The effect of motivation for public participation in environmental management

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Abstract. The increase of population in Indonesia resulted in population density becomes larger. It is one of the factors in the emergence of slum settlements, especially in urban areas. The existence of slums is related to poor environmental sanitation facilities. Environmental sanitation is one of the environmental managements. Environmental management efforts can be successful if the community is willing to participate. However, until now, the level of community participation, especially those living in slum areas, is still relatively low. One of the reasons is the lack of motivation in the community to carry out environmental management. Therefore, it is essential to know the factors that cause community motivation still at low level. This study aims to verify if motivation has impact to community participation in environmental management. The method is with literature study from articles that relevant to the topic. It results that motivation is an encouragement that supports participation. The dominant motivational factor is internal factors. In addition, the factors of knowledge, social, and economic are also influence the level of motivation.

1. Introduction
Indonesia is one of the countries with the largest population in the world, which is ranked 4th after China, India, and America [1]. Based on population projection data from Central Bureau of Statistics (BPS), Indonesia's population in 2019 was more than 268 million people. The large population results in a greater population density. In addition, more place of living is needed. However, the available area is limited and decreasing. It causes many settlements to become not appropriate, both in quality and in government regulations, and it results in the emergence of slum settlements, especially in urban areas [2].

One of the reasons for the existence of slum settlements in urban areas is the large number of people who have moved to the city, either temporarily or permanently. The population who are migrants mostly live in slum areas on riverbanks and along railways [3]. One of the factors causing the movement of people to the city is the availability of complete facilities, approaching a trade center to open a business, and has easier access to workplaces [4]. The existence of slum settlements also related to the need for clean water and the produce of wastewater.

Slum settlements arise because the population is too large and not comparable to the availability of place of living area. It also led to the amount of water needed to be high. In addition, the amount of
waste generated also increases with the increase in population. Increasing population causing domestic wastewater produced is also increased [5]. The existence of slum settlements is also related to the sanitary conditions in the neighborhood. The unavailability of facilities is one of the factors which affecting the existence of slum settlements [2]. Wastewater that is not managed will cause a decrease in environmental quality. Therefore, it is necessary to manage the waste, especially domestic wastewater, before it discharged into the environment.

Domestic wastewater management is a form of environmental sanitation, it needs the attention of all parties, especially the government and society. Government programs related to sanitation aim to increase the number of access to proper sanitation in Indonesia. However, although the average access to adequate sanitation in Indonesia each year has increased, but until today the provision of infrastructure to support sanitation in the community is still not completely fulfilled. Based on BPS data, the access to proper sanitation in Indonesia from 2013 to 2017 has increased every year. In 2017, the percentage of households which had the access to proper sanitation was 67.89% [6]. It was not in accordance with the National Medium-Term Development Plan (RPJMN) 2014-2019, which is to achieve 100 percent sanitation in Indonesia. One of the reasons is the community's participation to actively participate in the construction of septic tank is still weak. Community participation is obtained if they have a motivation to take a role in the implementation of the activity.

Motivation is one of the things that encourage people to take action. Community action is necessary because of the increasing number of environmental problems that occur [7]. However, community awareness of waste management is still lacking, even though it is highly effective to develop new policies and improve the management of household wastewater [8]. One of the reasons is the lack of knowledge of the community, also from the aspects of environmental, social, economic, and technical which is still inadequate [9]. Therefore, domestic wastewater management will be difficult to apply to all elements of society if these aspects have not been achieved yet.

There is a lot of literature that studied about community participation in environmental management, but there are people who still do not know about the motivation so they are willing to participate in the activities. Therefore, this article will review the literature about environmental motivation that exists in society. The aim of this article is to verify about motivation as a factor affecting community’s participation by review several literatures about it. Thus, this article can increase the knowledge of the reader about the environmental motivations of the community.

2. Method
This paper used the literature study method. This method was carried out by examining various articles that related to community’s motivation. There is still not much literature that study about environmental motivation, especially in sanitation aspects, so this article also discussed about motivation in general, and continued to discuss about environmental motivation. It was also done in order to see whether the factors that influence motivation in general and environmental motivation have differences. The steps in this literature study for the article are:
1) Searched the articles discussed about the topic that author needed for the article.
2) Learned the articles that have been collected, then selected according to the topic that relevant for the article.
3) Paraphrase the contents of the articles that relevant to the topic discussed according to the understanding of the author.

3. Results and discussion
Water pollution that occurred in Indonesia has reached a serious level. One of the causes is the waste water that enters the water source and mixes, resulting in a decrease in the quality of clean water [10]. People in urban, residential, commercial and public buildings are the main consumers of water, thus producing large amounts of wastewater [11]. One of the efforts to maintain environmental quality, every household must be trained to be able to separate, recycle, collect, transport and dispose of waste
Wastewater management in the community by reprocessing it is one of the pathways to sustainable waste management [13].

Household waste, also known as domestic waste, is very important to be managed before being discharged into the environment. Wastewater treatment today has grown along with the increasing number of populations in urban areas [14]. Research conducted by [15] stated that the rapid expansion of the city plus inadequate waste treatment facilities, a low level of awareness, and a lack of compliance with regulations were the reasons of pollution. Therefore, the sanitary facilities that are built must pay attention to the requirements set by the government. The percentage of proper sanitations in Indonesia from 2017-2019 is as follows.

Table 1. Percentage of Proper Sanitation in Indonesia from 2017-2019 [16].

| Province                          | 2017  | 2018  | 2019  |
|-----------------------------------|-------|-------|-------|
| Aceh                              | 66.83 | 69.67 | 73.16 |
| North Sumatera                    | 75.77 | 77.41 | 79.59 |
| West Sumatera                     | 60.27 | 62.50 | 63.98 |
| Riau                              | 77.51 | 80.12 | 80.04 |
| Jambi                             | 73.42 | 73.67 | 75.60 |
| South Sumatera                    | 70.23 | 72.07 | 74.67 |
| Bengkulu                          | 73.37 | 71.75 | 75.91 |
| Lampung                           | 73.42 | 75.25 | 79.22 |
| Bangka Belitung Islands           | 86.23 | 87.95 | 90.32 |
| Riau Islands                      | 86.31 | 85.87 | 89.13 |
| DKI Jakarta                       | 90.37 | 90.73 | 92.89 |
| West Java                         | 67.49 | 67.61 | 69.64 |
| Central Java                      | 76.15 | 78.21 | 80.29 |
| DI Yogyakarta                     | 91.84 | 92.02 | 94.67 |
| East Java                         | 74.03 | 74.28 | 78.78 |
| Banten                            | 76.05 | 77.45 | 81.01 |
| Bali                              | 90.84 | 91.58 | 94.59 |
| West Nusa Tenggara               | 71.20 | 75.66 | 80.02 |
| East Nusa Tenggara               | 53.58 | 61.78 | 64.55 |
| West Kalimantan                   | 67.70 | 72.44 | 72.08 |
| Central Kalimantan                | 60.52 | 66.81 | 69.23 |
| South Kalimantan                  | 70.56 | 73.24 | 76.56 |
| East Kalimantan                   | 82.24 | 84.11 | 89.27 |
| North Kalimantan                  | 73.58 | 81.67 | 77.20 |
| North Sulawesi                    | 76.81 | 79.31 | 82.36 |
| Central Sulawesi                  | 64.61 | 67.46 | 71.95 |
| South Sulawesi                    | 81.80 | 84.44 | 87.80 |
| Southeast Sulawesi                | 71.28 | 73.61 | 79.75 |
| Gorontalo                         | 59.04 | 64.59 | 74.57 |
| West Sulawesi                     | 63.56 | 67.36 | 73.39 |
| Maluku                            | 66.06 | 69.92 | 70.00 |
| North Maluku                      | 69.11 | 69.08 | 72.52 |
| West Papua                        | 68.18 | 75.99 | 76.39 |
| Papua                             | 33.75 | 35.82 | 38.27 |
| **Indonesia**                     | **73.07** | **74.58** | **77.39** |
Based on Table 1, it can be concluded that the percentage of proper sanitation in Indonesia from 2017-2019 has increased. However, there are still provinces in Indonesia with a low percentage of proper sanitation, for example Papua Province. It can be caused by the knowledge about the importance of proper sanitation were also still low. In addition, the socio-economic conditions and population growth factors also affect the quality of life, which the socio-economic conditions and high population growth were developing, the higher the quality of life requirements for the community [17]. Low levels of the economy make people can not afford to build proper water facilities and sanitation [18]. The research that has been done by [19] in Semanggi Village, Indonesia stated that high population density, followed by low education and economic levels led to limited access to water and sanitation there. The density of the population has resulted in no land used to build proper water and sanitation facilities. Public awareness about pollution caused by waste has an important influence on community attitudes, willingness and participation in waste management [20].

Pollution management using a participatory approach must be effective in introducing plans for the utilization, conservation, development and enhancement of water resources [21]. In this case, the role of government is needed to support community participation. The government as a policy and decision maker is one of the parties responsible for community environmental education so that people want to participate in environmental management [22]. Education and awareness raising are important factors in reducing the environmental impact of a growing population [23]. Improved hygiene knowledge and practices related to health and the environment can contribute to the improvement of the general welfare [18]. Therefore, environmental awareness in the community is important to be encouraged to increase the effectiveness and response to environmental management policies, and increase community participation [24]. In addition, appropriate communication techniques are needed to change people's attitudes and behavior [25]. In order for community participation to be achieved, the community must have the motivation to carry out environmental management.

Motivation plays a role in encouraging participation to grow in society, especially in environmental management [26]. Research by [27] revealed that motivation among community in the Lerep and Karangbolo areas received good responses, but behavior changed only worked for community with high knowledge. Then, another research by [26] showed that the motivation of respondents in Mojokrapak Village to take part in the environmental management program was because they wanted to live in a clean and comfortable village environment. The results of this study indicated that the motivation that plays a role is intrinsic motivation, namely in the form of understanding, appreciation, and self-belief. Internal motivation is by far the most important motivating factor for environmentally friendly behavior and activities [28]. Internal motivation arises because of the sense of responsibility of a person, and his desire to have achievements in his life. In addition, the knowledge that people have will affect their awareness of the environment. The community must have knowledge about environmental problems, the consequences of activities carried out on the environment, so it can help decision makers for development planning [22]. Environmental motivation and pro-environmental attitudes are closely related and become the reason someone has a high willingness to participate in environmental protection [29].

4. Conclusion
This study aims to verify if motivation has an effect on community participation in environmental management. In environmental management, community participation is one of essential factors that a government program can be implemented. However, community participation, especially in slum areas, is still low, due to the low motivation to manage the environment. Motivation is an encouragement for someone to take an action, so that it can encourage someone to participate in environmental management. In pro-environmental behavior and activities, internal motivation is the dominant motivating factor. In addition, the level of knowledge, social, and economy in society are also important factors that determine the level of motivation of an individual to participate in environmental management.
Acknowledgements

This research is funded by the Grant of Indexed International Publication for Master Student/Publikasi Internasional Terindeks Mahasiswa Magister-PITMA B Universitas Indonesia 2019 with number contract NKB-1024/UN2.R3.1/HKP.05.00/2019 with Herdis Herdiansyah as the Head of Research.

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