

# Disaster Resilient Women's Forum's Strategic Plan for Local Mitigation Community

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**Abstract.** Greater Bandung Basin has a fault that has disaster risk which is an earthquake. That fault named Lembang Fault is located on the northern side of Bandung. One of the villages in Lembang Fault is Cikole village which is not only known for its tourism but also known to have a very large disaster risk; it is not only threatening local residents but also threatening tourists. The existence of the Disaster Resilient Women's Forum as a Village-level Disaster Risk Management Forum/*Forum Penanggulangan Resiko Bencana (FPRB)* is very strategic. The strategic plan becomes a framework that can assist the Cikole Village Disaster Resilient Women Forum in identifying, prioritizing, and implementing actions to reduce the risk of lurking disaster hazards. This research aims to describe the strategic plan of the Disaster Resilient Women's Forum. The method used is PRA (Participatory Rural Appraisal) involving multi-stakeholders, especially PKK women who are the administrators of the Disaster Resilient Women's Forum, in the process of identifying actual conditions and formulating strategic plans so that this forum can operate according to its function. Results of this research are strategic plans that can be a tool in order to make a resilient community. There are 4 (four) main programs in the strategic plan, namely planning and regulation, administrative and technical, funding, and capacity building.

*Keywords:* disaster resilient women, cikole village, disaster strategic planning

## Introduction

Community needs a strategic plan to overcome disasters. Disasters are several phenomena that threaten people's lives and livelihoods that have an impact on human psychology, the causes of which can be caused by not only natural factors, but also non-natural factors, or even human negligence factors. Earthquake is one of the natural disasters that need disaster risk management (Yari, Zarezadeh, & Ostadtaghizadeh, 2019). Earthquake disaster mitigation planning must be adapted to the conditions of the area (Cole, Elliott, Okubo, & Strobl, 2017). This is to prepare the facilities needed by the area after a disaster occurs (Yan et al., 2017). Another thing that needs to be considered is the availability of housing and real estate

markets in earthquake-prone areas (Park, Park, & Kim, 2019). If there are heritage sites, additional planning for earthquake disaster mitigation will be required (Maio, Ferreira, & Vicente, 2018).

West Java Province is one of the vulnerable areas in Indonesia with the number of disaster events being ranked 3<sup>rd</sup> in the nation. According to West Java BPBD data, from 2015 to 2017 the incidence of disasters in West Java Province continued to increase. West Java is on the path of tectonic earthquakes because the base of the earth that forms the West Java mainland is part of the Eurasian plate that collides with the Indo-Australian plate. Three faults stretch across West Java, namely the Cimandiri Fault, the Lembang Fault, and the Baribis Fault.

The Lembang Fault itself is a potential area to be developed into a tourist destination (Hasanah, Susilowati, & Ludiro, 2017), where tourism in Lembang Fault can be developed economically (Wulung, 2021). Tourism and disaster management should be able to synchronize (Ritchie & Jiang, 2019). Tourism has been proven to be able to develop the regional economy in the area (Aji, 2020; Aji, 2018). In addition, it can also develop regional income (Aji, Pramono, & Rahmi, 2018). In addition to the economy, tourism can also develop social conditions in the area (Aji & Faniza, 2021). Therefore, sustainable tourism can be developed to develop the area (Aji, 2020). However, in addition to the developments carried out, it is still necessary to pay attention to the environment in the area (Aji, Aviandro, Hakim, & Djabrail, 2020). This is related to the Lembang Fault which is a potential area for tourism and is also a disaster-prone area (Akbar, Rahmafritria, & Nurazizah, 2020), thus tourism areas must be tested for feasibility before being realized as a tourism destination (Aji, 2016; Ekasari, 2019).

Various written sources describe that the Lembang Fault is a geological phenomenon located in the north of the Bandung Basin, stretching from the eastern part of Mount Manglayang to the western region of Parongpong-Cisarua through Lembang District, along 29 km with a movement speed of 6 mm per year (Fahrurijal, Tohari, & Muttaqien, 2020; Margaretha & Tirtawidjaja, 2012; Rachman, Winantris, Muljana, & Sulaksana, 2020; Widodo, Hepta, & Fairuz, 2017). Several buildings located above the area affected by the shift of the Lembang Fault include Dago Pakar Village, Tahura Juanda tourist area, Bosscha Observatory, Air Force Command Center, The Peak Restaurant, and residential areas. (see figure1).



Source: cnnindonesia.com  
 Figure 1. Distribution of activities throughout Lembang Fault



Source: cnnindonesia.com  
 Figure 2. Affected Lembang District Area Of Lembang Fault Shift

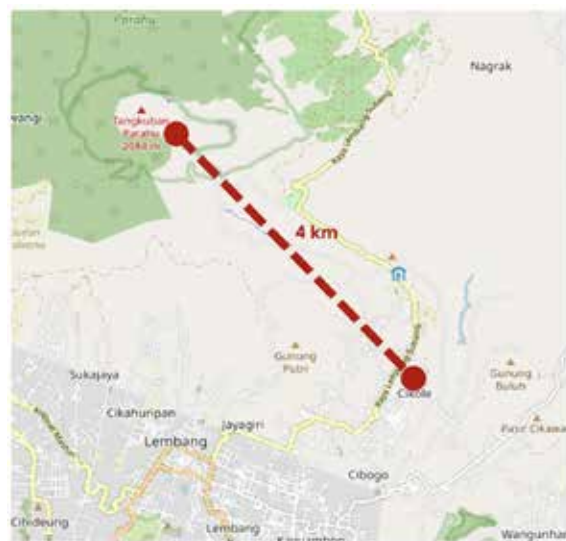


Figure 3. Distance of Cikole Village from Tangkuban Perahu Volcano

The existence of fault activity in the Lembang Fault line can cause the impact of earthquakes to the surrounding area, including Cikole Village, Lembang District (see figure 2). In addition to being a disaster-prone area for landslides due to the activity of the Lembang fault, it is also prone to disasters from the Tangkuban Perahu Volcano which is still active (see figure 3). Disaster engineering is needed in order to anticipate and Lembang Fault is also a tourism potential area (Aji, Faniza, Tarlani, & Damayanti, 2021).

Community preparedness greatly affects the psychological condition of each person where post-disaster events are a crucial time to see the mental readiness of the community which should have been formed since pre-disaster (Mamun, Huq, Papi, Tasfina, & Gozal, 2019). However, there are still many who do not realize the importance of preparedness for people living in disaster-prone areas. Even after the disaster, there are

still people who do not want to move into their second home because of their attachment to the place they currently live in which can worsen disaster management carried out by related parties (Adie, 2020). Justice for the affected community is sometimes an inseparable factor from disaster events, such as how to calculate the losses experienced by disaster-affected communities to how to determine the appropriate relocation for the victims (Rumbach & Németh, 2018). Therefore, a balance is needed on both pre-disaster preparedness and of course, the post-disaster relief (He & Zhuang, 2016). This aims to improve the social resilience that exists in the community where better disaster management can be applied to the community (Saja, Goonetilleke, Teo, & Ziyath, 2019). In addition, post-disaster infrastructure development also needs to be considered because in most cases political factors also affect disaster management where it can even become a new disaster (Senanayake, 2018).

Disasters arise when there are hazard factors that meet with vulnerabilities which will later lead to disaster risk. Every area that has a disaster risk should have a disaster management plan. Areas that have pre-disaster management plans are able to cope with disasters more effectively and efficiently (Crowley, 2017). These matters can be described in a strategic plan for disaster management, including planning for the efficiency of logistics distribution, selection of supply point locations, and the emergency supply network (Pradhananga, 2016). In addition, the development of socio-economic plans related to hazard maps and risk maps also needs to be developed in the disaster mitigation process (Edirisooriya, 2018). Apart from technical matters, strategic plans also need to accommodate non-technical preparations. Non-technical matters are very often forgotten in any disaster mitigation planning. Some things that need to be in the strategic plan include social support networks, emotional support, collective action, and character building through an increasing trust to bounce back after a disaster (Story, 2018).

Physiographically, Cikole Village is a mountainous area; besides being potential as an agricultural area, it is also a tourist area. The spatial potential is shown through the phenomenon of the behavior of tourist visitors and investors to construct permanent buildings as tourist facilities and influences the conditions of building

layout and the environment in Cikole Village (Hindersah, Agustina, & Indratno, 2017). This behavior results in a large opportunity for environmental damage because the area is a disaster-prone area. The pattern of human behavior in the spatial system as happened in Cikole Village is not only due to economic factors but also shows a social phenomenon (Agustina, Ekasari, & Fardani, 2018). Cikole Village, Lembang District, West Bandung Regency is a horticultural (vegetable) farming village for the supply of Bandung City. Cikole Village is a source of food for the city of Bandung. The strength of the community system in terms of food has appertained to the women farmers, especially the empowerment and the support. Gender issues influence agricultural productivity, meaning that the gender perspective is the basis for following up on development efforts, including natural disaster management issues (Agustina, Rachmiatie, Ekasari, Damayanti, & Aji, 2020).

Mitigation is an investment in the security and sustainability of society's future. Proactive disaster mitigation policies will help the risk reduction and make communities safer which resulting in more disaster-resilient communities (Federal Emergency Management Agency, 2013). Understanding that the strategic plan for disaster mitigation is the thing that is most needed by disaster-prone areas, Cikole Village also needs the mitigation strategic plan. The mentoring activity for the Disaster Resilient Women community forum in Cikole Village aims to formulate a strategic plan for disaster mitigation towards the forum's readiness to operationalize its role as a disaster risk management community at the village level.

### **Research Methodology**

The method in formulating a strategic plan for disaster mitigation uses the PRA (Participatory Rural Appraisal) approach (figure 4). Through the application of the PRA method, it is able to increase community involvement in the planning and implementation process of development, becoming a tool towards community empowerment (Mustanir & Lubis, 2017). This activity consisted of extracting information, mapping potential, and problems, as well as developing strategic issues related to the preparedness condition of Cikole Village and the Cikole Village Disaster Resilient Women's Forum in dealing with disasters. As for the preparation of the draft strategic plan using the desk study method.



Figure 4. Research Method

The first step was to collect data from the women's community. The data is about current disaster management in Cikole Village. This step was being held in the Cikole Village government building. The collected data was analyzed and then given back to the women's community. Then together with the community, a strategic plan for disaster mitigation was formulated. The purpose of formulating a strategic plan was for the community to have systematic thinking about disaster mitigation (Fakhrurrazi, 2021).

The formulation of this strategic plan involves an active cross-sectoral role from the administrators of the Disaster Resilient Women forum, the Cikole Village government, the Lembang District's BPBD, and the West Java FPRB (*Forum Penanggulangan Resiko Bencana/Disaster Risk Management Forum*). Multi-stakeholder involvement can have a positive impact in handling disaster mitigation (Jiang & Ritchie, 2017).

## Results and Discussion

### Close Relationship Between Natural Phenomena and Human Activities

In general, disasters in Indonesia have several interrelated problems, such as the process of distributing disaster aid to the community is not optimal, regulations of disasters mitigation are lacking, institutions are not yet optimal in doing their duties as volunteers, the formation of resilient urban villages has not been optimal due to the new regulations that have been launched, the community effort in overcoming the natural disaster is not yet optimized because there are still many people who do not have awareness of the behavior of throwing anything, especially garbage, into the river that can cause a disaster of flooding (Widayati, 2020).

When human activities violate the

rules that disturb the balance of nature, they trigger natural phenomena that threaten life in the form of disasters. So actually, a disaster can be avoided early on by managing the risks that may arise. Disaster risk can be minimized or reduced by increasing the capacity of citizens and communities to be able to prevent, reduce, be prepared, respond quickly, and be able to quickly recover from a disaster condition (Federal Emergency Management Agency, 2013).

When a disaster strikes local residents, the closest surrounding community must be prepared to provide first aid. Communities in disaster-prone areas need to be empowered with their roles and awareness about disaster mitigation. Through the Disaster Risk Reduction Forum (FPRB) West Java Province seeks to make West Java Resilient in the face of disaster threats. The FPRB is formed up to the village/*kelurahan* level which becomes the working partner of the village/*kelurahan* government in implementing disaster risk reduction in its area, as well as other tasks/activities related to the implementation of disaster management in general.

Women and children often become victims in every disaster event because their preparedness tends to be low (Indriasari, 2018). Therefore, the Disaster Resilient Women's Forum was created in Cikole village to help fill the gap.

### Disaster Resilient Women's Forum

The Disaster Resilient Women's Forum as a Village-level Disaster Risk Management Forum (FPRB) is a non-profit organization that was formed voluntarily. It consists of PKK women who are used to being active in handling various activities in Cikole Village. This forum is dedicated to dealing with disaster risk reduction that lurks in Cikole Village as well as implementing first aid in handling disaster emergencies and post-disaster rehabilitation. In general, women in Cikole Village already have an understanding of the contents of digital disaster information sources such as First Aid and Inarisk (Agustina et al., 2020). Mothers are the movers of the household and family, naturally have the instinct to protect, as a vulnerable group of disaster victims, are socially active, and are able to carry out an educational role in the family and its surroundings. The organizational structure and tasks of the Cikole Village Disaster Resilient Women Forum can be seen in Table 1 and Table 2.

**Table 1**  
**Organizational Structure of Cikole Village Disaster Resilient Women's Forum**

<b>Role</b>	<b>Name</b>	<b>Address</b>
Chairwoman	Sukaemi Kurnia Ningsih	Kp. Cikole RT 07 RW 06
Secretary	Meisa Ratilaela	Komplek Balitsa RT 03/15
Treasurer	Komaeni	Kp. Pamoyawan RT 01/15
Evacuation Sec.	Neng Yani Heryani	Kp. Babakan RT 03/09
	Siti Sarah	Kp. Cikole RT 03/07
Logistics Sec.	Sri Kusmiyati	Kp. Cibebug RT 05/14
	Popon Patimah	Kp. Cibebug RT 01/12
Shelter Sec.	Entin Kartini	Kp. Cikole RT 07/06
	Tuti	Kp. Cikole RT 07/06
Kitchen Sec.	Lia Marlina	Kp. Cibebug RT 04/11
	Sumiati	Kp. Nyalindung RT 04/08
Communication Sec.	Sri Hartati	Kp. Pondok RT 06/03
	Devi Rosalina	Kp. Dasar Ahad RT 04/02
Education Sec.	Maya Maryani	Kp. Cibebug RT 01/13
	Aminah	Kp. Babakan RT 04/09
Rehab and Recon Sec.	Wati Sulastri	Kp. Cibebug RT 00/13
	Entin Martini	Kp. Babakan RT 02/09

*Source: PKM, 2020.*

**Table 2**  
**Cikole Village Disaster Preparedness Group Structure Tasks**

<b>Role</b>	<b>Tasks</b>
Chairwoman	Assist the Regent and Regency's BPBD in coordinating and monitoring the implementation of disaster management in the Village.
Secretary	Assist and be responsible to the Chairwoman in carrying out administrative management.
Treasurer	Assist the Secretary in carrying out the preparation and management of financial administration.
Evacuation Sec.	Coordinate with the Chairwoman and Regency's BPBD in the identification and preparation of evacuation routes and locations.
Logistics Sec.	Coordinate with the Chairwoman and Regency's BPBD in managing the distribution of disaster aid.
Shelter Sec.	Coordinate with the Chairwoman and Regency's BPBD in the management of shelters during emergency response.
Kitchen Sec.	Coordinate with the Chairwoman and Regency's BPBD in the management of Public Kitchens during emergency response.
Communication Sec.	Coordinate with the Chairwoman and Regency's BPBD in organizing and coordinating disaster communication systems.
Education Sec.	Assist the Chairwoman and Regency's BPBD in the dissemination of prevention and community preparedness in dealing with disasters.
Rehab and Recon Sec.	Coordinate with the Chairwoman and Regency's BPBD in carrying out post-disaster rehabilitation – reconstruction.

*Source: PKM, 2020.*

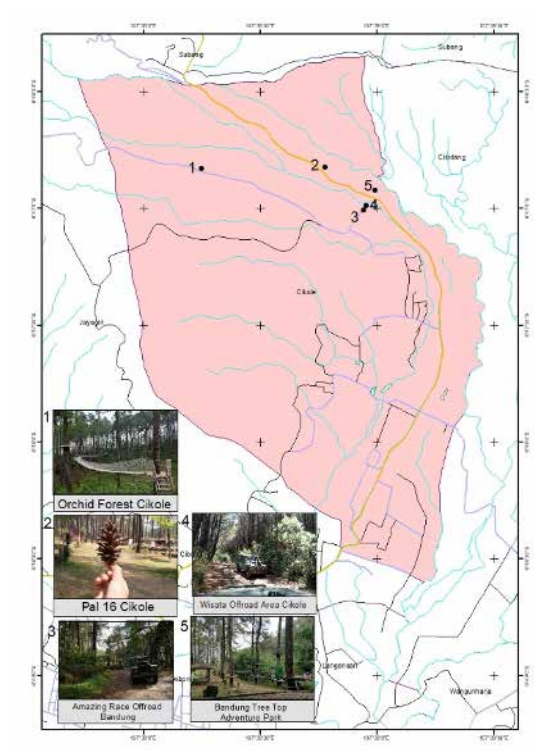


Figure 5. The scope of work of the Cikole Village Disaster Resilient Women Forum

In formulating the strategic plan, considering the scope of the work area of the Disaster Resilient Women's Forum, the current focus is on the administrative area of Cikole Village. However, in the future, this community forum may have a role in cross-administrative work areas (see fig. 5).

There are 4 (four) main capacities in long-term disaster mitigation planning, namely planning and regulation, administrative and technical, funding, and capacity building (Federal Emergency Management Agency, 2013). The initial stage of formulating the strategic plan is to identify the descriptions of the four capacities in the Disaster Resilient Women's Forum at the village level. The identification process was carried out through the PRA approach which was held on February 18, 2021, at the Cikole Village Hall.

The strategic plan is formulated by considering the potential and problems (see table 3) that exist in internal conditions (strengths and weaknesses) and external conditions (opportunities and threats). These conditions are the result of identifying the description of disaster mitigation capacity in Cikole Village. The core of the strategic plan of the Disaster Resilient Women's Forum is a mitigation strategy, which functions as a long-term program plan in efforts to reduce disaster risk and implement first aid

in handling disaster emergencies and post-disaster rehabilitation in Cikole Village.

The mitigation strategy plan consists of the following components: objectives, programs, and action plans for implementation. The Strategic Plan is needed because in Indonesia, disasters such as landslides, storms, floods, and drought have caused the loss of many human lives and even their livelihoods, the destruction of the economy and infrastructure, changes in social component or aspect, and the most expensive is the environmental damage. The frequency and intensity of these hazards are likely to increase. In dealing with disasters, through mitigation, and of course adaptation effort, increasing the resilience of the system in the community hazard risk reduction (Rusli & 'Ulya, 2018). A strategic plan becomes a framework that can help identify, prioritize, and implement actions to reduce risks to disaster hazards (Federal Emergency Management Agency, 2013). The strategic plan of the Disaster Resilient Women's Forum as a local scale mitigation community is as seen in Table 4.

## Conclusion

Based on the research results, Cikole Village needs a strategic plan to overcome disasters. Cikole Village not only contains residential and agricultural activities but has developed into a tourism destination. The disaster risk faced is very large, not only threatening local residents but also tourists. This makes the existence of the Cikole Village Disaster Resilient Women's Forum as a local scale FPRB very strategic. The preparation of a strategic plan becomes a framework that can assist the Cikole Village Disaster Resilient Women Forum in identifying, prioritizing, and implementing actions to reduce the risk of lurking disaster hazards.

There are 4 (four) main programs in the strategic plan, namely planning and regulation, administrative and technical, funding, and capacity building. This strategic plan must be aligned with the village development program and coordinate with the KBB BPBD.

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**Table 3**  
**Mapping Potential and Problems**

	<b>Strength</b>	<b>Weakness</b>
<b>Internal Condition</b>	<ul style="list-style-type: none"> <li>- Information on threats, vulnerabilities, and village capacities related to disasters are available.</li> <li>- Has 3 locations as evacuation sites.</li> <li>- The National Defense evacuation site has been equipped with facilities by the TNI.</li> <li>- Evacuation route signs have been provided by the village government.</li> <li>- Cikole Village is currently at the level of <i>Utama</i> Disaster Resilient Village.</li> </ul>	<ul style="list-style-type: none"> <li>- FWTB as Village-level DRR has not been legalized.</li> <li>- FWTB does not yet have a Strategic Plan &amp; work program.</li> <li>- The Cikole Village Government does not yet have a policy/plan to provide protection to the health &amp; economy of people who are vulnerable to disasters.</li> <li>- Disaster risk in Cikole Village has not been mapped spatially.</li> <li>- Evacuation sites managed by the village are not equipped with adequate facilities.</li> <li>- Early warning system is not available in all RW.</li> <li>- Protection of the community's productive assets from the impact of disasters is still the responsibility of each citizen.</li> <li>- Do not have trained personnel, equipment, facilities and infrastructure, logistics to carry out disaster risk reduction, emergency response operations, and post-disaster recovery.</li> <li>- Cikole Village residents have never received any training or simulation of evacuation and self-rescue practices.</li> </ul>
	<b>Opportunity</b>	<b>Threat</b>
<b>External Condition</b>	<ul style="list-style-type: none"> <li>- Disaster mitigation training program available from BNPB</li> <li>- There are partnership programs with academics.</li> <li>- In accordance with Law no. 24 of 2007 and PP no. 21 the year 2008.</li> </ul>	<ul style="list-style-type: none"> <li>- Policy directions for the use of village funds are not allocated for disaster mitigation activities.</li> </ul>

**Table 4**  
**Cikole Village Disaster Mitigation Profile**

Vision: "Building a Disaster-Resilient Cikole Village"
Missions:
<ul style="list-style-type: none"> <li>- Building disaster resilience and community safety in Cikole Village.</li> <li>- Preparing as a first-aid implementer who will be present to provide a quick and timely response to disasters and crises and ensure better recovery of community functions.</li> <li>- Create a sustainable mitigation program so that disaster risk does not have an impact on community sustainability.</li> </ul>
Tasks: Assist the Regent and BPBD of West Bandung Regency in coordinating and monitoring the implementation of disaster management in Cikole Village.
Functions:
<ul style="list-style-type: none"> <li>- Formulation and determination of disaster management policies and handling of refugees by acting quickly, precisely, effectively, and efficiently at the Cikole Village scale.</li> <li>- Coordinate the implementation of disaster management activities in a planned, integrated, and comprehensive manner at the Cikole Village scale.</li> <li>- Conducting Monitoring and Evaluation on the implementation of disaster management at the Cikole Village scale.</li> </ul>

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Programs and Action Plans:

Planning and Regulation Programs

- Legalization of FWTB in a decree or village regulation;
- Accompanying the village government to actively participate (propose, advocate, and others) in increasing the capacity of disaster mitigation infrastructure;
- Fight for programs to strengthen protection related to the health and economy of people who are vulnerable to disasters in village development plans;
- Helping villages build information systems that can reach all village/*kelurahan* communities quickly;
- Accompany the village government in building mutual agreements with neighboring villages/*kelurahan* on inter-village disaster risk management.

Administration and Technical Programs

- FWTB is able to manage resources for operations and forum activities by involving all stakeholders;
- Invite interested parties (such as BNPB KBB, academics, tourist attractions managers) to contribute views and ideas in mitigating Cikole Village;
- Identify and map disaster vulnerability data in Cikole Village;
- Maximizing the role of the community in FWTB activities.

Funding Programs

- Submitting to the village government for disaster risk management policies supported by village budget allocations;
- Build partnerships with third parties;
- Ensure transparency and build trust;

Capacity Building Program

- Informing and educating the public about disaster hazards and risks;
- Application of cultural insight and disaster skills to the social, economic, cultural, and religious components of rural communities;
- Disaster preparedness training program (simulation) is carried out periodically;
- Setting up an early recovery mechanism program for the most high-risk locations.

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