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Business Opportunity from Hydroponics: A Research on Community Service Angle

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Abstract

Hydroponics is agricultural cultivation without using soil, so this hydroponic farming system does not require a large area of land for its implementation. Hydroponic plants nowadays are very useful, especially after the pandemic because during the pandemic, the economy is declining, and growing hydroponics is one way to support economic needs. The aim of this research was to develop the potential of natural and economic resources in the surrounding environment and to find out the factors causing the local community's lack of understanding of hydroponics. This research was a community service angle. The method in this research was a descriptive qualitative method. collecting data using interview methods and documentation. The results of the research show that there are still many people who lack information about hydroponic plants, so this is one of the factors preventing hydroponics from developing.

Keywords: hydroponics, community empowerment, business opportunities

INTRODUCTION

The current outbreak of the Covid-19 virus has brought many changes to the lives of people around the world, including Indonesia, which has implemented Community Activity Restrictions (PPKM) at the beginning of 2021 to reduce the rate of spread of the second wave of the corona virus. This causes people to have to limit activities, especially in essential and critical sectors. Essential sectors include finance, banking, fashion markets, payment systems, information and communication technology, non-Covid-19 quarantine handling hotels, as well as the export and import industry. Meanwhile, critical sectors include energy, health, security, logistics and transportation, the food and beverage industry, petrochemicals, cement, national vital objects, disaster management, national strategy projects, construction, basic utilities, as well as industries that fulfill the basic needs of society. This limitation is divided into 50% for essential sectors and 100% for critical sectors.

This has the impact of hampering people's productivity so that people are required to be more creative in dealing with the current pandemic. One of them is empowering hydroponics. According to Mas'ud (2009), hydroponics is an agricultural cultivation system that can be carried out indoors or outdoors using water as the main medium. The hydroponic system is a greening concept that is suitable for urban areas with limited land (Tom, 2005). Growing vegetables using the hydroponic concept is very profitable from an economic perspective (Murali, et al., 2011). Residents can meet their needs for healthy vegetables, without requiring high costs, with easy maintenance (Tallei, et al., 2017).

Agricultural techniques that can be applied on limited land and time can be done using hydroponics (Edward, 2017). Hydroponics does not require large areas of land or yard, can be provided with nutrients easily and efficiently, and does not cause environmental pollution (Berberita, 2015). Some of the advantages of a hydroponic system:

- (1) The success of plants to grow and produce is more guaranteed;
- (2) The treatment is more practical;
- (3) If a plant dies, it can be more easily replaced with a new one;
- (4) The work method is more economical, without requiring a lot of manual labor;
- (5) plants grow faster and are cleaner;

- (6) the selling price of hydroponics is higher than plants in soil;
- (7) does not require a large area or land;
- (8) some types of plants can be cultivated outside the season.

One of the weaknesses of the hydroponic system is that the initial investment is expensive, and the hydroponic equipment is quite difficult (Roidah, 2014). Maintenance carried out on hydroponic plants is relatively easier, because the cultivation media is clean, sterile and protected from rainwater (Zamriyetti, et al., 2019).

Apart from hydroponic cultivation, economic growth activities can be carried out by looking at the success of the weekly group credit program (PPKM) which has been able to prove that people are able to utilize their potential, making people ready to face life's challenges and competition, so that prosperity can be realized with their own abilities. .

From this service activity, it is hoped that participants will have additional knowledge related to business management and business development, market opportunities and business competitors. Participants are able to improve their business understanding and ability to create and implement good business management through business governance with a modern management approach

METHODS

This service activity was carried out at RDP Hydroponics Sukarame starting July 1 2021. Activities carried out included learning about hydroponic plants and practicing hydroponic planting. Activities go through the following stages:

1. Planning

The planning was carried out by the KKN DR UIN Raden Intan Lampung group consisting of 11 people. Carrying out permits and visits to RDP Hydroponics Sukarame Bandar Lampung. Permits are carried out to carry out KKN activities at the RDP Hydroponics location.

2. Preparation

Preparations were carried out in the form of providing materials from RDP Hydroponics to KKN DR UIN Raden Intan Lampung Students. The implementation of the KKN DR activities was carried out for 40 days with a cooperation agreement with RDP Hydroponics, then preparing a schedule of activities using virtual media, going directly into the field and purchasing materials and equipment.

3. Implementation

Socialize the stages of making hydroponics in a simple way

- 1) Doing nursery
- 2) Sow or transplant the seeds into the planting medium
- 3) Provide adequate and regular nutrition to plants
- 4) Plants are ready to harvest in less than a month

The socialization was carried out by presenters from RDP Hydroponics, and practiced directly by students. Then the activity continued with practicing farming activities using hydroponic techniques to produce products that could be distributed.

4. Application

The application stage is the final stage of this activity. In this stage, students directly practice simple hydroponic planting with direct direction from RDA Hydroponics. The level of success in this stage is the accuracy and perseverance of us UIN Raden Intan students in applying the knowledge that has been given.

5. Evaluation

The evaluation was carried out to target and ensure that we students at UIN Raden Intan Lampung understand how to grow plants using the hydroponic method and can apply it. This activity can increase student knowledge where during practice all students can do it independently and can plan simple businesses.

After making observations through discussions and surveys regarding the economic potential of farming using hydroponic techniques. So UIN Raden Intan Lampung students practiced farming using hydroponic techniques to produce products that could be distributed.

The process of implementing hydroponics includes:

- 1) Seeding (seeding) This stage is carried out by inserting the seeds into rockwool that has been cut, perforated and moistened. Sowing takes approximately 10 minutes until the seeds turn into seedlings. The success of this stage depends on natural conditions, because the seeds need lots of

sunlight to grow well.

- 2) Nursery. This stage is carried out by moving the seeds that have grown into a planting medium in the form of a 12-hole impraboard tub using a netpot and flannel cloth as a wick that transmits nutrients from water to the plants.
- 3) Growth process. This stage is the most important stage because this stage determines the quality of the harvest, namely the good PH quality of the water, a good Ph level for hydroponics of at least 5 for the Ph level and good sunlight and nutrients provided which can increase the good quality of the plants.
- 4) Harvest. This stage is the final stage of a series of hydroponic activities with 120 harvests (10 boxes).
- 5) Distribution. The harvest is distributed to hydroponic vegetable collectors at adjusted prices.

In hydroponic empowerment activities, there are several factors that become obstacles in the hydroponic growth period, namely, natural factors, nutrition that must always be maintained and fulfilled, sunlight, seedlings, planting media and adequate measuring tools.

RESULTS AND DISCUSSION

The evaluation method is to compare participants' skills, knowledge and understanding before and after training including how to grow hydroponic plants, make fertilizer, as well as material on entrepreneurship and product marketing. Participants believe that when their small plot of land is utilized well and optimally, it will be able to show results for healthy vegetable production and family income. This activity generally pays attention to increasing participants' knowledge, where during practice all participants can do it independently, can plan simple businesses, and can explain again what has been explained.

Apart from being profitable, running a hydroponic plant business also doesn't require a large area of land, you can use your yard.

The following is an identification of achievements in terms of program outcomes:

1. Counseling about the benefits and cultivation of hydroponic plants at Indah Sejahtera Housing 2 during July 2021. The participants in the counseling are ladies and gentlemen in RT 11 Sukarame Village, Sukarame District. Around 12 participants and 11 KKN-DR students at UIN Raden Intan attended the counseling. In this counseling, participants were given material regarding the benefits and cultivation of hydroponic plants.
2. Increase public knowledge about hydroponic plant cultivation. After carrying out outreach by providing material related to hydroponic plants in a simple way to the local community as a means of knowledge and information, hydroponic plants are not just an ordinary business but there are many benefits from pursuing this cultivation.
3. Provide knowledge of hydroponic planting techniques. This counseling also provides knowledge or practice after explaining the material, namely sowing, transferring seeds, preparing planting media and nutrition. This planting was followed by several communities in turn. In order to better understand the concept, the material we provide is not only useful but also additional knowledge for farming.

This activity ended with selling the harvest to RDP Hydroponics as a vegetable collector in Lampung. KKN students participated in the distribution of hydroponics to supermarkets as did the extension participants who started actively carrying out hydroponic cultivation during the pandemic as a business opportunity.

CONCLUSION

Hydroponic cultivation outreach activities were carried out at Indah Sejahtera 2 Housing Complex during July 2021. The participants in the outreach were ladies and gentlemen in RT 11 Sukarame Village, Sukarame District. Around 12 participants and 11 KKN-DR students at UIN Raden Intan attended the counseling. In this counseling, participants are given material regarding the benefits and cultivation of hydroponic plants as well as sustainable practice activities so that they are expected to be able to provide business opportunities during the pandemic.

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