

Original Research Paper

Assistance for The Construction of Tarpaulin Pond for Vannamei Shrimp Cultivation to The Community of Kuranji Village, West Lombok

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Abstract: Vannamei shrimp are food commodity that have high economic value both on a national scale and on an export scale. Kuranji Village is one of the villages bordering the beach. This position provides opportunities for the utilization of seawater for aquaculture. Vannamei shrimp cultivation service activities in Kuranji Village have been carried out using buckets. However, to increase the scale of cultivation, we can use a tarpaulin pond. The purpose of the service activity is to aid with the construction of tarpaulin ponds for vannamei shrimp cultivation in Kuranji village. The benefit that are expected to be obtained are that the people of Kuranji Village can make tarpaulin ponds for vannamei shrimp cultivation. The methods of activity were the socialization of community service programs, training of community groups, demonstration plots of tarpaulin ponds for vannamei shrimp cultivation, and assistance. The demonstration plot was carried out using HDPE tarpaulin ponds with a diameter of 1.5 m. The results of the service show that the people of Kuranji Village can have the skills to make tarpaulin ponds for vannamei shrimp cultivation. The community is involved in training, land preparation, and assembling the tarpaulin pond to completion. The land used for the construction of the tarpaulin pond is community land. The conclusion from the service activity is that the people of Kuranji Village gained insight into how to make tarpaulin pond construction for vannamei shrimp cultivation and the people of Kuranji Village were able to practice making tarpaulin ponds.

Keywords: tarpaulin ponds, vannamei shrimp, Kuranji Village

Introduction

Vannamei shrimp are shrimp that have high economic value both on a national scale and on an export scale. The advantages of vannamei shrimp include being relatively resistant to disease, and the cultivation time is quite short (3 months). Kuranji Village is one of the villages bordering the beach. This position provides opportunities for the use of seawater for cultivation. Counseling on

household scale vannamei shrimp farming in Kuranji Dalang Village has been carried out by Setyowati et al. (2021a) to increase public awareness regarding vannamei shrimp cultivation. The activity of implementing vannamei shrimp farming using buckets has also been carried out by Setyowati et al. (2021b) in Kuranji Village. However, increasing the scale of cultivation requires a larger container. Tarpaulin ponds can be an alternative to vannamei shrimp farming because they are larger in size than buckets. Setyowati et al

(2022) carried out counseling activities for vannamei shrimp cultivation using tarpaulin ponds. Mentoring activities for the construction of tarpaulin ponds for vannamei shrimp cultivation in the Kuranji Village community need to be carried out. The purpose of the service activity is to aid with the construction of tarpaulin ponds for vannamei shrimp cultivation in Kuranji village. The benefits that are expected to be obtained are that the people of Kuranji Village can make tarpaulin ponds for vannamei shrimp cultivation.

Methods

The methods of this service activity are:

1. Socialization of the Community Service Program

The socialization of the service program was carried out with the head of Kuranji village and the head of West Mapak hamlet (located in Kuranji village) as the location used for placing the tarpaulin pond construction for vannamei shrimp cultivation. Socialization as well as an application for permission to village officials to carry out community service activities. The socialization was carried out in July 2022. This activity was preceded by obtaining permission from the Head of Kuranji Village and the planned activities to be carried out were welcomed. After that, the service team conducted a survey of a feasible location for the placement of pond construction. After finding a suitable location for the tarpaulin pond, namely in West Mapak Hamlet, a permit was issued to the head of the hamlet. The Head of West Mapak Hamlet welcomed the community service activities that would be carried out.

2. Community Group Training

Community group training was carried out to provide insight regarding how to make tarpaulin ponds for vannamei shrimp cultivation. The training was carried out by involving a community service team from the University of Mataram, including students and the people of West Mapak Hamlet.

3. Vannamei Shrimp Cultivation Tarpaulin Pond Demonstration

The demonstration plot was carried out as a practical means of making tarpaulin ponds so that the community could apply it for cultivation.

The demonstration plot was carried out on the land of one of the people. The community and the service team made the tarpaulin ponds together. Manufacturing activities were carried out from July 2022 to August 2022.

To make a tarpaulin pond with a diameter of 1.5 m, the materials needed are:

- a. High tarpaulin 1.15 m.
- b. M6 threaded wire mesh iron, 105 cm high, blunt iron.
- c. Red carpet gutters 90 cm.
- d. Disposal drains.
- e. Parallon water regulator
- f. Knie 2 pcs
- g. Fastening clamps
- h. Dov closes the filter.
- i. Central drain filter
- j. Drain clamp rubber.
- k. Electrical pipe for iron shield
- l. Tarpaulin straps
- m. Cable ties

The way to make a round tarpaulin pond are:

- a. The wire mesh iron is opened and straightened.
- b. After that, the wire mesh iron is made into a circle, the ends of the iron are tied with wire so that the position of the circle does not change.
- c. The ground surface that will be used as a tarpaulin pond is leveled first, then sand is added.
- d. The drain hole is made using a PVC pipe, then cement is placed on top to strengthen the pipe.
- e. After that, the surface of the soil that has been given sand is added with rice husk or sand so that the surface is soft.
- f. Water gutters installed.
- g. Installation of iron protective hose
- h. Tarpaulin installation
- i. Rope installation
- j. Installation of a water outlet

4. Assistance

Mentoring activities are carried out by intensively assisting the community in the process of making tarpaulin ponds until they are finished and ready for use.

Results and Discussion

The tarpaulin pond construction demonstration plot activity for vannamei shrimp farming was carried out after the training activity. The community was given assistance on how to prepare a location for a tarpaulin pond, and together with the community carried out activities for making tarpaulin ponds.

The first thing to do is prepare the land for the location of the tarpaulin pond. The chosen land is one that is close to a seawater source, can accommodate pond areas, is easy to control when shrimp are reared, and has an area for water disposal during water changes. The land used to place the tarpaulin pond is also ensured to be leveled first, removed from stones and other sharp objects that can damage the tarpaulin. Febrian and Witko (2018) said that in building tarpaulin ponds one must pay attention to the source of water, the soil base for laying tarpaulin ponds must be flat and free of sharp objects that can damage the tarpaulin. If the base of the soil is uneven, we can add banana stems or rice husks. Community service activities in Kuranji Village, on the ground where the tarpaulin pond is given sand first so that it makes the bottom of the pond softer and not dangerous for the tarpaulin. Sand was chosen as the base because of its abundant availability at the location where the tarpaulin pond was placed. The location is close to the beach area, so it is close to water sources and has abundant sand availability.



Picture 1. Land Preparation for Tarpaulin Pond

The tarpaulin pond used is 1.5 m in diameter. The tarpaulin material is HDPE. The advantages of HDPE ponds are that they are easy to maintain, easy to maintain water quality, easy to process, and easy to harvest (Akmal et al., 2022)



Picture 2. Opening of the Tarpaulin Pond Frame



Picture 3. Installation of Tarpaulin Pond Frame

The construction of the pond frame used in community service activities uses an iron frame. Apart from iron, tarpaulin ponds can also use bamboo, wood, bricks for the frame (Febriani and Witoko, 2018).



Picture 4. Placement of Tarpaulin Pond on The Land



Picture 5. Installation of Water Outlet

The door/hole for water discharge is also known as the outlet. The function of the outlet is very important to regulate the volume and circulation of water so that the quality of the pond water is maintained. The outlet also plays a role in removing harmful wastes from the quality of the pond water (Kementerian Pendidikan dan Kebudayaan, 2013). In community service activities, an outlet is installed in the middle of a tarpaulin pond and connected to an outlet pipe outside the pond to drain water. The pipe is given cement so that its position does not change. After the cement has dried, the tarpaulin pond is ready for the community to cultivate vannamei shrimp in Kuranji Village. In using tarpaulin ponds, the community service team aids the community so that the community can apply vannamei shrimp cultivation using tarpaulin ponds.

Conclusion

The results obtained in community service activities are:

1. The people of Kuranji Village gained insight into how to construct tarpaulin ponds for vannamei shrimp cultivation
2. The people of Kuranji Village can practice making tarpaulin ponds

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