



Environmental Wisdom of Organic Agriculture in Karang Anyar Village, Beringin District, Deli Serdang Regency

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Abstrak

This research was conducted to determine and identify the wisdom of the organic farming environment in Karang Anyar Village, Beringin District, Deli Serdang Regency. As for the matters being discussed are the background of an environmentally friendly (organic) farming system, the form of environmental wisdom of organic agriculture, and the strategy of strengthening organic farming in Karang Anyar Village. The research method used is the type of qualitative research with a descriptive approach through data collection techniques such as observation and interviews. The data analysis technique uses Miles & Huberman which starts with data collection, data reduction, data presentation, and drawing conclusions. The results of the study described that organic farming in Karang Anyar Village began in 1992 and was initiated by a farmer named Sukardi. He has pioneered organic agriculture to date by forming a farmer group called Karang Anyar Farmer Group since 2008. This group produces organic rice called organic pandanus fragrant rice. The environmental wisdom found in agriculture in this village is to develop artificial fertilizers naturally by utilizing fruits such as pineapple for fermentation, starch water, neem leaves, planting colorful flowers on the edge of rice fields to divert plant pests.

Keywords: Environmental Wisdom, Organic Agriculture

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INTRODUCTION

Agriculture is a livelihood system that is already prevalent in several regions of Indonesia. In the acceleration that occurs in the current of modernization that is so strong, it does not rule out not to affect all activities of Indonesian society including farming activities. The presence of a variety of technologies (Iskandar, 2009), can facilitate farming activities, including the use of chemical fertilizers. Chemical fertilizer is used by most farmers in Indonesia to relieve anxiety related to crop failure.

However, over time, it turns out that rice using chemicals as fertilizer has lost the quality of rice produced. Not only that, the quality of the nutritional content found in rice that uses chemical fertilizers, is certainly far different from rice that does not use chemical fertilizers. In fact, not a few of the farmers who experienced poisoning when using chemicals when planting and nearing harvest. Therefore, several innovations in farming systems for farmers in Indonesia have emerged as has already begun to be implemented in several regions in Indonesia, with an environmentally friendly farming system that excludes the use of several technological tools and a number of chemicals in the farming process.

The existence of organic farming systems that promote environmental wisdom by not using the use of chemical fertilizers and some technologies such as rice plowers in their farming systems have a different impact on farmers who use certain systems, both positive and negative. The farmers in Karang Anyar Village, Beringin District, Deli Serdang Regency are one of the farmers in Indonesia who have implemented an environmentally friendly farming system since 1992. The farmers realize that it is important to contribute to the development of the quality of life of humankind and the environment constantly and sustainable. One way for an environmentally friendly agricultural system is an agricultural system that uses organic fertilizers by reducing the use of fertilizers made from chemicals.

This is as revealed by (Sugandhy & Hakim, 2007) that the development of sustainable agriculture as a conscious effort is planned by incorporating environmental elements including natural resources into the development process to ensure the ability, welfare, and high quality of life of the present and future generations. Sustainable organic farming means an agricultural system that combines ecological, social, and economic elements into one integration and allows it to be carried out by all farmers continuously as their local knowledge to answer food needs without using chemicals.

This study related to environmentally friendly agriculture has also been carried out by (Wihardjaka, 2018) by producing data related to the existence of good synergy between environmentally friendly agriculture and technology. Therefore a series of activities were carried out to maintain the organic agriculture sector. (Hawayati, Novitasari, Kosasih, & Nainggolan, 2016) tried to implement a sustainable environmentally friendly agriculture system by applying technology that still prioritizes the values of environmental friendliness. As revealed by (Arifin, 2005) that food security is a challenge that gets priority to achieve national welfare. To realize food security, farmers must get more attention because agricultural products are the main source of food. Food security does not only mean the availability of sufficient food, but must also be safe or not be destructive, equitable, and reachable by the whole community.

Various local wisdom that has been maintained by the ethnic groups in Indonesia are learned from nature, and consider everything that is good and useful, which they also learn from nature. Of course, the activities carried out continuously and passed on to the next generation are believed by anthropologists as an effort to preserve culture. The experts have poured many ideas related to development that is expected to achieve the balance of nature and human needs. Various environmental ethics have become studies that are often voiced in efforts to preserve environmental ecology.

Lately, a new idea was sparked. Sustainable development is expected to be able to provide solutions to human and environmental problems. (Puspitawati, Hasanah, Febryani, & Andriansyah, 2020) revealed one application of local wisdom found in Javanese farmers' farming in Lubuk Pakam and Beringin Districts. The farmers usually always start farming activities by carrying out fresh flour activities through the slaughtering of goats in mosques around the residential areas.

Unlike the environmental ethics that exist in environmental ecology studies (such as biocentrism, ecocentrism, and ecofeminism), sustainable societies do not contain individual subjective-technical rules of how to treat the environment wisely. Nor is it the technical agenda of the community groups on how to fight the environmental destroyers. However, the intended scope is more for future social systems engineering projects. Future trends, While & Whitney (1992) parse the core of sustainable development, namely respect for harmonious interactions between three systems: biological systems and sources power, economic system and social system (Budiharjo, 2005) (Susilo, 2012) or popularly termed triple P (Planet, People, Profit).

RESEARCH METHODS

This research method uses qualitative research with a descriptive approach. Bogdan and Taylor (Moleong, 2019) suggest that qualitative methodology is a research procedure that produces descriptive data in the form of written and oral words from people and observed behavior. Furthermore, social reality that occurs in the field must be obtained by researchers through observation and participation that can describe the research problem (Bungin, 2005). Therefore, data collection techniques in the form of participatory observation (participant observation) and in-depth interviews (indepth interview). The research location is in Karang Anyar Village, Beringin District, Deli Serdang Regency. Research informants are farmers who implement organic farming

(environmentally friendly systems). Determination of informants is done by looking for people who know correctly and clearly related to research questions or who are considered capable and able to answer research questions in accordance with Spradley's statement (Spradley, 2007), namely there are five minimum requirements for selecting good informants, namely full enculturation, involvement direct, cultural atmosphere unknown to researchers, sufficient time, and non-analytic.

RESULTS AND DISCUSSION

Background Organic Agriculture in Karang Anyar Village, Deli Serdang

In the Karang Anyar sub-district in Deli Serdang Regency, generally the type of agriculture developed by farmers is by non-organic farming systems. However, in one hamlet in Karang Anyar village, which is precisely the one in the Karang Anyar farmer group (Gapoktan), is different. This farmer group applies an environmentally friendly agriculture system. The initiator called it organic farming. Organic which is an adjective is expected to be absorbed in every soul of Karang Anyar farmers, that farming is a love of the environment and maintaining harmony with nature. This is reflected in the philosophy developed by Karang Anyar farmers that 'if we value grain, we value other farmers and give life to other humans'. Through this philosophy, it can be interpreted that the grain is the same as farmers. Although the grain is only a small grain, but its value is very valuable. Grain can be obtained from the labors of farmers, and therefore grain is as meaningful as farmers. This philosophy is certainly positive because it teaches to appreciate all the smallest things.

The eco-friendly farming system has been the choice of Karang Anyar Village farmers since 1992, which was initiated by a farmer named Sukardi. This also stems from the poisoning he experienced when farming non-organically and his process of interpreting the meaning of the environment. Environmentally friendly agriculture is essentially a form of land management by

utilizing organic fertilizer derived from nature as its fertilizer. Organic farming is a method or system of agricultural cultivation that avoids the use of fertilizers or factory-made pesticides.

At the beginning of this organic farming system pioneered, only a few farmers who want to join. This is inseparable from the concerns of farmers if they experience losses or even fail to harvest. Moreover, the originator of this agriculture also suffered losses and crop failures at the beginning of using this farming system. However, gradually over time and the addition of farming experience both directly and through training, efforts to implement organic farming, can really be applied. Because of seeing the success of agriculture managed by Pak Sukardi, since 2008 there have been 42 farmers asking him to form a joint farmer group (gapoktan). Until now there are 72 farmers who joined the organic farming system with an area of 23 hectares.

The Karang Anyar farmer group association (gapoktan) is now actively activating organic farming and has its own laboratory named after the biological agent developer located next to the house of the gapoktan chairman, Pak Sukardi. At that location, farmers experimented to produce natural fertilizer and microbes that are useful as fertilizer on the farm. Not far from the location of the chairperson of gapoktan, there is also the Karang Anyar farmer rice refinery group. The farmers have a brand for the rice produced under the name Organic Rice Pandan Wangi Karang Anyar Farmer Group / Dasular Farmer who has a marketing authorization. The rice is marketed at a weight of 10 kg.

Environmental Wisdom of Organic Agriculture in the Karang Anyar Farmer Group

In the organic farming system, a series of environmental wisdom was developed to preserve the rice fields in the Karang Anyar village, including (1) not using chemicals. In this case, it can be understood that a plant that uses chemicals allows good results and

has a fast period in the planting process. However, if you see the results there are chemicals in the plant and will have an impact on the future. However, if you use organic materials such as compost such as cow dung and buffalo dung, it is strongly recommended; (2) Do not burn agricultural crop waste. What is meant by this is that after harvesting rice, it is better not to burn on land that has been harvested, because it will cause infertile soil which will reduce the substances and nutrients in it; (3) Provision of liquid fertilizer. Liquid fertilizer in question is a natural pesticide, which is neem leaves mixed with starch water, and mineral water, then mixed everything and sprinkled or sprayed on the plants. Can also use processed pineapple, and other leaves; (4) planting flowers when the rice starts to turn yellow to minimize pests that will eat ready-to-harvest rice; (5) Farmers believe that there is something outside the invisible human world that is in the agricultural area, therefore to maintain good relations so as not to be disturbed by it, the farmers respect every place in the rice fields. This belief in the invisible creature is one of the beliefs of the Javanese people so that it is inherited by their descendants in Karang Anyar Village and until now this belief is still used.

Strategies for Strengthening Organic Agriculture in Karang Anyar Village, Deli Serdang

Environmental management has a broad scope in various ways too. First, is routine environmental management. Second, is the early planning of environmental management of an area which is the basis and demands for development planning. Third, is the planning of environmental management based on estimates of environmental impacts that will occur as a result of a development project that is being planned. Fourth, is the planning of environmental management to repair damaged environments, both due to natural causes and due to human actions (Soemarwoto, 2004). Daldjoeni (in (Hilmanto, 2010) argues that ethnoecology studies the ecology and adaptation of

humans, this is because the analysis and discussion of human adaptation with culture that is inherent to their habitats and other living things.

One of the strategies to strengthen organic agriculture can be seen from the mechanism of work carried out by gapoktan by the teachings and guidance of the originator of agriculture. In this case all members of gapoktan trust the work done so far on the organic farming system. Farmers use organic materials obtained or made from leaves to compost. Besides, to maintain the balance of nutrients in the soil, the existing worms and microbes will decompose the remainder of the base of rice or grass and from worm feces that will be used as food for plants that are on the ground.

For sustainability in this organization, members of the gapoktan usually hold meetings to discuss rice farming and what is needed to improve the yield of organic agriculture. This Gapoktan also performs various types of work methods to maintain soil balance with agricultural patterns such as rice plants interspersed with crops. This is done to restore soil conditions to be better and fertile later when replanted with the same type of plant. The soil continues to be irrigated so the oxygen contained in the soil does not develop. Therefore it is necessary to dry the land for replanting rice.

The Gapoktan also does not use a production sharing system because each agricultural land is controlled by individuals and if there are paid farmers or wages, then it is the responsibility of the owner of the agricultural land to pay the farm laborer. So that the results obtained by the owner of agricultural land to process their results without the distribution of results between members of Gapoktan. Besides that, the management of Gapoktan in Karang Anyar Village, starting from the chairman, secretary, and treasurer, was not paid or received wages from his work in Gapoktan. So that the gapoktan in this village is purely for the common concern and interests to maintain the balance of agricultural land using agricultural processing with organic

systems and the results that will be obtained later will be more guaranteed of the quality of the crop for health and taste.

Training or counseling conducted at Gapoktan is solely to obtain superior agricultural products and be able to maintain the balance and sustainability of agricultural land and the environment. Gapoktan members work according to the chairman's direction to plant rice or vegetables using the organic farming system. This training or counseling is expected to be able to be applied in agriculture in Karang Anyar Village. Although not all farmers are willing and brave to risk failure or loss and do not get more benefits compared to agricultural systems that still use chemical fertilizers and other chemicals, training and counseling are still conducted to help and encourage the community to improve their organic farming systems.

According to farmers, a good crop yields will look very beautiful, that is, bring up nests on the plants. This indicates that plants or rice fields are good, because what works in this case is not the product of human hands but nature. So that this development is truly natural, not chemical related developments. The time to harvest the results of this organic or environmentally friendly system is 1 year 2 times with rice plants, then once a year with crops that are from January to April. After the rice harvest in January, beans are planted until next April, because at that time. it rarely rains, so plants that don't need much water are planted. After harvesting soybeans, corn, the rice is planted again. After harvesting the rice, the farmer will replant the rice. So there are two (2) times of planting rice and one planting of crops to maintain soil fertility.

The yield of this organic or environmentally friendly system has many advantages both in social terms, namely that farmers have a kinship nature with one another. Then in terms of plants, this organic system is healthier than a system that uses chemicals. This organic harvest can also be distributed to various groups such as the people or residents of Karang Anyar.

Besides, organic rice is also marketed to schools with special needs, namely autistic children. According to the farmer's explanation, organic rice when consumed to children with special needs, usually the digestion of these children is smooth and emotionally controlled.

CONCLUSION

Environmental wisdom in managing organic agriculture in Karang Anyar Village is one of the efforts of farmers to maintain harmony between humans and the environment. The farmers understand that this environment must be preserved by treating nature well. Organic or environmentally friendly agricultural system is a sustainable system that aims to optimize the use of natural resources in obtaining high and safe production, and to preserve the environment and agricultural natural resources.

Organic farming in the Karang Anyar farmer group has existed since 1992 and productivity and land area have been increased by offering farmers in other farmer groups to start switching to organic farming, for example in the Sidodadi Village area today, has shifted the farming system from non-organic leading to semi-organic agriculture. The fertilizers obtained are from the Karang Anyar farmer group. Farmers are also continually given counseling or outreach, both by the government and related institutions to better understand the concept of environmentally friendly agriculture.

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