

## **Community Empowerment Post-COVID-19 to Support Economic Resilience through Agricultural Innovations in Karangtalun Hamlet, Wukirsari, Imogiri, Bantul DIY**

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### **Abstract**

Community service in Karangtalun Hamlet is carried out by mentoring and increasing the potential of the Turtledove breeder "Sumber Rejo". The local Turtledovedove is believed to be a relic of the Mataram Palace. However, its potential has not been optimized. The availability of feed in the form of barley plants that grow wild has not been cultivated. Turtledovefish disease is difficult to control, the presence of bird droppings has not been used as fertilizer, the availability of water is very limited, and the existence of bitter plants has not been utilized. The method of implementing the activities is carried out through stages, namely, coordinating with the "Sumber Rejo" farmer and livestock group, Dusun Community Leaders, Wukirsari Village Head, Kapanewon Imogiri, Bantul Regional Government especially the Agriculture Service, Environment Service, Industry Service, followed by Focus Group Discussion (FGD), on methods of applying technology, starting from identifying needs, designing and manufacturing organic fertilizers, testing operations, operational assistance, and information technology. Community services that have been carried out are assisting "Sumber Rejo" breeders by providing GB1 profeed probiotic medicine for the immunity of Turtledove Turtledovedove, cultivating Jerwawut, and Sambiloto in parent houses, utilizing bird droppings as organic fertilizer and creating productive economic business embryos.

**Keywords:** *Mataram Palace, organic fertilizer, barley, sambiloto, FGD, GB 1*



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### **INTRODUCTION**

Karangtalun Hamlet, Wukirsari Village, Imogiri District, Bantul Regency, Yogyakarta Special Region (DIY), is located in the south of Yogyakarta City, located approximately twenty kilometers (20 km), or about 25 Km from the UPN "Veteran Yogyakarta campus, Condongcatur, Sleman. The environmental condition of Karangtalun Hamlet, Wukirsari Village, Imogiri, Bantul, DIY has a major problem, namely drought, resulting in a lack of water availability, both for daily needs and for agricultural irrigation.

System irrigation agriculture still relies on season rain shortly cause farmers to only be harvested once in one year. The soil content is very thin, so it can be said as "earthly rock", or as agricultural land that is very barren, so it is not profitable to plant agricultural crops (rice). People take advantage of this land by planting hard trees, not only for savings but also for preventing landslides. The main livelihoods of the people in Karangtalun Hamlet, Wukirsari Village, Imogiri District, Bantul, DIY rely more on Turtledove rearing, which has been done for generations, and there is an interlude of raising chickens, cows, and goats.

The potential breeding bird that has been done, still there are some problems that had been supplying will bird Turtledovedove obtained by buying (mile), the current price is more expensive and more difficult to obtain, while in the Karangtalun area, Juwawut plants grow wild and Turtledovedove are

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preferred. Found also disease Turtledove bird unruly children doves can live only about 30 percent. The number of livestock waste birds has not been used as a fertilizer, and water availability is very limited, the water has not been used to its fullest, extensive yard land as a medium for growing bird feed, and herbal plants / bitter has not been used, The insight of Karangtalun residents specifically for Turtledove Turtledove breeders needs to be improved to support tourism villages, considering that in the area there is a "Watu Onggo" petilasan which is believed to have something to do with the existence of Turtledoves in the area, the lack of organizational insight and economic institutions.

The purpose of community service in the Karangtalun hamlet is to assist Turtledove breeders so that they have high economic value, utilize a large yard area as a medium for growing bird feed (Juwawut) and herbal plants/ Sambiloto, utilize bird farm waste as organic fertilizer, utilize existing water sources as much as possible making Karangtalun a tourist village.

## **RESEARCH METHOD AND IMPLEMENTATION**

### **Method**

The method of implementing Community Service activities in Karangtalun Hamlet, Wukirsari Village, Imogiri, Bantul, DIY is carried out through several stages, namely: coordination with the farmer and livestock group of the "Sumber Rejo" Community, the Karangtalun Hamlet or Padukuhan Community, the Head of Wukirsari Village, Camat or Kapanewon Imogiri, Bantul Regional Government, in particular, the Department of Agriculture, Department of the Environment, Department of Industry. Methods and stages in the application of technology to the community, starting from identifying community needs, designing, manufacturing, testing operations, operational assistance, and information on the technology to the "Sumber Rejo" Breeders Association.

### **Activity Implementation**

Community service activities were carried out in Karangtalun Hamlet, Wukirsari Village, Imogiri District, Bantul Regency, Yogyakarta Special Region (DIY). The main livelihood of the people in Karangtalun Hamlet is raising cattle and goats, and birds. Some residents completed education at the junior high school level or its equivalent. The lands in Karangtalun Hamlet are used for growing sengon, cassava, and spices.

In general, the people of Karangtalun prefer to become Turtledove breeders, and their marketing is carried out in Java and Bali. The results have been able to meet their daily needs. Participants who took part in the meeting with the researchers were the village head, village officials, and gentlemen who were members of the "Sumber Rejo" livestock group. The meeting with the "Sumber Rejo" Farmers Group was attended by about 25 people and was held at the home of the Karangtalun Hamlet Head or at one of the group members' houses in Karangtalun Hamlet.

The initial meeting was conducted to identify the needs, potentials, aspirations, and problems of the Turtledove breeder "Sumber Rejo". Then routine meetings are held on Friday and Sunday nights to coordinate follow-up activities that are currently and will take place.



Picture 1. Coordination and identification of the needs of Turtledove breeders "Sumber Rejo"



Picture 2. Counseling on Cultivation and Utilization of Juwawut and Sambilot Plants

One of the potentials of Karangtalun Hamlet that will be appointed is the Turtledovedove and the cultivation of juwawut plants. In addition, bitter plants will also be used as herbal medicine and become a potential that exists in Karangtalun Hamlet because these plants thrive in the village. Almost every resident's house has a Turtledove dove. From the proceeds from the sale of the Turtledovedove, it has been able to finance the lives of local residents. The juwawut plant is used as food for Turtledove doves which are planned to be traded in the Karangtalun Hamlet area.

## **FINDINGS AND DISCUSSION**

### **Results of Community Service Activities**

Activities that have been carried out are conducting socialization of community service, which is centered on generating the potential and aspirations of the residents of Karangtalun Hamlet. One of the potentials of Karangtalun Hamlet that will be appointed is the Turtledovedove and the cultivation of juwawut plants. Coordination, formation of management, and division of personnel duties as well as plans for implementing community service activities in Karangtalun. So that activities can run smoothly with the

cooperation of all parties. The head of Karangtalun Hamlet, related village officials, and of course, the Karangtalun Hamlet community have provided support for the running of this mentoring program.

The handover of equipment and needs for making paranet demonstration plots from researchers to Karangtalun Hamlet residents who were represented by the Head of RT, Mr. Jaiman. These items include paranet, gembor, millet seeds, juwawut seeds, casting fertilizer, chicken fertilizer, cow manure, goat manure, and mild steel fittings for the frame of the paranet house.



Picture 3 . Submission of paranet by UPN 'Veteran' Yogyakarta Researcher

The researcher also coordinates the formation of business embryos for the "Sumber Rejo" Livestock group, which will prepare the feed needs and needs in the maintenance of Turtledove doves. Later the feed is sold back to groups or the wider community. Researchers have also provided a solution for the problem of Turtledove breeders, namely when the season changes, some Turtledoves get sick and die suddenly. The researchers brought a probiotic drug GB#1 profeed that could be used by mixing GB#1 into the Turtledove's drink. After two months of giving GB 1, it was proven that the number of dead Turtledove Turtledove decreased by about 30%. Besides that, the parents also had increased health levels, proven agility, and the fitness of birds.



Picture 4 . GB1 probiotic drug for immune profeed birds Turtledovedove

The association in Karangtalun Hamlet usually holds regular meetings on Friday night (Thursday Night) and Sunday night Pon (Saturday Night). We took this opportunity to participate in discussing community service from UPN 'Veteran' Yogyakarta and also about development in the village by implementing protocols for health during this pandemic.

The residents coordinated to collect Turtledovedove droppings to later be used as fertilizer for the treatment of beds in the paranet's house. Building a paranet house with a bamboo frame was done by the community. After that, make beds used for juwawut cultivation. Each of the beds in the given treatment with some kind of fertilizer is fertilizer casting, chicken manure, manure Turtledovedove, fertilizer cow, and goat manure.





Picture. 5 Paranet houses used for Juwawut

The application of juwawut cultivation uses five types of fertilizers, namely cow manure, goat fertilizer, chicken fertilizer, casting fertilizer, and Turtledove manure. After three weeks, it was seen that the plants using Turtledove manure fertilizer grew more fertile and faster than using the other four types of fertilizers.



Figure 6. Organic fertilizer for application of bird feed millet cultivation

Table 1. Results of laboratory analysis of organic fertilizers from several sources

	pH	C-Org (%)	B-Org (%)	N-total (%)	Rasio C/N	P-tda (%)	K-tda (me%)
Cow	7.9	7.44	12.80	0.17	43.76	0.1	0.2
Goat	7.9	9.81	16.87	0.14	70.07	0.2	0.2
Casting	5.7	8.09	13.91	0.11	73.55	0.1	0, 1
Chicken	6.3	7.85	13.50	0.17	46.18	0.3	0.2
Turtledovedove	5.4	15.04	25.87	1.48	10,16	0, 2	0.1
SNI Permentan	4-9	Min 6	10,32	3-6	<15	3-6	3,6

140/10/2011

Table 1. above shows that several types of manure have the following characteristics, all manure has a pH that meets the SNI standard, but the manure from Turtledovedoves is the lowest slightly acidic, this is because the fertilizer is still undergoing decomposition, so it still produces organic acids, C-organic and organic matter all manures meet SNI standards, the highest is found in Turtledove manure, the lowest is cow manure, this shows that decomposition of organic matter has occurred so that carbon has been utilized by microorganisms. Nutrient levels of nitrogen, phosphorus, and potassium are below the SNI standard, so that they do not meet the SNI standard, and it is necessary to improve the quality of the organic fertilizer. From the quality characteristics of the manure mentioned above, the manure from Turtledove Turtledovedove turned out to have the best quality, especially the organic matter content and nitrogen content. The barley plant fertilized by the Turtledovedove cage is better, which is indicated by the green color of the leaves compared to the manure from cows and chickens in the picture below.



Plant conditions using bird fertilizer

Condition of plants with cow fertilizer

Plant conditions using chicken fertilizer

Figure 7. Effect of manure on plant growth of Jewawut

The servant has visited the house of one of the Turtledove breeders who are members of the Sumber Rejo livestock group. Mr. Sariman has sold fleas to the islands of Java and Bali. The average Turtledove dove is valued at IDR 300,000. . In Karangtalun, the "Sumber Rejo" community consists of 23 groups with no less than 80 livestock members, and on average, each breeder has no less than 100 pairs of Turtledovedove. The following is the appearance of the Turtledovedove cages managed by Mr. Sariman.



Figure 8. The turtledove cage belonging to Mr. Sariman

Counseling cultivation and utilization of bitter plant by Mr. Suwardi, speaker of the Faculty of Agriculture. Sambiloto contains an active substance called andrographolide. Substances found in the stems and leaves of this bitter plant have anti-inflammatory, antibacterial, and antiviral properties. So it can be used as an alternative to herbal medicine. This meeting coincided with the schedule for the Karangtalun Hamlet community meeting at 19:30 WIB on Friday night.



Picture 9 . Counseling on Cultivation and Utilization of Sambiloto Plants

The second paranet housing has also begun to be installed. The frame of this paranet house uses a light steel frame material that will be used for the cultivation of juwawut, sambiloto, and porang. For the application of fertilizer, it will be the same as the previous paranet, namely using five types of fertilizer, namely chicken fertilizer, cow fertilizer, goat fertilizer, casting fertilizer, and Turtledove manure.



Picture 10. Light Steel Paranet Installation

Turtledove has been kept since the royal era until now. Caring for Turtledoves is the same as caring for traditions. Karangtalun Hamlet maintains the tradition through the Turtledove contest,



which is held on Sundays. This contest can be used as a training tool so that later Turtledoves can be included in national-level competitions. Quality Turtledoves will be used as broodstock.



Picture 1 1 . Turtledovedove Bird Contest held regularly on every day of the week

Sambiloto is a typical tropical plant belonging to herbaceous plants (shrubs) that grow in various habitats, such as the outskirts of rice fields, gardens, or forests. Sambiloto has a round and rectangular woody stem and has many branches. Sambiloto grows at an altitude of 1-1,200 meters above sea level. Sambiloto plants are generally propagated by using seeds or can be propagated through cuttings.



Picture 1 2 . Sambiloto plants and seeds ready for planting

The provision of bitter plant seeds contains very high antioxidants so that they can increase your body's immunity or immunity. Sambilotto is often used to treat colds and flu. Diseases that can be treated with bitter gourd include hepatitis, bile duct infection, diarrhea, influenza, tonsillitis, malaria, pneumonia, inflammation of the respiratory tract, kidney inflammation, appendicitis, toothache, fever, diabetes, high blood pressure, leprosy, cancer and lung tumors.

Table 2 . Success Indicator

NO	Observation Type	Success Indicator	Description
1.	Turtledove death rate	There are no deaths in birds.	Dove mortality was reduced due to the use of Profeed GB1 probiotics .
2.	Use of Turtledove manure fertilizer	People use Turtledove manure fertilizer.	The community has not used the fertilizer. In fact, Turtledove manure fertilizer has the best quality, especially its organic matter content and nitrogen content
3.	Cultivation of millet and bitter	The use of juwawut as Turtledove feed and the use of bitter for herbal medicine.	Some breeders have used juwawut as feed. For bitter, the community has used it for fever, antibacterial and antiviral drugs.
4.	Cooperative business field	Establishment of cooperative management and products to be sold.	The livestock group "Sumber Rejo" has just started a survey of feed ingredients/products that will be sold to the cooperative.
5.	Insights and skills of members of the "Sumber Rejo" livestock group	Already have skills in the care and sale of Turtledoves through an online platform.	The group has been able to take care of the Turtledoves when they are sick or during the period after hatching. For online sales, it is still a process, and it is hoped that we can cooperate with Kominfo for stable network support.

## CONCLUSION AND SUGGESTION

### Conclusion

Community service in Karangtalun that has been carried out is assisting Turtledove breeders "Sumber Rejo" it is hoped that their livestock will be protected from disease by providing information on GB1 profeed probiotic drugs for 'Turtledoves' immunity, utilizing a large yard area as a medium for growing Jerwawut bird feed as a solution to feed scarcity. Utilizing bird farm waste as organic fertilizer,

manure from Turtledove Turtledoves has the best quality, especially its organic matter content and nitrogen content compared to manure from cows, goats, chickens, and worms.

### **Suggestion**

Turtledove puppies will die within a few days if not given care because they can lack food intake and warmth. Therefore, it is necessary to take good care and quality food for Turtledove Turtledovedove. This can be overcome by the use of GB1 probiotics by being applied to Turtledovedove puppies so that their growth and body resistance become more optimal.

One of the Turtledove doves that are already available in the Karangtalun Hamlet is juwawut. According to the Agricultural Research and Development Agency, this plant is rich in nutrients that are better than rice and corn. Its nutritional content includes 84.2% carbohydrates, 10.7% protein, 3.3% fat, and 1.4% fiber. So that this can be an alternative for Turtledove feed to serve as a business embryo in the Karangtalun Hamlet area.

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