

Improving Knowledge of FMD Outbreak Prevention on Livestock Based on DIMES in Ketawang Village

Mochammad Ilyas Junjuna^{a)}, Ayu Nurqinasih, Putri Aprilia Afinda, Fajri Parikesit, Alya Zulfana, Venna Narulita Rizqi, M. Maulana Asegaf

Universitas Islam Negeri Sunan Ampel Surabaya, Indonesia

^{a)}Corresponding Author: mij@uinsby.ac.id

Abstract

Most of the residents in Ketawang village have side jobs as stock farmers. The population of breeders is 254 people with the number of livestock as many as 489 cows. The aimed of community dedication is to raise the knowledge of farmers in Ketawang village regarding the FMD outbreak. This community dedication was chosen to broaden the public's knowledge about preventing and handling FMD in their livestock. DIMES (discussion, mediation, and socialization) was then chosen as a problem-solving step because it was considered appropriate to involve active participation from the village because it involved the village's problems and affected the income sources of the villagers. The stages carried out in this community dedication consist of (1) Preparation of socialization needs, (2) Implementation of the results of training and mentoring programs, (3) Monitoring and evaluation, (4) Outcomes, and (5) Timeline of activities. The results of these community dedications have proven to be useful in increasing knowledge related to FMD. The enforcement of monitoring shows that stock farmers respond positively by spraying disinfectants according to what have been taught. The implementation of the evaluation has proven that many residents were satisfied with the course of this activity.

Keywords: Community dedication, mouth and foot disease, livestock.

INTRODUCTION

Ketawang village has an area of 3.89 km². The total population in Ketawang village is 4016 persons, of which 1018 persons live in Kedungceleng hamlet, while 1536 persons live in Nglumbu hamlet, and 1462 people live in Ketawang hamlet. The history of Ketawang village is not known for certain. But based on folklore, there used to be a demang from Jogja (Mataram) named Doyopati with several friends named Djarot, Tegar, Dongkel, and Sentrot. The five persons fled from Mataram to East Java to the village of Ketawang. Doyopati and his four friends fled because they did not want to obey the Dutch. Then they cleared the forest called Nglengcong/Gatho. After settling there a few months later they cleared the forest again. Since the food has run out, then what is eaten every day is taro (only eating vegetable namely lumbu). Finally, it is now a Nglumbu hamlet. Then, they dismantled forest again to the north which is inhabited by wild boars, now the village is named Kedungceleng. Finally, they opened the forest to the east but faced many obstacles. So that in the process there was a sense of anxiety (awang-awangen), hence this village is called Ketawang village. Furthermore, the order name of the Village Heads from the beginning in Ketawang village includes, Doyopati (year unknown), Doyotaruno (year unknown), Singoredjo (year unknown), Kromosentono (1889 - 1910), Merit (1910-1925), Ronodjoyo (1925-1927), Irodimedjo (Dugel) (1927-1935), Singopawiro (1935-1973), Katibin Adisiswoyo (1973-1990), Muljadi (1990-1998). Endang Hayu Winarsih (1998-2007), Siswo Susila (2007-2014), Iswantoro (2014-now) (Suhartono & Anik Indramawan, 2021).

The average livelihood of the population in Ketawang village is farmers and the majority of the youth work as factory workers. Most of the population also have side job as stock farmers. The population of breeders for about 254 persons with some livestock as many as 489 cows. From the majority of side jobs that residents do, we choose service stock farmers to increase the

knowledge in Ketawang village due to the FMD outbreak. Quoted from the website of the food and livestock security service of West Java province, mouth and nail disease is also known as foot and mouth disease (FMD). This type of disease is caused by type a virus from the picornaviridae family, genus aphthovirus, namely aphthaeepizootic. This FMD virus can survive for a long time in the environment and survive in bones, glands, milk, and dairy products. The morbidity rate can reach 100 percent and the high mortality rate is in young animals or children. The transmission rate is quite high, but the mortality rate is only 1-5 percent (Sudarsono, 2022).

This disease is characterized by the formation of vesicles or blisters and erosions in the mouth, tongue, gums, nostrils, nipples, and in the skin around the nails, limping and even the nails can be detached, hypersalivation, animals lie down more often; In beef cattle, there is a decrease in body weight and dairy cattle, there is a drastic decrease in milk production. Prevention and control of FMD include FMD vaccination for healthy livestock, quarantine measures and livestock traffic control, limited slaughter, treatment of animal products, control of wild animals and vectors, administration of antibiotics, antiseptics and administration of vitamins, implementation of biosecurity and biosafety. Control and eradication consist of methods, namely, disposal, which is the destruction of contaminated items, and decontamination which includes cages, equipment, vehicles, and other items using disinfectants (Surtina et al., 2022). Transmission of FMD can be through breathing, can be spread through the wind, traffic of food ingredients, livestock, vaccines contaminated with the FMD virus, and through reproduction (Dellaneira et al., 2022; Silitonga, 2017).

In 2020, Pandemic COVID-19 has become everyone's concern Arianti, Oktaviani, Safitri, & Junjunan (2022). Nowadays, several people who have jobs as breeders are also concerns about the FMD outbreak that is starting to happen. The PMK outbreak entered Ketawang village, Gondang, Nganjuk in early May 2022. There were 3 cattle infected with FMD in Nglumbu hamlet with 0 (zero) case of livestock death. In Ketawang hamlet, 2 (two) cattle were infected with FMD with 0 (zero) death, which continued to spread to several other farm animals. Currently, there is 16 livestock that has contracted FMD in Ketawang village and 9 have died. Therefore, the choosing of community dedication is needed so that the community has insight into preventing and handling FMD in their livestock. Then DIMES (discussion, mediation, and socialization) was chosen as a problem-solving step. It was considered as appropriate effort to involve active participation from the village because it as regard village problems and affects the income sources of Ketawang village residents.

METHOD

The timeline of implementing the community dedication starts from July 25 to August 19, 2022, along with the team appointed to conduct the community dedication consisting of several different faculties. These include the faculty of Psychology and Health, the faculty of Sharia and Law, the faculty of Arts and Humanities, the faculty of Social and Political Sciences, the faculty of Da'wah and Communication, and the faculty of Ushuluddin and Philosophy. The seeking of problems was conducted through observation method for a week, at the beginning of the team's arrival. Then the team found problems that were considered important to be handled, namely the PMK case in Ketawang village, Gondang district, Nganjuk regency. The team herewith the village officers negotiated socialization activities as an effort to prevent the expansion of the FMD outbreak.

The enforcement of community dedication activities were then continued by deeper discussions with the mediation process along with the village and the health office regarding the carrying out the socialization. The material delivered through socialization consists of information related to FMD, including its symptoms and modes of transmission, data on affected livestock plans for livestock vaccines, and how to use disinfectants and drugs for cattle. Furthermore, the team helped set-up the site, prepared the medicines and disinfectants to be distributed to stock farmers. The steps are carried out in the community dedications consist of

(1) Arrangement of socialization needs, (2) Implementation of the results of training and mentoring programs, (3) Monitoring and evaluation, (4) Outcomes, and (5) Timeline of activities (Junjunan et al., 2022; Junjunan & Nawangsari, 2021). This is presented as follows:

1. The Preparation of training needs
The team set up places, medicines, and disinfectants for animals infected with FMD. The method used to achieve this community dedication program for the target group by giving practice directly to the aim group and medicines.
2. Enforcement of the results of training and mentoring program
After the training is completed, stock farmers are assisted in spraying disinfectants, the aimed of this stage to ensure that stock farmers applied the results of the training correctly and appropriately.
3. Monitoring and Evaluation
Monitoring is conducted by focusing on how the condition of the livestock cages, how is the condition of the livestock owned, and whether the stock farmers have sprayed disinfectants. Then the team evaluates whether the spraying of disinfectants carried out by stock farmers has been done properly and correctly.
4. Outcome
The outcome of community dedications include breeders whose insight that needed in handling FMD outbreaks, stock farmers who understand the importance of disinfecting and vaccinating livestock as an effort of prevention and handling of FMD, as well as stock farmers being able to apply how to handle FMD properly.
5. Timeline of activities
The following is a detailed timeline for the community dedications that have been carried out:

Table 1 Timeline of activities

No	Date and time	Activity	Location
1.	July 25, 2022	Discussion with related village officers	Ketawang village disaster response command
2.	July 26, 2022	Preparing medicines and disinfectants	At Ketawang village hall
3.	July 27, 2022	Socialization about the way to prevent FMD outbreaks in livestock	Ketawang village meeting hall
4.	July 28, 2022	Confirming the development activities to DPL	KKN post
5.	August 01-04, 2022	Monitoring activities to several stock farmers related to spraying	Farmer's cage
6.	August 19, 2022	Final monitoring and evaluation	Farmer's cage

RESULTS AND DISCUSSIONS

Discussion was joined by the village officer to create any solution that would be realized. Based on the discussion, the team and village officers scheduled outreach activities to prevent the FMD outbreak in Ketawang Village. After having a discussion, it was decided to do mediation also with the Department of Health as resource persons who explained material related to PMK. Socialization is carried out according to the schedule written above, on July 27, 2022. The explanation about the socialization was delivered by Veterinarians Rulli and Mr. Zainal Asrori (Cow Farmers). The material is involves information related to FMD, including its symptoms and modes of transmission, data on affected livestock plans for livestock vaccines, and how to use disinfectants and drugs for cattle. Then in this stage, the stock farmers were given 1 (one) litre

of disinfectant per breeder which could be sprayed independently by every stock farmer in their cattle pens.

Monitoring and evaluation after the socialization is conducted to know whether the stock farmers have been able to apply the knowledge gained in the socialization. Monitoring and evaluation were followed by 50 stock farmers spread from 3 (three) hamlets in Ketawang village. Monitoring was carried out for about 4 (four) days on 1-4 August 2022, by observing first-hand how the condition of the stock farmer's cage. Then the team checked whether the stock farmers had sprayed the disinfectant according to what was taught during the socialization. The evaluation process was also done in the second monitoring session on 18-20 August 2022. This evaluation assessed if the knowledge of stock farmers was increased through socialization activities, whether this socialization made residents want their livestock to be vaccinated, and whether residents were satisfied with the socialization that had been held.

It was found that the results of socialization had positive results in the form of increasing knowledge about PMK. The following are the test results with the Wilcoxon Signed Ranks Test formula.

Table 2 Pretest and Posttest Results

Ranks		N	Mean Rank	Sum of Ranks
Post-test –	Negative Ranks	0 ^a	.00	.00
Pre-test	Positive Ranks	42 ^b	21.50	903.00
	Ties	8 ^c		
	Total	50		
a. Post-test < Pre-test				
b. Post-test > Pre-test				
c. Post-test = Pre-test				

According to the table, it is known that the stock farmers whose increased in knowledge were 42 persons and 8 persons had constant knowledge both pre and post of socialization. Then, stock farmers were also interviewed regarding their willingness to plan vaccination activities. The results of the data that appear are as follows.

It can be seen that out of 50 stock farmers, 16 persons chosen to approve if their livestock were vaccinated, 6 persons chose to be hesitant if their livestock were vaccinated, and 28 other person chose not to approve if their livestock were vaccinated. The reasons provided by the stock farmers are because they are afraid that the cow will die, the cow is pregnant, or the cow is not sick. Some people who choose to be indecisive tend to follow other people around them.

The outcome of stock farmer's satisfaction related to this community dedication, for about 40 persons said they were satisfied and as many as 10 persons said that this socialization was not contented. The reason stock farmers are not satisfied is that the implementation of socialization is considered less than optimal. Then others said, this socialization was very useful and increased knowledge related to PMK. The majority of breeders are old people, consequently many of the residents do not understand how to digging information independently and it caused many stock farmers do not know information on PMK. Although many stock farmers do not agree with vaccinating their livestock, residents still believe that socialization activity is indeed.

CONCLUSIONS AND RECOMMENDATIONS

Community dedication in Ketawang village focused on health and problem related to the FMD outbreak that infects several livestock. Then the team along with the village officers negotiated a socialization activity to prevent the expansion of the FMD outbreak. The implementation of community dedication was continued with deeply discussions and mediation processes related to the realization of socialization with the village officer and the health office. Monitoring and evaluation conducted to know whether the stock farmers have been able to apply the

knowledge gained in the socialization. It can be concluded that this community dedication provides several results, including:

- The enforcement of socialization has proven to be useful in increasing knowledge related to FMD.
- Implementation of monitoring shows that stock farmers respond positively by spraying disinfectants according to what have been taught.
- The evaluation program has proven that many residents were satisfied with the course of this activity.

Suggestions can be done to the village officer that is to establish a community of stock farmers, in order that stock farmers can provide useful information to each other. Recommendation for further researcher expected to be able to dig deeper and give a longer deadline to obtain maximum outcomes.

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APPENDIX



Figure 1 Implementation of Socialitazation Activities



Figure 2 Implementation of Monitoring and Evaluation Activities

The results of a survey of the willingness of their livestock farmers to be vaccinated

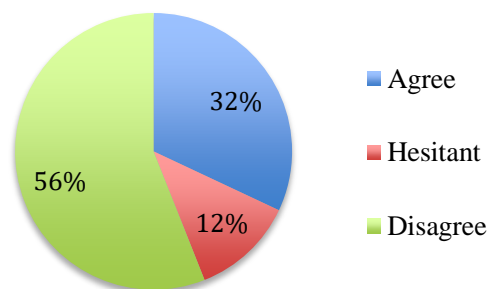


Figure 3. The results of a survey of the willingness of their livestock farmers to be vaccinated

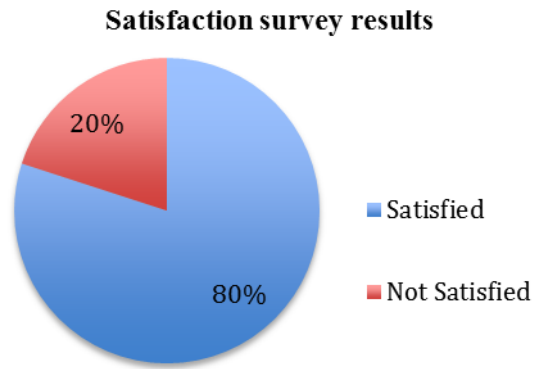


Figure 4. Stockfarmer satisfaction survey results