

Barehole Facilities To Support Harmonious Relationship Among Healthy And Prosperous Citizens In Natar Lampung

Bangun Suharti^{1*}, Ida Nurhida², Ibrahim Besar³, Ahmad Riza Faizal⁴

^{1,2,3,4}FISIP, Ilmu Komunikasi, Universitas Lampung, Kota Bandar Lampung, Indonesia

Email: ^{1*}bangun.suharti@fisip.unila.ac.id

(* : coresponding author)

Abstract – The impact of the drought has been felt by community members. The long dry season has begun. Residents must immediately mitigate the impact of this long dry season, which usually has a major effect on the supply of clean water in residents' dug wells. The drought has caused residents who do not have boreholes to buy clean water. The problem is that the place where the purchased water is stored is a well that has already dried up. This situation actually absorbs the purchased water, so the water cannot last long in the well. This condition is the basis why this PKM activity must be carried out. This PKM activity was preceded by a pre-survey of the location, followed by discussions with residents and the head of the local RT. Through FGD discussions, the form of activities, location of activities as well as the utilization of the results of this PKM activity were determined. The results of this activity can be utilized by residents as one of the efforts to mitigate drought disasters that occur during the long dry season. Utilization together with residents, will improve harmonious relationships and improve the socio-economy of residents affected by drought in Natar village, South Lampung.

Keywords: Barehole, Mitigation, Natar, Relationship Harmonization

Abstrak – Dampak kekeringan telah dirasakan warga masyarakat. Musim kemarau panjang sudah mulai. Warga harus segera memitigasi dampak musim kemarau panjang ini, yang biasanya berpengaruh besar pada pasokan air bersih di sumur gali milik warga. Kekeringan menyebabkan warga yang belum memiliki sumur bor harus membeli air bersih, kendalanya adalah, tempat penyimpanan air yang dibeli tersebut adalah sumur yang sudah mengalami kekeringan. Keadaan ini justru menyerap air yang dibeli tersebut, hingga air tidak bisa bertahan lama di dalam sumur. Kondisi ini menjadi landasan mengapa kegiatan PKM ini harus dilaksanakan. Kegiatan PKM ini di dahului dengan pra survey lokasi, dilanjutkan dengan diskusi bersama warga dan ketua RT setempat. Melalui diskusi FGD, ditetapkan bentuk kegiatan, lokasi kegiatan sekaligus pemanfaatan hasil kegiatan PKM ini. Hasil kegiatan ini dapat dimanfaatkan oleh warga sebagai salah satu upaya mitigasi bencana kekeringan yang terjadi dimasa musim kemarau panjang. Pemanfaatan secara bersama-sama warga, akan meningkatkan relasi yang harmonis dan peningkatan sosial ekonomi warga yang terdampak kekeringan di desa Natar Lampung Selatan.

Kata Kunci : Harmonisasi Relasi, Mitigasi, Natar, Sumur Bor

1. INTRODUCTION

The availability of clean water plays an important role for life. Water is the main source of human life (Mustofa & Tjahjanti, 2024). Humans can survive better without food than without water. Plants and animals too, at certain times living things really need the availability of this water, both for consumption and non-consumption. Water for non-consumption, for example, for toilets, for environmental sanitation and for cleaning livestock pens and watering plants. There is a very close relationship between the availability of clean water and hygiene or public environmental health (Ode et al., 2022). The availability of water, especially to support the availability of clean and healthy drinking water, is very important.

The community in the location of this PKM activity, namely in Natar village, South Lampung, still needs a clean water supply, especially in the long dry season. Some people also have cattle and/or goats. Kebon or fields in the area generally also rely on rainwater to irrigate their crops. If the dry season is long, it will be a problem because of the limited supply of rainwater, which sometimes does not rain for 1 to 2 months. This community service activity was carried out based on the fact that some people in the location of the activity, namely in Natar South Lampung, experienced problems with access to clean water. Clean water from existing wells is still constrained because the collection is still using manual and traditional tools. Some residents' wells are still in the form of dug wells. This situation is exacerbated by the fact that during the long dry season, the

dug wells often dry out. Some members of the community who have their own borehole wells use them exclusively for their own families. They have not been able to share it with other residents who still collect water manually. The existing borehole wells are of course sourced from a deep source that never dries up during the long dry season.

For community members whose wells run dry in the dry season, they have to buy tank water. Tank water is sold and transported in front of their homes. The main problem in purchasing the tank water is the water storage. The water reservoir used to store the water is a dug well that is experiencing drought. This, of course, does not store water well. A tank that is expected to last for several weeks can only last for a few days. This is because the dry condition of the well also absorbs the water that is poured into it during the dry season.

This situation was taken into consideration during FGD discussions with several community members, accompanied by the local RT head. The residents involved were those who had difficulty getting clean water supply during the long dry season. Procurement of this borehole well is one of the efforts to mitigate the risk of drought in the long dry season this year (2024) (Adicita & Firdaus, 2023).

Based on this, this PKM activity is carried out and prioritizes the procurement of boreholes as a source of clean water supply for some community members who have problems getting clean water.

The procurement of this borehole well is expected to be one of the solutions to meet the clean water needs of residents in need. Existing wells with excavation systems also still experience obstacles, in distributing them to strategic places inside the house and outside the house. Water must be drawn and transported using buckets to be taken to the bathroom and or to the kitchen and to where the plants will be watered. With this well, the flow of water can be easier because it uses electricity and uses piping and cranization. Facilitating the installation of water sources with boreholes can facilitate family work, making housework more efficient.

With the distribution of water like this, it will be easier and alleviate even the welfare of community members. Welfare, because with a clean water source, can increase family productivity. For example, being more diligent in gardening and utilizing land that lacks water, in making creative cooking cakes, being willing to use washing machines and others. Families will also be more hygienic, because water sources are available more and more easily, for example for MCK and other daily needs. This of course, can automatically improve the quality of family health, because low access to clean water correlates with a significant increase in infectious disease cases (Lufira et al., 2021). The availability of clean water installations is one of the determining factors for the comfort of using a building or building (Arnas et al., 2023), especially for the comfort of family life and community life.

In addition to the above, the utilization of borehole water is done collectively, centered on one person who is closest to the borehole and has access to electricity. Furthermore, water distribution will be channeled to the homes of residents in need. With this shared borehole, harmonization of relations between residents can be improved, especially in the utilization of shared borehole water. The water usage of each house will be considered in accordance with the amount of each use fairly. This can be seen from the water meter used in each house. The price per cubic meter, of course, will be discussed together, in accordance with the agreement between residents by considering the cost of electricity use.

The purpose of conducting PKM activities to make bore wells is to better meet the needs of clean water. This is especially necessary during the long dry season. Togetherness in managing clean water held through the procurement of boreholes is also expected to increase the sense of togetherness (harmonization) of relations between residents. With the borehole well, it is expected to improve the health and welfare of the community. Improving the social welfare of residents will later increase the socio-economic activities of the community (Bagus et al., 2024).

2. METHOD

In stages, this PKM activity begins with a pre-survey field trip, to see the situation and conditions of local community members. Seeing a map of local conditions and needs, which allows PKM activities to be held at the intended location. Finally, both parties agreed to the procurement or facilitation of clean water sources with the construction of clean water installations, in the form of boreholes. Accompanied by the head of the RT, it was mutually agreed to procure borehole installations to meet the needs of residents as a means of mitigating the drought disaster that has been felt in the last few months, since mid-2024.

Prior to the implementation of PKM activities, pre-survey activities through the PRA (participatory action research) method have been carried out in order to obtain conclusions, regarding the local situation and local needs for this PKM activity (Khoirin et al., 2024). Involved in this participatory research activity were the beneficiaries of the activity and the head of the local neighbourhood.

This PKM activity is carried out through several stages as described below:

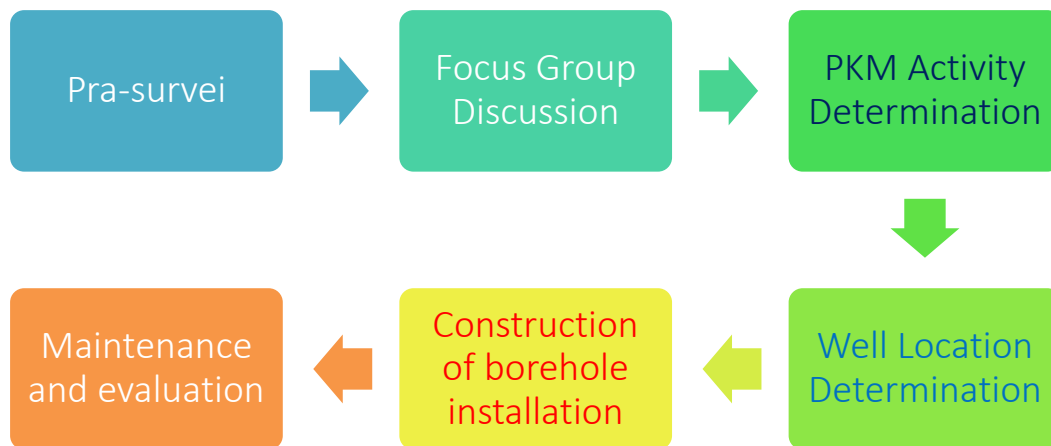


Figure 1. PKM activity process flow

3. RESULT AND DISCUSSION

Drought is becoming more widespread in Indonesia and even around the world. This is because climate change is increasingly erratic and difficult to predict. The rainy season and dry season are increasingly erratic. Before the last few years, in the Natar area and Lampung in general, it would still rain at least once a week, although during the dry season, it would still rain even though it was very rare and low in intensity. However, at the moment, during the long dry season, there is no rain at all for at least a month. This is very difficult for residents who do not have boreholes. In general, the area also relies heavily on rain-fed water to irrigate their fields and gardens.

The drought that is sweeping the world must be anticipated immediately. The long dry season in 2024 has also begun to have an impact on the community. Various plants have withered, even hard plants such as rubber are dehydrated and have reduced yields (Cahyo et al., 2020) Corn and cassava plants, which are common commodities for the local community in the Natar area, have begun to dry prematurely. Yields have been declining since the last few years, as maize yields have not been as expected. The corn does not grow properly, the fruits are smaller and dry prematurely. The drought causes the maize to dry prematurely as well, making the grains smaller than usual. This

causes farmers' income to decline, as the price of maize decreases due to a decrease in the quality and quantity of the harvest. In general, the impact of long droughts has been felt even in riverine areas, with significant changes in the composition of drought-affected areas and their environment (Primadita et al., 2022).

In order to anticipate the impact of the long drought, it is necessary to install a borehole well that can be utilized jointly by residents in need. Procurement of boreholes is expected to improve the harmonization of relations between residents in order to improve the health and welfare of residents in the village of Natar South Lampung. The activity has been successfully implemented. This borehole well can be utilized by residents in need. Several things that can be improved by the procurement of this borehole well are: ease of access, fulfillment of community needs to meet consumption needs (drinking water, cooking water) and non-consumption needs (MCK / bathing, washing, latrines, cleaning cages, watering plants, cleaning houses and the environment). The provision of and access to healthy clean water has been fulfilled. Clean water is water that is clear, odorless, dirty and does not contain materials harmful to health (Nawang Sari et al., 2023).

The need to procure clean water sources is quite urgent. This is because water sources from the local government or PDAM have not yet entered this area. If clean water supply from PDAM has entered this area, it is very likely that there will be great benefits for the community. PDAM will overcome various obstacles faced by the community and can increase the economic and social activities of the community (Yuningsih et al., 2024). Expecting PDAM water to flow to remote and inland areas like this is difficult. This is due to various obstacles and the issue of loss-making PDAMs that do not provide income and are unable to increase local revenues (Nugroho & Widyagama, 2003). Some things that can be taken into consideration in the development and distribution of clean water in rural areas are the ratio of the load issued to the limited number of customers. This is because remote areas are still sparsely populated, so long water lines that are not matched by the number of customers will be burdensome in terms of installation construction costs.

The construction of clean water installations from the government, of course, requires a feasibility study that involves various aspects and involves the consideration of many stakeholders (Mahardhito & Wardhana, 2024). This situation is economically unfavorable for rural areas. This will be different from urban areas that are densely populated, many customers, then the construction of installations can be balanced with the demand ratio of its customers.

As has been done in this PKM activity, it shows that PKM activities must be based on the most basic and first needs that are needed by the community at that time. This is because the situation requires it. With the pre-survey and the FGD between the team and the RT officials and the local community, the trickle down effect (Wafidhi & Jaya, 2024), which is undesirable in development that often occurs, can be avoided as early as possible. The FGDs conducted are very meaningful input, so that this PKM activity can be utilized as much as possible because it is in accordance with the needs of the local community.

However, it must be recognized that due to the limited funds available, the procurement of this borehole well is not perfect. In the coming period, the installation will be refined to be better and more perfect. Step by step activities for the construction of the borehole installation in this PKM, can be described in the photo documentation of the activities as below:

Pre-survey of the condition of the dug wells of several residents' houses:



Figure 2. Residents' dug wells, drought during long dry season



Figure 3. Residents dig wells that dry up during the long dry season



Figure 4. Preparation of borehole installation



Figure 5. Preparation of machinery and tools for the construction of community boreholes



Figure 6. Start drilling the well



Figure 7. Construction of water towers and water channels to residents' homes



Figure 8. Water installations with boreholes ready to be utilized by residents

4. CONCLUSION

In every community activity, a common understanding is needed that the community must be involved in determining the activity. This is because it is the beneficiaries who will utilize the results of these activities. By involving the community in determining the form of activities, it is hoped that the benefits of activities can be optimized. Community involvement in determining activities and activity objectives will foster mutual understanding and foster a sense of belonging to the results and physical form of these activities. This PKM activity model seeks to explore local potential and needs, by imitating a development model based on community needs or commonly referred to as the ABCD Model (asset based community development) (Bagas et al., 2023) so that the local community will certainly get better support from the local community. The installation of the borehole installation was also carried out by local technicians who live around the PKM activity location and received recommendations from the local RT head.

PKM procurement of borehole installations as a means and source of clean and healthy water for the community of Natar village, South Lampung has been carried out. The procurement of clean water sources has been utilized for various purposes, both for consumption and non-consumption. Environmental hygiene needs, such as cleaning cages, bathing livestock and watering plants in the fields are more possible through the procurement of this borehole installation.

The existence of this borehole well can also be utilized to improve community welfare. Ease of access to clean water allows residents to plan activities and facilities for family water supply needs. Washing machines, refrigerators, faucetization at several water points, the creation of hand washing stations and free access ablution water for people who need it, have also begun to be planned which can later lead to other economic activities. Several families in close proximity, who do not yet have boreholes, can use this clean water source together according to an agreement on the price per cubic meter of water use. This is especially important to mitigate the drought that has already occurred during the current long dry season, in 2024 when this water installation was built.

The maintenance of these installations is the joint responsibility of the user community. Although the water channel can be used voluntarily, the calculation of utilization and price remains the responsibility of the core users. The team will continue to monitor and assist the utilization of this clean water source, until it is necessary at a later time, all is handed over to local residents. This is because the procurement of the installation is still not perfect, especially in the plan to procure a faucet for ablution or washing hands for residents who pass by the location. For example, to take ablution water or just wash their feet and hands, wash their faces, after returning from gardening and cutting grass for their livestock.

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