

Hydroponics as a Business Opportunity for Millennials During a Pandemic

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Abstract: With changes in the pattern of life or habits of the community caused by the outbreak of the Covid-19 virus in Indonesia, such as the prohibition of crowding and the recommendation to stay at home which makes people stay at home more often, gardening, especially hydroponic gardening, can be one of the activities that can be useful in filling spare time while at home, besides gardening it also has promising business potential. The so-called hydroponics is a method of farming using other planting media besides soil. In connection with the still outbreak of the Covid-19 virus in Indonesia, especially in the city of Bandung and its surroundings, this time community service activities are carried out virtually (online) through the Zoom application, in order to keep the event interactive and to avoid boredom from the participants, So in addition to the presentation of the material from the speakers, this time, community service activities also combine talkshow styles so that participants can be more interactive and better understand the material that has been delivered. PKM activities that have been implemented have reached the expected targets in terms of the number of participants, the material presented, and the achievement of the objectives of the activity. By participating in this PKM activity, participants can better understand the ins and outs of the hydroponic business, and indirectly increase motivation from within the activity participants to become a hydroponic business entrepreneur.

Keywords: hydroponics, motivation, entrepreneurship

1. Introduction

In 2020, all corners of the world were shocked by the presence of the coronavirus disease-19 (Covid-19) and on March 11, 2020 it was declared a pandemic by the World Health Organization. In Indonesia, Covid-19 was first detected on March 2, 2020. Since then, the number of positive cases of Covid-19 has increased from day to day, even according to data on January 1, 2021, positive cases of Covid-19 in Indonesia have increased, which is significant, reaching 751,270 cases, with a record that the category of patients recovered was 617,936 people and the patients died of 22,329 people.

Almost everyone has felt the impact of the Covid-19 pandemic, especially in terms of the economy. The presence of the Covid-19 pandemic has made it difficult for many things, such as finding difficult jobs, difficulty in fulfilling daily needs because of the income of people affected by Covid-19, and other difficulties (Hanoatubun, 2020).

Policies made by the government in handling Covid-19 such as Large-Scale Social Restrictions (PSBB) and the recommendation to stay at home have led to a decline in economic growth in Indonesia (Yamali & Putri, 2020). It was recorded that as of April 9, 2020, the Ministry of Manpower noted that there were at least 1,427,067 workers throughout Indonesia who were directly affected by the Covid-19 outbreak, either because they were dismissed by companies or experienced layoffs (Mas'udi & Winanti, 2020). This figure could be bigger considering that not all data on workers were recorded, especially in the informal sector.

The impact of workers being laid off and affected by layoffs inevitably increases the unemployment rate in Indonesia. Based on data from the Central Bureau of Statistics, in August 2020, the Open Unemployment Rate (TPT) in Indonesia experienced a very significant increase of 35% when compared to conditions in August 2019 (Central Statistics Agency, 2021).

Entrepreneurship is an important force in the economy of a country. Cultivating an entrepreneurial spirit is believed to be a solution in reducing the number of unemployed (Wibowo & Pramudana, 2016). Starting a business can be one of the efforts that can be done in a pandemic like today. However, to begin with, we must first look at business opportunities with the current economic conditions and with the habits of the people during a pandemic.

Lifestyles that tend to change due to the Covid-19 pandemic also form new habits. With the prohibition of crowding and the recommendation to stay at home, people spend a lot of time at home and start looking for activities that can be done at home, one of which is gardening.

In addition to filling spare time while at home, it seems that racing has a promising business potential, especially hydroponic gardening. It is undeniable that the need for hydroponic vegetables is in high demand, especially in a pandemic like now, where a healthy lifestyle is important.

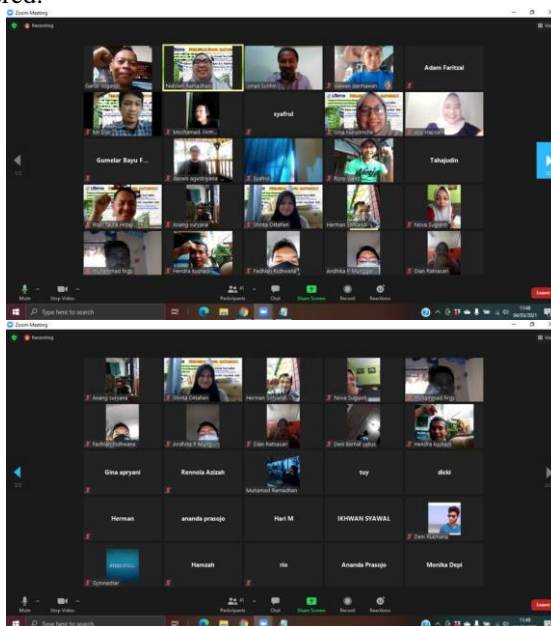
Basically, hydroponics is a method of farming using other planting media besides soil. The function of soil as a support for plant roots and as an intermediary for nutrients can be replaced by other media such as pumice stone, gravel, sand, coconut husk, wood chips or foam. So that water, nutrients, and oxygen can still be flowed to plants through these planting media (Roidah, 2015). Hydroponic plants are a solution for farming in narrow land, because the installation can be made vertically so that the utilization of the place is far more optimal than planting directly in the ground. people can take advantage of the limited yard to make their own hydroponiinstallation.



Figure 1.
Hydroponic Installations in Limited Land

2. Method of Implementation

Due to the pandemic condition that is still happening in Indonesia, this time, community service activities are carried out virtually (online) through the Zoom application. In order for the event to remain interactive and to avoid boredom from the participants, in addition to the presentation of the material from the speakers, this community service activity also combines a talkshow style so that participants can be more interactive and better understand the material that has been delivered.



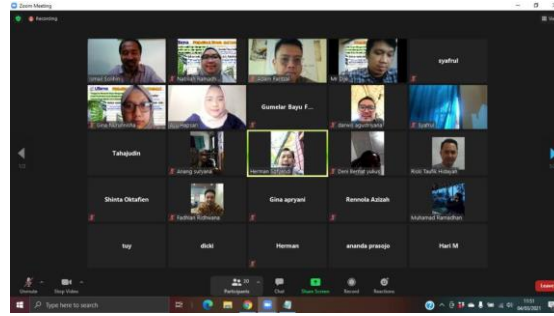


Figure 2. PkM Event Implementation

Information about this community service event is disseminated through posters to members of the Cibeunying Kidul Village Youth Organization, Bandung City.



Figure 3. Activity Poster

This community service activity was held on Thursday, March 4, 2021. Participants who were youths from the Youth Organization, Cibeunying Kidul Village, registered and answered the pre-test online survey. There were 47 participants recorded who participated in this activity.

Overall, the activity method applied is an increase in understanding of the hydroponic business as a business solution that can be carried out by youth during a pandemic. This business idea was chosen because it is quite easy and does not require large capital. In order for the participants to better understand the hydroponic business, the speakers and the concept of the event are made as interesting as possible and very relate to the participants.

The resource person in this community service activity was a young man named Gumelar Bayu Fadilah who was one of the Widyatama University students. Bayu, who has started the hydroponic business from 2018 and has won various awards. Today, Bayu is the CEO of Lembur Sayur, which as his name implies, has a vision to soften the city with hydroponic vegetables. With young and competent sources, it is hoped that it can increase participants' interest and understanding regarding the hydroponic business.





Figure 4. Material presentation from resource persons

In addition to the presentation of material on the hydroponic business from the resource person, this community service activity also invited participants to see first hand how the process of growing hydroponic vegetables. Although virtually, participants were invited to tour Lembang Sayur and watch the resource person practice growing hydroponic vegetables. After that, there is a talk show session with the moderator where participants can ask questions via live chat, and this is conveyed directly by the moderator to the speakers. With this talkshow session, the participants seemed more enthusiastic because they could interact directly.

3. Results and Discussion

The results of the PKM activities in general consist of the achievement of the target number of participants, the achievement of the planned material targets, and the achievement of the activity objectives.

Achievement of Target Number of Participants

Community service activities that have been carried out on Thursday, March 4, 2021 can be said to have reached the target number of participants, because previously, the committee only targeted 30 participants. However, in practice, the number of participants reached 47 people with various different backgrounds. The profiles of participants can be seen in the following table.

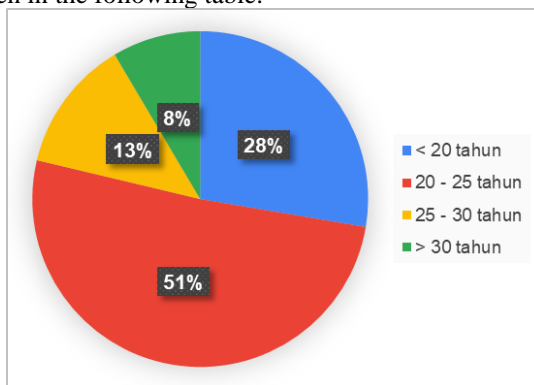


Figure 5. Participant Profile by Age

Based on Figure 5 above, the PKM activity participants this time are dominated by youths aged 20-25 years, namely 24 people (51%) who are classified as of productive age and in accordance with the PKM activity targets. Meanwhile, 28% or the equivalent of 13 people are in the age range of less than 20 years. There were also some participants who were not in the age range categorized as youth, namely 4 people in the age range > 30 years with the smallest percentage, namely 8%.

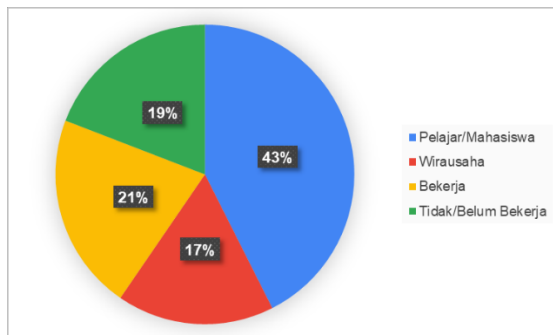


Figure 6. Participant Profile by Job

Based on Figure 6, it can be seen that most of the PKM participants work as students and university students, this is in line with the condition of the participant profile based on age. That way, most of the participants have not been directly involved in the business world, so it is in accordance with the objectives of the PKM activities to introduce and increase entrepreneurial interest and motivation, especially in the hydroponic business.

Apart from the achievement of the target number of participants, based on the participant profiles in Figure 5 and Figure 6, it is known that the PKM activity participants are in accordance with the target participant category, namely young and do not have a business. With an appropriate profile of participants, it is hoped that the planned material can also be achieved and the objectives of this PKM activity can be achieved.

4. Material Target Achievement

The achievement of material targets can be seen from the realization of this PKM activity and also from the questionnaires distributed to participants after the PKM activities are completed. Because the activity method applied is to increase understanding of the hydroponic business, the material presented in this PKM activity focuses on the hydroponic business as one of the business ideas that can be carried out during a pandemic by young people.

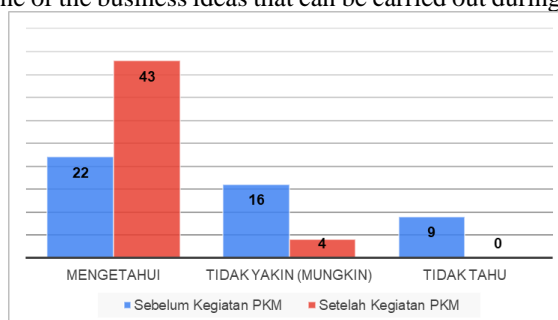


Figure 7. Level of Knowledge of Participants about Hydroponics Before and After PkM Activities

Based on the picture above, before the PKM activity was carried out, only 22 people knew what hydroponics was, 16 people might know about hydroponics, and 9 people didn't know at all about hydroponics. After PKM activities were carried out, the level of participants' knowledge about hydroponics increased. As many as 43 people or the equivalent of 91% of participants already knew what hydroponics was, while 4 other people were still unsure of their understanding of hydroponics. With this description, it can be said that the material attainment is in accordance with the target.

In addition to providing material regarding the introduction to the hydroponic business by the speakers, in order to achieve an understanding of the hydroponic business, the participants were also presented with direct practice of planting hydroponic plants and the practice of packaging hydroponic plant products. By seeing the practice live, it is hoped that participants will be able to understand the convenience of this hydroponic business.

In addition, in this PKM activity there is also a talk show session where participants can ask questions directly to the speakers. In addition to answering questions from participants, resource persons can also directly show the answers to these questions because the talkshow session setting is carried out directly in Lembur Sayur. For example, when a participant asks about the use of used goods in the hydroponic business, the resource person can show directly the installation used in Vegetable Overtime, which turns out to be the use of used mineral water

bottles. With this talkshow session, the relationship between the speakers and participants became more interactive so that participants could understand more about the hydroponic business.

5. Achievement of Activity Objectives

The purpose of this community service activity is to increase entrepreneurial motivation, especially in doing hydroponic business for youth of the Youth Organization of Cibeunying Kidul Village, Bandung City. To be able to see the achievement of the objectives of the activity, a questionnaire was distributed to measure the motivation and entrepreneurial skills of youth from the Youth Organization of the Cibeunying Kidul Village, Bandung City.

A person's behavior begins with a motive that moves the individual to achieve a goal. Motivation is an impulse of individual needs and desires that are directed at the goal of obtaining satisfaction. Motivation, in Indonesian comes from the word motive which means effort that encourages someone to do something. The motive becomes the basis for the word motivation which can be interpreted as a driving force that has become active so that it can be said that motivation is the driving force within the subject to carry out certain activities in order to achieve goals.

Entrepreneurial motivation is an encouragement or willingness that is realized by individuals to carry out creative and innovative entrepreneurial activities by utilizing various available resources to seek opportunities for success. Entrepreneurial motivation is very important for novice entrepreneurs to have so that they are more persistent and work hard to realize the ideas that have been planned. Without motivation to carry out entrepreneurial activities, a person will not be motivated to carry out entrepreneurial activities.

Entrepreneurial motivation can arise in a person because of the drive or will from within to succeed in the field of entrepreneurship. High motivation in the field of entrepreneurship will foster entrepreneurial interest in a person. Entrepreneurial motivation in community service activities is measured by the presence of entrepreneurial desire or desire, the urge to move, the need, and the hope to be achieved.

The results of processing questionnaire data related to respondents' responses regarding entrepreneurial motivation are shown in the following table.

Table 1.

Respondents' Responses Regarding Entrepreneurial Motivation		
Indicator	Percentage	Category
Desire	80 %	High
Encouragement	78 %	High
Needs	76 %	High
Hope	79 %	High
Average	78.25 %	High

The results of the descriptive data processing of the questionnaire show that respondents, or in this case, PKM activity participants have high entrepreneurial motivation, as indicated by the acquisition of a percentage of 78.25%. Of the four indicators, the desire to entrepreneurship has the largest percentage, namely 80% and is in the high category. Youths from Karang Taruna, Cibeunying Kidul Village, Bandung City, have a high desire or desire to be entrepreneurial. This is of course in line with the objectives of PKM activities, namely to increase entrepreneurial motivation, especially in hydroponic entrepreneurship.

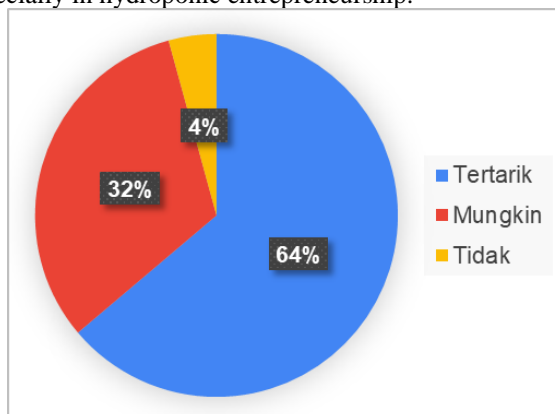


Figure 8. Participants' Interest in Hydroponics Business

In addition to measuring the level of entrepreneurial motivation, PKM activity participants were also asked to answer open-ended questions regarding their interest in doing hydroponic business. Of the 47 participants, 64% or 30 of them answered that they were interested in doing hydroponics business. Meanwhile, 32% answered that they might be interested, and 4% answered that they were not. When asked about the reasons why they are interested in the hydroponics business, various answers were found. In large part, the reason the participants are interested in the hydroponic business is because it is relatively easy to do business. Hydroponic business can be carried out on limited land, with insufficient capital, and this hydroponic activity is also easy to learn and practice. Apart from its simplicity, another reason from the participants was that doing hydroponic business could increase family and community food security, as well as participate in reforestation programs. With the results of this questionnaire, the achievement of the activity objectives can be said to be successful.

Entrepreneurial ability is a function of one's behavior / actions in combining creativity, innovation, hard work, and the courage to face risks to obtain business opportunities and gain profits.

**6. Closing
Conclusions**

Hydroponics can be a business opportunity for millennials during a pandemic because of the various conveniences it offers: limited land use, affordable installation costs, and a business that is easy to learn. PKM activities that have been implemented have reached the expected targets in terms of the number of participants, the material presented, and the achievement of the objectives of the activity. By participating in this PKM activity, participants can better understand the ins and outs of the hydroponic business, and indirectly increase motivation from within the activity participants to become a hydroponic business entrepreneur.

Suggestion

PKM activities are carried out well and in accordance with the rundown and plans that have been prepared. There were no significant obstacles during the PKM activities, even though these activities were carried out virtually.

Seeing the enthusiasm of the good participants and the achievement of the objectives of the activity, it is hoped that this activity can be continued by providing direct guidance or counseling for participants who are about to start their hydroponic business.

Thank-you note

We would like to thank the parties who have helped in this Community Service, especially Widyatamadan University LP2M which has provided community service funds in accordance with the Contract for Implementation of Community Service Work for the 2020 Fiscal Year, Contract Number 079 / SPC2 / LP2M-UTAMA / V / 2020 dated May 16, 2020 so that the implementation of this Webinar activity can be well organized and run smoothly.

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