

## **BUDIKDAMBER (FISH IN BUCKET) AS A STRATEGY FOR STRENGTHENING FOOD SECURITY AND THE ECONOMY OF THE NGLERAK HAMLET, TAWANGMANGU, CENTRAL JAVA**

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**Abstract** - *The Covid-19 pandemic has caused activities to be hampered and worsening the economy. Therefore, the Indonesian government enforces rules for the community to implement Work From Home (WFH) in order to suppress the increasing growth rate of Covid-19 cases. The impact of this policy is that it can lead to a food crisis. One thing that can be done to prevent a food crisis is the Budikdamber (Fish in Bucket) activity. With the discovery of this simple technique, it is hoped that it can help deal with current problems. This activity has many benefits, including fulfilling household needs and increasing the family economy. People who are successful with the budikdamber technique are able to create business opportunities and increase income in the midst of the Covid-19 pandemic as it is now.*

**Keywords:** *budikdamber, food security, Covid-19*

## 1. INTRODUCTION

Since the pandemic of Covid-19 hit Indonesia, there is some effect that felt by Indonesian public, it is like some problems in health sector, education sector, tourism sector, socio-political sector, and economic sector. In economic sector, Indonesia's economic growth began to decline in the first quarter and second quarter of 2020 which is equal to 2,97 and -5,32. It is followed by poverty rate growth as how Badan Perencanaan Nasional (BAPPENAS) predicted before which equaled to 10,63 percent that caused by Covid-19 (Kompas.com). This condition is caused by the companies are unable to pay operational costs and pay the salaries of their employees because of Covid-19 pandemic effect. So the companies had to order some of their salaries to work at home by themselves. Kementerian Ketenagakerjaan states that the number of workers who ordered to work at home or affected by termination of employment is 1.772.958 workers since May 12, 2020. This condition will definitely improve the poverty rate growth in Indonesia.

Since the condition changing caused by pandemic, the people is demanded have to fight more in improving the economy in order to fulfil family's needs. One of the ways that can be done to fulfil society's food needs is cultivation (Saputri and Rachmawatie, 2020). Ida Syamdu Roidah (2014) stated that cultivation which is being intensively developed is hydroponics. Hydroponics is an agricultural activity by using water as a medium to replace the ground. It makes farming using hydroponics needs narrow field. In addition, there is also Aquaponics or plant cultivation using water as media (hydroponics), which is arranged in the same water circulation as the hydroponic media of fish cultivation. The main goal of Aquaponics is to utilize the released nutrients by fish to grow plants, so the presence of these nutrients in the media cultivation does not interfere with fish growth (Graber and Junge in Perwitasari, 2019).

Aquaponics systems will give more benefits than hydroponics, because it will harvest crops as well as fish. It can also be applied to a narrow field. Unfortunately, the people's economic conditions are mostly in the middle to lower class makes them unwilling to plant these two cultivations. In another hand, this cultivation requires fund and periodically maintenance that also costs money, such as additional nutrient and electricity. It makes Juli Nursandi from Faculty of Cultivation Fisheries Lampung State Polytechnic designed an aquaponics cultivation system with smaller scale, making it more affordable, easier maintenance, and also produce yields that are not much different as aquaponics in general. This system called Budikdamber which is acronym for Fish Cultivation in bucket (Susetya and Harahap 2018).

Budikdamber really helps people who lives in the city and rural areas that tend to not has large field for farming and fish cultivating, so that it can be more simply and effective. Budikdamber (Fish in Bucket) has a basic principle that it can be done in the same time by using fish food waste and fish waste as the nutrition source for the cultivated plants (Nugroho et al., 2012 in Ramadhani and friends

2020). As the result, all waste can be used as the nutrition sources for the cultivated plants.

## **2. METHOD**

Budikdamber workshop implemented into some steps of activity flow, there are planning step, socialization, implementation, and evaluation step. Budikdamber workshop was holded in Kali Kidul, Nglebak Hamlet, Nglebak Village, Tawangmangu District, Karanganyar Regency, Central Java. The implementation methods step of Budikdamber workshop are described as follows.

### **A. Planning Step**

Budikdamber Workshop was planned based on Ifan Aditya Pratama's idea as one of participant of KKN UIN Sunan Kalijaga Yogyakarta in group 70. This idea was recommended because of the initiation to improve food endurance and the community's economy in the midst of pandemic that can be used and done in a simple way. Therefore, this budikdamber workshop proposed will be usefull by choosing the bucket as the place and the cat fish as the fish that choosed that able to live in the low temperature like Nglebak Village, Tawangmangu Regancy.

### **B. Advocacy Step**

Advocacy step was socialized to Mr. Hartoyo, SH and his staff to permite and asking for support in Budikdamber Workshop. This step was produced the results. There is the permits and a big support from them because of this program was considered important to improve the community's economy in the midst of the pandemic era and develop the society's creativity in Nglebak Village.

### **C. Socialization Step**

Socialization step was held in Kali Kidul RT 2/RW 8 by KKN UIN Sunan Kalijaga Yogyakarta group 70 to the villager youth regarding the knowledge of Budikdamber both in its benefit and how to make and maintain Budikdamber. The socialization was held by using the Forum Group Discussion (FGD) method so that the delivery of material did not appear to be patronizing and the audience felt more comvortable because of the material was delivered in an informal way.

### **D. Execution Step**

The implementation of Budikdamber workshop was held in Kali Kidul RT 2/RW 8 on the August 28 at 15.30 WIB which was attended by 25 villager, 12 member of independent KKN UIN Sunan Kalijaga Yogyakarta group 70, and a resource person namely Rajendra Lubdhaka Murti as the founder of Klaten Budikdamber. The steps for making Budikdamber are started to prepare the necessary tools and materials, such us:

- 1) Prepare the materials needed in the form of a 70 liters bucket, hydroponics pot, strimin filter, charcoal, catfish seeds, spinach, catfish feed, tap water and rock woll.

- 2) Prepare the tools needed in the form of solder, stove, gas, milk cans used, wafer cans, pliers, razor, and scissor.
- 3) After all the tools and materials are prepared, the next step is depositing the water in a bucket with the addition of papaya leaves for one day and planting spinach seeds in the hydroponics pot.
- 4) After that step is done, the bucket is filled with the catfish seeds and let it stand for 1-2 days.
- 5) After that, arrange the hydroponics pot on the bucket.

#### **E. Evaluation**

This workshop has gone well and went according to the initial plan. But in this workshop there were also obstacles found. There were the inadequate room capacity's so that impacted to the number of participants had to be adjusted.

### **3. RESULT AND DISCUSSION**

The series of community dedication activities has been completed on the 28th of August 2021. The community dedication activity with the title "Workshop Budikdamber (Fish in Bucket)" as a strategy to strengthen food security and the economy of the Nglebak Hamlet, Nglebak Village, Tawangmangu District, Karanganyar Regency, Central Java. During the Covid-19 pandemic, it has been properly implemented as planned at every stage. Starting from planning, directing, implementing, and evaluating. The villagers of Nglebak hamlet welcome and enthusiastic starting from counseling activities to training on making Budikdamber.

Budikdamber technique is one of the innovations in the food section to overcome the food and economic crisis due to the ongoing Covid-19. Budikdamber technique was first discovered by a lecturer of faculty of aquaculture from Lampung State Polytechnic, Juli Nursandi. This technique can be done by people who live in rural or urban areas by utilizing a yard that is not too wide (Susetya and Harahap, 2018). This kind of cultivation technique is also able to strengthen the family's resilience. Because people not only cultivate catfish, but also cultivate aquaponically (Perwitasari and Amani, 2019).

One indicator of the success of this activity is the target knows and can receive material and knowing to make Budikdamber (Fish in Bucket). On the other that, the good enthusiasm from the villagers who are participants in the food security program.

### **4. CONCLUSION**

Dedication activities carried out in Kali Kidul RT 2/RW 8, Nglebak Hamlet, Nglebak Village, Tawangmangu District, Karanganyar Regency, Central Java on August 28 received a good response from residents. Based on the hope and purpose of the community dedication program, and the increased public knowledge and

understanding of budikdamber. With this activity, it is hoped to help communities in their food and economic needs during the Covid-19 pandemic.

The authors recommend the next public devoted activity on the budikdamber training program as follows.

- 1) Make Budikdamber training from children, adults, to parents. Because the process of making this budikdamber is relatively simple and easy to learn for various circles.
- 2) Expected to be held maintenance training budikdamber to get optimal cultivation results.
- 3) As for the advice to the local village government to be the formation of the Budikdamber group to support the creation of cultivation culture as an effort to meet food needs and develop the economy of the community.

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