

Research Article

Evaluation of Knowledge, Attitude, Motivation, and Behavior of Low-Income Community Toward Making Environmentally Safe Toilets in Lowland Areas of South Sulawesi Province

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Abstract

Safe and proper sanitation is one of the important aspects in efforts to improve the quality of public health. However, in the lowland areas of South Sulawesi Province, low-income communities still face challenges in building and using environmentally safe toilets. The objectives of this study were to: (1) assess public knowledge in building environmentally friendly toilets, (2) assess public attitudes towards building healthy toilets, (3) assess the level of public motivation, and (4) assess public behavior in building environmentally safe toilets in the lowland areas of South Sulawesi Province. This study was conducted in several lowland areas involving 300 heads of families from low-income communities selected using the purposive sampling method. The variables studied included public knowledge, attitudes, motivation, and behavior towards building healthy toilets. Data analysis was conducted using descriptive statistics. The results of the study showed that: (1) the level of knowledge of low-income communities in building environmentally safe toilets was in the high category, (2) public attitudes towards the importance of healthy toilets were also in the high category, (3) public motivation to build healthy toilets was high, and (4) real community behavior in building environmentally safe toilets also showed a high category. These findings indicate that although economic limitations are a challenge, community awareness and commitment to maintaining environmental sanitation are quite good.

Keywords

Assessment, Knowledge, Community, Lowland Economy

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Received: 24 August 2025; **Accepted:** 11 September 2025; **Published:** 30 September 2025



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1. Introduction

Adequate sanitation is a basic need that is essential to maintaining public health and the environment. However, in Indonesia, there are still around 25 million people who do not have access to adequate sanitation facilities, so the practice of open defecation is still common [1]. This condition contributes significantly to the high rate of diarrhea, especially in children, which is one of the main causes of child mortality in this country [2].

South Sulawesi Province, especially the lowland areas, faces similar challenges. The economically weak communities in this area often experience limitations in building and using safe and environmentally friendly latrines. Factors such as limited knowledge, less supportive attitudes, low motivation, and behavior that is not in accordance with healthy sanitation practices are major obstacles in efforts to improve sanitation in this community [3].

The South Sulawesi Provincial Government has demonstrated its commitment to improving sanitation access by developing a five-year sanitation roadmap (2025-2030) which aims to achieve 15% access to safely managed sanitation by 2030 [4]. This strategy includes building facilities that are resilient to climate change, strengthening local government capacity, and empowering communities.

Previous studies have shown that a co-management approach between local governments and local communities can improve the sustainability of community-scale sanitation services [5]. However, the success of this approach is highly dependent on the level of knowledge, attitudes, motivation, and behavior of the community towards sanitation [6]. Therefore, this study aims to evaluate the knowledge, attitudes, motivation, and behavior of low-income communities in building environmentally safe latrines in the lowland areas of South Sulawesi Province. The results of this study are expected to contribute to the formulation of more effective and sustainable intervention strategies in efforts to improve sanitation in the area.

The benefits of the study are as follows: 1) The Indonesian Ministry of Environment should foster knowledge, attitude, motivation, and behavior of low-income community, to create healthy family toilets in lowland areas of South Sulawesi Province. 2) The Indonesian Ministry of Education, in this case, the Directorate of Non-Formal Education should foster knowledge, attitude, motivation, and behavior of low-income community, to create healthy family toilets in lowland areas of South Sulawesi Province. 3) The South Sulawesi Provincial Government should foster knowledge, attitude, motivation, and behavior of low-income community to create healthy family toilets in lowland areas. 4) The Regency Government in South Sulawesi Province should foster knowledge, attitude, motivation, and behavior of low-income community, to create healthy family toilets in the lowland areas. 5) Environmental observers should foster knowledge, attitude, motivation, and behavior of low-income community, to create healthy family toilets in the lowland areas.

2. Literature Review

2.1. Sanitation and Environmental Health

Sanitation is an important aspect in maintaining the quality of public health and the environment. Poor sanitation can cause various water- and fecal-based diseases, such as diarrhea, cholera, and digestive tract infections. WHO [7] noted that providing adequate sanitation facilities can reduce the risk of diarrhea by up to 36%. Poor sanitation also contributes to the high mortality rate of children due to diarrhea in developing countries, including Indonesia. In Indonesia, the greatest challenges in meeting sanitation still occur in remote areas and in low-income communities, who often have difficulty accessing adequate sanitation facilities. UNICEF [2] reported that around 50 million people in Indonesia still do not have access to adequate sanitation, especially in rural and coastal areas. Therefore, community education and empowerment programs are needed to increase awareness of the importance of healthy sanitation, as well as encourage the construction of environmentally friendly healthy latrines, in order to prevent negative impacts on public health.

2.2. Public Knowledge About Sanitation

Knowledge is an initial factor that influences a person in making decisions related to health behavior, including in the use and construction of toilets. Research by Agusyaningsih [8] shows that people who have good knowledge about the negative impacts of open defecation tend to switch to using healthy toilets more quickly. Similar findings were found in research by Yuliana and Riani [9], which showed that a high level of knowledge about the importance of healthy sanitation is closely related to changes in community behavior to avoid open defecation practices. According to WHO [7], sanitation education can increase public awareness and reduce the risk of sanitation-related diseases. In addition, research by Widyastuti and Sari [10] also emphasizes the importance of knowledge to encourage people to build toilets that meet health standards. With good knowledge, people are more motivated to invest in making healthy and environmentally friendly toilets.

2.3. Attitudes Towards Healthy Toilet Development

Attitudes reflect an individual's mental readiness to accept change. A positive attitude towards the importance of healthy toilets can influence a person's decision to build and use the facility. A study by Asmara & Wahyuni [11] found that a health promotion campaign that emphasized attitude change had a significant impact on expanding the coverage of proper sanitation in rural areas. Another study by Wulandari & Amin [12] also showed that changes in community attitudes towards

sanitation can increase participation in healthy toilet construction programs, especially when the community understands the health and environmental benefits obtained. In addition, Yuliana [13] noted that a good attitude towards sanitation not only impacts individual actions but can also strengthen collective efforts in maintaining environmental cleanliness and health. Therefore, a positive attitude towards sanitation is very important for the success of community-based sanitation programs.

2.4. Motivation as a Driver of Change

Motivation, both intrinsic and extrinsic, is very important in encouraging people to make behavioral changes. Appropriate training and outreach programs can increase people's motivation to build environmentally friendly toilets. According to a study by Prabowo et al. [14], participatory-based training can increase people's motivation by up to 70% in implementing family-based sanitation. Another study by Fauziyah & Prabowo [14] revealed that people's motivation can be influenced by external factors such as government support, outreach, and incentives, which can encourage them to invest in better sanitation facilities. In addition, Widyastuti & Sari [10] noted that people who have high motivation are more likely to implement their knowledge in real actions, such as building more environmentally friendly toilets. Therefore, increasing motivation through education and incentive programs is key to achieving the success of a sanitation program.

2.5. Behavior in Healthy Sanitation Practices

Behavior is the end result of the interaction between knowledge, attitudes, and motivation. Behavioral changes towards healthy sanitation practices require a comprehensive and sustainable approach. According to the Health Research and Development Agency [15], changes in community behavior in the practice of BABS can only be achieved if accompanied by simultaneous social, economic, and cultural interventions. Research by Sari & Saputra [16] shows that efforts to change community behavior in the use of healthy latrines need to involve all elements of society, from individuals to communities. In addition, a community-based approach that involves the community in the planning and implementation of sanitation programs can increase the effectiveness of behavioral change [17].

Research by WaterAid [18] shows that active community involvement in the process of identifying sanitation problems and solutions contributes significantly to the sustainability of hygienic behavior. A study by Harter et al. [19] also emphasized that behavioral change in sanitation requires a combination of evidence-based approaches, persuasive communication, and adaptation to the local context. In this case, training programs, outreach, and the provision of incentives that are in accordance with the needs of the local

community can accelerate the achievement of the desired behavioral changes. These changes require time and continuity in implementation to achieve optimal results.

3. Materials and Methods

This study uses a quantitative descriptive design, which aims to describe, analyze, and evaluate the knowledge, attitudes, motivations, and behaviors of low-income communities in making environmentally safe family toilets in the lowlands of South Sulawesi Province. This study also aims to evaluate the effect of training on community motivation in building environmentally friendly toilets. This study was conducted in the lowlands of South Sulawesi Province. The sample areas are Lili Riaja District, Soppeng Regency, Bantimurung District, Maros Regency, Duampanua District, Pinrang Regency, and Baranti District, Sidenreng Rappang Regency, selected using purposive sampling techniques. The locations were chosen because these areas have a high number of low-income communities and still face sanitation problems. This study will be conducted over an eight-month period in 2024. The population in this study is low-income communities living in the lowlands of South Sulawesi Province. The sample of this study was 300 heads of families, selected using purposive sampling techniques. The purposive sampling technique was chosen considering that the sample consists of individuals who have certain experiences or characteristics that are relevant to the objectives of this study, namely low-income families who do not yet have proper toilet facilities. This study will analyze four main variables: 1) Knowledge, namely the level of community understanding of the importance of healthy toilets and the environmental impacts of unsafe toilets. 2) Attitude, namely the community's perception and attitude towards building safe and environmentally friendly toilets. 3) Motivation, namely the reasons or motivation for the community to build healthy toilets after training. 4) Behavior, namely the community's practice in building and using healthy toilets in their environment. The instrument used to collect data in this study was a questionnaire divided into four parts, according to the variables being measured: 1) The Knowledge Questionnaire contains 15 questions related to basic knowledge about sanitation and the impacts of unsafe toilets. 2) The Attitude Questionnaire consists of 15 statements that measure the community's attitude towards healthy and environmentally friendly toilets using a Likert scale. 3) The Motivation Questionnaire consists of 10 questions that aim to identify motivational factors in building healthy toilets, also using a Likert scale. 4) The Behavior Questionnaire contains 10 questions related to the community's daily habits and behavior in using toilets and sanitation at home. Once the questionnaire is prepared, the instrument will be tested for validity and reliability to ensure that it can accurately measure what it is intended to measure. The data analysis method used is descriptive statistical analysis.

4. Results

4.1. Description of Low-Income Community Knowledge Towards Making Environmentally Safe Toilets

Table 1. Frequency Distribution of Low-income Community Knowledge Towards Making Environmentally Safe Toilets in Lowlands of South Sulawesi Province.

No	Category	Score	Frequency	Percentage (%)	Cumulative (%)
1	Very Low	0-2,3	0	0	0
2	Low	2,4-4,8	0	0	0
3	Medium	4,95-7,3	26	8,7	8,7
4	High	7,5-9,8	234	78	86,7
5	Very High	9,9-12	40	13,3	100
Total			300	100	-

The descriptive statistical analysis results of knowledge in low-income community towards making environmentally safe toilets in lowland areas of South Sulawesi Province from 12 questions are shown in the frequency distribution in Table 1.

As shown in Table 1, about 8.7% of the low-income community in lowland areas of South Sulawesi Province had knowledge in the medium category. About 78% had knowledge in the high category and 13.3% in the very high category. There was no community in the low and very low categories. This study recorded an average value = 8.6, minimum = 5, and maximum = 11, with the average value falling in the high category. Therefore, it was concluded that

knowledge of how to make environmentally safe toilets was in the high category.

4.2. Description of Low-Income Community Attitude Towards Making Environmentally Safe Toilets

The descriptive statistical analysis results concerning attitude of low-income community towards making environmentally safe toilets in the lowland areas of South Sulawesi Province from 12 questions are shown in the frequency distribution in Table 2.

Table 2. Frequency Distribution of Low-income Community Attitude Towards Making Environmentally Safe Toilets in Lowland Areas of South Sulawesi Province.

No	Category	Score	Frequency	Percentage (%)	Cumulative (%)
1	Very Low	0-11,9	0	0	0
2	Low	12-23,9	0	0	0
3	Medium	24-35,9	11	3,7	3,7
4	High	36-47,8	265	88,3	92
5	Very High	47,9-60	24	8	100
Total			300	100	-

As shown in Table 2, about 3.7% of low-income community in lowland areas of South Sulawesi Province had attitude in the medium category. Approximately 88.3% had

attitude in the high category, and 8% were in the very high category. There was no community in the low and very low categories. This study found that the average value = 43.6,

minimum = 27, and maximum = 58, with the average value falling in the high category. Therefore, it was concluded that attitude towards making environmentally safe toilets was in the high category.

4.3. Description of Low-Income Community Motivation Towards Making Environmentally Safe Toilets

The descriptive statistical analysis results regarding motivation of low-income community towards making environmentally safe toilets in the lowland areas of South Sulawesi Province from 12 questions are shown in the

frequency distribution in Table 3.

As shown in Table 3, about 4% of the low-income community in the lowland areas have the motivation to make environmentally safe toilets in the medium category. Approximately 87% had motivation in the high category and 9% in the very high category. There was no community with motivation in the low and very low categories. This study showed that the average value = 45.2, minimum = 31, and maximum = 57, with the average value falling in the high category. Therefore, it was concluded that the motivation towards making environmentally safe toilets was in the high category.

Table 3. Frequency Distribution of Low-income Community Motivation Towards Making Environmentally Safe Toilets in Lowland Areas of South Sulawesi Province.

No	Category	Score	Frequency	Percentage (%)	Cumulative (%)
1	Very Low	0-11,9	0	0	0
2	Low	12-23,9	0	0	0
3	Medium	24-35,9	12	4	4
4	High	36-47,8	261	87	91
5	Very High	47,9-60	27	9	100
Total			300	100	-

4.4. Description of Low-Income Community Behavior Towards Making Environmentally Safe Toilets

The descriptive statistical analysis results on the behavior of low-income community in making environmentally safe toilets in lowland areas of South Sulawesi Province from 12 questions are shown in the frequency distribution in Table 4.

Table 4. Frequency Distribution of Low-income Community Behavior Towards Making Environmentally Safe Toilets in Lowland Areas of South Sulawesi Province.

No	Category	Score	Frequency	Percentage (%)	Cumulative (%)
1	Very Low	0-11,9	0	0	0
2	Low	12-23,9	0	0	0
3	Medium	24-35,9	6	2	2
4	High	36-47,8	267	89	91
5	Very High	47,9-60	27	9	100
Total			300	100	-

As shown in Table 4, about 2% of low-income community in lowland areas of South Sulawesi Province had behavior in the medium category. Approximately 89% had behavior in the high category and 9% in the very high category. There was

no community in the low and very low categories. This study found that the average value = 42.6, minimum = 30, and maximum = 57, with the average falling in the high category. Therefore, it was concluded that the behavior towards making

environmentally safe toilets was in the high category.

5. Discussion

Based on the results of the research that has been conducted on the knowledge, attitudes, motivations, and behavior of low-income communities regarding the construction of environmentally safe toilets in the lowland areas of South Sulawesi Province, several important things can be explained in efforts to increase environmental awareness and sustainability of community sanitation, concerning:

5.1. Community Knowledge on How to Make Environmentally Safe Toilets

Based on the results of the study, the majority of low-income communities have good knowledge on how to make environmentally safe toilets, with 78% in the high knowledge category and 13.3% in the very high category. This shows that the socialization and training program on environmentally safe sanitation has had a positive impact on community knowledge. This good knowledge is an important step in increasing community awareness of the importance of maintaining environmental cleanliness and health, especially in areas prone to sanitation.

According to the theory of health behavior, one of the important factors that influences community behavior is the knowledge they have. Good knowledge about the importance of sanitation can motivate individuals to take actions that are in accordance with good health practices. This action can be reflected in the behavior of making safe and environmentally friendly toilets, as expressed by Green et. al [20] in the theory of behavioral change. They stated that education and counseling are one of the effective interventions in changing knowledge into more positive and responsible actions towards health and the environment [21].

Although most of the community showed good knowledge, there were around 8.7% who were still in the moderate knowledge category, indicating that there was room for further improvement. This is in line with the theory of innovation diffusion by Moseley [22], which states that the adoption of information or innovation in society is not always evenly distributed. There are groups that quickly adopt information (early adopters), but there are also groups that are slower, which can be influenced by social, economic, and cultural factors. Therefore, to achieve optimal results, it is important to pay attention to the socio-economic and cultural characteristics of the community that may be obstacles in the process of adopting this knowledge. In this context, training and socialization must be continued with a more inclusive and participatory approach. According to the empowerment theory by Zimmerman [23], to ensure that the community can implement knowledge well, they need to be empowered through active involvement in the decision-making process and program implementation. This approach will provide a

sense of ownership of the program and increase their willingness to actively participate in maintaining safe sanitation.

In addition, the results of this study also show the importance of the role of related institutions in conducting ongoing education on the importance of environmental sanitation. As stated by Mohetaer [24] good sanitation is not only related to health, but also has a significant impact on the quality of life of the community, including improving economic and social welfare. In this case, understanding of making environmentally friendly toilets needs to be further strengthened by strengthening local policies that support adequate sanitation facilities.

It is also important to respond to the finding that a small portion of the community is still in the moderate knowledge category. This indicates a difference in access to information or ignorance regarding good sanitation practices. According to the theory of access to information, inequality in access to information is still a major challenge in the process of behavioral change [25]. Therefore, various appropriate communication strategies are needed to reach this group, such as local media-based counseling or training that is more easily accessible to people in more remote areas.

Overall, the results of this study illustrate that increasing knowledge about making environmentally safe toilets has gone well through socialization and training programs. Although most people have good knowledge, further efforts are still needed to ensure that the entire community can adopt more environmentally friendly practices and support the creation of a healthier and more sustainable environment.

5.2. Community Attitudes Towards How to Make Environmentally Safe Toilets

Community attitudes towards making environmentally safe toilets show very positive results, with 88.3% of the community having a high attitude, and 8% in the very high category. This indicates that the majority of the community has a good and positive perception of the importance of making environmentally friendly toilets. This attitude is very important because community attitudes are often the main driving factor in the successful implementation of sustainable sanitation programs.

According to the theory of attitudes and behavioral change put forward by Ajzen [26] in the Theory of Planned Behavior, attitudes are key factors that influence individual decisions in taking action. A positive attitude towards making safe toilets can increase the likelihood of the community taking real action in maintaining environmental cleanliness and complying with healthy sanitation practices. This positive attitude is also related to the community's belief that their actions can produce good results, in this case, improving health and environmental cleanliness.

High attitudes towards safe sanitation also reflect public awareness of the importance of cleanliness and its impact on

health. This is in line with the principles of behavioral change theory which states that good knowledge and attitudes can motivate individuals to adopt behaviors that are in accordance with community health values [20]. Thus, a positive community attitude towards making safe latrines will facilitate the implementation of concrete actions to improve the quality of sanitation in the area.

A good attitude towards sanitation can also reduce resistance to change, which is often an obstacle in the implementation of environmental programs. The theory of resistance to change expressed by Oreg [27] suggests that positive attitudes can minimize these obstacles, because people are more likely to accept and participate in changes that are considered beneficial to them. In this context, a positive attitude towards making environmentally friendly latrines facilitates the transition from old habits to healthier and safer habits.

In addition, these results indicate that a good attitude towards making safe latrines can play a role in creating broader social change at the community level. People who have positive attitudes will find it easier to influence others around them, thereby creating collective behavioral change in society. According to Rogers' theory of innovation diffusion [22], groups that have positive attitudes and receive good information will more quickly adopt and spread useful innovations, including environmentally friendly sanitation.

Although the majority of the community showed a positive attitude, there were still around 3.7% who had an attitude in the moderate category. This shows that even though knowledge is quite good, not all individuals feel motivated or confident enough to apply this knowledge in their daily lives. Therefore, further efforts are needed to ensure that this good attitude can be translated into real, sustainable actions.

Overall, a high community attitude towards making environmentally safe latrines is a very good indicator of the success of implementing an environmentally friendly sanitation program. Communities with positive attitudes will be more receptive to and practice the necessary changes, which in turn will contribute to the creation of a healthier and more sustainable environment. Therefore, it is important to continue to support and strengthen this positive attitude through various educational efforts and policies that are more inclusive and based on community needs.

5.3. Community Motivation in Making Environmentally Safe Latrines

The results of the study on community motivation showed very positive figures, with 87% of the community having high motivation to build environmentally safe toilets, and 9% having very high motivation. Only 4% had moderate motivation, and no community showed low or very low motivation. This reflects the strong awareness and drive of the community to improve their sanitation conditions even though they are classified as economically weak.

In motivation theory, external and internal motivation play a major role in influencing individual actions. According to the Self-Determination Theory [28], individuals who feel they have autonomy in making decisions and understand the benefits of the actions they take tend to have higher motivation to participate in activities that benefit themselves and the community. In this context, the community's motivation to build safe toilets may be influenced by their understanding of the positive impacts of good sanitation on their health and quality of life.

Communities with high motivation show a readiness to invest in building better toilets despite the economic constraints they face. This is in line with the motivation theory put forward by Maslow [29], which states that basic needs such as health and hygiene must be met to achieve a better quality of life. When people feel that their sanitation needs are more important than other factors, they will make more effort to fulfill them, even though their resources are limited.

This high motivation is also related to the Health Belief Model theory which explains that a person is more likely to change behavior if they feel there is a significant threat to their health and that the actions they take will reduce the threat [30]. In this case, the community may realize that making safe latrines is one way to reduce the risk of diseases that can affect their health, as well as improve overall sanitation conditions. Awareness of the health impacts caused by poor sanitation can increase their motivation to make better changes. In addition, social environmental factors also play a role in influencing community motivation. According to the Social Cognitive Theory [31], a person's motivation can be strengthened through role models around them, such as family, neighbors, or community leaders. If leaders or other community members demonstrate positive behavior related to making safe latrines, this can increase the individual's motivation to follow in their footsteps. The success of individuals or groups in adopting new habits often becomes an example for others to follow.

Meanwhile, although most people have high motivation, these results show that there are still 4% who have moderate motivation. This indicates that although there is an understanding of the importance of good sanitation, some individuals may feel limited by economic factors, or lack of access to adequate facilities. Therefore, it is important to design programs that not only improve community knowledge and attitudes, but also provide practical support that can reduce economic and technical barriers to making safe latrines. Overall, high community motivation to make environmentally safe latrines is very important in ensuring the success of sustainable sanitation programs. Programs that can harness this motivation by providing appropriate support, both in terms of education, training, and practical assistance, will be more effective in improving the quality of life of the community. Therefore, strengthening community motivation, especially through community-based and empowerment approaches, is key to achieving better sanitation goals in the future.

5.4. Community Behavior in Making Environmentally Safe Toilets

The results of the study showed that 89% of the community had high behavior in making environmentally safe toilets, and 9% had very high behavior, indicating that the majority of the community not only had good knowledge and attitudes, but had also implemented them in real actions. Only 2% showed behavior in the moderate category, while none showed behavior in the low or very low categories. This indicates success in implementing knowledge and attitudes related to environmentally friendly sanitation in people's daily lives.

According to the Theory of Planned Behavior [26], human behavior is influenced by three main factors: attitudes toward behavior, subjective norms, and perceived behavioral control. In the context of this study, positive attitudes toward making environmentally safe toilets, as well as the existence of social encouragement and community norms that support environmental cleanliness and health, are likely to have influenced people's behavior to act positively. Behavioral control factors, such as access to facilities and social support also influence the success of this behavior.

This high level of behavior shows that the community not only understands the importance of environmentally friendly sanitation, but has also taken steps to ensure that the toilets they build meet environmental hygiene and sustainability standards. In this context, the community's actions to build safe toilets not only reflect the implementation of their knowledge and attitudes, but also reflect an awareness of the importance of environmental cleanliness for their health and the surrounding environment. This is also related to the Behavioral Change Theory which states that sustainable behavioral change occurs when individuals feel that their actions will produce direct and tangible benefits for them. In this case, the construction of safe toilets provides direct benefits in the form of improved quality of life, reduced waterborne or sanitation-borne diseases, and maintenance of environmental cleanliness. These benefits strengthen the motivation to maintain the behavior that has been implemented.

However, even though this good behavior has been realized, 2% of the community who are still in the moderate behavior category show that there is room for improvement. This could be due to several factors, such as limited resources or inadequate facilities to build toilets that truly meet cleanliness and environmentally friendly standards. Therefore, it is important for the government and related parties to pay attention to community groups that have not fully behaved according to the expected sanitation standards. Providing more accessible facilities, further training, and incentives that support the construction of toilets that meet environmental health standards can help strengthen community behavior.

The provision of appropriate facilities and technical support also plays an important role in strengthening this behavior. Social Cognitive Theory [31] suggests that a person will be more likely to adopt positive behavior if they have sufficient

access to resources and support from their social environment. Thus, strengthening access to environmentally friendly building materials or providing incentives for people who build toilets according to proper sanitation standards can encourage more individuals to improve their behavior.

Overall, the high level of positive behavior reflects the success of the counseling, training, and socialization that has been carried out previously. However, to ensure the sustainability of this good behavior, further efforts are needed to strengthen support for the community, especially in providing facilities that support the construction of environmentally friendly toilets, as well as incentives that encourage the community to maintain this behavior in the long term.

6. Conclusions

Based on the results of research and discussion that have been conducted regarding the knowledge, attitudes, motivations, and behavior of low-income communities in making environmentally safe toilets in the lowlands of South Sulawesi Province, the following conclusions can be drawn:

- 1) The majority of low-income communities in the lowlands of South Sulawesi Province have high knowledge about how to make environmentally safe toilets. Most people have a good understanding of the importance of environmentally friendly sanitation. This shows the success of the socialization or training activities that have been carried out.
- 2) The community's attitude towards making environmentally safe toilets is also relatively positive, with the majority of people showing high and very high attitudes. This reflects good awareness of the importance of maintaining environmental cleanliness and health. The community has an attitude that supports the implementation of environmentally friendly toilet making.
- 3) The community's motivation to make environmentally safe toilets is in the high category, with most people showing a strong desire to participate in making toilets that are in accordance with environmentally friendly principles. This high motivation is important to ensure the sustainability of sanitation programs in the future.
- 4) The community's behavior in making environmentally safe toilets is also relatively high. Most of the community has implemented their knowledge, attitudes, and motivation into real action, namely by building toilets that meet hygiene standards and are environmentally friendly.

Overall, this study shows that the low-income community in the lowland areas of South Sulawesi Province has a good understanding, positive attitudes, strong motivation, and supportive behavior in making toilets that are safe for the environment. This success shows the importance of the training and socialization that has been carried out, but further efforts are still needed to strengthen the

implementation and access to better sanitation facilities among the community.

Abbreviations

WHO	World Health Organization
UNICEF	United Nations International Children's Emergency Fund
BABS	Buang Air Besar Sembarangan (Open Defecation)
DRPM	Directorate of Research and Postgraduate Management
LP2M	Lembaga Penelitian Dan Pengabdian Masyarakat (Institute for Research and Community Service)

Acknowledgments

We would like to thank the Director of DRPM, Ministry of Education and Culture, Research and Technology of the Republic of Indonesia, who has accepted and funded this research. We also thank the Rector of Universitas Negeri Makassar, and the Rector of Universitas Negeri Jakarta through their respective LP2M, who have facilitated us and given permission to carry out this research, and the Pangkep Regency Government, which has allowed us to conduct research in their area. Specifically, we thank the coastal communities who have agreed to be respondents in this research and all parties who have helped so that this research can be carried out.

Conflicts of Interest

The authors declare no conflicts of interest.

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