

## **Community Empowerment in Waste Management through the Pede Message Program in Cemenggaon Traditional Village, Gianyar Regency, Bali Province**

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### **Abstract**

In terms of waste management, Gianyar Regency still lacks access to facilities and infrastructure in reaching certain sub-districts to certain villages. In addition, the lack of knowledge about the impact of waste and how to manage it as well as the benefits obtained by the community in the waste management process is also a factual problem in Gianyar Regency. The Gianyar Regency Government, of course, is well aware of the waste problem so it is considered necessary to have a waste management system that is overcome starting from the upstream. This study aims to find out community empowerment in managing waste through the Pesan Pede program, inhibiting factors and efforts to overcome inhibiting factors in community empowerment in managing waste through the Pesan Pade program in Cemenggaon Traditional Village, Gianyar Regency. The method used is a descriptive qualitative research design. Data collection was carried out by semi-structured interviews, observations, and documentation. Data analysis is carried out through the stages of data reduction, data presentation, and conclusion drawn. The results of the study show that the implementation of empowerment in waste management through the PESAN PEDE program in Customary Villages has been carried out well. This is marked by the activities carried out by the Village Government through the Cemenggaon Traditional Village Waste Management Agency, Celuk, Gianyar Regency, Bali Province. The inhibiting factors in the implementation of this empowerment are the community's lack of understanding in managing waste, the limitations of processing tools, and the application of waste banks that are not optimal. The efforts made to overcome the inhibiting factors are the implementation of education, holding regular meetings, increasing the capacity of the Waste Management Agency management, and optimizing waste transportation facilities.

**Keywords:** Community Empowerment, Waste Management, Pede Massage

### **Introduction**

Waste is a number of discarded and unused items which are the result of human activities in industry, households and other activities which are difficult to reprocess and can pollute the environment and cause human health to decline. It is noted that Indonesia consists of around 17,001 islands (BPS 2020). According to data from BPS in 2022, the population will reach 275 million people, with waste production reaching 35,499,491.98 tons per year. The correlation between the increase in population and the resulting waste generation will be directly proportional to the increase in the threat of environmental problems. The high generation generated is not only due to the high population but the level of consumption and lifestyle of the community as well as the activities carried out by the community to fulfill their daily needs (Juniartha et al., 2019). Public awareness is really needed in protecting the environment, a lack of understanding in waste management is an inhibiting factor in waste management in society (Sutrisnawati & Purwahita, 2018).

According to Daniel in Adityaningrum (2023), waste can be classified into three categories, namely organic waste, inorganic waste, and toxic and hazardous waste (B3). In accordance with Law Number 18 of 2008, waste is divided into three types, namely organic waste which comes from the remains of living things which are easily decomposed, inorganic waste which consists of synthetic materials which are difficult to decompose and cannot be reused such as plastic, metal, glass and others, as well as toxic and dangerous waste materials that have corrosive, caustic, reactive properties, and so on.

Law Number 18 of 2008 concerning Waste Management has a historical background due to a series of incidents that threatened public safety due to waste handling problems. One of the main triggers for the formation of this law was the Leuwegajah TPA tragedy which occurred on February 21 2005, which caused the death of 157 people and drowned two villages due to landslides caused by piles of rubbish. In addition, Presidential Regulation Number 97 of 2017 concerning waste management strategies and policies has set a target that by 2025, Indonesia aims to reduce waste production, especially plastic waste by 70%, and reduce the total volume of waste by up to 30% (Septiani et al., 2019).

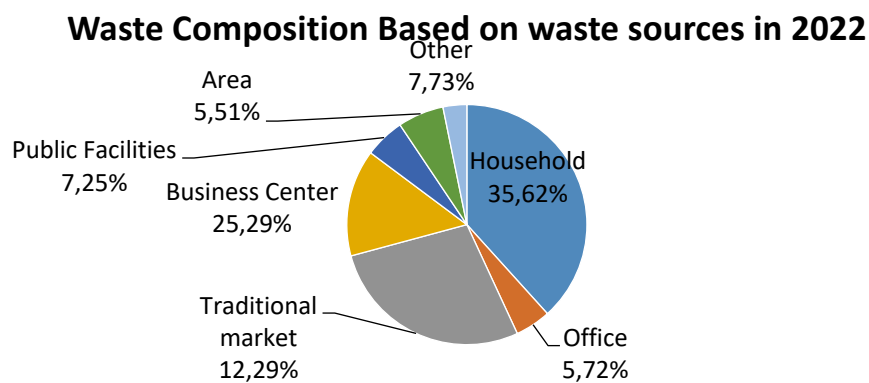


Figure 1. Sources of Waste in Indonesia in 2022

Source: National Waste Management

Information System, 2022 Bali Province is still part of the waste problem that occurs in Indonesia. Until now, the Bali Regional Government still prioritizes the waste problem as the main agenda in protecting the environment, which refers to the Tri Hita Karana concept. Tri Hita Karana is a Hindu philosophy of life, which contains meanings, one of which is Pabelasan, harmony, compassion and harmonious human relations with the environment.

Table 1. Total Daily Waste Generation in Bali Province in 2022

No.	Regency/City	Daily Waste Generation (tons)	Annual Waste Generation (tons)
1	Jembrana Regency	162.94	59,472.92
2	Badung Regency	327.33	119,474.58
3	Gianyar Regency	389.63	142,213.13
4	Klungkung Regency	103.13	37,643.55
5	Bangli Regency	111.88	40,836.05
6	Karangasem Regency	311.54	113,711.83
7	Buleleng Regency	392.56	143,283.67
8	Tabanan Regency	230.82	84,247.48
9	Denpasar City	866.61	316,312.65

Source: National Waste Management Information System, 2022

Gianyar Regency is in the second largest position in producing daily waste generation after Denpasar City with waste generation of 389.63 tons per day and if calculated every year it contributes 142,213.13 tons of waste. The waste generation in Denpasar City is indeed higher than Gianyar, but in terms of waste management it has been assessed as being able to manage its waste economically and effectively through composting activities which can be seen from the decrease in waste generation every year (Armadi, 2021). Apart from that, it was marked by a Decree from the Head of the Subdistrict in Pedungan Denpasar which explained that there was support for the local government's good role in waste management in Denpasar City as well as very adequate access considering that it is the provincial capital area. Compared to Gianyar Regency, there is still minimal access to facilities and infrastructure to reach sub-district areas to certain villages and minimal knowledge of the impact of waste and how to manage it as well as the benefits obtained by the community in the waste management process. Therefore, the government's role is very important as an initiator to invite the community to manage waste through an independent waste management program that focuses on the Traditional Village framework (Sudarma Putra, 2019).

According to Suasthawa Dharmayuda's perspective, a Traditional Village is "a Customary Law Community entity that has a unified tradition, ties to a common place of worship (Kahyangan Tiga Kahyangan Desa), a certain territory, its own internal management, has both tangible and abstract assets, and has the authority to regulate affairs own household (Sudarma Putra, 2019)." The existence of Traditional Villages is also strengthened by the legal basis contained in the 1945 Constitution of the Republic of Indonesia Article 18B (2), which recognizes and respects customary law community units and their traditional rights as long as they are still relevant to the development of society and the principles of the Unitary State of the Republic of Indonesia, and regulated in law.

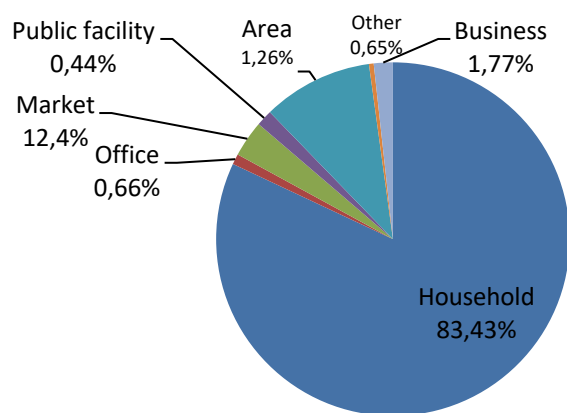


Figure 2. Waste sources in Gianyar Regency in 2021

Source: National Waste Management Information System, 2022

Based on Figure 3 above, the composition of waste in Gianyar Regency is in line with the composition of waste sources in Bali Province which is dominated by household waste. The Gianyar district government is of course very aware of the waste problem so it is deemed necessary to have a waste management system that is addressed from the upstream. In other words, the waste management process must start from the starting point where the waste is generated. The aim is to ensure that efforts to reduce, handle and enforce laws related to waste management can be implemented at the smallest community level in a decentralized manner. Thus, Traditional Villages as the smallest government unit have a role in regulating waste management independently with effective and efficient supervision and guidance. However,

coordination still needs to be carried out with the Gianyar Regency Environmental Service (DLH) which has the authority to manage waste. This effort is also supported by Bali Governor Regulation Number 47 of 2019 concerning Source-Based Waste Management and other regulations such as the 2021 Bali Province Traditional Village Council (MDA) Regulations which regulate guidelines for Traditional Village-based waste management.

In order to overcome the waste problem in Gianyar Regency, the Gianyar Regency Government is involved in launching a program which essentially focuses on the goal of managing waste and making waste have economic value for the people of Gianyar. In this effort, the Gianyar Regency government provides full support for the establishment of a Waste Management Agency in each Traditional Village. The formation of a Waste Management Agency in each Traditional Village certainly has a pattern and uniqueness that emphasizes waste management that is based on local cultural principles and involves all components of society such as the village government, village youth organizations, PKK which consists of a group of housewives, as well as BUMDes and NGOs (Juniartha et al., 2019).

There is one traditional village that is aware of the importance of waste management for the sustainability of the surrounding environment, namely the Cemenggaon Traditional Village. Cemenggaon Traditional Village is one of the Traditional Villages located in Kec. Sukawati implements waste management through the Pesan Confident program, namely Independent Rural Waste Management. This means that carrying out waste management is carried out independently by rural/customary communities who process it directly from the source (I Komang Dedi Diana, 2020).

The Pesan Confident Program is motivated by waste management which has not provided significant results in reducing the volume of waste in Gianyar Regency, especially in the Cemenggaon Traditional Village with waste production of 1.2 tons/day if accumulated every month producing 36 tons per/month. The high production of waste produced, if it is not managed well and only concentrates on TPS/TPA, will burden the TPS/TPA. So that gradually it will experience overload and other environmental threats (Suriyani, 2022).

The Pesan Confident Program, which is described as "Independent Rural Waste Management", focuses on handling organic and inorganic waste. Management of inorganic waste is accommodated through the Sami Asri Unit Waste Bank belonging to the Cemenggaon Traditional Village. This will help in the process of sorting inorganic waste which will then be received, weighed and recorded and then passed on to the recycling unit, namely the main waste bank or the collector, where it will then be processed. Apart from that, Pesan Pede also has a pattern for handling organic waste which is managed independently by each community through storing save-tang/composter wells (modern teba) in every home yard. Thus, it can reduce the production of organic waste sent to TPS/TPA.

The existence of the Pesan Pede program is not only limited to making it easier to sort and process waste, but can also serve as a means of education and provide an economic impact on the community. As an effort to raise public awareness of the importance of having insight into caring for the environment. So that this program will be able to have a sustainable impact in protecting the environment (Gusti et al., 2021).

Technically, the Pesan Confident program which was established in the Cemenggaon Traditional Village is already running and managed according to its duties and functions, however, there are still obstacles and difficulties for the Cemenggaon Traditional Village government to be able to run a waste management system independently. Considering that public awareness and knowledge in managing waste is still low and there is a lack of facilities

and infrastructure to manage waste independently. So, there is a need for empowerment carried out by the Cemenggaon Traditional Village Government to increase community participation.

## **Methods**

This research uses a qualitative research design with descriptive methods. The aim of using this design is to explain the actual events and conditions in the field, so it is often referred to as naturalistic inquiry. The descriptive method is a method that describes an actual problem according to the conditions occurring in the field and obtains data collected in the form of words and images, numbers, tables and others to support the validity of the research data. Simangunsong (2017), in his work on research methodology, explains that qualitative research has various types of research designs because they must be adapted to the natural nature of qualitative research which appears suddenly.

This research uses a qualitative method with a purposive sampling technique, namely sampling based on consideration of people or groups of relevant information and knowledge of conditions in the field in the focus of the research (Sugiyono; 2017). Informants in this research include the Head of the Gianyar Regency Environmental Service, the Head of the B3 Waste Management Section, the Celuk Village Head (Perbekel), the Cemenggaon Traditional Village Service Head, the Cemenggaon Traditional Village Waste Management Agency (BPS) Chair, the Inorganic Waste Collector in the Cemenggaon Traditional Village , as well as the Cemenggaon Village Community (Heads of Families) who have implemented the Pede Message Program in each Tempekan (-1 informant was taken from each Tempekan as a representative of each Tempekan). Researchers chose the informants above based on the duties and functions they have as those in authority and related to managing household resources. In this way, these informants can be trusted to be able to provide the information needed to fulfill the data for this research (Hadi & Asrori, 2021). Researchers also use snowball sampling techniques, noting that key informants cannot answer the research questions.

This research uses qualitative research instruments, so the instruments contained in it are interview guidelines, observations and a list of documents. Qualitative research focuses on "human instruments", which means determining the research focus, selecting information as a data source, collecting data, assessing the quality of the data, interpreting the data and making conclusions about the findings" (Sugiyono, 2017).

Data collection techniques were carried out using semi-structured interviews, observation and documentation. In this study, researchers will use semi-structured interviews, namely a type of in-depth interview, where this interview is freer in nature compared to structured interviews. Researchers carry out research observations with the hope of being able to obtain factual and actual data on the objects observed in the research through direct observation. Documentation in research can be in the form of writing, drawings, or someone's monumental works (Sugiyono, 2017).

This research uses data analysis techniques from Miles and Huberman in Sugiyono (2017) which analyzes data in the research process which is carried out with the scope of activities including data reduction, data display, and conclusion drawing/verify). This research was conducted at the Gianyar Regency Environmental Service and the Cemenggaon Traditional Village.

## **Results and Discussion**

### **Community Empowerment in Waste Management through the PEDE PEDE Program**

The Bali Provincial Government in administering government is always guided by the concept of local Balinese cultural wisdom, namely Tri Hita Karana. Tri Hita Karana is defined as the

basis of Balinese society in behavior, including the relationship between humans and humans, humans and the environment, and humans and God. The connection between the Tri Hita Karana concept through the PEDE PEDE program is that the relationship between humans and the environment (Pabelasan) has an important role as a benchmark in creating harmony in society. The creation of a clean environment will have a positive impact on social sustainability (menyama braya) as well as maintaining the health of the community and the surrounding environment. Realizing that the waste issue is complicated and complex, so that there is not yet full awareness by the community wisely in managing their waste, the Cemenggaon Traditional Village has innovated to overcome the waste problem. Apart from innovation, this program is also expected to provide optimal health insurance for the community, which of course will attract public interest in making the program a success.

Based on this, the Traditional Villages of Cemenggaon, Celuk, Sukawati, Gianyar Regency formed a breakthrough in the form of an independent rural waste management program (PESAN PEDE) which is based on Bali Governor Regulation Number 49 of 2019 concerning Source-Based Waste Management and strengthened in the Cemenggaon Traditional Village Pararem concerning Cemenggaon Traditional Village Waste Management Agency (BPS) Number: 32/DA.C/IV/2021. It was explained that in handling waste it must be handled from upstream or the source where the waste is produced, so the MESSAN PEDE Program has a target, namely that every community in the household environment can sort and process organic and inorganic waste so as to produce sales value that can be profitable. every community and have a positive impact on public health and the surrounding environment. Therefore, the results of the production of organic and inorganic household waste are no longer disposed of at the Temesi TPA, thereby reducing the burden on the volume of waste at the Temesi TPA. Apart from that, people can also get various benefits (value) from the results of managing their waste.

The implementation of the MESSAN PEDE Empowerment Program in the Cemenggaon Traditional Village includes empowerment which is defined as the process, method, act of empowerment. Empowerment comes from the word power which means "strength", so that empowerment is defined as giving strength to individuals/community groups who lack the strength to live independently, especially in fulfilling the basic needs of life and basic daily needs.

This should be the government's responsibility to provide full encouragement or support through the involvement of all parties such as the community itself which is expected to actively participate in the implementation of every empowerment activity or program for the welfare of the community. In carrying out this research, researchers used four criteria for implementing community empowerment according to the four criteria for implementing empowerment according to Mardikanto and Soebito in measuring the implementation of community empowerment activities in waste management through PEDE MESSAGES in the Cemenggaon Traditional Village. The four criteria are: 1) Human Development; 2) Business Development; 3) Community Development; 4) Institutional Development

From the four criteria above, researchers will describe the research results of community empowerment in waste management through the PESAN PEDE program in the Cemenggaon Traditional Village.

### **Human Development**

Human development is a fundamental dimension of empowerment in an effort to empower humans in terms of self-awareness in the community. Guidance carried out by the Cemenggaon Traditional Village BPS through the formation of the Cemenggaon Traditional Village Pararem

Number: 32/DA.C/IV/2021 concerning Waste Management in the Cemenggaon Traditional Village. The Celuk Village Government as an element of the regional government of Gianyar Regency is responsible for the implementation of Law Number 6 of the Year concerning Villages, it is explained that Villages are villages and traditional villages or referred to by other names, hereinafter referred to as Villages, are legal community units that have authorized territorial boundaries. to regulate and manage government affairs, local community interests based on community initiatives, origin rights, and/or traditional rights recognized and respected in the government system of the Unitary State of the Republic of Indonesia. Regarding managing the community, in this case it is implementing a pattern of empowerment for the community in the village area. In this case, the Celuk Village Government, which consists of the Cemenggaon Traditional Village, formed a rural independent waste management program (PESAN PEDE) through the establishment of the Cemenggaon Traditional Village Waste Management Agency (BPS). As stated by Laverack (2006), community empowerment is a program and also a process, where the community will be empowered through activities or a series of predetermined stages to achieve goals. Community empowerment is a continuous process.

The guidance carried out by the Cemenggaon Traditional Village BPS to the community in waste management is by providing education to the community, where the Cemenggaon, Celuk Traditional Village BPS together with the Traditional/Banjar Village officials held meetings (paruman) to carry out education at the Village/Banjar Hall to provide awareness to the community in wisely managing waste from its source and actively participating and caring for the environment through the PEDE PEDE program which must be carried out and guided by the Cemenggaon indigenous community. On another occasion, the Cemenggaon Traditional Village BPS also canvassed the community at home who still did not understand how to implement waste management patterns through the PEDE PEDE program in terms of the system for sorting and processing organic, inorganic and B3 waste. This is relevant to the human development theory according to Mardikanto (2019) regarding the aim of empowerment is to improve the quality of human/individual life or the knowledge capacity to be able to manage waste independently from the source and then process it and produce economic value. Nugroho said that management refers to the process of managing or handling something to achieve certain goals, in this case the role of the community in managing and handling waste problems so that they do not cause environmental problems.

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community's enthusiasm is quite high in implementing the PEDE PEDE program. Researchers made observations around the Cemenggaon Traditional Village, to people's houses on Friday, January 12 2024, seeing that every house had a composter well (modern teba) and rubbish bins for sorting inorganic and B3 waste. So that every household yard has an independent waste processing site for organic, inorganic and B3 waste. The education and assistance in waste management provided by the Cemenggaon Traditional Village BPS has resulted in community participation starting to form and this has helped the implementation of the Bali Regional Program, especially in Gianyar Regency. The regional program in question is able to protect the environment in accordance with the Tri Hita Karana concept by managing waste from the source. This is relevant to the empowerment theory according to Mardikanto, namely that empowerment is an effort to build one's own power/capability by encouraging, motivating and raising awareness of one's potential and making efforts to develop it.

### **Business Development**

Business development is an important thing in implementing empowerment, because the business development aspect will provide a platform for implementing empowerment. The business development dimension carried out by the Cemenggaon Traditional Village BPS is to provide empowerment in the form of education and outreach as well as assistance to the community regarding waste sorting and management in order to provide value to the waste that is processed. Organic waste that is sorted and processed through a well composter (modern teba) will produce natural compost fertilizer after being stored for 1.5 years which can be used to fertilize the soil and plants around the home yard. The results of the inorganic waste sorting carried out can be sold at market prices at the Sami Asri Waste Bank belonging to the local Traditional Village, thereby generating value for the community. The development carried out by the Cemenggaon Traditional Village BPS is in line with and relevant to the theory of Mardikanto (2019), where business development is one of the factors in improving community welfare regarding the value obtained by the community from processing their waste.

In ideal waste management, waste management is managed directly from the source, namely from the upstream to downstream layers, namely from the community until finally the local government manages the landfill and so on. Law Number 18 of 2008 concerning Waste Management also states that the main actor in managing waste is the community itself which must play an active role in environmental management carried out by the regional government. Therefore, community empowerment carried out for the Cemenggaon Traditional Village community in sorting and managing waste through business development is how the community can be encouraged to play an active role in selecting and managing their waste to produce output that can provide value to the waste processed and sold by the community to the community. collectors or vendors. Inorganic waste that has been collected at the Sami Asri Waste Bank, Cemenggaon Traditional Village, will be sorted carefully by the waste bank management and then resold to collectors or vendors.

In the PEDE PEDE Program there is inorganic waste management which will be accommodated by the Cemenggaon Traditional Village BPS management through the Sami Asri Waste Bank belonging to the Traditional Village. Sami Asri Waste Bank gets money from vendors or collectors who this time collaborate with collectors from Komang Adi Bali Recycle to then sell and get money for the sorted waste belonging to waste bank customers. Then the waste bank management will pass on the money to customers according to the results of their savings. So that an economic flow is formed.

From the results of education carried out by the Celuk Village and the Cemenggaon Traditional Village BPS, the community can manage their waste independently and optimally. Both inorganic and organic waste. Inorganic waste distributed to the Sami Arsi Waste Bank every

month will generate sales value and get money in the form of money for exchanging inorganic waste. And organic waste is managed independently in each household through a composter well (modern teba) which is found in the yard of the house, totaling 2 holes. Every year you can get the results in the form of natural compost to be used as fertilizer for plants and soil at home. So that organic and inorganic waste is no longer sent to the Temesi landfill. Only B3 waste cannot be processed independently.

Household waste that is successfully sorted by the community and weighed by the Sami Asri waste bank will then be transported and sent to the recycling industry, so that profits from this recycling are then obtained in the form of money, besides that the home environment will also be cleaner.

### Community Development

Celuk Village, especially in the Cemenggaon Traditional Village, through the MESSAGE PEDE program provides environmental guidance. The environmental development in question is in the form of provision of facilities and infrastructure facilitated by the Village Service through the Cemenggaon Traditional Village BPS aimed at environmental sustainability, especially in the implementation of household waste management. Celuk Village Regulation Number 3 of 2022 concerning Source-Based Integrated Waste Management explains that the Village Government has the task of fulfilling facility needs in implementing waste management and facilitating the provision of waste management facilities and infrastructure as well as encouraging and facilitating the development of benefits from waste management.

Table 2. PEDE PEACE Facilities and Infrastructure

No	Type	Amount	Unit
(1)	(2)	(3)	(4)
1	Garbage Pickup Truck		
	Amount Overall	1	Unit
	Number of Functions With Good	1	Unit
	Damaged Amount	0	Unit
	Capacity	3	m <sup>3</sup>
2	Laptop	1	Unit
	Amount Overall	1	Unit
	Number of Functions With Good	0	Unit
	Damaged Amount	1	Unit
3	Printer	1	Unit
	Amount Overall	1	Unit
	Number of Functions With Good	0	Unit
	Damaged Amount	1	Unit
4	Scales	1	Unit
	Amount Overall	1	Unit
	Number of Functions With Good	0	Unit
	Damaged Amount	1	Unit

Source: Processed by researchers, 2024

Environmental development is one aspect of implementing community empowerment that pays attention to the sustainability of the environment so that it is maintained. Because, environmental development is not only paying attention to how the social environment operates, but paying attention to and protecting the environment is the responsibility of every community. And environmental development is an effort to maximize and optimize facilities

and infrastructure in maintaining environmental relationships in accordance with the cultural philosophy of the Balinese people, namely guided by Tri Hita Karana. In terms of environmental development, of course, the PEDE PEDE program will have a very positive impact on the surrounding environment because of course no more waste will be left outside the house because it has been processed directly in the household. So it will not pollute the environment from odor pollution. Then people will feel safe and comfortable living in their home environment. The results of the researcher's observations show that in the Cemenggaon Traditional Village there is indeed a means of transport for transporting waste, namely a pickup truck. The car is used to transport B3 waste collected in each household. Then the facilities and infrastructure supporting waste management activities through the Sami Asri waste bank are also available, so that activities run smoothly. For the link between environmental development and program activities, MESSAGE PEDE is a local wisdom value that has been redesigned in a more modern way by processing organic waste through a composter well (modern teba) through the concept of going from nature to nature, the result of which is compost which is used to fertilize the soil and plants in the household environment. This is relevant to Mardikanto (2019) environmental development theory, where the environment is the responsibility of every individual/human and the government through policies can improve the social welfare of society.

### **Institutional Development Institutional**

Development is an important element in implementing community empowerment programs. This is because institutional development is an organizational or social element in managing waste in the Cemenggaon Traditional Village, in this case carried out by the Cemenggaon Traditional Village BPS. The Celuk Village Government as the Village Service has made many contributions to the Cemenggaon Traditional Village community, especially those channeled through the Cemenggaon Traditional Village Waste Management Agency (BPS). Where guidance to Cemenggaon Traditional Village BPS apparatus continues to be carried out and monitoring by Celuk Village in waste management and environmental maintenance. The PEDE PEDE application is an innovation carried out by Celuk Village to facilitate recording and checking by waste bank customers. This makes it easier for the Sami Asri waste bank management to perform as well as transparency for customers in recording their savings at the waste bank. The Gianyar Regency Government's vision regarding waste is that in 2024, inorganic waste will no longer be thrown at the TEMESI TPA and all inorganic waste will be the responsibility of the community itself as the main actor in source-based waste management.

### ***Inhibiting Factors in Community Empowerment in Waste Management Through the PESAN PEDE Program in the Cemenggaon***

Traditional Village In implementing a program, of course there are obstacles in the implementation process. Researchers observed that there were several obstacles in the process of community empowerment activities in waste management through the PESAN PEDE program in the Cemenggaon Traditional Village. These obstacles are as follows:

There are people who do not understand how to manage waste in several households. In empowerment, the object aimed at in the PESAN PEDE program is the community as the main component for empowerment to take place through the PESAN PEDE program. There are several households in the Cemenggaon Traditional Village that still lack knowledge in processing waste and the positive impacts it can have. Due to the attitudes and mental behavior of people who are forced to want to sort waste and manage waste to become a new culture.

There are no tools or machines to shred organic waste in the residential waste collection area. When processing organic waste on a large scale or incidental, it is collected in the waste

collection center selected by the Traditional Village. The collected waste will be left to slowly become natural compost, requiring a long time. To shorten composting, an organic waste chopping machine is needed so that the waste can be processed more quickly into optimal compost.

The application at the waste bank is not optimal for recording savings. Registration in the Sami Asri Waste Bank belonging to the Cemenggaon Traditional Village has a recording application for the waste bank flow cycle called the MESSAGE PEDE Application. However, the application cannot be operated optimally due to several influencing factors. So recording is still done manually through a savings book.

Waste transportation facilities are still limited. The means for transporting waste in the Cemenggaon Traditional Village is by using a pick-up truck every day. The pick-up truck used accommodates B3 waste collected in the Cemenggaon Traditional Village area. However, Traditional Village areas usually have roads that are not wide enough for cars to pass through. So a more flexible lifting facility is needed, namely a transport motorbike, whereas the village government does not have this facility.

### ***Efforts to Overcome Inhibiting Factors in Community Empowerment in Waste***

Management Through the PESAN PEDE Program in the Cemenggaon Traditional Village To overcome obstacles in Community Empowerment in Waste Management through the PESAN PEDE Program in the Cemenggaon Traditional Village, of course there are efforts to overcome inhibiting factors. These efforts are as follows:

Carry out routine and intensive education, coaching and mentoring for the community. The implementation of routine and intensive education, guidance and assistance is carried out by the Gianyar Regency Environmental Service together with the Cemenggaon Traditional Village Waste Management Agency aimed at ensuring that the community is able to understand the importance of managing waste independently through sources. Activities are usually carried out every month or are carried out when there are *areparuman* (gathering) activities at the banjar hall.

Hold regular seminars (meetings) with the community and traditional village officials. *Paruman* is a term for an association, meeting or deliberation for discussing certain discussions in Balinese society. *Paruman* was carried out by stakeholders of the Cemenggaon traditional village to discuss waste management in the village to maximize waste management.

Increase the capacity of the management of the Cemenggaon Traditional Village Waste Management Agency (BPS). Increasing the capacity of the management of the Waste Management Agency is always considered to improve performance in waste management activities. Capacity building such as understanding waste management knowledge, operating waste management and waste management strategies and so on.

Optimize waste transportation facilities. Transportation facilities are an important part of implementing waste management activities. Optimization of transportation facilities continues to be carried out by always paying attention to vehicle conditions. This is done to maintain the condition of the vehicle so that it is always optimal when in use and to minimize damage to the vehicle engine. The limited number of vehicles is not a problem as long as the condition of the vehicle you own is always checked so that it is always in top condition when used. For this reason, both the Village government and the management of the Waste Management Agency themselves always service and maintain the available vehicles. While increasing the number of vehicles with self-help activities, one of which is CSR and so on, management activities are

running well according to the waste management targets in the Cemenggaon Traditional Village.

## Conclusion

Based on the results of research and discussion regarding Community Empowerment in Waste Management through the PESAN PEDE Program in the Cemenggaon Traditional Village, Gianyar Regency, Bali Province, the researchers drew the following conclusions: (1) Implementation of empowerment in waste management through the PEDE PEDE program in Traditional Villages has been carried out well. This is marked by the activities carried out by the Village Government through the Cemenggaon Traditional Village Waste Management Agency, Celuk, Gianyar Regency, Bali Province; (2) Inhibiting factors in implementing community empowerment in waste management through the PEDE PEDE program in the Cemenggaon Traditional Village, Gianyar Regency, Bali Province, namely: a) There are people who do not understand how to manage waste in several households; b) There are no tools or machines to shred organic waste in the residential waste collection area; c) The application at the waste bank is not optimal for recording savings; d) Waste transportation facilities are still limited.

Efforts to overcome inhibiting factors in implementing community empowerment in waste management through the MESSAGE PEDE program in the Cemenggaon Traditional Village, Gianyar Regency, Bali Province, namely: a) Carry out routine and intensive education, coaching and mentoring for the community; b) Hold regular seminars (meetings) with the community and Traditional Village officials; c) Increase the capacity of the management of the Cemenggaon Traditional Village Waste Management Agency (BPS); d) Optimizing waste transportation facilities.

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