

Independent Quarantine Installation as a Tool to Empowering Community Resilience of Covid-19

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Abstract

In Timbulharjo Village, Sewon District, Bantul Regency, Special Region of Yogyakarta, the Covid-19 pandemic has reached its ninth month. Individual citizens have economic limitations in preventing a pandemic. Refusal of migrants who come back from big cities has the potential to increase conflict. These conditions make the installation of independent quarantine and the accompanying empowerment program needed by the community. This program helps solve citizens' problems. The program was built through collaborative community service and facilitation processes, thereby stimulating residents to realize other local initiatives in dealing with Covid-19. This dedication not only provides relief items but also harmonizes local planning, management, and resources that can be carried out independently by the community. Planning and implementation of the program are done on a multi-party basis (Penta helix). Citizens as subjects supported by the village government, educational institutions, business institutions, and the media. University of Pembangunan Nasional Veteran Yogyakarta represents educational institutions, in which there are Disaster Management Study Program, Disaster Management Study Centers, Covid-19 Task Force, UPN TV, and Alumni Association.

Keywords: CBDRM, prevention, Covid-19, quarantine



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I. INTRODUCTION

Covid-19 pandemic has been a huge struggle for every state in the world, including Indonesia. World Health Organization, on March 11, 2020, confirms Covid-19 as a global pandemic. Based on EM-DAT, there are approximately 464 major disasters that had occurred in Indonesia between 1900 and 2016, killing more than 240,000 people, putting the country at the top rank (World Bank, 2016). Indonesia, as a country with a variety of disasters dealing with this pandemic as a double challenge. Guidelines for the Prevention and Control of Coronavirus Disease (Covid-19) 5th Revision of Ministry of Health regulate that the positive Covid-19 person with asymptomatic, mild, and moderate for ten days self-quarantine (Indonesian Ministry of Health, 2020). Hospitals effectively can only manage the patient with a severe condition. Yogyakarta already implements this policy since August 15, 2020 (Tribunnews, 2020). Thus, the community was forced to take the initiative to provide independent quarantine facilities and other supporting responses to meet community needs.

The act of establishing independent quarantine and community-based surveillance is also a strategy recommended by the Ministry of Health in dealing with Covid-19. The Minister of Villages, Development of Disadvantaged Areas, and Transmigration also stipulated the Village New Normal Protocol to accelerate the handling and break the chain of Covid-19 transmission at the Village (Kepmendes PDPTT No. 63/2020). Interestingly, Tembi Hamlet - as the object of research - has taken actions long before the health ministry and the village ministry recommendation; since March community has been creating an independent quarantine place by utilizing local resources and networking with the external actors.

II. LITERATURE REVIEW

A. I. Brief Background of Tembi Hamlet

The research was conducted in Tembi Hamlet, Timbulharjo Village, Sewon District, Bantul Regency. Tembi Hamlet in the Bantul Regency was affected by the Yogyakarta earthquake in 2006. There are 1100 people in Tembi Hamlet. Tembi Hamlet's majority are farmers. The traditionality of Tembi Hamlet has become a tourist attraction, so there are several hotels and homestays both owned by the company and residents themselves. Recorded on August 13, 2020, cases of positive residents of Covid-19 in this sub-district reached 16 people (Bantul Covid-19 Taskforce Website, 2020). So it is the highest district in the case of positive residents of Covid-19. In terms of health facilities, Timbulharjo Village does not have a hospital but has a health center and Polyclinic (BPS Kabupaten Bantul, 2019). Based on the records of the activities of the Tembi Hamlet Covid-19 Team, the first response that was carried out for Covid-19 was spraying disinfectants in public facilities on March 23, 2020 (Satgas Covid-19 Dusun Tembi, 2020). This first response is the key to increasing cooperation between communities by involving all members of the society of all ages. Tembi Hamlet continued activities in the form of planning public health protocols, activities to reduce the impact of the economy and food, to building infrastructure.

B. II. Community Quarantine as an Outcome of CBDRM

Community-Based Disaster Risk Management (CBDRM) is an approach of promoting the involvement of grassroots-community disaster risk management at the local level. For this, a series of efforts are required that include community self-interpretation of hazards and disaster risk, reduction and monitoring, and evaluation of their own performance in disaster risk reduction. However, the key to both is the optimal mobilization of resources that the community has and has control over and becomes an integral part of the community's daily lives (Eko Teguh Paripurno, 2014).

There is not yet any social research on the history of Community Based Disaster Risk Management (CBDRM). The first adoption of CDBRM was in the context of the Merapi volcano of Yogyakarta back as early as 1994. It started with the assessment of the behavior of the community living around Merapi, who survived the volcano eruption in 1994. Activists of KAPPALA Indonesia – a local Nature Lovers and Environment Activists NGO – of Indonesia developed a self-learning and conceptualization of their works with the Merapi community (Eko Teguh Paripurno, 2014).

Isolation refers to the separation and restricted movement of ill persons who have a contagious disease in order to prevent its transmission to others. It typically occurs in a hospital setting but can be done at home or in a special facility. Usually, individuals are isolated, but the practice may be applied in larger groups. Quarantine refers to the restriction of movement or separation of good persons who have been exposed to a contagious disease before it is known whether they will become ill. Quarantine usually takes place in the home and maybe applied at the individual level or to a group or community of exposed persons. (Stacey Knobler et al., 2004)

Indonesian Ministry of Health Decision No. HK.01.07/MENKES/413/2020 on Guidelines for the Prevention and Control of Covid-19 is a guideline to prevent and control Covid-19 for all parties, not just the government. In the 5th Revision Guidelines, Provision of independent quarantine facilities and logistics for quarantine and isolation, residents make a recommendation on communities to new arrivals/ travelers/residents who force homecoming have no symptoms. Self-quarantine is carried out at home or in village facilities and monitored for 14 days.

III. RESEARCH METHODOLOGY

This research is qualitative research using Participatory Rural Appraisal (PRA) tools. PRA is a set of participatory approaches and methods to learn about rural life and conditions by, together, and from rural communities (Robert Chambers, 1994). The research was conducted in the form of documentary and exploratory studies of community and stakeholder practices. The documentary study was carried out by re-reading the document of program activities carried out by the communities in dealing with Covid-19. Explorative assessments were carried out directly with interviews representing communities in Tembi Hamlet. The use of PRA tools is certainly consistent with qualitative research, which has the core of understanding society through their frame of reference. The PRA technique was formed by drawing directly from qualitative social research. Launched from Campbell, that PRA is part of qualitative research (Campbell, 2001).

In disaster risk reduction, PRA is a key assessment tool to help choose strategies that are meaningful and useful for vulnerable communities (Kotze & Holloway, 1996). PRA, as an approach to assess risks as well as vulnerabilities and capacities, is a valuable method in disaster reduction planning at the community level. From a disaster reduction perspective, PRA is one tool that can be used to assess key vulnerabilities and capacities, as these relate to the risks faced by disaster-prone communities. Compared to other assessment methods, PRA is particularly powerful, as it: a) actively involves community; b) empowers the community to identify the risks and priorities, as well as capacities to reduce these risks; c) provides a picture of the community's perceptions of the risks it faces; d) allows both community insiders and outsiders to jointly identify risk reduction measures – is both time and cost-effective (Kotze & Holloway, 1996).

IV. FINDING AND DISCUSSION

A. I. History of Covid-19 Response in Tembi Hamlet

The response starts from the smaller scope of Tembi Hamlet, namely Kemasyarakatan. Tembi Hamlet divided into two kemasyarakatan, namely Kemasyarakatan I and Kemasyarakatan II. Below Kemasyarakatan there are Rukun Tetangga 1 - 8.

On March 22, 2020, the administrator of Kemasyarakatan II discusses by Whatsapp about the needs for a rapid response regarding the Covid-19 Virus threat. This activity involves 36 people in the Whatsapp Group. They agreed to disinfectant spraying on the public facilities in Tembi Hamlet on the next day. March 22, 2020, the administrator of Kemasyarakatan discuss by Whatsapp about the needs for a rapid response regarding the Covid-19 Virus threat. This activity involves 36 people in the Whatsapp Group. They agreed to disinfectant spraying on the public facilities in Tembi Hamlet on the next day. On March 30, the process of response ongoing into another aspect, such as handwashing and liquid soap making. In the process of making hand-washer, the administrator of Kemasyarakatan II, seeing that area of Kemasyarakatan, I still have no responsibility regarding the risk of Covid-19. The condition caused by the vacuum of administrator in Kemasyarakatan I. Thus, the administrator of Kemasyarakatan II, resident of Kemasyarakatan I, and head of Tembi Hamlet hold a meeting to discuss the Covid-19 joint response. The meeting decided to form a Covid-19 Team to respond at Hamlet level, and the head of Kemasyarakatan II acts as the head of the Covid-19 Team. After the establishment, all the actors in the Covid-19 response strategy involved every household in Tembi Hamlet. Also, Covid-19 Team starts to gather donations from a business entity that exists in Tembi Hamlet.

B. II. Damage of Covid-19 on Tembi Hamlet Community

Covid-19 is making a severe impact on informal workers by being unemployed. Although, other office residents also feel such salary cuts, and workers that work in factories get unpaid leave until an unspecified time. Tembi Hamlet, as a tourism destination, also lose many tourists. Thus hotels and tourism workers decrease in profit. This financial impact affects the psychology of the community, especially the most vulnerable ones, the lower income family. They are being stressed and anxious for the future after Covid-19 being a problem for every household. Some other fear of the Covid-19 spread into their family and the loved ones. While rural communities frequently gather as part of their daily life, but Covid-19 forced them to cancel and postponed the gathering and social events. Meanwhile, the rural community really enjoy a social gathering. In the long run, if the condition not being better, the impact will be severe because Covid-19 not only reducing the income of the household but also dissociate the community from its social excitement.

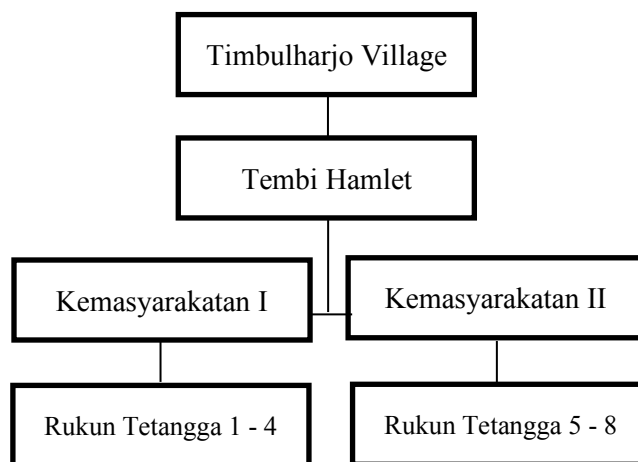


Figure 1. Timbulharjo Village Structure

C. III. Risk Factor of Covid-19

The risk of Covid-19 is directly proportional to mobility and physical interaction and inversely proportional to immunity levels and levels of health services. The level of mobility includes, among others, the mode of transportation, distance traveled, space, and time. The level of physical interaction includes crowd density, distance, type of crowd, length of crowd time. Immunity levels include age and health. The level of positive habit means how each individual has positive habits for himself, to be resilient from exposure to Covid-19 by clean clothing, routine disinfectant, use of masks, exercise, and nutrition.

Thus, the individual risk of Covid-19 is determined by these factors. The higher the individual's mobility (Mo) and physical interaction (Pi), the greater the individual's risk. However, if it is balanced with high levels of immunity (Im) and Positive Habit (Ph), then the individual risk can also be reduced. Of course, to achieve low risk, each individual needs to reduce the level of mobility and physical interaction and strengthen the level of immunity (Im) and positive habit (Ph).

$$RC19 = \frac{Mo \times Pi}{Im \times Ph}$$

RC19 : Risk of Covid 19
 Mo : Level of Mobility
 Pi : Level of Physical Interaction
 Im : Level of Immunity
 Ph : Level of Positive Habit

	Mo	Pi		High mobility (Mo) and physical interaction (Pi) with a low of immunity (Im) and positive habit (Ph) making individuals have a high risk on Covid-19.
Im	1 0	1 0	2 0	
Ph	1 0	1 0	2 0	
			4 0	

	Mo	Pi		High immunity (Im) and positive habit (Ph) with low mobility (Mo) and physical interaction (Pi) with a low of mobility and physical interaction, making individuals have a low risk on Covid-19.
Im	0 1	0 1	0 2	
Ph	0 1	0 1	0 2	
			0 4	

	Mo	Pi		Low immunity (Im), positive habit (Ph), mobility (Mo), and
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Im	0	0	0	physical interaction (Pi) making individual have a medium risk on Covid-19.
Ph	0	0	0	
			0	

	Mo	Pi		High mobility (Mo), physical interaction (Pi), immunity (Im), and positive habit (Ph) making individual have a medium risk on Covid-19.
Im	1	1	2	
Ph	1	1	2	
			4	

Figure 2. Risk Level on Covid-19

D. IV. Independent Quarantine Installation to Empower Community and Prevent Transmission

Eid Al-Fitr is approaching. On April 14, 2020 community preparing a quarantine facility to accommodate Tembi Hamlet residents that homecoming from out of Yogyakarta if the family incapable of supporting self-quarantine in their own house. In realizing this quarantine facility, Covid-19 Team collaborates with many external actors. One of the external actors is KAPPALA Indonesia, an NGO that has an empty office in Tembi Hamlet to be used as a quarantine place. For the interior, Covid-19 Team collaborates with the University of Pembangunan Nasional "Veteran" Yogyakarta to equip the facility. The Team also collaborate with media to campaigning Tembi Hamlet local initiative on Covid-19. From March to August, more or less nine residents do self-quarantine in their own house. In planning and making quarantine, everything is made by the citizens with little intervention from external actors. The community agrees that the preparation of quarantine places has two main objectives: (1) As a quarantine place for Tembi residents who go home from out of town. (2) As a quarantine place for Tembi residents infected with Covid 19. The prepared quarantine place is at the Kappala Indonesia Secretariat in Tembi Hamlet, equipped with basic facilities. Discussions on the precondition agreement for the function of quarantine and self-isolation houses are shown in table 1.

Table 1.
Agreement on Precondition of Quarantine and Self-Isolation Houses

No.	Precondition	Quarantine	Self-Isolation Houses
1.	Personal Protective Equipment	Mask, mantle, hand soon, face shield, boots	Mask, mantle, hand soon, face shield, boots
2.	Bed	Together with the distance	Separated
3.	Air Circulation	Straight to the outdoor	Straight to the outdoor
4.	Handwash	Together/separately with running water, soap, dry tissue, trash can.	Separately with running water, soap, dry tissue, trash can.

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5.	Toilet	Together/separately. Disinfect before and after use. Easy to access with sufficient quantities.	Together/separately. Disinfect before and after use. Easy to access with sufficient quantities.
6.	Wash Clothes	Together/separately, soak the clothes with detergent.	Separately, soak the clothes with detergent.
7.	Location	Same house, not a dense settlement.	Separated house, not a dense settlement.
8.	Consumption	Together/separately, supported by family and locals.	Separately, supported by family and locals.
9.	Cooking and Eating Tools	Separately, supported by family and locals.	Separately, supported by family and locals.
10.	Drainage	It closed – absorption system.	It closed – absorption system.
11.	Garbage Disposal	Closed and separately.	Closed and separately.
12.	Open Area	Available with more than two-meter distance.	Available with more than two-meter distance.
13.	Entertainment	Together/separately, adequate, accessible, and independent.	Separately, adequate, accessible, and independent.
14.	Transport	Availability of car, driver, and one helper.	Availability of car, driver, and three helpers.
15.	Safety	24/7 self-security, coordinating with the local Task Force.	24/7, coordinating with the local Task Force.
16.	Accessibility	We are facilitating disabilities in every facility.	We are facilitating disabilities in every facility.
17.	Communication	Free to do indirect communication. I can communicate directly without making contact and keep maintain a distance.	Free to do indirect communication. Avoid direct communication.
18.	Lighting	Available and easily accessed.	Available and easily accessed.

Agreement on the need for goods to ensure that the quarantine process is running well, then the community agreed upon the completeness as listed in table 2.

Table 2.
Agreement on the Need for Goods

No.	Barang	Jumlah	No.	Barang	Jumlah
1	Bed	3	13	Sanitary Kit	3
2	Big Table	2	14	Bucket	3
3	Small Table	3	15	Detergent	3
4	Long Chair	2	16	Stove	1
5	Fan	3	17	Gas	1

6	Water Dispenser	1
7	Tissue Box	3
8	Trash Can	3
9	PPE	5
10	Handsocon	1
11	Small Disinfectant	3
12	Cloth Mask	30

18	Rice Cooker	1
19	Pan	1
20	Pot	1
21	Kettle	1
22	Plate	12
23	Glass	12
24	Spoon	12

Furthermore, this activity was supported by various parties, in the form of elements in Penta helix. Kappala Indonesia is an element of society and non-government organizations. University of Pembangunan Nasional "Veteran" Yogyakarta is an academic element, which happens to have a community strengthening program for the prevention and handling of Covid-19. Hotel Yabbikayu, D'omah Hotel, and Leksa Ganesha Batik Gallery are elements of local business. Media elements as contributors to the dissemination of results. Pentahelix is a framework for all actors' activities in disaster management to reach common goals. The disaster affects everyone, so the sharing roles that are carried out are a must. Government, news media, business, community, and academics are the actors in Penta helix synergy. Besides being able to reduce disaster risk, the Penta helix concept able to reduce people's dependency on the government is facing the problems around them. Gotongroyong, as a fundamental value in disaster Penta helix, needs to be upheld in the implementation of disaster management.

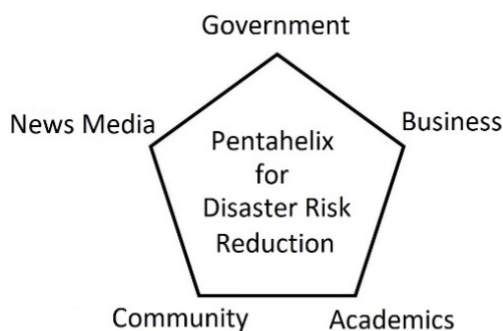


Figure 4. Pentahelix Model for DRR

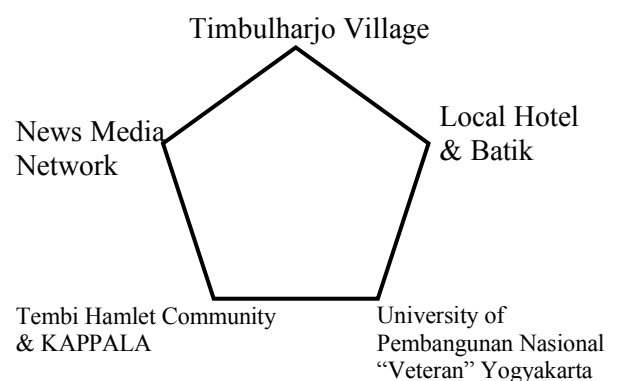


Figure 3. Pentahelix for Tembi Hamlet C-19 Risk Reduction

V. CONCLUSION AND FURTHER RESEARCH

The Covid-19 response that was initiated by *Kemasyarakatan II* and developed into Covid-19 Team at the Hamlet level shows the importance of mobilization community resources to achieve disaster resiliency. Covid-19 is clearly making an impact on the household and the community. However, the good strategy, willingness, and local resource management important to initiate disaster risk

reduction. Since the initiation was purely carried out by the local with few involvements of the village government, the community can show their own willingness to survive in this global pandemic by its own way and approach.

Community initiation with little involvement from the village is a lesson in itself from Dusun Tembi. The community and its social networks build cooperation with actors outside the village. Collaboration with various actors in the Penta helix scheme results in work effectiveness and diversity of response options that can be made by the community. Thus, the response options at Tembi are richer and more varied. The practice of this hamlet proves that every community has many options that can be done by utilizing local resources to reduce the risk of Covid-19.

The community took the initiative to optimize the small things, the neglected space, such as land and unused building, and transform it into supporting facility and social support. Taking effective measures being important. It's proven that the community could manage the risk of Covid-19. By using their own local resources, the community could prevent and rehabilitate the transmission and impact of Covid-19, thus reducing the bigger risk of Covid-19 that could occur. This minimalist practice is done by Tembi Hamlet shown that every community at each level, even without the huge support of funding, could survive the crisis if manage and optimize their own local resources.

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