

The Effectiveness of the Disaster Resilient Village Program by the Local Disaster Management Agency

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ABSTRACT

Disaster Resilient Village is a manifestation of the government's responsibility to provide protection to the community from the threat of disaster. The purpose of this research is to find out how effective the Disaster Resilient Village program by the Sukabumi City Regional Disaster Management Agency is. This research uses Duncan's theory. This research method uses qualitative research methods. Data collection techniques used observation, interviewing, and documentation techniques. Data validation methods used were source triangulation, technique triangulation, and time triangulation. The data analysis used is from Miles and Huberman, using data reduction, data presentation, and drawing conclusions and verification. The results of this study indicate that the Disaster Resilient Village program has been running in accordance with the established regulatory guidelines, but its implementation is still not running effectively, as there should be empowerment for the village to upgrade the criteria class of the village as stated in the Regulation of the Head of the National Disaster Management Agency Number 2 of 2012 regarding the implementation of the Disaster Resilient Village program, and the facilities and infrastructure are also not enough to maximize the workforce in supporting the Disaster Resilient Village program.

Keywords: Disaster Management, Disaster Resilient Village; Local Disaster Management

INTRODUCTION

Indonesia's geographical, geological, demographic, and hydrological conditions can make the country prone to disasters. The National Disaster Management Agency (BNPB) notes that the annual occurrence of disasters in Indonesia in the period 2010–2022 has increased. Thus, in recent years, Indonesia has experienced a wide variety of disasters. The frequency and losses from disasters have increased recently due to climate change and the global environment. As a result, the ability of communities to develop resilience to shocks and stresses from disasters must be urgently developed. Therefore, many disaster risk reduction (DRR) initiatives and policies now emphasize the study of how communities can respond to and recover from disasters, as well as improving their general ability to create safer communities. Resilient communities are described in this context as "communities that are structurally organized to minimize the impact of disasters and at the same time have the ability to recover quickly by restoring the socio-economic vitality of the community" (Belel et al., 2018).

Based on the Indonesian Disaster Risk Index (IRBI) in the National Disaster Management Agency (BNPB) in 2021, it is stated that Sukabumi City is included in moderate disaster risk for various disasters but can be said to be at high risk for landslides, fires, and earthquakes. The Regional Disaster Management Agency (BPBD) includes Sukabumi City at number 265 of 514 city districts calculated for earthquake risk, or multihazard risk at number 24 of 27 city districts

in West Java classed as moderate disasters (BNPB, 2021). The following is a recapitulation of the number of disaster events in Sukabumi City that occurred from 2018 to 2022:

Table 1 Number of disaster events in Sukabumi City 2018–2022

| No | Type of Disaster | Year | | | | |
|--------------|----------------------|------------|------------|------------|------------|------------|
| | | 2018 | 2019 | 2020 | 2021 | 2022 |
| 1 | Fires | 38 | 52 | 17 | 27 | 36 |
| 2 | Flood | 10 | 28 | 20 | 40 | 40 |
| 3 | Landslides | 30 | 79 | 50 | 70 | 80 |
| 4 | Hurricane or tornado | 19 | 10 | 4 | 4 | 4 |
| 5 | Earthquake | 25 | 8 | 38 | 2 | 5 |
| 6 | Extreme Weather | 33 | 71 | 69 | 74 | 60 |
| TOTAL | | 155 | 248 | 199 | 217 | 225 |

Source: Sukabumi City Regional Disaster Management Agency

Based on data obtained from the Sukabumi City Regional Disaster Management Agency, it can be seen that the number of disaster events in 2018 amounted to 155, then in 2019 there was an increase of 248, then the distribution that occurred in 2021 in Sukabumi City was 217 disasters, and then the distribution of disaster events that occurred in 2022 in Sukabumi City occurred as many as 225, so it can be seen that the frequency increased when compared to 2021. The types of disasters that top the list are extreme weather 74 times, landslides 70 times, floods 40 times, fires 27 times, followed by tornadoes 4 times, and the lowest earthquake occurred 2 times.

The primary institution in charge of disaster mitigation is the National Disaster Management Agency (BNPB), a non-ministerial government agency led by a ministerial-level official. The group is in charge of creating and establishing policies for disaster mitigation, dealing with displaced individuals in a prompt, efficient, and effective way, and coordinating the execution of disaster mitigation actions in a planned, integrated, and thorough way. The expert organization in charge of disaster mitigation at the regional level is the Regional Disaster Management Agency (BPBD). Its composition involves participation at both the provincial and district/city levels. BPBDs in the regions are entrusted with developing and creating policies for disaster mitigation, resolving refugee concerns, and coordinating the implementation of disaster mitigation activities, similar to BNPB at the central level.

The role of local governments is essential in delivering effective disaster management. the function of local governments as the leading actors responsible for disaster management. Strengthening the local government capacity is a reasonable approach for improving the quality of disaster management services for the people (Alazawi et al., 2014; Elvas et al., 2022; Mitroff, 1994; Putra & Matsuyuki, 2019). In accordance with Law No. 24 of 2007 on Disaster Management, the government and local governments are responsible for organizing disaster management. The development of disaster-resilient villages is essentially part of the implementation of this responsibility, with the arrangements being handed over to the villages and becoming the responsibility of the village or village government. The government and local governments will facilitate this program by providing the resources and technical assistance needed by the villages. The Sukabumi City Government realizes that the process of controlling disasters is essential to avoid the occurrence of various misfortunes that are very detrimental to

community life, so Regional Regulation Number 7 of 2017 concerning the Implementation of Disaster Management was formed. One of the ways the government tackles disasters is with regulations made by the Central Government, precisely through Head of BNPB Regulation Number 1 of 2012 concerning General Guidelines for Disaster Resilient Villages.

A disaster-resilient village is one that has the independent ability to adapt, face disaster threats, and recover immediately from the adverse effects of disasters if affected by one. Thus, a disaster-resilient village is a village or *kelurahan* that has the ability to recognize threats in its area and is able to organize community resources to reduce vulnerability and simultaneously increase capacity to reduce disaster risk. This ability is realized in development planning that contains efforts for prevention, preparedness, disaster risk reduction, and capacity building for post-emergency recovery. capacity for post-emergency recovery.

Community and community resilience are widely used concepts in literature addressing policies and strategies to prevent and reduce disaster risks and manage residual risks with preparedness, response and recovery activities (Alazawi et al., 2014; Ha, 2020; Hermansson, 2019; Thaha & Drajat, 2023). Communities need to proactively and consistently prepare for and mitigate risks in order to build resilience so as to reduce the severity of disaster impacts and recover more rapidly from disaster losses (Putra & Matsuyuki, 2019).

Disaster-resilient villages are policies and laws for community disaster management. Communities need a range of incentives, resources, and support to build safe homes and cities. This extension activity will show how risk reduction, disaster-resilient villages, and risk-adaptive livelihoods and livelihoods can all be achieved through community action for temporary shelter construction, microfinance for house and livelihood construction, risk-adaptive livelihoods and livelihoods, and climate adaptation for resilient habitats (Räsänen et al., 2020; Thaha & Drajat, 2023).

The purpose of this research is to see how effective the implementation of the Disaster Resilient Village program is in Sukabumi City based on observations made by researchers, in the process of implementing the Disaster Resilient Village program, there are several obstacles, and its implementation has not been fully effective, such as the absence of efforts to increase the resilience of the village by increasing the criteria for the village that has been designated as a Disaster Resilient Village, while it is stipulated in the existing guidelines and regulations that villages that have been designated as Disaster Resilient Villages must maintain and improve the resilience of their villages on an ongoing basis, then in the process of implementing the program, capacity building in the form of training, education and information dissemination to the community has not been fully implemented. In the process of implementing the program, capacity building takes the form of training, education, and dissemination of information to the community, especially volunteer groups and disaster management actors, so that they have the ability to play an active role as the main actors in planning, implementing, and evaluating disaster risk reduction activities.

To support the success of the program, supporting facilities and infrastructure are needed to maximize work power in the implementation of the Disaster Resilient Village program, as stated in Head of BNPB Regulation No. 12 of 2012, where facilities and infrastructure equipment must be adequate for program implementation. However, in the implementation of the program, the limited equipment support owned by BPBD when conducting simulations, socialization, dubbing, or dissemination of disaster education affects the less than optimal efforts to mobilize events both in the form of demonstrations, rehearsals, and drills, as well as the lack of special

mobility of mobile vehicles in terms of communication, information, and education (IEC) as part of disaster services for the community (LKIP BPBD 2022).

METHOD

This research uses qualitative research methods with a descriptive approach, according to Creswell & Creswell (2017) explaining that qualitative methods are "In the use of descriptive qualitative methods, it has characteristics that focus on actual current problems. The collected data is then compiled, analyzed, explained, and concluded. Descriptive research is no-hypothesis research that aims to describe the state or status of the phenomenon, where the researcher only wants to know the state of something".

The research focuses on the Sukabumi City Regional Disaster Management Agency's implementation of the Disaster Resilient Village Program policy. The indicators used in this research are based on the theory put forward by Duncan, namely goal achievement, integration, and adaptation (Duncan, 1973). The unit of analysis that forms the object of this research is BPBD Kota Sukabumi. In this qualitative research, data is obtained from sources based on the results of interviews, where the sources have been determined by researchers who are also called informants and participants. The informant selection technique that will be used in this research is non-probability sampling with the snowball sampling method. According to Sugiyono (2019), snowball sampling is "the technique of sampling data sources, which at first were few in number, gradually became large. This is done because the small number of data sources has not been able to provide satisfactory data, so look for other people who can be used as data sources. Thus, the number of data source samples will be even greater, like a snowball rolling, gradually becoming large".

In the sample collection technique, researchers used five informants, starting with the Head of Prevention and Preparedness Section, which in this case is an implementer at the Regional Disaster Management Agency (BPBD) who certainly knows all the implementation processes of the Disaster Resilient Village program, then the Prevention and Preparedness data management staff, This informant has all the data regarding the implementation of the Disaster Resilient Village program, followed by the Disaster Management Operations Control Center (Pusdalops PB), which knows the direct process in the field and policy recipient informants, namely the program implementers in the village and the people who live in the Disaster Resilient Village area who have attended training from the implementation of this program.

In obtaining various sources of data and different information in this study using data collection techniques in the form of observation, interviews, and documentation, Data validation using triangulation techniques Triangulation is used by researchers to measure and review the results of research. So that the process of obtaining data is more accurate, researchers make observations about what is happening outside. According to (Sugiyono, 2016), there are three types of triangulations that will be used in this study: source triangulation, technique triangulation, and time triangulation. The data analysis technique used is based on analysis steps based on Miles et al., (2014), namely data reduction, data presentation, and drawing conclusions or verification.

RESULTS AND DISCUSSION

A disaster is an event or series of events that threatens and disrupts people's lives and is caused by both natural and non-natural factors and human factors, resulting in human casualties,

environmental damage, property losses, and psychological impacts (Cesário & Magalhães, 2017). In this case, it is necessary to have disaster management, which is all forms of activities carried out to control disaster situations and prepare all things to help disaster-prone and disaster-affected communities. Then efforts are made to see the risk of disaster and how to reduce the risk of disaster. With the increasing frequency of all kinds of natural disasters, strengthening the resilience and disaster prevention capacity of communities, and improving residents' preparedness for disasters, have gradually become effective means of dealing with disaster risks and improving residents' well-being (Wamsler & Johannessen, 2020).

According to Putra & Matsuyuki (2019), disaster management is a dynamic process that is developed from the functions of planning, organizing, dividing tasks, controlling, and supervising. The process involves various organizations that must work together to carry out prevention, mitigation, preparedness, emergency response, and disaster recovery". Disaster Resilient Village is a manifestation of the government's responsibility to provide protection to the community from various disaster threats. The Disaster Resilient Village program is in line with the National Disaster Management Plan (Renas PB), which explains that the program is expected to improve community-based disaster management processes, increase the role of NGOs and government partner organizations, and integrate risk reduction programs into development plans.

Disaster Resilient Village is a manifestation of the government's responsibility to provide protection to the community from the threat of disaster (Cioccio, 2007; Ghaffarian et al., 2021; Khatoon et al., 2022; Smith & Ariyachandra, 2022). According to BNPB Regulation No. 1/2012, a disaster-resilient village is: "A disaster-resilient village is a village that has the independent ability to adapt and face the threat of disaster, as well as to recover immediately from the adverse effects of a disaster if affected by a disaster". The Disaster Resilient Village Program was created to reduce disaster risks carried out by the community, where efforts are made to minimize various kinds of disasters, so that the community can foster the ability to be prepared for disasters in their area, and of course, under the supervision and planning of BPBD Sukabumi City, with reference to the Head of BNPB Regulation Number 1 of 2012. The following table shows the data for Disaster Resilient Village in Sukabumi City from 2014 to 2022:

Table 2 Disaster Resilient Villages in Sukabumi City 2014 – 2022

| No | Name Village | Score | Criteria |
|----|-----------------------|-------|----------|
| 1 | Gunung Puyuh Village | 26 | Pratama |
| 2 | Karang Tengah Village | 28 | Pratama |
| 3 | Karamat Village | 28 | Pratama |
| 4 | Subangjaya Village | 37 | Madya |
| 5 | Baros Village | 27 | Pratama |
| 6 | Cikondang Village | 32 | Pratama |
| 7 | Citamiang Village | 26 | Pratama |
| 8 | Jayamekar Village | 24 | Pratama |
| 9 | Limusnunggal Village | 26 | Pratama |
| 10 | Cipanengah Village | 20 | Pratama |
| 11 | Sukakarya Village | 20 | Pratama |

| No | Name Village | Score | Criteria |
|----|-----------------------|-------|----------|
| 12 | Cisarua Village | 23 | Pratama |
| 13 | Benteng Village | 23 | Pratama |
| 14 | Sudajayahilir Village | 29 | Pratama |
| 15 | Cikundul Village | 24 | Pratama |
| 16 | Sindangsari Village | 24 | Pratama |
| 17 | Situmekar Village | 21 | Pratama |

Source: Sukabumi City Regional Disaster Management Agency

The Disaster Resilient Village Program in Sukabumi City has formed 17 Disaster Resilient Villages out of 33 villages during 2014–2022, which have been established through the Decree of the Mayor of Sukabumi. Disaster Resilient Villages are divided into three criteria, namely Utama, Madya, and Pratama. For the criteria of each village that has been designated as a Disaster Resilient Village, none has been designated as a Main Disaster Resilient Village. Only one village has the Madya criteria, namely Subangjaya Village, while the other 16 villages are categorized as Pratama Disaster Resilient Villages. Meanwhile, the Head of BNPB Regulation No. 1/2012 states that if a Village is already categorized, it is required to increase the criteria on an ongoing basis.

The implementation of the Disaster Resilient Village program requires capacity building through training and education so that the community has the ability to play an active role as the main actor in carrying out disaster risk reduction activities. Capacity building to reduce disaster risk will also be carried out through the provision of affordable early warning and disaster preparedness system equipment and devices in the context of the program.

Data used to measure the effectiveness of a program run by the Sukabumi City Regional Disaster Management Agency, according to Alazawi et al. (2014) "Effectiveness is the relationship between output and objectives; the greater the contribution (contribution) of output to achieving goals, the more effective the organization, program, or activity". In this study, researchers used indicators of effectiveness put forward by Duncan (1973). The effectiveness indicators used are as follows:

1. Goal Achievement

Disaster management aims to protect the community from the threat of disaster, especially in disaster-prone areas. To be able to protect the community, a program such as Disaster Resilient Village was created, which can improve and empower them. Disaster Resilient Villages began to be formed in 2014, each year a target of 2 villages was made, in the 2014 period 17 villages were formed, which means that the formation of Disaster Resilient Villages has been carried out in accordance with predetermined provisions starting from the Medium-Term Development Plan (RPJMD) and again in the annual Work Plan, within the period of the stages of the formation of Disaster Resilient Villages that have been carried out by the Regional Disaster Management Agency has the ultimate goal that this program can protect the community from the impact of disasters, empower the community, and increase community participation, which is in accordance with existing regulations.

The first stage in achieving the success of the Disaster Resilient Village program is through stages starting from the work plan, then poured into the work and budget plan (RKA), then poured

again into the budget implementation document (DPA), after which an action plan for the activity program is made, which is called the Disaster Resilient Village action framework letter. For the initial stage of planning, the Regional Disaster Management Agency wants to target at least the Pratama criteria in all villages in Sukabumi City. After all villages are designated as Primary Disaster Resilient Villages, the BPBD will raise the criteria class to a higher level. To raise the class of the village, the BPBD must first empower the village. To increase the criteria as stated in Head of the National Disaster Development Agency Regulation No. 2 of 2012 concerning Disaster Resilient Villages, the BPBD will then submit a plan called the Bedaya Disaster Resilient Village (KATA BABE). With no village empowerment plan, it is not certain when the village will be upgraded to higher criteria. The BPBD only targets for all urban villages in Sukabumi City to be formed first as Disaster Resilient Villages, so in this case, 17 urban villages that have been formed as Disaster Resilient Villages for their implementation have not been fully implemented because, if seen with the Pratama criteria, the new urban villages only have disaster risk reduction efforts that they do not fully know about because there is no training or education that is routinely carried out.

From the explanation above, it can be concluded that the achievement of goals that can empower the community has not been fully met. In this case, the village that has been designated as a disaster-resilient village cannot be said to be as resilient as it should be. The result is that there is no training, education, or deepening of knowledge for the community, so there are still many who do not understand the meaning of the word "resilient," where the community should already understand and be able to handle a disaster that occurs in their area.

2. Integration

Integration is the level of an organization's ability to socialize, develop cooperation, and communicate with various other organizations; this measurement is also related to how steps are taken in implementing a program. In the implementation of the Disaster Resilient Village program, which is carried out in accordance with the implementation guidelines, BPBD invites various organizations and government agencies to participate together to provide an assessment of the determination of villages as Disaster Resilient Villages using an assessment desk that involves various agencies such as the Environmental Service and the Social Service so that they can get various information and get involved in the programs that are being run, for example, in the Environmental Service, whether the Climate Village program has been implemented. Information and communication cooperation is carried out if each organization carries out a program that is being run so that each organization can share information and so that cooperation can continue to be established. The following is SKPD data involved in the assessment of the Disaster Resilient Village program:

Table 3 Verification Disaster Resilient Village in 2022

| Team | Verification team |
|------|-------------------|
|------|-------------------|

| | |
|------------|---|
| I | - Kasie Kedaruratan Logistik BPBD - BPBD member - BPBD member |
| II | - Head of Rehabilitation and Reconstruction Section of BPBD - BPBD member - BPBD member |
| III | - Section Head of Social Protection and Security of the Social Affairs Office - Functional Sub-Coordinator of Environmental Impact Control (DLH) - BPBD member - BPBD member |

Source: Sukabumi City Regional Disaster Management Agency

BPBD cooperates with the smallest units first, namely RT and RW involved in the assessment, then with formal organizations, namely Regional Work Units (SKPD), such as the Social Service and the Environmental Service, and then cooperation with informal organizations has been going well, such as the Indonesian Red Cross (PMI), Youth Organization, and other communities. The communication process with the village is carried out with the Disaster Management Operations Control Center (Pusdalops PB), but BPBD does not regularly monitor whether the process of implementing villages that have been designated as disaster-resilient villages has been carried out in accordance with established regulations.

3. Adaptation

In implementing the Disaster Resilient Village program, BPBD continues to strive for the program to run effectively, so BPBD proposes to the Province, namely BNPB, that the Disaster Resilient Village program be given adequate facilities and infrastructure, such as communication tools, vehicles, and information signs. For the implementation of the socialization of the Disaster Resilient Village program, village participation is quite good, this can be seen from every activity held, representatives from each village attend 80% of the activities after BPBD provides socialization, but there are still many people who do not understand about disaster management, because empowerment has not been carried out in the community so that the adaptation process that should have been able to deal with the community in the event of a disaster, only people who have carried out training can handle disasters, but for people who have not received training, knowledge about disasters is still not able to adapt to cope with disasters.

When the village has been designated as a disaster-resilient village, the village and community should be able to handle disasters independently, but there is still a need for socialization for each RW, and people who have conducted training can provide knowledge to other community members so that they know the conditions of their area and can handle disasters. The ultimate goal of implementing this program is to change the behavior of those who were not aware of disasters into one of disaster awareness. Indicators of disaster awareness are paying attention and observing the environment to be able to reduce disaster risk. It should be recorded that the community in each neighborhood gets training regularly, and then there should be socialization to the community on how to deal with disasters, both in terms of prevention and after a disaster.

CONCLUSION

Based on the results of the research conducted, it can be concluded that the effectiveness of the Disaster Resilient Village program by the Sukabumi City Regional Disaster Management Agency is measured using Duncan (1973) theory as follows: 1) Goal Achievement: Of the 33 villages in Sukabumi City, only 17 disaster-resilient villages have been established with primary criteria. BPBD targets all villages to become disaster-resilient villages. To achieve the target of upgrading the village criteria class, the villages must first be empowered. To upgrade the criteria as stated in Head of National Disaster Management Agency Regulation No. 2 of 2012 on Disaster Resilient Villages, BPBD will only submit a plan called Empowered Disaster Resilient Village (KATA BABE). Without a village empowerment plan, there is no certainty as to when the village will be upgraded to higher criteria. As a result, villages that have been designated as disaster-resilient villages have not really become resilient villages because the goal of this program is to suspend villages with communities that can independently handle disasters in their area. In the absence of empowerment, it can be ascertained that the goal has not been fully achieved. 2) Integration: BPBD works with the smallest units first, namely RT and RW who are involved in the assessment, then with formal organizations, namely Regional Work Units (SKPD) such as the Social Service and the Environmental Service, these formal organizations are involved to participate in the process of implementing the Disaster Resilient Village program. Then with various organizations such as the Indonesian Red Cross (PMI), Youth Organization, and other communities, if a large enough disaster occurs, these organizations are coordinated to be involved in disaster management, then the communication process with the village is quite good, but the BPBD does not monitor whether the program is effective in the village, which in fact the village has obstacles so that the program has not fully run properly in the village, because there is no stimulation, and fulfillment of needs from the BPBD. 3) Adaptation: For the implementation of the Disaster Resilient Village program, the facilities and infrastructure owned by the Sukabumi City Regional Disaster Management Agency are not adequate to support the successful implementation of the Disaster Resilient Village program, and after the village is designated as a Disaster Resilient Village, BPBD never provides incentives or stimuli to the village after they are designated as a Disaster Resilient Village. Ideally, BPBD can provide stimulation to the village, such as routine training and education on disaster knowledge, so that they can truly become a resilient village.

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