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MEASURES USE OF THE HOUSE OF BIRDS GHOSTS AND WASTE HUSK RICE TO PREVENT PEST RATS ON RICE VILLAGE PURWOREJO

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Abstract: *This community service activity has the aim of helping the people of Purworejo Village, especially the Farmer Group, in overcoming the problem of rat pests that are being faced. Purworejo Village is located in Gemolong District, Sragen Regency, Central Java Province. This village is a potential area for the agricultural sector, the majority of the people are farmers. In agriculture, it cannot be separated from the threat of pests that attack rice plants. To overcome these problems, the service team provided socialization and procured RUBUHA (Owl House) and chaff soaking. Activities are carried out through the Simple Additive Weighting (SAW) method, counseling, and procurement. Making RUBUHA and soaking husks is an alternative to controlling rats using an ecological approach. Farmer groups in Purworejo Village 100% participated in this activity. The impact of the extension activities of farmer groups in Purworejo Village was able to increase knowledge, understand and apply rice husk waste, and utilize RUBUHA to eradicate rat pests in their rice fields. It is hoped that the farmer groups can be sustainable in maintaining RUBUHA*

PENDAHULUAN

Even though the farming profession has experienced a decline, in fact the Indonesian state is still making the agricultural sector one of the sectors that build the country's economy through international trade routes. The commodities traded are rice, corn, sugar, vegetables and fruits (Antara, 2020). Agricultural land in Indonesia, especially on the island of Java, is mostly planted with rice plants because many Javanese people consume these plants as the main food ingredient.

However, what often become complaints from farmers are pests that damage plants so that they often experience crop failure. Pests that often disturb residents are rats that eat or damage farmers' crops. Rats are also animals that have high adaptations so that they spread quickly (Sukmawati et al., 2017). Various efforts have also been made by residents to protect their plants from rat pests, but the use of chemicals is always an option due to its effectiveness but does not consider the environmental impact.

Purworejo Village, Gemolong District, located in Sragen Regency, is one of the villages

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where most of the villagers still work as farmers. There are 5 farmer groups in Purworejo Village spread over 5 hamlets namely Ngleri, Purworejo, Petingan, Ngabean, and Ngasinan. Purworejo village has 10 hamlets, some of which are separated by very large rice fields. Farmers' groups in Purworejo Village are experiencing serious problems regarding pests that damage people's farms. To prevent the crops from being damaged again and minimize losses, the farmer group in the village uses rat poison to eradicate the rat pests that often damage the plants they grow themselves. But according to them it is better than the plants being damaged by rats. Other efforts were also carried out, such as hunting rats at night which were carried out together. However, residents often use chemical-based rat poison because it is more practical and less tiring, it illustrates that farmers in the village are not too concerned with the ecological impact it causes. Actually there are several efforts made by residents to suppress rat pests, namely by using owl houses and husks.

An ecological approach is needed to suppress pests so they don't damage farmers' crops again and farmers also don't use chemicals that will damage their own crops. Utilization of natural predators is an appropriate step to suppress rat pests because rats attack plants at night, so the natural predator that is considered appropriate is the use of owls (Sipayung et al., 2018). Owls are nocturnal animals that actively hunt at night. Birds that are active at night have very observant hearing and vision so they can be trusted to guard people's rice fields at night. Farmers do not need to catch or buy owls, farmers only need to provide an owl house that is placed in the middle of the rice fields. The estimated time it takes about 60 days for the house to be occupied by owls is calculated from the day the owl house was established (Putri et al., 2020). In addition to eradicating rat pests, owls are also able to help control rat populations that have a high susceptibility to being attacked by rats (Sukmawati et al., 2017).

Another effort that can be done is by utilizing rice husk waste. This effort is also expected to be able to suppress the rat population on the residents' agricultural land. Based on laboratory results, rice husk soaking water contains chemical compounds that are high enough to interfere with the breathing of rat pests. The compound elements contained are secondary macro nutrients with levels of Mg (Magnesium) 0.29 mg/L, Ca (Calcium) content 16.16 mg/L and Sulfur (Sulfur) 884.76 mg/kg. In addition, there is also a content of micro nutrients such as Mn (Manganese) 89.69 mg/L and Ferrous (Iron) 10.39 mg/L and an acidity level (Ph) of 3.76 (Innovation in Plantation, Rat Pest Control from Husk, nd).). How to use it is by spraying water soaked in the husks in the holes of mice in the fields with the right dose. The water soaked in the husks also enabled residents to return to their normal harvest and reduce the use of chemical fertilizers.

Based on the problems described above, the community service team tries to take advantage of all efforts that prioritize the ecological approach to control rat pests using owl houses and husks so that farmers in Purworejo Village are expected not to suffer losses and participate in protecting the ecosystem. So that we jointly formulated a title, namely "Efforts to Use Owl Houses and Rice Husk to Prevent Rat Pests in Rice Fields in Purworejo Village". We hope that this effort will be successful so as to provide concrete evidence of the involvement of Universitas Sebelas Maret (UNS) in overcoming problems in the community and participating in developing villages according to the objectives of the theme for the 2021

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METHODS

Community Service Program.Implementation of community service using the Simple Additive Weighting (SAW) method. . This method is expected to be able to provide objective and efficient decisions. The implementation of the service also applies the method of observation and site visits to conduct research so as to obtain information on potentials that can be developed and problems that must be resolved. The choice of the right strategy and work program to overcome the problems experienced by the people of Purworejo Village. The implementation of the strategy is carried out by going directly to the community, especially to the farmer groups of Purworejo Village by providing counseling and assistance, as well as solution actions to existing problems so that they can get the expected results. The last stage is appreciation and evaluation as a measure of the success of the implemented strategies and programs.

RESULTS

This community service activity is carried out based on the implementation of the 2021 UNS KKN program with the theme of the Thematic UNS KKN Building a Village which will be held in July - August 2021 in Purworejo Village. This activity has the aim of helping to solve the problem of rat pests in the rice fields of Purworejo Village with an ecological approach to create prosperous and better farmers. This activity got the desired results and was beneficial for the community, especially the Purworejo Village Farmers Group.

The implementation of the community service program begins with education to farmer groups regarding the work program that will be brought to Purworejo Village. The socialization contained about eradicating rat pests with an ecological and environmentally friendly approach as well as prevention by making owl houses and soaking husks. The method of socialization is carried out using adult education methods, namely lectures and discussions. The participation of the Purworejo Village community with this educational outreach was very enthusiastic. Starting from farmer groups, village officials, and also the village head, namely Mr. Ngadiyanto. Due to the pandemic, only 15 participants were invited from representatives of the Purworejo Village farmer group so as not to cause a crowd.

Figure 1. Agricultural Education for Farmer Groups

The next work program is on mentoring and spraying husk water immersion into rice fields in Purworejo Village. This work program utilizes rice husk waste to be used as a rat

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exterminator in the short term. The work program is included in the KKN group program so that it is carried out together in groups for the Purworejo Village Farmers Group. This activity was motivated by the problem of rat pests that plagued the rice fields of Purworejo Village and was designed as a short-term solution to overcome these problems. Spraying soaked rice husk water into rice fields has a lot of support from various parties. Good support came from the Village Head and the Purworejo Village Farmers Group in implementing the work program as well as assistance in implementing the work program from the Purworejo Village Farmers Group so that the work program could be implemented smoothly.

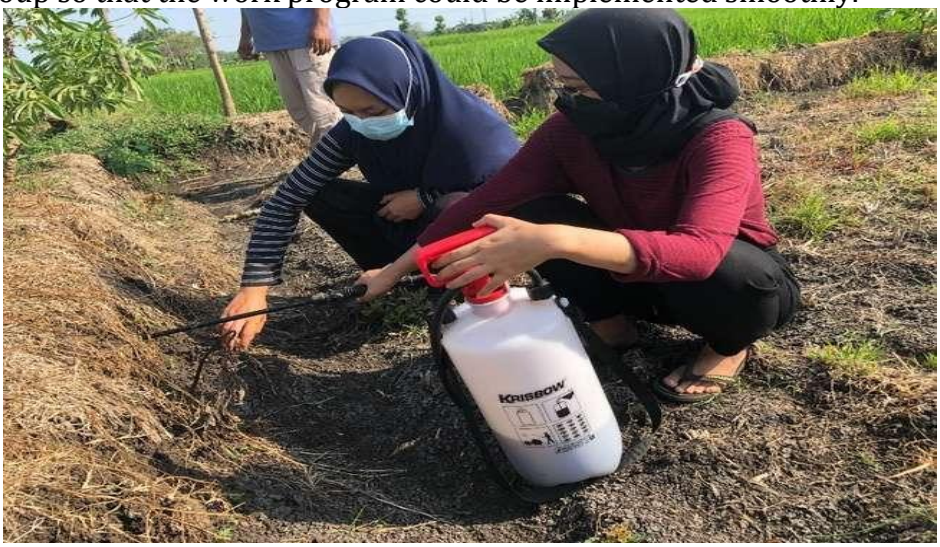

Figure 2. Spraying Husk Water Immersion

The next community service activity is the construction of an owl house (RUBUHA) as a long-term pest repellent for rats. This effort is an ecological approach needed to suppress pests so they don't damage farmers' crops again and farmers also don't use chemicals that will damage their own crops. Utilization of natural predators is an appropriate step to suppress rat pests because rats attack plants at night, so the natural predator that is considered appropriate is the use of owls. The construction and installation of the Owl House was carried out with the Purworejo Village Farmers Group in the rice fields of each farmer group. The installation of RUBUHA by the community service team together with representatives of farmer groups was carried out on Monday, August 30, 2021.

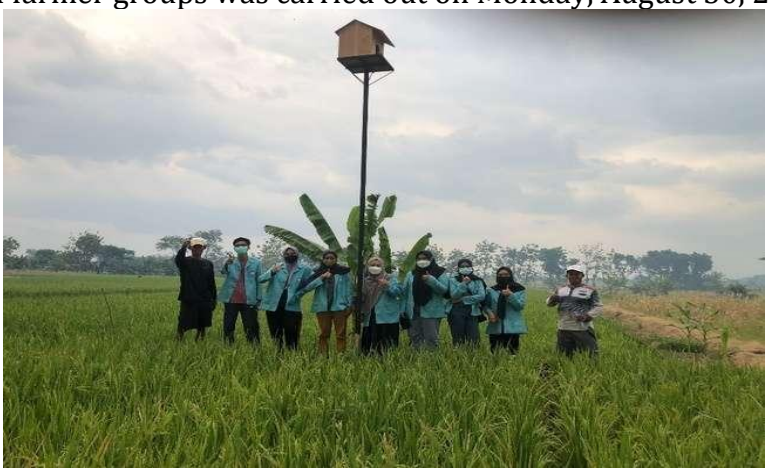

Figure 3. Installation of RUBUHA with Farmers

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Groups The Purworejo Village farmer group gave a very good response and supported the existence of this program. Mr. Sriyanto as chairman of the Association of Farmers Groups (GAPOKTAN) of Purworejo Village said that after the existence of this program, hopefully it can bring benefits and blessings to the people of Purworejo Village, especially people who make a living as farmers. In addition, the potential for sustainability is the most important aspect of community service programs. The sustainability of this program supports several aspects of life including environmental aspects, economic aspects, and social aspects, namely:

a. Environmental Aspects
   The creation and procurement of RUBUHA is an action to maintain nature conservation and efforts to conserve and develop owls. In the long term it will show its effectiveness because the owl will breed and come to the RUBUHA.
b. Economic Aspects
   With the presence of RUBUHA in the rice fields of each Farmer's Group in Purworejo Village, the problem of the threat of rat pests will be resolved and crop yields will return to normal and improve. Thus, it can improve the economy of the community, especially farmers and give birth to business opportunities for the community to become craftsmen or sellers of RUBUHA.
c. Social Aspects
   The achievement of this manufacturing and procurement activity is expected to inspire other villages to apply RUBUHA as an alternative to rat pests with an ecological approach to agricultural land.

CONCLUSIONS

The conclusions obtained from the community service activities that have been carried out are as follows.

a. The community service program regarding Agricultural Education for Farmer Groups makes villagers, especially farmer groups, know about alternatives to eradicating rat pests without using rat poison or certain hazardous chemicals, namely with an ecological approach including husk water immersion and the presence of an owl house (RUBUHA).
b. The community service program regarding Spraying Husk Water Immersion into Rice Fields in Purworejo Village is running smoothly. The Purworejo Village Farmers Group knows how to eradicate rats in the short term by utilizing husk waste.
c. The community service program regarding the Construction of Owl Houses (RUBUHA) was carried out with the Purworejo Village Farmers Group in the rice fields of each farmer group.
d. The impact of the extension activities of farmer groups in Purworejo Village was able to increase knowledge, understand and apply rice husk waste, and utilize RUBUHA to eradicate rat pests in their rice fields. This effort is used to reduce the rat population in the rice fields and it is hoped that farmer groups can be sustainable in maintaining RUBUHA.

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