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A lesson learned from the success of disaster prone village transformation into a socioeconomic cultural safety net and environmental conservation

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Abstract

The villages in the Slamet mountain area has two exciting sides, as it carries abundant potential but is prone to disasters. Fascinatingly, the local community can transform disaster-prone villages by hammering the development of potential natural tourism potential, bringing benefits for nature conservation and economic resilience. Therefore, this study aims to describe the disaster-prone village's processes in developing their tourism potential into a source of socioeconomic and cultural resilience, as well as safe tourism. This qualitative research used purposive sampling for selecting the informant, while the data collection methods were carried out through in-depth interviews, observations, and focus group discussions (FGDs). Then, the interactive data analysis methods were adopted in analyzing the data, while data validity was examined through triangulation. The results show that the key to success in developing disaster-prone villages into safe tourism and environmental preservation is determined by community resilience and leadership, the development of pro-disaster villages into tourism potential with a social, economic, cultural, and environmental safety net, the success of village institutions to encourage community change. This study concludes that disaster-prone villages in the mountainous region of Slamet can turn threats into potential benefits for rural communities. Therefore, the presence of disaster areas is needed not only for concepts but as an example of implementations that benefit local communities.

Keywords: disaster-prone villages; leadership community; safety net

1. Introduction

Mount Slamet is one of the active mountains on the island of Java, Indonesia. Administratively, it is located in five regencies, the west of Brebes Regency, North of Tegal Regency, East of Pemalang Regency, Purbalingga Regency, and the south of Banyumas Regency. However, as it is one of the most active volcanoes, the area of Mount Slamet becomes a disaster-prone area with threats of natural disasters in the form of volcanic or materials eruptions, lava flows, hot clouds, seismicity, landslides, and other disasters (Widagdo, Iswahyudi, Trilaksono, Jati, & Waluyo, 2021). Disaster-prone areas, especially in Purbalingga Regency, can be clustered into very high to low disaster-prone levels, depending on their exposure to the direct threat of the disaster source, primarily Mount Slamet (Ramadhani, Damayanti, Thaushiyah, &

Kadafi, 2022). Aside from being a disaster-prone area, the Mount Slamet area is also a protected forest area with springs, geothermal, and natural tourism. In particular, these natural tourism potentials possibly carry the most significant capacity for transforming disaster-prone areas into safe areas, such as for environmental conservation, social, cultural, and safety nets. The conversion of disaster-prone areas into safe, social, economic, cultural, and ecological areas is more challenging since it requires the empowerment of the surrounding people's mindset and awareness. Transformation progressed rapidly as the local communities experienced economic development, increased sense of community, growing stakeholder networks, and maintaining the environment.

Following this discussion, this study examines the best practices for managing disaster-prone villages into safe disaster-prone area that also serves as a source of economic livelihood, strengthening social cohesion and sustainability of local cultural values. This research was conducted in three disaster-prone districts or villages, which are the model for natural tourism development. In detail, we completed our study on Serang and Kutabawa Villages, Karangreja District, Purbalingga Regency, as well as Baturaden Area and Melung Village Banyumas Regency, along with Winduaji Village (a disaster resilient and tourism village) in Brebes Regency. The Winduaji Village carries immense potential in natural tourism development since it has the largest spring in Brebes Regency, namely Tuk Sirah or Pemali River springs. The disaster-prone village in the areas of Mount Slamet, Central Java Province, Indonesia, are summarized in Table 1, while its disaster risk map is illustrated in Figure 1.

Table 1. Disaster Prone Village Area on the Slopes of Mount Slamet and Its Potential

No	Name of Disaster-Prone Village/ Potential Tourism Village	Regency	Potential	Superiority
1	Serang Village	Purbalingga	Asri Valley Tourism, Agro-industry	Nature tourism and agricultural products (strawberry garden tours & fruit picking tours, Lorong Cinta (Alley of Love), pine forest, camping ground
2	Melung Village and Baturaden Area	Banyumas	Public Service Village and Nature Tourism	Featured tourist areas (ponds in the middle of valleys and rice fields, organic vegetables, Agaran Hill, streamable photo spots
3	Winduaji Village	Brebes	Natural and Artificial Tourism Villages	Artificial tourism (a combination of natural and artificial tourism, Tuk Sirah eternal springs, camping ground, water tourism, and cultural parks)

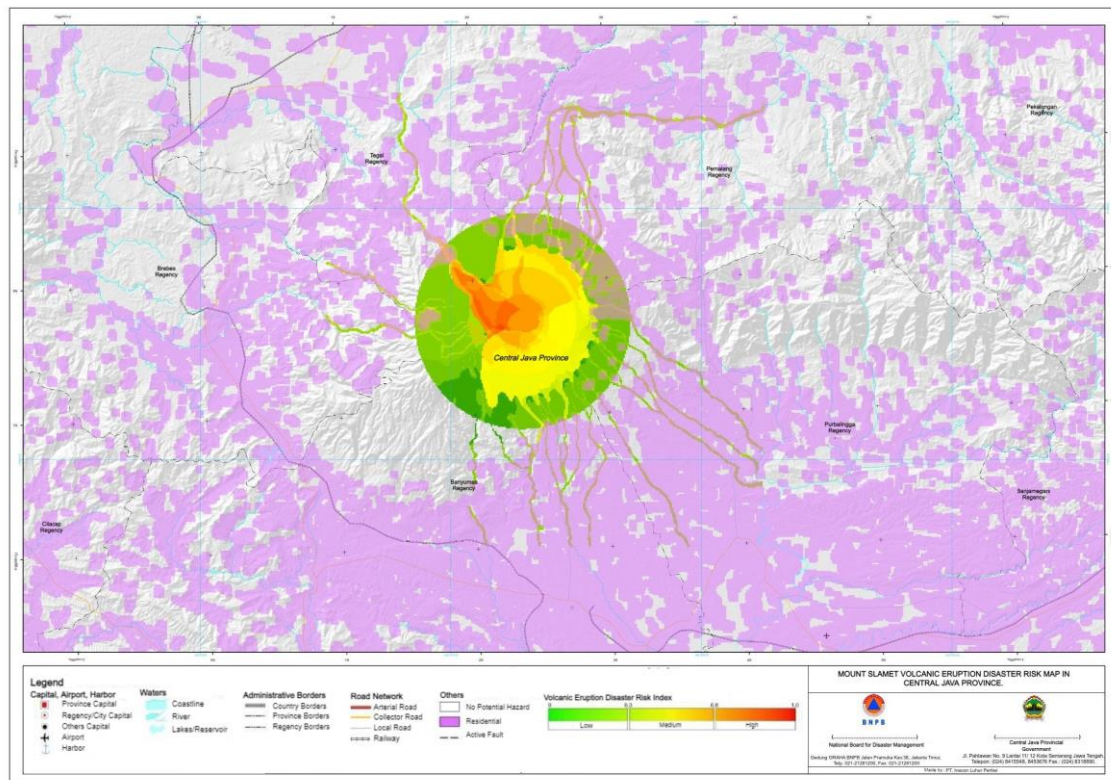


Figure 1. Disaster Risk Map of Mount Slamet Eruption, Central Java Province, Indonesia
Source: BNPB (2015)

Although these villages are located on the slopes of Mount Slamet, their disaster-prone nature can be altered into a safe and friendly area offering diverse activities and environmental conservation. From the aforementioned discussion, this study aims to examine the lesson we can obtain from the transformation of disaster-prone village areas into safe villages. In specific, this study investigates the influencing factors for the successful management of natural potential as a source of livelihood in disaster-prone villages. This research focused on analyzing the success of villages in developing their natural tourism, economic sustainability, great environmental awareness from the community, and community resilience in innovating to create their village into a safe and comfortable place. In the end, this study intends to provide a new perspective on understanding disaster threats using excellent environmental awareness and participatory awareness.

Previous studies have uncovered that people in coastal Bangladesh villages have successfully endured climate-change-related disasters by reconstructing people's viewpoints on disaster apprehension, but their problems in infrastructure remain unresolved (Parvin et al., 2023). Another study reported the importance of community resilience after disasters for the sustainability of community life (Nashihah, Hanafi, Dhulhijjahyani, & Sciences, 2023). Following the available studies, this research departs from the debate on the concept of disaster-resilient villages and their inability to resolve the need for disaster risk reduction in rural areas. Disaster leaders and educators are still elitists with no sufficient capacity for disaster preparedness processes (Arifin, Wicaksono, Sumarto, Martitah, & Sulistianingsih, 2021). Additionally the disaster-resilient villages carry elements for disaster management and network development in rural areas. They also have numerous strategies for empowering other stakeholders' awareness and willingness to participate in disaster management. Among

those elements is being open to new values in encountering disasters. As disasters are not considered an excessive trigger of trauma, therefore, an area readiness for disaster management greatly affects the recovery speed of post-disaster mental and social trauma (Hendrati & Utami, 2022). Other studies reported the importance of good preparation, education, mentoring, and extensive relevant information for a community facing disasters. In addition, the use of media is also crucial to support community readiness in facing disasters (Giena, Wahyuni, & Rahmawati, 2022; Saiman, Hijri, & Hadi, 2022). Meanwhile, aside from the massive effects of environmental factors, communities' resilience to disasters is also influenced by their economic and social situation (Anwar, Maulana, Goma, & Wibowo, 2022).

According to the available studies, this research focuses on constructing formal and legal concepts of a disaster-resilient village, containing its planning, budgeting, and constructing resilient communities, that require synergy from every aspect of the village. A disaster-resilient village has a village development strategy with the potential for a social, economic, cultural, and environmental conservation safety net. In specific, this study identifies the key success of transformation into resilient villages that offer social alternatives on the slopes of Mount Slamet, Indonesia.

2. Method

This research used qualitative methods intended to illustrate the transformation in society over time complexly, primarily the transformation process of disaster-prone villages to resilience villages with social, economic, social, cultural and environmental conservation, as well as safety nets (Mueller et al., 2023; Zhao, Rasoulinezhad, Sarker, & Taghizadeh-Hesary, 2023). This study was carried out in the disaster-prone area within the North, South, and West areas of Mount Slamet, administratively located in the Purbalingga, Brebes, and Banyumas Regencies. This study investigates the detailed transformation process of disaster-prone areas into safe, social, cultural, economic, and environmental sites.

Our informants were selected using purposive sampling, while the data collection was carried out through Focus Group discussion (FGD). The FDG was carried out five times involving the local government officials, village heads, tourism awareness groups, administrators of village-owned enterprises, village assistants, tourism community actors, and disaster communities. Additionally, we also conducted in-depth interviews with fifteen members of youth communities in tourism and nature conservation. Further, for a more profound data collection, we also obtained secondary data from village government performance reports, as well as infographics illustrating village development and empowerment. We also made direct observations on the village empowerment assistance action plans in Melung Village and Winduaji Village. The classification of the obtained data are summarized in Table 2.

For the data analysis, we used interactive models consisting of data collection, condensation, and presentation, as well as conclusion drawing. In the data collection, we collected data related to research aspects of community leadership and social safety nets, as well as economic, social, cultural, and environmental in a smart society. We also used data condensation, where we select, simplify, and transform data into a focus on research studies. In the data presentation, we explained data in the form of narratives, tables, and matrices illustrating the transformation of disaster-prone villages into safe villages. The last stage was conclusion withdrawal. Then, we also conducted a data validity test by comparing

observational data, secondary data, as well as the results of interviews and forum group discussions. The comparison of the primary data (interview) and the secondary data becomes a reference for strengthening the interview results in depth. Through this research method, the results of this study were expected to enhance the concept of changing disaster-prone villages into safe villages.

Table 2. Classification of the Obtained Data

Research Aspect/Focus	Primary Data	Secondary Data
Leadership Community	Results of Interviews with the local leaders Interviews and observations on initiation and creativity of village officials, village heads, as well as the community leaders Results of interviews and observations on the cooperation of youth leaders in the process of developing villages	Data on the number of youth leaders participating in village development Number of national and international awards for the village
Safety Nets, Social, Economic, Cultural, and Environmental Conservation	Results of interviews concerning social, economic, cultural, and environmental conditions of disaster-prone villages Results of interviews about the economic, social, and cultural impact on the environment around Mount Slamet Results of interviews on the progress of local community data and traditions Results of interviews and observations of the participating MSMEs and economic institutions in the village development	Community data collection Data on the number of developing local arts and traditions Data on protected spring Data on the number of growing and expanding MSMEs Number of local investors in the village's development The number of communities that benefit from the results of village development
Smart Society and practical village institutional organization	Results of interviews concerning the independence of local organizations in developing villages Results of in-depth interviews about the community's active participation in various village development activities	Number of successful village-owned enterprises located in disaster-prone villages Contribution of village-owned enterprises to original village income

3. Results and Discussion

Five regencies in the mountainside areas of Central Java, Indonesia, are disaster-prone areas, therefore formulation of a comprehensive disaster map and management is essential. For developing those items, the development stages should be within the coordinating scope and boundaries, such as by understanding the scope of disasters, disaster philosophy, disaster foundation factors, planning, resource utilization, expertise, and local wisdom related to disasters (Anggoro et al., 2023). This study aims to provide the critical factors for the successful development of disaster-prone villages into safe villages through social, economic, cultural, and environmental conservation. The best practice of disaster-prone village transformation from villages in the Slamet mountain areas, primarily from the Melung village, Baturaden area, Serang Kutabawa villages, and Winduaji Village, suggested that the process requires a committee that involves various parties.

3.1. Leadership Community

As reported in previous studies, the key factors to successfully dealing with vulnerabilities and disasters are coordination skills, collaborative team, and leadership, as well as professionalism and trained skills. Disaster leadership represents the initiation and innovation in overcoming the crisis, and problems correlated with disasters and other extreme conditions. The ability to manage existing management components is one of the critical elements of successful disaster management (Song, Zhao, Mubarak, & Taresh, 2022). Meanwhile, community-based local leadership shows leaders who grow and develop together in a community where they learn various skills and problems solvency from the local community. This leadership necessitates joint steps in realizing the vision of common development. Community leadership skills expand in times of crisis as it obligates people to perform speedy motion without dependence on structural dominance. Therefore, community leadership usually grows due to the urgency of achieving local community resilience from threats and obstacles (Everly, Wu, Crumpsty-Fowler, Dang, & Potash, 2020). Another research discovered that the local community readiness and capacity in disaster preparedness demands character-based local leadership, which can be the religious leaders, traditional leaders, or the senior or structural officials at the village level capable of collaborating with various parties to build networks in resolving disaster (Dodd et al., 2023)

From our obtained data, we observed the importance of community-based leadership at the research site. Initially, the Mount Slamet slopes were unaffected by alterations. Based on the results of interviews and observations, the lever of change in the disaster-prone villages is the community-based local leaders. Our results of FGD and interviews with the youth members of community tourism are shown in the following excerpts.

“At first, Serang Village was similar to the village in general, which had no alteration. But, the current village head, with more superior viewpoint, encouraged that the village must change, be useful, and becomes a comfortable place for its residents. Therefore, ten years ago, the transformation was started by stirring people’s grief, followed by the village’s constant improvement.”

Similarly, in Melung Village, the local secretary and youth leader described:

“Melung village is far from urban areas. Therefore, it needed a breakthrough, starting with access to the internet in the village, the development of village potential, the move of young people, and participation in developing village capacity. Then, Melung Village built its image as an Instagram trendy Tourism Village.”

In the Winduaji Village, Brebes Regency, one of our informants stated, “We found that the village progression was initiated by the people’s will. Then, they made cooperation with other parties, such as Perhutani (Indonesian State-Owned Forest Company), PT UNSOED, and others. In the end, Winduaji discovered its potential.”

The villages of Serang, Kutabawa, Melung, and Winduaji were originally ordinary villages with no promising development plan. However, those villages have been transformed into villages with several achievements, such as being the best tourist village, an internet village, and a conservation village, as well as attaining international awards for leadership in poverty alleviation and community economic improvement. The village development emerged from the anxiety and initiation of local leaders based on their excellent knowledge of their area. In the end, the village leaders were able to leverage the potential of their villages. In addition, the

leaders are capable of getting the villages out of the crisis by overcoming their condition and exceeding the community's expectations. The details of community-based local leadership characters are summarized in Table 3.

Table 3. Character and Role of Local Leaders in Village Transformation

Village	Inisiasi Perubahan	Role	Efficacy
Serang and Kutabawa Villages	Village Head (Pak Gito, commonly known as a Madman from Serang)	Initiator of development Building D'Las Asri Valley Developing Bumdesma Mandiri Sejahtera (village-owned enterprises), which contributes original regional revenue or PAD by 4 billion per year Increasing the number of local investments from village communities	Leadership award in poverty alleviation and community economic improvement from the Philippines
Melung Village	Village Officials and Tourism Conscious Community Groups	Remote internet-literate village Instagrammable tourist attractions (swimming pool in the middle of rice fields and the valley of Mount Slamet increasing PAD by 450 million)	Remote Villages with Internet Literacy
Melung Village	Tourism Awareness Group	Initiation of natural tourist destinations Tuk Sirah conservation area Control of social conflicts Collaborative networking between stakeholders	Environmental Conservation Village

The results of our observations, interviews, and FGDs on the alteration of disaster-prone areas into safe areas, with economic, environmental, social, cultural, and environmental benefits, suggested a series of processes for developing disaster-prone villages into tourist villages. The combination of nature and tourism potential encourages the development of community perspective in transforming their village into a safe village. The first stage is developing the community's economy. Therefore, the development of SMEs through village-owned enterprises (BUMDES) in disaster-prone areas is crucial; increasing the capacity of human resources, especially young people, is a change.

From our data, we observed that the disaster-prone village could successfully become a natural tourist destination combining nature and social engineering through a well-plan by the

local community. This transformation starts from strategy selection to develop tourism villages based on nature. One of the popular tourist destinations in those villages is D'Las Asri Serang Valley, which consists of a dinosaur park, rabbit park, and strawberry field. In addition, in those villages, there are also places to climb Mount Slamet Bambangan, camp view of Mount Slamet, and Kutabawa Flower Garden. Another attractive tourist destination is the iconic Melung Village which offers a swimming pool in the middle of rice fields in the valley of the slopes of Mount Slamet, along with the Conservation Village for the protection of spring with historical roots, namely Tuk Sirah Pemali.

The transformation of the village into a socio-cultural and environmentally safe village relies heavily on local leaders' collaboration to build the village. Local leaders carry a strategic role in initiating, planning, institutionalizing, and maintaining the sustainability of these changes. Change does not occur by itself. It depends on the role of leaders and the participation of local communities with great awareness for improving their conditions. According to the results of observational interviews and secondary data, the community learning process is significant potential to change disaster-prone areas into safe areas. Firstly, the learning should target the natural factors to help the community realizes the potential of unexplored nature. The second important element is the social cohesion in times of crisis. This dynamic occurs when the tourism village often experiences the threat of natural disasters, such as the threat of Mount Slamet and other disasters. Further, the economic, social, and environmental benefits obtained by the community carry impacts on the community's willingness to preserve nature. Then, together with the village institutions, they transform the area into an economically, socio-culturally, and environmentally safe area.

3.2. Safety Nets, Social, Economic, Cultural, and Environmental Conservation

The safety net is intended as a means to address social, economic, cultural, and environmental conservation issues. Safety nets are defined as alternatives and strategies to overcome problems in pre-disaster and post-disaster (Dejene & Cochrane, 2022). The vulnerability and disaster assessment approach described disaster-prone areas as vulnerable locations to extreme and unexpected events due to disasters. For the community, they experience logical and socio-cultural vulnerability in the revolutionary events of disasters (Oruru et al., 2022; Volz, 2022) .

Disaster and responsiveness are complex problems. It prompts insecurity among people, especially the fear related to the handling and rescue of victims, along with the problem of social, economic, cultural, and environmental. Moreover, the situation is worsened by the dynamic social aspect, the possible emergence of pre- and post-disaster social conflicts as well as economic, cultural, and environmental security. Additionally, the essential determinant in the success of disaster management is the social contract or mutual agreement during the construction process involving donor agencies and local communities. As stated previously, the structural institutions at the central level also hold a role in the transformation process, as they are bound by the social contract with local institutions in the communication of disaster management.

One of our respondents from the youth leader, MD, described the progression of social cohesion and participation to develop the village.

“At first, all tourist areas could not develop and be relied upon. Therefore villagers, especially young people, were moved to build a tourism village that utilizes the village’s potential combined with nature. Based on discussions and observations, the potential is precise with uncultivated areas to become promising potential, not only for the community’s economy but also social and environmental values.”

Disaster-prone villages on the slopes of Mount Slamet, namely Serang Village, Kutabawa Village, Melung Village, and Winduaji Village, have almost the same character, such as vulnerable villages, farmers being the dominant profession, forest product, as well as the culture of accepting the situation and conditions openly. From this character, they establish togetherness in disaster-prone collaboration and produce a better process by transforming villages into safety nets, social economy, culture, and conservation of milieu, as summarized in Table 4.

Table 4. Sustainability of Economic, Social, Cultural, and Environmental Resilience

Village Name	Benefits of Disaster Resilient and Tourism Villages			
	Economics	Social	Culture	Environmental Conservation
Village Name	The Growth of Local investors in the development of natural tourism	Creating social cohesion which enables the community to progress and grow together	The annual event of cultural arts as a tour package	Guaranteed protection of natural forests
Melung Village, Karang Salam (Baturaden area)	Continuously increasing tourism SMEs	Spirit of cooperation and togetherness	Banyumasan cultural art Ebeg performances and typical lacinia arts	Utilization of protected forests in regard to conservation
Winduaji Village	Constantly growing number of tourism SMEs	Reducing social conflicts	Preserved local art products, such as tambourines, local puppets	Keeping the spring (Tuk Sirah)

Economic, social, and cultural resilience are vital aspects in times of disaster. Among those factors, economic resilience is one of the vulnerabilities of rural communities. Therefore, economical safety represents rural communities’ capabilities to face vulnerability to the threat of danger, both drought and other disasters (Fatmah, Lestari, & EL-Matury, 2022). Besides, policies are also essential to protect rural communities, as well as provide assurance in the face of climate change, disasters, and uncertainty. Especially for communities with weak economies, such as the community of farmers, need social and economic protection guarantees, primarily the available food security (Boysen, Boysen - Urban, & Matthews, 2022).

In addition, the transformation of disaster-prone villages to disaster-resilient and safe areas rely on the local potential that can be developed into tourism professionally. The proper strategy has implications for economic guarantees, which further enhances the community’s income. Investment in local communities ensures the viability of nearby rural communities. Social aspects present a social bond of harmony to change for the better. Besides, the local culture is maintained through the annual events and the development of local cultural facilities, such as tambourines, local puppets, and local arts.

It should be highlighted that environmental conservation and the local community awareness to protect the environment are essential aspects to improve the community's economic benefits. Through these activities, we enhance the local community skills to maintain the benefits of rural life and sustainability.

3.3. Smart Society and Practical Village Institutional Organization

Smart society methods and techniques in disaster management are developed through appropriate strategies based on the rural areas' needs and existing resources (Wahyuni, Rachmawati, & Baiquni, 2022). Transformation and change encourage rural communities to develop their local values, contributing to the progress of their villages. Disaster-prone villages encourage creative communities to survive and be prepared for all disaster-related vulnerabilities. The villages on the slopes of Mount Slamet have abundant potential that can be used to progress the awareness and perspective of the local community. Change is not only expected from outsiders but rather from the ability of the local community members.

According to our data, awareness and open-mindedness of the local community occurred starting from 2010, when the villages around the slopes of Mount Slamet improved and changed through the development of a tourism village based on nature. This change was leveraged by the enforcement of Law No. 6 of 2014 concerning Villages. In addition, the allocation of village funds stimulates the villages to develop BUMDesma (village-owned enterprises), which later drives the economy of the village. Our obtained data confirmed the excellent contribution of BUMDesma. Further, the Mandiri Sejahtera Institutions, the example of incorporated companies and legal entities, is one example of a village economic institution with a significant contribution to the improvement of PAD, by accelerating the local community's economy. One of our respondents also explained:

"Melung Village PAD from tourism continues to increase. This can be seen in the 2019-2022 Melung Village budget. From the previous contribution of tourism villages of around 40 million, it grows into above 100 million and continues to increase. Although this is a small contribution, its impact on the community turns the village into an independent village with great potential."

The process of change starts from the growth of an intelligent society, initiated by the local individuals with the significant determination to advance, develop and improve (Rokhman, Tobirin, & Faozanudin, 2023). Local community support and social capital have proven to be a speedy and reliable determinant for preparedness in facing and responding to disasters. As reported in previous studies, it is easier to rely on internal than external forces in disaster management (Chongbang, 2022; Miyajima, Shigei, Miyajima, & Shiratori, 2022).

Most people with extraordinary intelligence are awakened and have great awareness and willingness to adopt technological developments for the advancement of the local community. Intelligent societies are not only synonymous with the use of technology and digital transformation, but it also represents the ability of society to utilize the existing potential practically and tactically for better progress and change (Chen, Tang, & Xu, 2022). A participatory approach in an intelligent society is constructed from a continuous process within a community. Disaster-prone areas should have people with great intelligence, observation skills, and fighting power to overcome and anticipate limitations, including facing disaster risks (Okada, 2018). The intelligent community is established from the evaluation process and dynamics of community activity in the environment, and the smart urban

community is selected by utilizing technology for a comfortable city when the community can survive in vulnerability (Okubo et al., 2022).

A smart society is a personalized society with accelerated capacity, skills, and mobilization to adapt to current needs (Mehmood, Sheikh, Catlett, & Chlamtac, 2022). Intelligent organizations require a smart educational process in the transformation of values, which are built in times of crisis (Sá, Serpa, & Ferreira, 2022). Additionally, an intelligent society also requires smart governance, presenting an open educational construction, new challenges, and optimal anti-compatibilities to increasingly uncertain changes and developments. This society is established from the globalization of smart ideas in facing the constant risks in uncertain processes (Lai & Lee, 2023). To advance into an intelligent society, we need a series of means, including utilizing technology, applications, and other resources. However, intelligent societies do not just appear, and it takes the individuals' ability to adapt to change (Wazwaz & Kerbache, 2022).

Intelligent communities in the disaster-prone area of Mount Slamet were realized through conditions and willingness to change. In addition, the collaboration between various parties forms a local character and the spirit of cooperation for transforming the mindset of the community. Our data suggested community intelligence is supported by village institutions, especially Jointly Owned Enterprises, which can drive the village economy. From our data, we also observed excellent contributions from these enterprises to the economic resilience of the local community.

4. Conclusion

The major key to successfully transforming disaster-prone villages into villages with social, economic, cultural, and environmental safety nets lies in their community resilience and leadership. The community should have a mindset and willingness to change for the better. Through a systematic and organized action plan, the community can develop disaster-prone villages into villages that are safe and have economic, social, cultural, as well as environmental potential. That way, the disaster-prone villages become a safety net for rural people to live in the socioeconomic, cultural, and ecological fields. Further, in that environment, we can increase community income through the development of MSMEs and the tourism industry. In addition, the community also constructs their villages of environmental conservation through the preservation of natural forests and the development of environmental-based tourism. Another key to success is the capacity and support of the village government for the development of professional and profitable BUMDES (village-owned enterprises) to become icons in transforming prone villages into safe villages by developing tourist villages that offer natural and Local wisdom. Learning from the transformation of disaster-prone areas to safe villages, economically, socially, culturally, and environmentally, has been confirmed through the economic improvement of the surrounding community due to capital and profits with the principle of from the local community, the preservation of social and cultural values, as well as annual cultural moments that bring economic and cultural benefits. From this finding, we recommend disaster-prone areas be transformed into economic, social, and culturally safe regions, starting with a change in the community's perspective as the driving force to improve their village fate and condition.

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