sanitation at the regional level plays a role in strengthening sanitation management capacity.

Challenge to the target is the need to accelerate the establishment of regional government regulations on domestic wastewater management in all municipalities/cities, while the Ministry of Public Works and Public Housing showed that in 2017 only 34 municipalities/cities, out of 541 cities/municipalities in Indonesia, have Regional Government Regulations on Domestic Wastewater Management. If the situation does not change until 2019, between 2019 and 2024, the government should conduct acceleration of the establishment of regional government regulations on wastewater management in order to support the target of the National Medium-Term Development Plan.

This article will analyse some issues in establishment of regional government regulations on domestic wastewater management. Such identification is pivotal since regional government should be responsible for domestic wastewater management in cities/ municipalities. The central government has provided some assistance but significant increase in terms of quantity has been made yet. The identification provides some information on whether or not regional government regulation is a relevant instrument for the domestic wastewater management regulations in Indonesia.

## 2. Literature Review

### 2.1 Rights towards Proper Sanitation

Helmi Kasim (2015) and Izzatin Kamala (2015)'s studies are a couple examples of the previous

studies investigating the rights towards water resources. The rights towards water resource and sanitation are two inseparable aspects since according to Beail-Farkas (2012:761) the rights towards water resource and the rights towards sanitation have been integrated since the concept of human right to water and sanitation (HRWS) was introduced in the international law.

Kasim (2015) analysed access towards water not only as right but also human right. Based on the Constitution, a country is responsible to appreciate, meet and protect the rights. In order to meet the rights of their citizen towards water, the government should have an authority towards water. Therefore, there are two perspectives of the fulfilment of the citizen's rights towards water, namely rights towards water as the basic human rights, and central government control towards water resource including exploitation. In the perspective of the basic human rights, the 1945 Constitution has regulated that the central government has an obligation to fulfil the basic rights of their citizens including the rights towards water as mentioned in Article 28I Paragraph (4).

Article 33 of the 1945 Constitution represents the perspective of the central government control over water resource. More particularly, the Constitutional Court has returned the control towards water resource to the central government by providing limitation on water resource management. Private institution is given access to water resource management with strict regulations. Helmi Kasim (2015) stated that the affirmation of the central government role in water resource management is constitutional policy that aims to ensure fulfilment of citizen's rights towards water.

Furthermore, based on Article 28H Paragraph 1 of the 1945 Constitution, each citizen has the rights to prosperity, housing, healthy environment and health service. This article, according to Kamala (2015) in her analysis on water resource management, can be translated as responsibility of the central government to provide clean water for their citizens, which reflected three aspects as the basic elements of the rights towards water. The three basic elements are availability, quality and accessibility. These three elements are the rights towards proper sanitation, one of the aspects of the rights towards a healthy environment.

However, until recently, scholars have not conducted analysis on the rights towards proper sanitation, particularly protection of rights through regional government regulation. Therefore, this study will fulfil the gap and contributes to achievement of the target of the 2015-2019 National Mid-Term Development Plan in sanitation sector.

## *2.2 Regional Government Regulation Planning*

Regional government regulation planning should ideally consider government planning in both regional and national level. The regional government regulation planning is established through the Regional Government Regulation Establishment Program designed by taking into account regional development planning documents the higher regulations.

However, Rayusman et.al (2014) who conducted an empirical study in Way Kanan Municipality revealed that many times the Regional Government Regulation Establishment Planning was completely separated from the Regional Medium-Term Development Program. Regional government, the institution responsible for the proposal, did not carry out any in-depth study prior to proposing Regional Government Regulation draft,

The government of Surakarta applied a different model. Danusastro (2012:656) noted that prior to developing the Regional Legislation Program of Surakarta, government of Surakarta had developed Regional Government Regulation Draft that refers to public aspiration. Title of the draft is obtained from either Regional Government Regulation Draft in the previous year that has not been discussed yet or public aspiration in the City Development Planning Conference.

The bottom-up approach Regional Government implemented in the establishment of Regional Government Regulation is the example of public participation and aspiration, one of the characteristics of democratic country. The public has an active participation in the formulation of public policy and decision-making as well as reasons underlying the decision-making (Rumesten, 2012).

The findings of the studies in Way Kanan and Surakarta showed the tendency that Regional Government Regulation was developed without proper planning, one with integration to government

planning documents. This may result in legal vacuum in both the national and regional strategic programs. Therefore, government should establish a model for Regional Government Regulation Establishment Planning that combines the Regional Government Regulation, the documents on the Regional and National Development Planning, and public aspiration.

### 2.3 Development Planning

Based on the Regional Government Decree, the regional development plan is an inseparable part of the national development planning system. Synchronization between the regional development plan and the national development plan is a requirement. Thus, Article 260 Paragraph (2) of the Regional Government Decree stated that regional government responsible for regional development planning should conduct coordination as well as create synergy and harmony for the regional development plan.

The national long-term development coordination is carried out through the national long-term development plan drafting for a period of 20 years. The long-term plan is then used as the main foundation for the preparation of the medium-term plan (a 5-year period) that contains national development strategies, general policies, ministry/ public institution programs, regional programs and macroeconomic frameworks that cover the overall picture of the national economy, including fiscal policy and funding frameworks. The National Development Planning System Law controls interrelationships between plans in order to create integration and synergy in the development process. Local governments throughout Indonesia are required to establish long-term development plans based on the national long-term development plans.

Based on the long-term development plan they developed, regional government is responsible for designing medium-term development plan that consists of direction and strategy for regional development policy and work programs for regional units, both cross-sectoral and cross-regional. It shows that objective if the Decree of National Development Planning System is to realize an integrated development plan, both in the national and regional level through synergy between various documents on development planning and budgeting.

However, a study conducted by the National Development Planning Agency (Directorate of Regulation Analysis of the Ministry of National Development Planning, 2013) showed that the regulatory planning in the National Medium-Term Development Plan and the planning of the regulations in legislative programs at the central and regional levels are not yet synergistic. One indicator is the asynchronous amount and substance of regulations, particularly the draft law proposed in the national medium-term development plan and the proposed draft law. The same obstacle also exists for synchronization between regional development plans and regional government regulations. This situation shows the lack of integration between the regulatory plans and development plans.

## 3. Method

This study used the socio-legal method, and thus, instead of putting result of observation on social realities as general proposition, it identifies pattern of relationship (correlational or causal) between various symptoms manifesting the existence of law in the universe (Wignjosoebroto, 2013). The legal research approach used in this study was supervisory-explanatory to analyse synchronization of norms and identify factors that influence law establishment.

## 4. Results and Discussion

### 4.1 Sanitation in Indonesia and SDGs Achievement Targets

The Millennium Development Goals (MDGs) has raised awareness on the pivotal role of the central government in sanitation. On September 28, 2011, the Human Rights Council of the UN formulated new resolution on human rights towards drinking water and proper sanitation (Human Rights Council Resolution A/HRC/RES/18/1). The Human Rights Council of the UN has urged the

members of the UN to provide enough funding for drinking water and sanitation services (Winkler, 2015).

The MDGs target in sanitation is also followed by the Sustainable Development Goals (SDGs) and "Clean Water and Sanitation for All" becomes the sixth goal of SDGs. Indicators of the sixth goal are access to proper sanitation and hygiene for everyone with no exception and zero percent (0%) open defecation (Spijkers & Honnibal, 2014).

The global target in sanitation was then adopted in the 2015-2019 National Medium-Term Development Plan. One of the policy directions for the 2015-2019 National Medium-Term Development Plan is to support basic sanitation services making 100% access to basic and appropriate sanitation in Indonesia in 2019 the target. Based on the data obtained by the National Development Planning Agency, 76.37% household in Indonesia had access to basic sanitation at the end of 2016. The percentage is slightly below the target of 77.40% (National Development Planning Agency, 2017). In 2017 the government institution had recommended several policies that aim to realize the targets of the 2015-2019 National Medium-Term Development Plan in sanitation sector.

One of the recommendations of the National Development Planning Agency to increase the percentage is to establish regulations that strengthen the legal basis for sanitation facility development budgeting both at the central and regional levels (National Development Planning Agency, 2017). As a matter of fact, importance of the regulatory aspects has been identified in the documents on the 2015-2019 National Medium-Term Development Plan document. Book III of the 2015-2019 National Medium-Term Development Plan stated that one of the policy directions for achieving the target (100% access to proper sanitation in 2019) is to establish or strengthen the regulatory framework for sanitation facility development in the regional level. Therefore, Indonesia should establish a complete sanitation regulation that works from the central to the regional level.

#### 4.2 Urgency of Decree on Sanitation in Indonesia

Sanitation is an integral part of the human rights towards water. Recognition towards the human rights is stated in General Comment No. 15 on the International Covenant on Economic, Social and Cultural Rights (ICESCR) that has been ratified in Indonesia through the 2015 Decree number 11. The General Comment stated that access to proper sanitation is not only part of the protection of human dignity, but also a means to protect quality of drinking water. ICESCR also mentioned that the right to sanitation is a core obligation of the government. The Covenant requires countries to take steps to prevent and control diseases related to water, particularly providing the right to proper sanitation (Ellis & Feris, 2014).

The Indonesian constitutional guarantee of the right to proper sanitation can be linked to Article 28H paragraph (1) of the 1945 Constitution that: "Every individual has the rights to in prosperity, housing, healthy environment and health services." We can make interpretation of the word environment" in Article 28H paragraph (1). Article 12 of the ICESCR defines "environment" as "individual right towards the maximum standards of physical and mental health." According to the ICESCR, the right to a good and healthy environment includes several aspects, namely:

- a. the right to housing, particularly comfortable residence;
- b. the right to food, particularly related to government's obligation to establish environmental policy that supports fulfilment of this right;
- c. the right to education;
- d. the right to a healthy work environment;
- e. the right of every individual to prevention, treatment and supervision towards disease/outbreaks;
- f. the right to water that aims to realize several other rights, including the right towards environment.

Fulfilment of the rights towards sanitation access, when related to the constitutional framework and ICESCR, is part of the constitutional right of citizen towards health and water. The constitutional framework can be achieved once central government has provided a substantive legal protection (Bedner, 2010) based on specific law and regulations.

To realize the substantive legal protection, government should establish decree on sanitation which controls not only domestic waste but also drainage. The Draft of Sanitation Decree was not included in the National Legislation Program that was in the 2015-2019 period. At the end 2016, the government then proposed the Draft to the parliament to be added to the National Legislation Program. The draft has now been added to the 2015-2019 National Legislation Program. However, the Decree on Sanitation Draft had never become one of the priorities to be discussed in 2018 or 2019.

The Draft controls domestic wastewater and drainage, which also involves technical aspect of domestic waste, drainage system, cooperation to financial mechanism. However, this Draft is criticized because there is another Draft that specifically controls water resource. As a matter of fact, sanitation, drainage, and water resource are one inseparable system (Obani & Gupta, 2015). Therefore, government should create public policy integration in which one of its aspects is government decree that functions as a comprehensive normative framework for fulfilment of the rights to water and sanitation (Meier, et.al, 2013).

Indonesia had ratified the Decree on Water Resources in 2004. However, it was later cancelled by the Constitutional Court because its substance led to the privatization of water which is at the opposite of the Constitution (Kamala, 2015). The House of Representatives then designed another draft. The new draft, which becomes one of the legislative priorities in 2018 and 2019, received the same criticism as the previous one. The new draft failed to develop integration between sanitation and drainage, two inseparable sectors in the rights towards water. The public cannot get access to proper sanitation when they are not granted access to clean water by the government (Chandranegara, 2016).

This condition shows lack of coordination between the government and the House of Representatives in designing the decree relevant to the targets of the Medium-Term Development Plan. The Government through the Ministry of Public Works and Public Housing drafted the Decree on Sanitation, and at the same time the House of Representatives drafted the Decree on Water Resources. These two institutions worked separately. It seems that the House of Representatives would pass neither until the end of the 2019 government period because the members of the House of Representatives are focusing on the General Election.

Therefore, legal vacuum of the Decree on sanitation is likely to continue until 2019. On the other hand, the government needs regulations to continue the target of universal access in sanitation. The legal vacuum will result in the absence of a strong legal basis for the regional level (municipalities/cities) to establish regulations in the sanitation sector.

Effect of the absence of Decree in the sanitation sector towards achievement of the public sanitation target in the regional levels is influenced by mechanism of division of authority between the central and regional government in Indonesia. Indonesia has established a strict regulation on division of authority between the central and regional government. The division of authority becomes the basis for the regional government to establish their own regulation. Based on the Decree on Regional Government, domestic wastewater is the responsibility of both the central and regional government, and is an obligation related to the basic need that becomes the authority of the Regional Government. Management and development of domestic waste in cities/municipalities become the obligation of city/municipality government.

When regional government plants to establish regulation on domestic waste, they should pay attention on scope of the regulation. The scope should refer to the Decree on Establishment of the Legislation. Based on the Decree, objective of regional government regulation is accommodating special needs a region may have and/or as further elaboration of higher legislation, such as Decree, Central Government Regulation or Ministerial Decree. However, until recently, Indonesia does not have any decree that discusses sanitation.

The Ministry of Public Work and Public Housing, the government institution responsible for access to sanitation in Indonesia, tries to fill the void. Previously, it has been mentioned that the Ministry of Public Work and Public Housing has finished making the draft of the Decree on Sanitation, but the House of Representatives did not pass the draft until the beginning of 2019. In 2017, the Ministry of Public Work and Public Housing took initiative and ratified Ministerial Decree on Domestic Waste Management. The substance of the Ministerial Decree is technical since it was

established by the Ministry of Public Work and Public Housing. The Decree did not discuss non-technical aspects in detail, for instance institutions responsible for domestic waste management or budgeting mechanism regional government should apply to have an adequate domestic wastewater management system without having to rely on the Regional Budgets.

To reach the target, the Ministry of Public Works and Public Housing used the Ministerial Decree as a guideline. Since 2016, the Ministry of Public Works and Public Housing has aided local government in drafting regional government regulation on domestic waste. Only 14 regions out of 40 regions that received assistance from the Ministry of Public Work and Public Housing succeeded. In addition, 38 other regions can establish their own regional government regulation on sanitation without any assistance. These numbers are critically low compared to the total cities/municipalities in Indonesia (543 municipalities /cities).

Regulation becomes the reason why very few Indonesian cities/ municipalities succeeded in making regional government regulations on sanitation despite of the central government assistance. The issue is general and therefore can be solved in order to answer the need for central and regional government regulation.

#### 4.3 Multisectoral Regulation Issues

Regulation on domestic wastewater cannot be arranged in a stand-alone regulatory framework without being linked to other sectors. Some sectors related to domestic wastewater are clean water, drainage, buildings. The regulation should also consider standards or quality directly related to domestic wastewater. Regulation with that perspective is generally initiated by the Ministry of Public Works and Public Housing. Since it was initiated by the Ministry of Public Works and Public Housing, access to domestic wastewater services is seen from the perspective of integralism between services and sanitation, buildings, and residential areas. Availability of infrastructure and its management system become crucial elements in the legislation with this perspective.

Regulation with another perspectives is initiated by the Ministry of Public Health through the Decree of the Minister of Public Health on Community-Led Total Sanitation. Instead of emphasizing on infrastructure, the Minister of Public Health through the Ministerial Decree focuses on a change of sanitation behaviour from the micro-scale (individual) to the macro-scale (society) (Haryanto & Sutomo, 2012).

Community-Led Total Sanitation is an approach that facilitates people in rural communities to carry out their own assessments, analyse, draw conclusions, and take their own actions about sanitation in their areas. A small team of facilitators, in their classic form of Community-Led Total Sanitation, encourages changes at the micro level (Chambers, 2009). Some regions then used this approach as regulations. Community-Led Total Sanitation is social movement conducted due to the slow progress in increasing access to sanitation. One example of this type of approach is an innovative methodology for mobilizing communities to eliminate open defecation permanently. This method focuses on changes in sanitary behavior rather than building toilets (Bartram, Charles, Evans, O'hanlon, & Pedley 2012).

Although it does not explicitly delegate Community-Led Total Sanitation arrangements in the regional level, several municipality/city governments then control the Community-Led Total Sanitation movement in their areas, for example North Lombok, Pare-Pare, and Kapuas Hulu. It may be caused by the lack of domestic wastewater management infrastructure, and as the result, the regional government does not feel the need to establish any regulation on domestic wastewater management that focuses the technical aspects.

Other regulations in the central government level are those initiated by the Ministry of Domestic Affairs. This type of regulations did not focus on domestic wastewater or sanitation in general. It describes implementation of regional government authority with reference to authority division and service standard for implementation of the regional government affairs. Types of regulation that fall into this category are the Decree on Regional Government and Government Regulations on Minimum Service Standards.

The three perspectives are not mutually exclusive or contradictory. However, achievement of the target in domestic wastewater sector from two different institutions then has implications for

different indicators of successful achievement. The consequence is that it is difficult to obtain a single data on the success of sanitation access in Indonesia and its relation to the effectiveness of legislation to support the achievement of these indicators of success. These two perspectives can also have implications at the regional level because each region has a regional apparatus organization affiliated with one of the two ministries.

In addition, experience from other countries also shows large number of stakeholders from several ministries and public institutions, between levels of government, and at the regional level intrinsically raises the issue of multi-level governance. Unless coordination can be properly encouraged, the diversity of these actors is likely to improve segmented work methods and complicate further decision-making processes (Salveti & Canneva, 2017).

The Ministry of Public Works and Public Housing is trying to fill the domestic wastewater management legal vacuum at the national level. The Ministry established Ministerial Regulation on Domestic Wastewater Management System. The regulation is placed as the main reference for regional governments when designing local regulations on wastewater management and delegating arrangements for several aspects of authority to local government.

Normatively, the nomenclature of Ministerial Regulation does not exist in the hierarchy of statutory regulations stated in Article 7 of the Decree on the Establishment of Decree and Regulations. However, Article 8 paragraph (1) mentions that the Minister is an official who design ministerial decree and regulations. The provisions of Article 8 paragraph (1) do not explicitly mention the nomenclature of Ministerial Regulations but this can then be found in the Elucidation section of Article 8 paragraph (1). The explanatory part of Article 8 paragraph (1) explains that Ministerial Regulation is a regulation determined by the minister based on the content of the matter in the context of carrying out certain affairs in government. Article 8 paragraph (2) then confirms that decree and regulations - including regulations made by the Minister - as referred to in paragraph (1) are recognized and have binding legal force insofar as they are ordered by higher laws or are formed based on authority. The explanation of Article 8 paragraph (2) also explains that what is meant by "based on authority" is the administration of certain government affairs in accordance with the provisions of the legislation.

The provisions of Article 8 paragraph (2) clearly show that Ministerial Regulations cannot be established without delegation from higher legislation (for example, Decree) or without a basis of authority (for example, regulating outside the duties of its function). But in practice, according to Saraswati (2013), when forming regional government regulations, regional government did not refer to Ministerial Regulations. Regional government tends to ignore Ministerial Regulations since the Ministerial Nomenclature is not included in the type and hierarchy of statutory regulations in Indonesia based on the Decree on the Establishment of Decree and Regulations. Saraswati (2013) also argues that Ministerial Regulation is a regulation at the central level that should be used as a reference for the formation of regulations at the regional level.

However, Saraswati's opinion has a weakness if the Ministerial Regulation established due to the delegation of the Act then delegates further regulation into the regional regulation so that it contradicts the principle of *delegatus non potest delegare*. One of the principles of the delegation of authority to establish decree and regulations is the principle of *delegatus non potest delegare*. The principle of *delegatus non potest delegare* prevents institutions or officials who receive authority through a delegation from delegating that authority to the institutions or officials under it (Willis, 1943). Although actually in practice, it is often found that there is a sub-delegation in the authority to establish decree and regulations because the Decree on Establishment of Decree Regulations allows it

When related to the Government Regulation on the Drinking Water Supply System, the Ministerial Regulation on the Domestic Wastewater Management System has a legal basis to be established because its establishment has been delegated in Article 34 paragraph (2) of the Government Regulation. However, the Ministerial Regulation on the Domestic Wastewater Management System does not formulate norms that explicitly provide sub-delegation to regional regulations to form regional regulations on domestic wastewater management. Therefore, the formation of regional regulations on domestic wastewater management cannot be based on delegation or sub-delegation. The establishment of the regional government regulation can only be

done based on the authority held by the regional government over these matters by referring to Article 14 of the Law on the Formation of Laws and Regulations.

Another sector regulation which later is related to domestic wastewater is the Ministerial Regulation on Slum Housing and Slum Settlement which is also established by the Ministry of Public Works and Public Housing. This regulation aims to reduce the number of housing and slums in Indonesia. Slum housing and settlements are relevant to the issue of domestic wastewater because slums do not usually have basic physical infrastructure networks such as drinking water, domestic wastewater, solid waste systems, electricity, roads and emergency access, and lack of basic community services (Azis & Shawket 2011). Slum has become an issue for Indonesian government since the 1970s and 1980s through the *Kampung Improvement Project* program. However, until the early 1980s, the program aims to fix quality of roads in the slums. Although the program later became more intersectoral after 1984 (Harpham & Stephens, 1992), it seems that it was unable to overcome sanitation issues until the end of the program.

This regulation tries to provide slum boundaries for housing and settlement areas. Slum housing in this regulation is defined as housing can barely function as residence, while slums are settlements that are not liveable due to irregularity in buildings, high building density, and the quality of buildings and facilities and infrastructure that do not meet the requirements.

The technical standard in wastewater management is one aspect for assessing whether residence is categorized as slum housing or settlement or not. The criteria for slums in terms of domestic wastewater management include domestic wastewater management systems that do not meet technical requirements and infrastructure and domestic wastewater management facilities that do not meet technical requirements. Domestic wastewater management infrastructure and facilities in a residential or residential environment are classified as poor when their toilet is not connected to a septic tank or when a local/ centralized sewage treatment system is not available.

Although it does not control the management of domestic wastewater, this regulation may result in some indirect effect. The territorial approach in this regulation can encourage housing or settlement areas to improve domestic wastewater management. Housing or settlements that do not meet the criteria can get a regional head designation as the location of housing or slums. If the area requires technical management system improvement, the regulation that needs to be considered is the Ministerial Regulation on Domestic Wastewater Management Systems.

The Ministerial Regulation on Slum Housing and Slum Settlement shows a link between the regional quality assessment approach using management technical criteria set out in other regulations. The Ministerial Regulation on Slum Housing and Slum Settlement is used as a driving regulation in improving sanitation access by mapping the quality of domestic wastewater management that needs to be technically intervened by the government. However, this approach at the local level can be successful if the municipality/city government can consistently implement the mapping residential or slum areas.

## 5. Conclusions

Various regulations discussed previously showed that regulations on domestic wastewater management cannot be separated from those on other sectors. Regulations on health, public housing and drinking water are related to closely to domestic wastewater management. Thus, regional government should establish their own regulation to control domestic wastewater in the regional level. They should not use the Ministerial Decree on Domestic Wastewater Management as the only reference for domestic wastewater management in their areas. Overlapping may happen when regional government establish regulations that control Community-Led Total Sanitation, drinking water system, and slum. Based on the procedure, there should be a match between the Ministerial Decree and regional government regulations that control domestic wastewater. Thus, analysis of the objectives of sustainable development and the national medium-term development plan should proceed establishment of regional government regulation on domestic wastewater.

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