Youth Empowerment at Mosque Based on Yard Land Utilization to Increase Food Self-Sufficiency and Community Economy

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Abstract. To support the achievement of the food self-sufficiency program, the community can make productive use of yards and vacant land. Some problems faced by members of the Youth of Labbaik Sonopakis Mosque are that the use of yards and vacant land is not optimal, knowledge and insight in using yards are still limited, and skills in cultivating plants and raising fish and livestock are still lacking. Based on an analysis of the needs of the members of the Youth of Labbaik Sonopakis Mosque and the competence of the Proposal Team, several priority issues and solutions are identified, including the optimal and productive use of yards and vacant land through the implementation of an integrated farming system so that food is available for families and communities. Based on the problems faced and the solutions offered, several methods are used, which include counseling, training, and practice, as well as assistance in the management of yards and vacant land in an integrated manner by planting cassava, vegetables, and fruit, raising livestock and fish, and monitoring evaluation. The results of the implementation of community service at the Labbaik Mosque Congregation can increase the knowledge, understanding, and skills of participants in productively utilizing yards and vacant land through the application of integrated agriculture by planting various tubers, vegetables, and fruits, as well as cultivating fish and native chickens, which can increase the availability and independence of food as well as the economy of families and communities.

Keywords: community economy; food consumption; food independence

1 Introduction

Food is a vital need for humans. Adequate consumption of food and drink will be a source of fulfilling energy and nutrition for the human body. Food and beverages to be consumed must comply with healthy, safe, and nutritious food standards. Healthy and safe food is listed in Law No. 18 of 2012 concerning Food. Food security is a condition of fulfilling food needs for the country down to individuals, which is reflected in the availability of sufficient food, both in quantity and quality, that is safe, diverse, nutritious, equitable, and affordable and does not conflict with the religion, beliefs, or culture of society, so that they can live healthy, active, and productive lives in a sustainable manner. Meanwhile, the potential independence of natural, human, social, economic, and local wisdom in a dignified manner [1]. One of the efforts to realize food self-sufficiency that can be chosen to be

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immediately implemented in the community is to make optimal use of yards and vacant land [2].

We can encourage this granary culture again in an effort to fulfill the necessities of life and even increase income. The difference used to be in the form of harvests as reserves for life's necessities; now they are prepared alive and ready to be used quickly when needed. So that the commodities that are cultivated in this living barn are easy commodities, the harvest period is fast, and they can be cultivated in a limited land area, the selected commodities can be plants (vegetables, fruit plants and medicinal plants), livestock (chickens, rabbits, and quail), and fish [3].

The Law of the Republic of Indonesia Number 7 of 1996 concerning Food explains that the Government and the community are responsible for realizing food security, and according to the Government Regulation of the Republic of Indonesia Number, trade and distribution, the implementation of community food reserves, and 68 of 2002 concerning Food Security, the community has the opportunity to play the widest possible role in realizing food security through the implementation of production to prevent and overcome food problems. Implementation of community food reserves can be done through intensification of the yard with an integrated farming system.

An integrated farming system is a system of managing crops, livestock, and fish with its environment to produce an optimal product and tends to be closed to external inputs [4]. Meanwhile, Arimbawa [5] said that an integrated agricultural system is an agricultural system that integrates the activities of the sub-sectors of agriculture, crops, livestock, and fish to increase the efficiency and productivity of resources (land, humans, and other growth factors) for the independence and welfare of farmers in a sustainable manner. [6] that fish farming in the yard can increase the availability of food and the nutritional value of families and can increase family income. As for the type of livestock, according to AIAT South Sulawesi (2018) free-range chicken is a potential in the area that is always there, is owned by almost every household, and has several advantages compared to other types of poultry.

Production in an integrated farming system involves essentially utilizing all energy potential so that it can be harvested in a balanced way. In order for the utilization process to occur effectively and efficiently, integrated agricultural production should be located in an area. In this area, there should be a sector of crop production, livestock, and fisheries. The existence of these sectors will result in the area having a complete ecosystem, and all production components will not become waste because other components will definitely be utilized. In addition, there will be an increase in production yields and a reduction in production costs, so that production effectiveness and efficiency will be achieved.

There is no doubt that the integrated farming system is the most effective and efficient food provider. Cycles and balances of nutrients and energy that will form an ecosystem as a whole will occur in an integrated agricultural system. Thus, deductively integrated agriculture will increase the effectiveness and efficiency of production in the form of increased production yields and reduced production costs. Integrated agriculture is the best form of agriculture because almost no components (which in non-integrated agriculture can be called waste) are wasted. In this system, livestock manure and crop residues can be processed into manure or compost, which is reused for plant growth. As mentioned [7], manure and compost applied to the soil as a planting medium can increase soil fertility and plant growth. It is noted that several countries have successfully developed integrated agriculture, such as China and Ecuador. Cultivating vegetable crops in the yard produces healthy and safe food because it uses organic fertilizers to supply nutrients and does not use pesticides to control pests and plant diseases [8, 9]. The results of community service activities [10] in the PRA Ngestiharjo and Tamantito groups and in the Sutrias Panbar group.
(2022) show that by cultivating vegetables in the yard, safe and healthy vegetable food can be provided.

The Labbaik Sonopakis Mosque Youth Group, Ngestiharjo, Kasihan District, Bantul Regency, DIY, was chosen as the target partner because the group has quite a lot of vacant land that has not been used optimally as productive land. The condition of the land in Ngestiharjo village is quite fertile, and there is still a large yard, so it has the potential for cultivating vegetables, fruits, and tubers, as well as medicines, and can also be used for fisheries and animal husbandry. To be able to meet the food needs of the family, the yard can be used for planting vegetables, fruit, and tubers, as well as medicinal plants. Even if the yard area is large enough, it can be used for fish and livestock cultivation. From the results of surveys and interviews with partners, it can be seen that partners have desires and problems related to the use of yards and vacant land that can provide food for the community and improve the family economy, as well as business management and marketing. Based on this, community service is carried out to empower Labbaik Mosque youth through the use of yards and vacant land to increase food self-sufficiency and the community's economy.

2 Methodology

To achieve the output targets according to the problems faced, several methods are used, which include counseling, training, and practice, as well as monitoring and evaluation.

2.1. Program Socialization and Counseling

This activity is carried out by inviting mosque youth, fathers and mothers of the Labbaik mosque congregation who will be involved in the management of the Labbaik mosque land to attend counseling about the importance of family food security and self-sufficiency, productive use of yard land with the application of integrated agriculture, as well as business management and product marketing agriculture. This section contains how the author arranges research steps to meet the research objectives.

2.2. Training and Practice

Training and practice are carried out by implementing an integrated farming system (SPT), which begins with land clearing and tillage, cleaning fish ponds, and making chicken coops. Three weeks later, the practice of planting vegetables (corn and sweet potatoes), raising chickens, and cultivating tilapia uses the materials and tools provided by the implementation team. The training was carried out by the program's implementing team, practitioners of organic farming systems, and attended by all participants who had attended counseling.

2.3. Monitoring and Evaluation

Monitoring and Evaluation are carried out periodically every 2 weeks while providing assistance in maintaining plants, fish, and chickens while practicing the implementation of integrated farming systems. Apart from being present offline in the field, monitoring and evaluation activities were carried out online through the WhatsApp group of all participants and the implementation team.

3 Results and Discussion

Community Service Scheme Community Partnership Program (PKM) in collaboration with Muhammadiyah University Purworejo with the theme Empowering Mosque Youth Based on Yard Land Utilization to Increase Food Independence and Community Economy. The purpose of this community service is to increase food self-sufficiency and the family...
economy through the use of yards by implementing an integrated farming system. The stages of activities carried out in the community service program are as follows

3.1. Coordination and Consolidation

Coordination and consolidation are carried out before starting a series of community service program activities aimed at facilitating the implementation of the community service program, by formulating strategic steps for implementing Community Service. Coordination is carried out internally between the Implementation Team and the Implementation Support Team, namely education staff and students. While the consolidation was carried out between the Implementation Team and partners, namely the Chairperson of the Labbaik Mosque Takmir, accompanied by the Muhammadiyah Branch Leader Ngestiharjo, to equalize perceptions of programs and activities among program implementers, so that each implementer understands the stages of program implementation and indicators that must be achieved from each program, that is their responsibility. This activity was carried out by conducting a site visit, conveying an overview of the activities, and discussing the arrangement of the activity schedule.

3.2. Program Socialization and Counseling

This activity is carried out so that participants know about the service program that will be carried out and gain insight and knowledge about the productive use of yards. Prior to the socialization of the program and counseling, to find out the extent of insight, knowledge, and understanding of yard management, a pre-test was carried out. The results of the pre-test showed that the participants already had a high level of knowledge and understanding of yard management, reaching 77.5%.

Socialization and counseling activities on the productive use of yards with the application of integrated agriculture were attended by 16 people (80% of the target of 20 people), with resource persons from the Implementation Team and practitioners who already had experience in managing yards in integrated farming systems (Figures 1 and 2).

### Figure 1. The atmosphere during the pre-test

### Figure 2. The atmosphere during counseling

3.3. Training and Practice

After conducting counseling about the productive use of yard land with the application of integrated agriculture, training and practice of several businesses and activities that can be carried out in utilizing yard land are given, including

3.3.1. Planting Media Preparation Training

Vegetable cultivation activities begin with preparing the planting medium by clearing the land from weeds and tilling the soil to loosen it using a tractor and a hoe (Figure 3). After the soil is sufficiently loose, beds are made with a width of 1.2 m and a length that adjusts to the location [11]. Furthermore, given organic fertilizers, organic materials are used to improve the physical properties of the soil, namely aeration so that later the planting medium
does not compact, while organic fertilizers, in addition to improving the physical properties of the soil, are also used to improve the chemical properties of the soil, namely adding nutrients to plants [7]; [12]. The dose of organic fertilizer is 4 t/h (0.4 kg/m²); half the dose is mixed with the soil in the beds, then the beds are covered with silver black plastic mulch (Figure 4) to suppress weed growth and reduce water loss from the soil, so as to save water and improve watering power efficiency [13]. The beds that have been covered with plastic mulch are then made into planting holes with a distance of 60 cm x 60 cm, then given half a dose of organic fertilizer or a handful per planting hole (Figure 5), then doused with water until moist [14]. The beds are specially mulched for planting chilies, tomatoes, and eggplants, while for planting spinach, mustard greens, corn, and long beans, the beds do not need to be covered with mulch. The beds are allowed to stand for two weeks before being used for planting.

Figure 3. Soil processing                                  Figure 4. Beds with much silver and black plastic

Figure 5. Provision of organic fertilizer in the planting hole

3.3.2. Planting in beds

Chili, tomato and eggplant seeds that are old enough and meet the criteria for good, uniform, healthy growth or not affected by pests and diseases are planted using plastic bags, carefully opened so that the soil covering the roots of the plants does not break, and then the seeds are placed in the soil. planting holes that have been made, and the roots are covered with soil so that the seeds can stand upright. If the planting medium is not sufficiently moist, after planting, water it with sufficient water (Figures 6 and 7).

Figure 6. Planting tomato seedlings in mulched bed        Figure 7. Planting mustard seedlings in non mulched beds

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3.3.3. Fish and Chicken Livestock Cultivation

Cultivating fish in the yard can increase the availability of food, the nutritional value of the family and can increase family income [6]. Fish farming can be done in ponds, concrete buses or using buckets (budikdamber). In the vicinity of the Labbaik mosque, there are two fish ponds measuring approximately 15 m² each that have not been used for quite some time. To be able to function again, it needs to be cleaned and coated with cement. Before being used for fish rearing, the pond is adapted and sterilized by allowing the pond to be inundated with water for about 2 weeks (Figure 8), and then the Tilapia fish seeds are put in it (Figure 9). The maintenance that needs to be done is that the fish are fed little by little according to their age, not overdoing it, and according to a fixed schedule. Tilapia needs sufficient aeration, so it needs periodic water changes or a ventilator.

![Figure 8. Fish pond preparation](image1)

![Figure 9. Spread tilapia fish seeds](image2)

Livestock cultivation in the yard can be done by raising cows, goats, chickens, or ducks. Free-range chicken or free-range chicken is a potential crop in the area that is always there, is owned by almost every household, and has several advantages compared to other types of poultry [15]. The only livestock business that can be carried out on the land around the Labbaik mosque is chicken farming. Cultivation of native chickens or free-range chickens can be done using the umbar system with fences/barriers for large yards or in cages for narrow yards. In the vicinity of the Labbaik mosque, there is still enough land available to raise free-range chickens using the umbar system for large/adult chickens (Figure 10) and box cages for small chickens, which are made into one place with a guardrail made of bamboo (Figure 11). The maintenance that must be done so that the chickens grow well and are healthy is to feed them regularly (every day at the same time) with doses adjusted to their age and to always keep the cage clean so they are not susceptible to disease.

![Figure 10. The chicken coop](image3)

![Figure 11. Box chicken coop](image4)

Simultaneously with training activities and practice of utilizing the yard, to complement the business in the yard, goods were handed out in the form of plant production facilities (seeds and seedlings (Picture 12), Tilapia fish seeds with feed and vitamins (Picture 13), free-range or free-range chicken seeds and cages (Figure 12), as well as pesticides and organic fertilizers for the maintenance of vegetable plants (Figure 15), so that from the yard business, food can be made from root crops, corn as a source of carbohydrates, vegetable and fruit plants as a source of vitamins and minerals, and from fish and chicken livestock as a source of protein. At the end of the training activities and practice of utilizing yards, a post test was carried out to find out how far the understanding and knowledge of participants had increased.
about activities that could be carried out to increase the productivity of their yards. From the results of the post test there was an increase in understanding and knowledge related to yard utilization from 77.5% to 90.1%.

![Figure 12. Handover of vegetables seeds](image12.png) ![Figure 13. Handover of tilapia seeds](image13.png)

![Figure 14. Handover of free-range chicken Seeds and organic fertilizer](image14.png) ![Figure 15. Handover of pesticides and liquid](image15.png)

### 3.4. Monitoring and Evaluation

Monitoring and evaluation are carried out periodically for 2 weeks, 4 weeks, and 8 weeks after the training and yard use practice. Monitoring and evaluation are carried out to find out the successes and obstacles encountered in cultivating plants, fish, and livestock in the yards of both groups and individuals, as well as evaluate and provide solutions to the problems encountered. From the first monitoring activity, there were no problems; crops, fish, and chickens grew well (Figures 16 and 17). In monitoring and evaluation activities 2, there was a problem, namely that several eggplant plants were attacked by root fungus (Figure 18), so given a solution, the affected plants had to be uprooted and destroyed, while the other plants were controlled using organic fungicides. Meanwhile, in the fish farming, problems with tilapia were found, the growth of which was unhealthy and the fish had a lack of appetite, because the water was murky, so the oxygen content in the water was low and the fish had difficulty breathing. The solution that can be done is to provide/install a ventilator to clean the water while increasing aeration (oxygen availability) in the water so that the fish breathe easily, return to normal appetite, and grow well (Figure 19). Meanwhile, from the results of the 3rd monitoring and evaluation, there were no more problems with the cultivation of plants, fish, and livestock, and even some types of vegetable crops had been successfully harvested, such as spinach, mustard greens, tomatoes, eggplants, and long beans (Figures 20 and 21). The harvest is collected and sold in vegetable stalls around the Labbaik mosque. By cultivating plants in the yard, healthy, safe, and uncontaminated vegetable food can be produced. As stated by Supriyanto (2016) and Zainudin (2016), the cultivation of vegetable crops in the yard produces healthy and safe food because it uses organic fertilizers to supply nutrients and does not use pesticides to control pests and plant diseases. Besides conducting monitoring directly in the field, monitoring and evaluation are also carried out online through WA.
Figure 16. Tomato plant 2 weeks old   Figure 17. Mustard plant, 2 weeks old

Figure 18. Diseased eggplants   Figure 19. Fish pond with ventilator

For the continuation of this community service activity, the WA Group was created as a means of communication, consultation, and sharing related to the use of yards belonging to groups and individuals. This is in accordance with what was said by [16] that for the continuation of the service program it can be carried out through the WA group as a fairly efficient and effective medium for consultation, monitoring and sharing of activities carried out related to the use of yards.

4 Conclusions

The community service program at the Labbaik Mosque Congregation can increase the knowledge and skills of the congregation in productively utilizing their yards by planting various cassava plants, vegetables, and fruits, as well as cultivating fish and free-range chickens, so as to increase food independence and the community's economy.

References


