GREENING MOVEMENT: KKN UIN SUNAN KALIJAGA YOGYAKARTA DISTRIBUTES FREE CASHEW SEEDS

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Abstract - *Tlogowarak Hamlet in Purwosari Sub-district is experiencing serious challenges due to prolonged drought which has resulted in a decrease in crop yields and a threat to the residents' economy. A reforestation program by providing free cashew seedlings was chosen as a solution to improve environmental resilience. Cashew guava was chosen because of its ability to survive in dry conditions. This study used the Participatory Action Research (PAR) method to evaluate the effectiveness of this program. The results showed that the distribution of 260 cashew seedlings to the community successfully increased awareness and participation in environmental conservation. This program is expected to become a sustainable drought mitigation strategy in other areas.*

Keywords: *Cashew, Drought, Reforestation, Participatory Action Research*

1. INTRODUCTION

Tlogowarak Hamlet in Purwosari Subdistrict faces serious challenges due to the prolonged drought phenomenon, which causes a drastic decline in agricultural yields and threatens the economic sustainability of residents. Based on data from the Meteorology, Climatology and Geophysics Agency (BMKG), the peak of the dry season in 2023 occurs in August to September, exacerbating drought conditions in the region (BMKG, 2023). The impact of this drought is predicted by the Regional Disaster Management Agency (BPBD) to be more widespread, especially in areas that are not covered by clean water networks such as PDAM or Village Water Supply Systems (SPAM) (BPBD, 2023).

The urgency of this situation led students of the Community Service Program (KKN) in Tlogowarak Hamlet to intervene through a reforestation program, by providing free cashew seedlings to the local community. The selection of cashew seeds is not without reason; this plant is known to have deep roots and high water use efficiency, so it can survive in a dry environment (Sari, 2020). According to research conducted by Haryono (2021), cashew guava has the ability to seek water from deeper soil layers, and has thick, waxy leaves that reduce water loss through transpiration, making it an appropriate choice for reforestation in areas with low rainfall.

The problems faced by Tlogowarak Hamlet, namely drought and land degradation, require solutions that are not only temporary but also sustainable. One of the identified problem-solving alternatives is to increase land cover through planting dry-resistant trees, such as cashew. Research by Purnomo (2019) shows that reforestation with droughtresistant plants can increase groundwater infiltration capacity and reduce the risk of future droughts.

The purpose of this study is to assess the effectiveness of the cashew seedling program in improving environmental resilience in Tlogowarak Hamlet. This research also aims to evaluate the community's awareness and participation in maintaining and preserving the environment after this program is implemented. Hopefully, the results of this study can contribute to drought mitigation strategies in other areas facing similar problems.

In the midst of global challenges such as climate change, declining soil fertility, and increasing food demand, efforts to increase agricultural productivity and preserve the environment are very important. One of the strategic steps to achieve this goal is to support the free seedling extension program. This program is designed to provide farmers and communities with easy access to quality seedlings at no cost, so that they can increase crop yields and contribute to environmental conservation.

Providing free seedlings has a wide range of benefits, from improving food security through better agricultural productivity, to protecting local ecosystems through reforestation and reforestation. John Rawls (2006) argues that the economic system is not only an institutional device for satisfying current wants and needs, but also a way to shape and fulfill future wants. Community involvement in government policies in the environmental sector has an important meaning, because the cause of the lack of success in preventing and restoring land

degradation in Indonesia, one of which is due to the weak commitment of policy makers and implementers, and the weak commitment of the community to the prevention and restoration of land degradation. (Wahyunto, 2014). Therefore, community involvement in recovery policies. Therefore, the greening program in the Real Work Lecture (KKN) in Tlogowarak Hamlet can be a very useful step to improve environmental quality and community welfare.

2. METHOD

This research uses the PAR *(Participatory Action Research)* Method. Participatory Action Research (PAR) is a method used to build critical awareness of the community, understand conditions, problems, needs, potential, and solutions that are resolved together (Samsinas & Haekal, 2023). PAR also involves the collaboration of all parties who have responsibility for the action of change to improve community capabilities. Thus, this method is suitable for research on the KKN work program, namely the provision of free seeds. The steps taken in the research are as follows:

1. Joint Problem Identification

   In the initial stage, KKN students collaborated with the community of Tlogowarak Hamlet to identify the existing problems, namely the prolonged drought and the lack of greenery in the area. Discussions through *focus group discussion* (FGD) techniques (Samsinas & Haekal, 2023) and meetings with neighborhood leaders and the community were used as a means to explore the main issues that directly impacted the welfare of the community. Through this participatory approach, the problem of drought and the need for greening were identified as top priorities.

2. Action Planning

   The results of the discussion and problem identification will result in recommendations for further action (saminas & haekal, 2023), which is to develop a plan of action to be taken. This plan involves determining the type of seedlings to be distributed, in this case cashew seedlings that are resistant to dry conditions. The distribution plan is also detailed, including the date of implementation, the distribution mechanism, and the person in charge of each RT. This step ensures that the actions taken are relevant and can be effectively implemented according to the needs of the local community.

3. Action Implementation

   This stage is the execution of the plan that has been prepared previously. KKN students together with the people of Tlogowarak Hamlet carried out the distribution of cashew seedlings on August 8, 2024. The active participation of the community in this activity, such as transporting and planting seedlings, is highly emphasized to ensure that the program runs effectively and is well received by all residents. Each RT in the hamlet received a number of seedlings in proportion to the number of households.

4. Reflection and Evaluation

After the implementation of the program, a joint reflection and evaluation session was held between the KKN students and the community of Tlogowarak Hamlet. In this session, they evaluated the effectiveness of the program, identifying successes as well as challenges faced during the seedling distribution and planting process. The results of this evaluation provide insight into what has gone well and aspects that still require improvement.

5. Replanning and Follow-Up Action

Based on reflection and evaluation, if there are areas that require improvement, KKN students and the community will formulate a follow-up action plan. For example, if some seedlings have difficulty growing, follow-up actions such as training on how to properly care for the seedlings will be planned and implemented. This PAR cycle continues until the problems of drought and lack of greenery are adequately addressed, providing a long-term positive impact on the environment and community of Tlogowarak.

3. RESULTS AND DISCUSSION

Based on the application letter submitted, only 200 cashew seedlings were obtained. However, at the time of seedling collection, additional seedlings were obtained so that the total seedlings became 260 cashew seedlings, which were distributed to:

Table 1. List of Seedling Distribution in Each Neighborhood

NO	RT	NUMBER OF SEEDLINGS	RECIPIENT
1	01	39	Mr. Suwandi
2	02	42	Mr. Ponidi
3	03	27	Mr. Sugiman
4	04	52	Mr. Sarwidi
5	05	39	Mr. Sugito
6	06	37	Mr. Sutarto
7	07	25	Mr. Giyatno

Based on the results of research by Martinez et al. (2023) also stated that the use of clear and measurable indicators can increase program transparency and accountability, which is important to ensure proper utilization of resources and reporting of results to stakeholders. Indicators of the success of this program include both quantitative and qualitative indicators. This is supported by a study conducted by Johnson and Turner (2022), that the use of a combination of

qualitative and quantitative indicators provides a more comprehensive picture of program success. Quantitative indicators measure countable outcomes, while qualitative indicators provide context and reasoning behind the numbers. In this reforestation program, the distribution of cashew seedlings shows concrete results, while increased community awareness shows long-term impacts on environmental behavior.

In this program, the distribution of 226 cashew seedlings as a quantitative indicator can be measured directly and provides concrete data on program outputs. According to Smith, Brown, and Davis (2021), quantitative indicators provide clear numbers and can be analyzed statistically, making it easier to evaluate the achievement of program objectives. The increase in public awareness about the importance of greening and environmental preservation as a qualitative indicator provides in-depth insight into changes in behavior and attitudes. According to Johnson and Turner (2022), qualitative indicators help understand the impact of the program on community awareness and participation in environmental conservation efforts. Program evaluations that use both types of indicators can identify areas for improvement and innovation. Martinez, Gonzalez, and Hernandez (2023) showed that quantitative data from seedling distribution can demonstrate success in achieving distribution targets, while qualitative data from increased community awareness can reveal challenges and opportunities to improve program effectiveness in the future.

The realization of this program succeeded in distributing 260 seedlings to the community, showing quantitative success. In addition, the increase in community awareness towards reforestation and environmental conservation is reflected in the positive response of the community in receiving the seedlings. This success can be explained through the theory of community participation in environmental development. According to Arnstein (2019), community participation is a process in which individuals and groups play an active role in making decisions that affect their lives. In this context, the distribution of the seedlings and the positive acceptance from the community indicate active participation that supports the success of the reforestation program (Arnstein, 2019). In addition, Stern and Dietz's (2020) theory of pro-environmental behavior states that awareness and positive attitudes towards the environment can increase proenvironmental actions. People's increased awareness of greening and environmental preservation as reflected in their positive responses supports this theory (Stern & Dietz, 2020). Furthermore, research by Clayton and Myers (2023) suggests that understanding and concern for nature can be strengthened through education and effective communication, which is also reflected in this program (Clayton & Myers, 2023).

The free seedling program in Tlogowarak Hamlet aims to increase afforestation and environmental conservation. This goal is particularly relevant given the impact of the prolonged drought experienced by this hamlet. Severe drought during the peak of the dry season has affected crop yields and the community's economy, so solutions to improve environmental resilience are

essential. The program is expected to not only provide a short-term solution but also contribute to the overall improvement of environmental conditions.

KKN UIN Sunan Kalijaga collaborated with BPDAS Serayu Opak Progo to realize the program of providing free seedlings in the procurement of seedlings. In the submission letter, we proposed 2 types of seedlings, namely sengon and cashew guava which were adjusted to the number of families in Tlogowarak Hamlet. However, after checking the seedlings, only cashew seeds were available, so we only distributed 260 cashew seeds which we divided according to the weighted percentage of the number of households in each RT in Table 1.

The selection of cashew seedlings as part of this program, given the characteristics of cashew that can survive in drought conditions. Cashew's deep roots and water-use efficiency make it an ideal choice for areas with erratic rainfall such as Gunungkidul. In addition, the presence of cashew on farmland can provide long-term economic benefits to the community through its fruit yields.

The implementation of this program has followed structured stages, starting from the submission to the distribution of seedlings. In this case we made a submission through a seed request letter addressed to BPDAS Serayu Opak Progo, the seed request letter was approved by the relevant parties, this shows the support of BPDAS Serayu Opak Progo. The seedling distribution process was carried out by KKN UIN Sunan Kalijaga using a pick-up car where the distribution of seedlings was carried out based on the number of Heads of Families (KK) in each RT in Tlogowarak Hamlet. This was done with the aim that the distribution of seeds could be evenly distributed according to the needs of the community.

4. CONCLUSION

The cashew seedling distribution program in Tlogowarak Hamlet successfully increased community awareness and participation in greening. The distribution of 260 cashew seedlings showed positive results in supporting environmental resilience in drought-prone areas. The success of this program can be used as a model to be applied in other areas facing similar challenges. As a follow-up step, it is recommended to conduct periodic evaluations and provide additional training to the community regarding seedling care to ensure the sustainability of this program.

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