RESILIENT COMMUNITIES: TURNING DISASTER INTO BLESSING FROM ENVIRONMENTAL LESSONS

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Abstract:

Floods have been a recurring challenge for the people of Kedungdalem Village, Dringu District. This study explores community resilience by identifying social and environmental factors that influence their ability to adapt and recover. It also examines the application of environmental-based learning to reduce the impact of flooding and evaluates local strategies in disaster management to create social and economic sustainability. Using a qualitative approach through in-depth interviews, field observations, and document analysis, this study found that reliance on traditional lifestyles, inadequate waste management, and limited infrastructure were the main contributors to flooding. The results show the important role of community organizations such as Fatayat NU and the Village Consultative Body (BPD) in raising community awareness and mobilizing resources for environmental education and disaster preparedness. Strategies such as mutual cooperation efforts in maintaining water channels have had a positive impact. However, challenges remain in integrating modern techniques with traditional practices and overcoming economic constraints. The study concludes that increasing environmental awareness and leveraging local solidarity are key to turning disasters into opportunities for sustainable community growth. These findings contribute to the discussion on community-based disaster resilience and offer practical recommendations for integrating local wisdom with modern environmental management practices.

Keywords: *community resilience, environmental education, flood management, socialustainability, Kedungdalem Village.*

INTRODUCTION

Data from the National Disaster Management Agency (BNPB) shows that in 2023, Indonesia experienced more than 3,000 natural disasters, with the majority being floods and landslides. The impact of these disasters not only resulted in loss of life and material losses, but was also accompanied by social dislocation, collective trauma, and increasing social inequality in the affected areas. Interestingly, some affected communities were able to demonstrate extraordinary resilience, reflecting the social and cultural potential to turn disasters into blessings through collaborative, environmentally based, and sustainable approaches. This also happened to the community in Kedungdalem Village, Dringu District, most of whose main livelihoods depend on the agriculture and fisheries sectors. However, the floods that occur almost every year have resulted in major losses, such as damaged agricultural land, economic losses, and disrupted access to education and health. Data from the Probolinggo Regional Disaster Management Agency (BPBD) shows that the flood in 2023 in Kedungdalem Village submerged more than 200 houses and affected around 700 people. Nevertheless, local communities demonstrate the potential for social resilience through mutual cooperation, utilization of local resources, and

innovation in disaster impact management.

So far, literature studies have shown that resilient communities play an important role in reducing disaster impacts and accelerating recovery. According to Norris et al. (2008), community resilience involves collective capacity to cope with stress, restore function, and adapt to changing conditions. Another study by Cutter et al. (2014) emphasizes the importance of combining local and scientific knowledge in building resilience. In addition, a study by Adger (2000) emphasizes that ecological and social resilience are interrelated, where environmental sustainability contributes to social sustainability.

This study aims to: (1) Identify social and environmental factors that influence the resilience of the Kedungdalem Village community in facing floods. (2) Explore how environmental-based learning can be applied to reduce the impact of floods. (3) Evaluate local strategies in managing flood disasters to create social and economic sustainability.

This study is also based on the argument that communities that have access to environmental learning show higher levels of resilience in facing disasters and environmental-based strategies significantly increase the community's capacity to transform disaster impacts into social and economic opportunities.

RESEARCH METHODS

This study uses a qualitative descriptive approach with a case study model. This design was chosen to understand in depth how the Kedungdalem Village community builds socio-ecological resilience in dealing with floods and manages disasters as opportunities for environmental learning. Case studies allow for detailed exploration of the phenomena that occur at the research location.

This research was conducted in Kedungdalem Village, Dringu District, Probolinggo Regency, East Java. This village was chosen as the research location because it is a flood-prone area that has unique social and ecological characteristics. The unit of analysis in this study is the Kedungdalem Village community, which includes individuals, community groups, and local organizations involved in managing the impact of floods.

The data collection techniques in this study were obtained by, among others, (1) Field Observation, field observations were carried out to directly observe geographical conditions, environmental infrastructure, and community activities related to flood management. (2) In-depth Interviews, this was carried out with Community Leaders (Fr), representatives of the Kedungdalem Village BPD management (Sl), and the Dringu District Fatayat management (Sr) to obtain information about community experiences and strategies. (3) Focus Group Discussion (FGD) Involving residents affected by the flood to identify local problems and solutions. (4) Documentation, Using secondary data such as BPBD Probolinggo reports, village documents, and publications related to the flood disaster in Kedungdalem Village, Dringu District.

No	Informant	Total	Initials
1	BPD Kedung Dalem Village	1	SL
2	Community Leader	1	FR
3	Chairman of PAC Fatayat NU Dringu	1	SR

	District		
4	Community affected by flood in Kedungdalem Village, Dringu District	10	Initials

RESULTS AND DISCUSSION
Social and Environmental Factors Affecting the Resilience of the Kedungdalem Village Community

The floods that routinely hit Kedungdalem Village are caused by interrelated social and environmental factors. In-depth analysis based on field facts reveals several things: Social Factors, namely Dependence on Traditional Lifestyles. Most of the people of Kedungdalem Village, especially the older generation, still use traditional lifestyles that pay little attention to environmental impacts. For example, the habit of throwing garbage into the river is one of the causes of clogged water channels. Another factor is, Lack of Environmental Awareness, Before Fatayat NU's intervention, community awareness of the importance of maintaining river ecosystems was very low. Local surveys show that only around 30% of residents understand the relationship between human behavior and the impact of flooding. In addition, Strong Social Solidarity, Mutual cooperation is an important element in community resilience. When floods occur, residents help each other to evacuate and distribute aid. This role is led by Fatayat NU and facilitated by the BPD, which uses a sense of togetherness to encourage participation in mitigation activities.

The Environmental Factors that influence are River Ecosystem Degradation, the Kedunggaleng River experiences heavy sedimentation due to soil erosion from the upstream area, which is exacerbated by deforestation around the river flow. This causes a decrease in water flow capacity. The lack of Flood Control Infrastructure in this case, Kedungdalem Village does not yet have a permanent embankment or modern drainage system. The existing infrastructure is only in the form of traditional channels that are often clogged, worsening waterlogging during heavy rains. Another environmental factor is Agricultural Land Damage, in this case routine flooding results in the loss of fertile soil layers, which reduces agricultural productivity. Flooded rice fields also require a long recovery time before they can be replanted.

Exploring Environmental-Based Learning to Reduce the Impact of Floods

Fatayat NU and the BPD of Kedungdalem Village have initiated environmental-based programs to increase community resilience in dealing with floods. One of them is the Integration of Religious and Environmental Values, Through routine religious studies, Fatayat NU introduces the Islamic concept of protecting nature as part of the human mandate. This approach is effective in raising awareness, especially among women, who are the driving force of change in the village. Mutual Cooperation as a Pillar of Resilience, Mutual cooperation of Kedungdalem Village residents is not only seen in mitigation activities, but also in post-disaster recovery. Post-disaster village cleaning activities led by the BPD involve more than 150 residents every time the flood recedes

Implementation Obstacles

Dependence on External Assistance. Mitigation programs such as river dredging and procurement of heavy equipment are still highly dependent on assistance from the district government, which is often late or inadequate. Lack of Infrastructure Funds, Flood control infrastructure such as permanent embankments have not been realized due to limited village budgets. In addition, the Kedungdalem River is a provincial government river so the process of submitting infrastructure and dredging must go through a long process.

CONCLUSION

This study revealed that the resilience of the Kedungdalem Village community in dealing with floods is greatly influenced by a combination of social and environmental factors. On the one hand, reliance on traditional lifestyles, such as the habit of throwing garbage into rivers and the use of conventional agricultural techniques, has exacerbated the impact of the disaster. However, on the other hand, strong social solidarity, especially through the role of communities such as Fatayat NU and the Village Consultative Body (BPD), provides a solid foundation for building more effective disaster mitigation strategies.

Environmental factors, such as degradation of river ecosystems and lack of flood control infrastructure, increase the risk of flooding in this village. However, local efforts such as mutual cooperation to clean water channels, religious-based education have shown positive impacts in reducing community vulnerability to disasters. To create social and economic sustainability, there needs to be integration between local traditions and modern approaches to environmental management. Environmental-based learning that has been implemented by Fatayat NU needs to be expanded in scope so that the community can understand the relationship between human behavior and its ecological impacts. In addition, government support in the form of infrastructure and technology-based training is very important to strengthen community resilience.

the success of turning disaster into a blessing in Kedungdalem Village requires a holistic approach that involves all parties, including the community, government, and local communities. In this way, Kedungdalem Village will not only be more resilient in facing floods, but will also be able to build sustainability based on social and environmental awareness.

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