

# Village Community Empowerment with Integrated Waste Processing at Namo Bintang Village Deli Serdang Regency

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**Abstract:** Community service activities with the title of "Village Community Empowerment with Integrated Waste Processing at Namo Bintang Village Deli Serdang Regency" were carried out from May to November 2018. This activity aims to transform waste into material that has economic value, and reduced pollution. The method used was counseling, lecturing and training as well as monitoring and evaluation to the target community. Integrated waste processing was done in several places in the village of Namo Bintang with the approval of the village chief and the community. The implementation of the activities was held by means of counseling and lectures, explanation of integrated waste processing theories and techniques followed by the community groups of the Farmers and Scavengers of Namo Bintang Village. The community listened to the lecture presented by the community service team. The training was conducted by farmer and scavengers group in Namo Bintang Village. Groups of farmers and scavengers were trained by a community service team. All did these activities proactively while doing the training to get the result of fertilizer from organic waste and handicraft materials from inorganic waste. The results can be seen after 10 days of training to produce the organic fertilizers and handicraft from inorganic waste. The equipments for waste utilization was very simple therefore community groups made by their own. The last step were monitoring and evaluating monitoring of this public service work in the field was done by going directly to the field together, monitoring with visited to find out if the community can already do all activities by their own. In addition, the communication was done by phone to overcome the problems that arose. In general this community service activity was successfully and there was a good relationship between universities, especially the Implementation Team, government officials and the community in Namo Bintang Village. The village community was aware of the importance of saving the environment and at the same time improving their standard of living because they could already make their own fertilizer / compost and handicraft products.

## 1 INTRODUCTION

Namo Bintang Village is one of the villages located in Pancur Batu sub-district, Deli Serdang District. In the village of Namo Bintang, there is also a Landfill of the Municipality of Medan, or commonly abbreviated as the Pancur Batu Sub-district Landfill, Deli Serdang District, located to the north of Namo Bintang village and has an area of around 25 hectares. The distance from the settlement to the landfill area is about 1.5 km and located on the roadside in the direction of Pancur Batu road. While the landfill distance from the municipality of Medan is about 17 km.

Based on the condition of the village that is closed to the farmer landfill, most people have a

livelihood as garbage scavengers or collector of used goods for resale to meet the living needs of the village community, while those who have the most livelihoods are farmers in the village of Namo Bintang. Farmers and Scavenger or used goods collectors, most of who are in Namo Bintang Village. The village of Namo Bintang is a village whose inhabitants throw garbage in the river and burn it. Garbage often accumulates on roadsides and rivers, thus disrupting the environment. In addition, the scattering of garbage into the paddy fields because it is carried by the river flow to invite various complaints from farmers. The waste is piled up so that the flow of sewer or river water is blocked. When rainfall is high and lasts a long time, it will cause flooding.

Based on the nature, waste are divided into: Organic waste - can be decomposed (degradable) and inorganic waste - not decomposed (undegradable). How to handle garbage, what is done is:

1 Sorted out, is to separate between rotting garbage and garbage that is not easy or difficult to decompose; 2. Compostable: once sorted, rotten garbage such as used food and vegetables can be processed into compost; 3. Recycled: The garbage that is not easy to rot, such as plastic or paper, can be processed into goods that can be reused or sold.

With the integrated waste management, the NamoBintang Village community gets knowledge and training in organic and inorganic waste to increase the family's economy.

The benefit of this activity is to help the NamoBintang village community in terms of making compost / organic fertilizer and handicraft products. Introduce the culture of utilization of waste in everyday life to reduce the needs of the family so that the family economy becomes better.

## 2 RESEARCH METHODS

### 2.1 Materials and Method

The method used in this activity is through counseling and lecture, explanation of theories and techniques for the use of organic and inorganic waste, followed by the community groups of Scavengers and Farmers in NamoBintang Village. The community listens to the material presented by the community service team.

The training was conducted by scavengers and farmers in NamoBintang Village. Community groups are trained by a community service team. All carry out these activities by proactively conducting training to get results in the form of organic fertilizer / compost and handicraft materials. The equipment is also very simple so that community groups can make it themselves. The training was conducted by scavengers and farmers in NamoBintang Village.

Monitoring and evaluation of successful utilization of organic and inorganic waste, monitoring of work in the field will be done by going directly to the field together, monitoring with visits to see if the community can already make organic fertilizer and handicraft materials themselves. In addition, the relationship will be done by phone to overcome the problems that arise.

In general, community service activities have been successfully carried out and there is a good relationship between universities, especially the

Implementation Team, government officials and community Farmers and Scavengers in Namo Bintang Village. The Namo Bintang Village community is aware of the importance of saving the environment while improving living standards because they can already make organic fertilizers and handicraft products themselves.

The success of these community service activities cannot be separated from the participation and support of village officials such as NamoBintang Village Chief and staff, Farmers and Scavengers groups which participate in this activity.

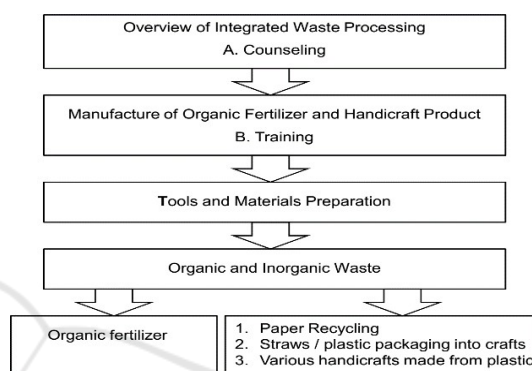


Figure 1. The schematic of community work

## 3 RESULTS AND DISCUSSION

### 3.1 Counseling and Lecture Activities

The implementation of the activities was carried out by means of counseling and lecture, explanation of integrated processing theory and techniques, which were followed by community groups in Namo Bintang Village, Deli Serdang Regency. Villagers listen to the material presented by the community service team as presented in Figure 2.



Figure 2. Theory presented by team (left) and practiced by team and community (right).

The material presented concerns about the integrated waste processing, namely the processing of

organic and inorganic waste as compost / organic fertilizer and handicraft products. It is expected that community groups can reduce the cost of household production because it can get and produce organic compost / fertilizer and handicraft products according to their needs. So community groups can save the environment and improve the standard living of their families.

### 3.2 Training Program

The training was conducted for a community group in the village of NamoBintang and trained by a community service team. All do this activity by proactively doing the training to get the result of compost / organic fertilizer and handicraft product from organic and inorganic waste. The results can be seen directly, for the use of inorganic waste while for the use of organic waste into fertilizer the community groups can see the results after 21 days of training. The equipment for making organic and organic waste is also very simple so that the community groups of farmers and scavengers can make their own as listed in table 1.

Table 1. The kind of waste, product and approximate price after public service activity

No	Type of waste	Product	Price (IDR)
1.1	Organic	Organic fertizer/compost	Rp. 10.000 – Rp. 20.000/10 kg
2.	Anorganic	Flower from straw	Rp. 5.000 – Rp. 10.000/piece
		Flower from Plastic bag	Rp. 5.000 – Rp. 10.000/Tangkai
		Flower from Plastic cup	Rp. 5.000 – Rp. 10.000/Tangkai
		Bag from plastic cup	Rp. 50.000 – Rp. 100.000
		Door and window ornament	Rp. 50.000 – Rp. 100.000
		Bag from various plastic waste	Rp. 50.000 – Rp. 100.000

Integrated waste processing activities are very supportive because the waste is very much in the village of Namo Bintang, so the community is very easy to take the material for composting organic fertilizer and handicraft products. The tools used for composting organic fertilizer and making handicraft

materials are so simple that the village community can make their own. In addition, the village environment can be saved from the waste while the villagers improving their living standard because they can make their own handicraft and compost and sell them. The university team and community are conducted the training program as seen in Figure 3.



Figure 3. The team who conducted the social engagemment from USU and communities at Namo Bintang

Making of compost / organic fertilizer takes time to produce the products, because the process must be left or fermented for several days. Therefore the community group must have technical use and utilization.

## 4 CONCLUSION

The village community empowerment activities with integrated waste processing in NamoBintang village of Deli Serdang Regency, the following conclusions can be drawn:

Empowerment of village communities with integrated waste processing into compost/ organic fertilizer and handicraft materials.Utilization of integrated waste processing can provide economic and ecological value. There is good cooperation between USU and the community in Namo Bintang village of Deli Serdang Regency

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