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Developing a Disaster-Resilient Village Through Community Capacity Building in Aimere Timur Village, Ngada Regency, East Nusa Tenggara

Wara Sabon Dominikus[1], Aleksius Madu[2], Treesly Yumiardi Normin Adoe[3]

[1,2] Mathematics Education Study Program, Universitas Nusa Cendana, Kupang, Indonesia
[3] Primary School Teacher Education Study Program, Universitas Nusa Cendana, Kupang, Indonesia
* Correspondence e-mail; leksi_madu@staf.undana.ac.id

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Abstract

Aimere Timur Village in Ngada, East Nusa Tenggara, faces multiple disaster hazards, particularly landslides, ground movement, earthquakes, and volcanic threats from nearby Inerie and Ebulobo volcanoes. However, community knowledge and institutional capacity for disaster risk reduction (DRR) remain limited. This Community Service (PkM) activity aimed to strengthen community knowledge, attitudes, and skills toward establishing a Disaster-Resilient Village (Destana) through a participatory rural appraisal (PRA) approach. Conducted in July 2026, the activity involved 40 participants, including village officials, community and customary leaders, women's groups, posyandu cadres, youth, and vulnerable groups. Activities comprised socialization, focus group discussions, preparedness training, evacuation simulations, and mentoring. Results showed an increase in average scores from 52.3 to 84.6, representing a 32.3-point increase or 61.8%. Improvements were greatest in evacuation routes, assembly points, and early warning recognition. Outputs included an evacuation map, community-based warning mechanism, DRR Forum, draft Village Head Decree, and contingency plan, demonstrating strengthened community disaster resilience.

Keywords aimere timur; capacity building; community participation; disaster risk reduction; disaster-resilient village.

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1. INTRODUCTION

Indonesia is one of the countries with a high level of disaster vulnerability due to its location at the meeting point of three active tectonic plates and within the Pacific Ring of Fire. This geographical condition exposes various regions of Indonesia to geological and hydrometeorological hazards. East Nusa Tenggara (NTT) Province, including Ngada Regency, is characterized by complex geological conditions and is therefore vulnerable to earthquakes, landslides, volcanic eruptions, droughts, floods, and toxic gases. These conditions place women, older people, and children among the groups requiring particular attention in disaster risk reduction efforts. Aimere Timur Village, located in Aimere Subdistrict, Ngada Regency, is also exposed to these hazards and therefore requires systematic efforts to strengthen community capacity and resilience in disaster preparedness.

This vulnerability is particularly important given the history of landslides and ground movement in Aimere Subdistrict. Based on the Ngada Regency Disaster Risk Assessment and records from the Regional Disaster Management Agency (BPBD) of Ngada Regency, Aimere Subdistrict experienced approximately 7,069 hectares of landslides and ground movement during 2019–2025. These events occurred predominantly during the rainy season and affected several villages, including Aimere Timur. Steep terrain, rainfall variability, and limited early-warning infrastructure further increase the vulnerability of communities to geological and hydrometeorological hazards (News, 2024); (ANTARA News, 2024); (Djalante & Garschagen, 2017) (Fuady et al., 2021).

In Aimere Timur Village, disaster-related challenges are not limited to the presence of hazards but also involve the capacity of the community and village institutions to respond to potential disasters. Preliminary observations and discussions with village stakeholders indicated that the community still requires strengthening in hazard identification, evacuation procedures, evacuation routes, assembly points, and emergency coordination. In addition, a village-level disaster risk reduction forum or working group has not yet been optimally established or functioning. These conditions indicate a gap between the community's exposure to multiple hazards and its preparedness and institutional capacity to manage disaster risks.

Strengthening community capacity is consistent with the Disaster-Resilient Village (Destana) framework, which positions communities as key actors in disaster risk reduction. Based on Regulation of the Head of the National Disaster Management Agency (BNPB) Number 1 of 2012 concerning General Guidelines for Disaster-

Resilient Villages/Sub-districts, village resilience is developed through the ability of communities and village governments to identify hazards, organize resources, reduce vulnerability, and strengthen their capacity to respond to disasters. Destana encompasses several components, including disaster risk identification and assessment, institutional strengthening, community preparedness, early-warning mechanisms, evacuation routes and shelters, and village-level disaster management procedures.

Previous studies and community service programs have demonstrated the importance of participatory approaches in strengthening community capacity for disaster risk reduction. Lassa et al. demonstrated that community-based disaster risk reduction in East Nusa Tenggara can contribute to long-term resilience through the active involvement of village governments, non-governmental organizations, and local communities, even under conditions of limited resources (Lassa et al., 2018).

Similarly, Oktari found that capacity building for Disaster-Resilient Villages through participatory surveys, discussions, training, simulations, and mentoring could strengthen the capacity of village officials and communities in disaster management. The findings indicate that capacity development should extend beyond information delivery and involve communities directly in learning and practical preparedness activities (Oktari & S, 2019).

Noviani et al. further demonstrated that participatory mapping, focus group discussions (FGDs), training, and the identification of evacuation routes could enhance community capacity to respond to multi-hazard risks. This finding highlights the importance of involving communities directly in identifying risks and developing locally appropriate evacuation mechanisms (Noviani et al., 2020).

Meanwhile, Salman et al. emphasized the importance of improving knowledge, attitudes, and skills as essential components of community disaster preparedness. Their findings reinforce the view that disaster risk reduction programs should develop community capacity comprehensively rather than focus solely on increasing awareness or knowledge (Salman et al., 2023).

The role of local knowledge has also been highlighted in disaster risk reduction. Thene demonstrated that the Rote community possesses indigenous practices for responding to earthquakes, including knowledge of natural signs and settlement patterns that have been transmitted across generations. These findings suggest that local knowledge can serve as an important social resource for strengthening community preparedness (Thene & J, 2016)(Thene, 2016).

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Similarly, Mare, Angin, and Rahmawati found that communities in Nawokote Village, East Flores, utilize socio-cultural, physical, faunal, and vegetational indicators to anticipate volcanic eruptions of Mount Lewotobi Laki-laki. This finding demonstrates that local communities possess knowledge systems that can contribute to disaster mitigation, particularly when such knowledge is integrated with modern disaster-management systems (Mare et al., 2021).

Although these studies consistently demonstrate the importance of participatory approaches, knowledge enhancement, risk mapping, training, and local resources, several limitations remain. Previous initiatives have often emphasized specific components in isolation, such as disaster awareness, risk mapping, or institutional strengthening. Practical skill development through evacuation simulations, the formulation of standard operating procedures (SOPs), institutional sustainability, and the systematic integration of local wisdom have not always been implemented simultaneously within a single community-based intervention.

This gap is particularly relevant to Aimere Timur Village, which faces multiple hazards yet possesses social and cultural resources that could support disaster risk reduction. Disaster preparedness in the village, therefore, requires more than merely transferring technical knowledge about disasters. It needs to connect knowledge with practical skills, institutional mechanisms, evacuation planning, and locally embedded knowledge. Existing practices within the Ngada community, including mutual assistance (*gotong royong*), customary leadership, deliberative decision-making, environmental knowledge, and customary norms concerning relationships between communities and their environment, represent potential forms of social capital for strengthening community-based disaster risk reduction.

The novelty of this community service program lies in integrating multiple components of community capacity building into a single participatory process. These components include local disaster risk identification, disaster education, preparedness training, evacuation simulation, evacuation route and assembly point planning, SOP development, strengthening of the village disaster risk reduction forum, and the exploration and integration of Ngada local wisdom. Rather than treating local knowledge as a substitute for modern disaster-management standards, this program incorporates it as a complementary knowledge resource and form of social capital to strengthen the implementation of the Disaster-Resilient Village framework at the local level.

The program is also designed to ensure that capacity building produces not only individual improvements but also collective mechanisms that can continue to function

after the community service activities have ended. Therefore, strengthening the disaster risk reduction forum, developing SOPs, establishing evacuation routes, and involving vulnerable groups are integral components of developing sustainable village-level preparedness. This approach positions the community as the primary actor in identifying hazards, reducing vulnerability, organizing resources, and strengthening its capacity to respond to disasters.

Based on these conditions and the identified gap, this Community Service Program aims to improve the knowledge of the Aimere Timur Village community regarding potential disaster hazards in their area, enhance community skills in disaster preparedness and independent evacuation, encourage the establishment or strengthening of a village-level disaster risk reduction forum, and document and reinforce local wisdom as part of a community-based disaster mitigation strategy.

2. METHOD

2.1 Time and Location of Activity

The community service activity was conducted on 15 July 2026 in Aimere Timur Village, Aimere Subdistrict, Ngada Regency, East Nusa Tenggara Province. The location was selected based on the village's geographical conditions, which expose the community to a relatively high level of disaster risk, and on the need to strengthen disaster risk reduction institutional arrangements at the village level. The selection of the location was also based on preliminary observations indicating the need to improve community preparedness, particularly regarding disaster hazard recognition, evacuation procedures, evacuation routes, assembly points, and emergency coordination.

2.2 Targets and Partners

The target participants comprised village government officials and staff, community and customary leaders, women's groups and posyandu (integrated health post) volunteers, and youth organizations (karang taruna) in Aimere Timur Village, for a total of 40 participants. The activity was conducted in collaboration with the Aimere Timur Village Government and the Regional Disaster Management Agency (BPBD) of Ngada Regency. Participant selection was conducted purposively to ensure representation from different community groups, particularly village government representatives, customary and community leaders, women, and youth. This approach was based on the principle that effective disaster risk reduction at the village level requires the deliberate involvement of groups that may have different levels of exposure, vulnerability, roles, and capacities in responding to disasters, rather than relying solely on general public participation (Istiarsyah et al., 2023).

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A total of 40 participants were involved in the activity. Village officials and staff constituted the largest group, with 25 participants (62.5%). Community and customary leaders comprised 5 participants (12.5%), while women's groups and posyandu volunteers comprised 5 participants (12.5%). Youth representatives from *Karang Taruna also comprised* 5 participants (12.5%). Thus, the participant composition represented village government, community, and customary leadership, women, and youth groups, with each category contributing to the development of disaster preparedness and risk reduction mechanisms at the village level.

2.3 Approach and Stages of Activity

The activity involved the Ngada Regency Regional Disaster Management Agency (BPBD) from the preparation stage. BPBD provided regional disaster hazard map information, which was used during socialization activities and focus group discussions (FGDs). BPBD also contributed to planning subsequent activities, including serving as resource persons for first-aid and evacuation training and supporting the development of standard operating procedures (SOPs) and contingency plans. The involvement of the local disaster management agency was intended to strengthen coordination between the village community and government institutions and to support the sustainability of disaster risk reduction mechanisms at the village level (Cvetković et al., 2021); (Ganoe et al., 2023).

The community service activity employed a participatory approach combining principles of participatory rural appraisal and participatory action research. Through this approach, community members were positioned as active participants in identifying disaster risks, discussing vulnerabilities, recognizing available resources, and developing appropriate preparedness mechanisms rather than merely serving as recipients of disaster-related information. This approach is consistent with previous community-based disaster resilience programs that emphasize active community participation in identifying risks and developing locally appropriate solutions (Oktari & S, 2019).

The implementation began with a preparation stage that included coordination with the Aimere Timur Village Government and the Ngada Regency BPBD, an initial assessment of community vulnerability and capacity, and the development of training materials and evaluation instruments. The preparation stage was followed by socialization and focus group discussions (FGDs), during which participants identified and mapped potential hazards, community vulnerabilities, and available resources and capacities. The discussions also explored the Ngada community's local knowledge and practices that could contribute to disaster mitigation and

preparedness. The third stage consisted of training and simulations, including the delivery of disaster preparedness materials, basic first-aid training, and independent evacuation simulations toward assembly points agreed upon collectively with community members. The final stage involved mentoring and evaluation, including facilitating the establishment or strengthening of a village-level disaster risk reduction forum, preparing a simple evacuation map and evacuation route, and evaluating the overall implementation of the activity.

2.4 Instruments and Evaluation

The evaluation was conducted to identify changes in participants' knowledge and preparedness following the community service intervention. A pretest was administered before the activity, and a posttest after the activity series. The pretest and posttest results were analyzed descriptively by comparing participants' scores before and after the intervention. This evaluation approach was used to identify changes in participants' understanding of disaster preparedness following the socialization, training, discussion, and simulation activities.

The pretest–posttest instrument consisted of 20 items covering five substantive indicators of disaster preparedness. These indicators included participants' knowledge of disaster hazards present in the village area, recognition of early warning signs, understanding of evacuation routes and assembly points, basic knowledge of first aid, and awareness of emergency contacts and relevant institutions, particularly BPBD and the village government. The instrument content was developed with reference to the Disaster-Resilient Village (Destana) indicator framework stipulated in Regulation of the Head of BNPB Number 1 of 2012 (Indonesia, 2007); (Badan Nasional Penanggulangan Bencana, 2012); (JDIH BNPB, 2012). Before implementation, the instrument was reviewed by disaster management personnel from the Ngada Regency BPBD to ensure that its content was relevant to the local disaster context and the objectives of the community service activity.

3. FINDINGS AND DISCUSSION

3.1 Findings

Initial Conditions of Community Vulnerability and Capacity

The results of the initial survey and focus group discussions show that the community of Aimere Timur Village generally already has awareness of potential disaster hazards in their area. However, technical knowledge regarding preparedness steps, evacuation routes, and assembly points remains limited. A village-level disaster risk reduction forum or working group has also not been formally established, so disaster management coordination remains incidental and not yet systematically

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organized. Overall, the initial findings indicate that the level of disaster preparedness of the Aimere Timur Village community remains low to moderate, characterized by limited knowledge of evacuation routes and emergency procedures, the absence of a village-level disaster preparedness institution, and limited mitigation facilities and infrastructure. This condition underscores the urgency of implementing a community capacity-building program toward a Disaster-Resilient Village.

Table 1. Initial survey data through interviews with activity participants

Aspect Explored	**Findings**
Knowledge of the types of disaster hazards in the village area	± 60% of participants mentioned only 1 type of hazard (generally landslides/strong winds), not yet aware of other potential hazards (earthquakes, drought)
Understanding of early disaster warning signs	± 45% of participants were able to mention simple signs (ground cracks, high rainfall); the rest were not yet familiar
Knowledge of evacuation routes/assembly points	± 20% of participants stated they knew of clear evacuation routes or assembly points in the village
Prior experience with disaster training/simulation	± 15% of participants had previously joined similar training; the majority (85%) had not
Knowledge of emergency institutions/contacts such as BPBD, the Fire Department, and others	± 30% of participants knew the contacts or procedures for emergency reporting

In addition to the initial interviews, initial observation data also showed that (1) Institutional aspects: No active village-level disaster preparedness structure or group (such as a Village DRR Forum) was found; disaster coordination remained informal, conducted through hamlet/neighborhood heads. (2) Mitigation infrastructure: No evacuation route signs, disaster risk information boards, or officially marked assembly points were available. (3) Supporting facilities: Basic emergency response equipment (communal first-aid kits, emergency communication devices, megaphones) was very limited or unavailable at the village level. (4) Geographic-social conditions: The village area lies on hilly terrain with a history of landslide vulnerability during the rainy season; some settlements are located in relatively hazard-prone areas based on the

team's visual observation (slope gradient, proximity to waterways). (5) Community attitudes: Risk awareness tends to be reactive (alertness only arises when heavy rain/warning signs appear), rather than being based on scheduled, preventive preparedness.

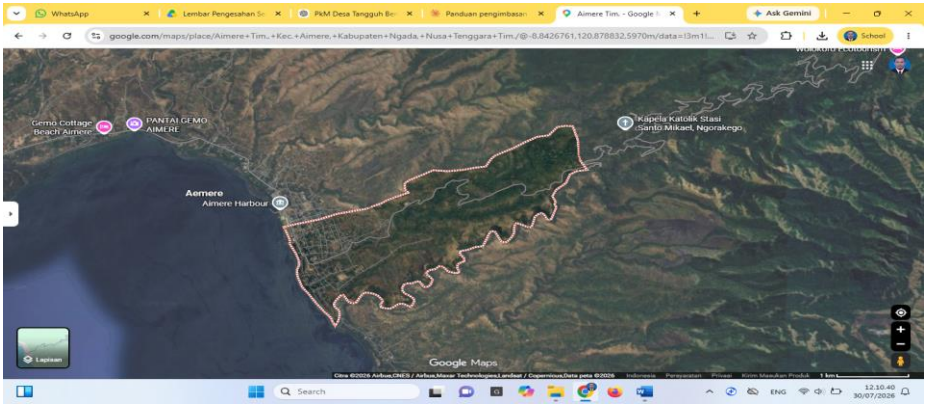

Figure 1. Geographical conditions and initial survey activities in Aimere Timur Village

Implementation of Disaster Preparedness Socialization and Training

The socialization and training activities were carried out with active participant involvement through lectures, discussions, and hands-on practice, in line with the methods used in disaster-resilient village capacity-building activities in other regions of Indonesia. The materials delivered covered an introduction to the types and characteristics of disaster hazards in Ngada Regency, household preparedness steps, and basic first-aid techniques. Most participants showed high enthusiasm during the sessions, marked by active question-and-answer discussions regarding past disaster experiences and requests for further explanation on the use of first-aid equipment. Women's groups and posyandu cadres appeared most active in asking questions about handling vulnerable groups (older people, children, and persons with disabilities) in emergencies. At the same time, village officials and community leaders focused more on coordination and role division during a disaster. Hands-on practice of first-aid techniques encouraged the active involvement of nearly all participants, although some elderly participants required more intensive assistance from the facilitation team. Overall, the team's field notes indicate that the lecture approach, combined with discussion and hands-on practice, increased participant engagement compared to conventional one-way extension methods.

These findings reinforce the view of Madu and colleagues (Djama et al., 2024), who, in a community service activity on training in the application of literative discipline for teachers in Kupang City, emphasized that the formation of new

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knowledge and behavior among target groups is more effectively achieved through direct application and habituation in the field than through one-way delivery of materials. This view is relevant to the pattern observed in the disaster preparedness socialization and training activity in Aimere Timur Village, where active participant involvement through discussion and hands-on first-aid practice proved more effective in driving changes in understanding than the delivery of material through lectures alone.

Figure 2. Disaster preparedness socialization and training with the community of Aimere Timur Village

Institutional Strengthening and Establishment of the Village Disaster Risk Reduction Forum

As part of the mentoring stage, the implementation team facilitated discussions to establish or strengthen a village-level disaster risk reduction forum that involves village officials, community leaders, and representatives of vulnerable groups. The establishment of this forum aligns with the long-term experience of community-based disaster risk reduction in East Nusa Tenggara, which shows that the sustainability of disaster mitigation efforts is strongly determined by the presence of an active local institution supported by all community members (Lassa et al., 2018). The agreed forum was named the Aimere Timur Village Disaster Risk Reduction (DRR) Forum, with a management structure consisting of a patron (the Village Head), a forum coordinator, and several divisions, namely the early warning and information division, the evacuation and rescue division, the logistics and public kitchen division, and the health and first-aid division, with representation of women, customary leaders, and vulnerable groups in each division. In addition to the management structure, the forum agreed to establish a village-level disaster preparedness volunteer group and to

draft an initial, simple evacuation map and routes to assembly points, determined together with the community based on the identification of landslide- and flood-prone areas. This agreement also included an initial draft contingency plan outlining the division of tasks among divisions and the coordination mechanism with the Ngada Regency BPBD in the event of an emergency. The Aimere Timur Village Secretary, representing the Village Head, welcomed the establishment of this forum and affirmed the village government's commitment to continue strengthening it after the activity.

At the end of the event, a draft of the Village Head's Decree (SK Kepala Desa) regarding the establishment of the East Aimere Village Disaster Management Forum was prepared and submitted for official signing, with the Village Secretary reaffirming the village government's commitment to completing the legalization process within one month following the training event. The village government also expressed its intention to allocate a portion of the Village Fund (APBDes) for the maintenance of evacuation route signs and the operational needs of the Disaster Risk Management Forum within the 2027 fiscal year budget cycle, in line with national policy that prioritizes disaster mitigation as one of the permitted uses of the Village Fund allocation (Kumalasari, 2022); (Kasanah et al., 2022); (Supriyanto et al., 2022).

Figure 3. Discussion on the establishment of the village-level disaster risk reduction forum

Evacuation Simulation and Improvement in Community Knowledge

An evacuation simulation was conducted to assess the community's understanding of the agreed-upon evacuation routes and assembly points. The comparison of pretest and posttest scores shows an improvement in participants' knowledge and preparedness, with an average pretest score of 52.3 (on a scale of 0-100) and an average posttest score of 84.6 (on a scale of 0-100), consistent with findings from similar activities in other regions of Indonesia that also reported significant improvements in community disaster preparedness knowledge after participating in

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community-based training and simulation. This improvement is equivalent to an average increase of 32.3 points, or approximately 61.8%. The most notable increase was observed in knowledge of evacuation routes and assembly points, which was understood by only about 20% of participants in the initial survey (see Table 2), as well as in the ability to recognize early disaster warning signs. This indicates that the combination of lectures, discussions, and field simulations is more effective in building practical understanding and preparedness skills than one-way information delivery, consistent with the results achieved in the earlier socialization and training stage.

Table 2. Pretest and posttest results of activity participants (n = 40; scale 0-100)

No	Respondent Code	Pretest Score	Posttest Score	Improvement (Gain)	Improvement Category
1	R01	52	89	37	High
2	R02	51	99	48	High
3	R03	52	89	37	High
4	R04	61	87	26	Moderate
5	R05	52	78	26	Moderate
6	R06	37	62	25	Moderate
7	R07	57	98	41	High
8	R08	50	76	26	Moderate
9	R09	51	82	31	Moderate
10	R10	55	94	39	High
11	R11	56	81	25	Moderate
12	R12	66	96	30	Moderate
13	R13	62	78	16	Low
14	R14	55	77	22	Moderate
15	R15	45	71	26	Moderate
16	R16	42	77	35	High
17	R17	56	99	43	High
18	R18	68	100	32	Moderate
19	R19	54	88	34	Moderate
20	R20	52	86	34	Moderate
21	R21	59	99	40	High
22	R22	37	76	39	High
23	R23	50	84	34	Moderate
24	R24	59	81	22	Moderate
25	R25	63	100	37	High

No	Respondent Code	Pretest Score	Posttest Score	Improvement (Gain)	Improvement Category
26	R26	51	86	35	High
27	R27	57	99	42	High
28	R28	56	87	31	Moderate
29	R29	62	99	37	High
30	R30	41	70	29	Moderate
31	R31	60	99	39	High
32	R32	37	69	32	Moderate
33	R33	27	55	28	Moderate
34	R34	47	68	21	Moderate
35	R35	43	73	30	Moderate
36	R36	63	99	36	High
37	R37	61	100	39	High
38	R38	40	78	38	High
39	R39	63	74	11	Low
40	R40	42	81	39	High
Average		52.3	84.6	32.3	-

Note: individual participant score data with pretest average (52.3) and posttest average (84.6) (data processed by the PkM team)

The evacuation drill protocol includes specific procedures for vulnerable groups. Elderly participants and those with disabilities are assigned companions—family members or posyandu volunteers—who assist them in moving to the assembly point. At the same time, children are grouped under the supervision of teachers and parents to prevent them from becoming separated during the drill. This procedure reflects the broader principle that people with disabilities and older adults face disproportionate risks during evacuations unless special accommodations have been planned (Surwanti et al., 2023); (Sarfika et al., 2023); (Istiarsyah et al., 2023), and that the absence of such planning is a primary cause of preventable harm to vulnerable groups during disasters (Warganegara et al., 2025).

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Figure 4. Handover of disaster signage teaching aids to the Head of Aimere Timur Village

Based on the results of the focus group discussions (FGDs) and evacuation simulation sessions, the community and the implementation team jointly agreed on two main assembly points located at the village hall and the Aimere Inpres elementary school playground, which were selected based on accessibility and distance from the slopes identified as prone to landslides. Two main evacuation routes have been mapped out, connecting the most vulnerable hamlet—Hamlet 5—to these assembly points. A simple community-based early warning mechanism has also been agreed upon, relying on traditional kentongan (alarm gongs) and designated RT/RW WhatsApp groups, which will be activated by members of the early warning and information division of the newly formed Disaster Management Forum. This low-cost approach mirrors community-based early warning systems that have been documented elsewhere in NTT (Helmi et al., 2024) and is consistent with evidence that community-based early warning systems can significantly reduce the impact of disasters even without sophisticated equipment, provided that these mechanisms are well understood and residents are trained in their use (Irawan & L. Y., 2024); (Lassa et al., 2023).

3.2 Discussion

Overall, the results of the activity show that a participatory approach, combined with strengthening local wisdom, can improve the Aimere Timur Village community's capacity to face potential disasters in their area. This finding is consistent with the social vulnerability framework, which posits that enhancing a community's non-physical capacity, such as knowledge and local institutions, can reduce a region's disaster risk even when physical hazard factors cannot be eliminated (Cutter et al.,

2003); (Segarwati & Patimah, 2018)(Aziz et al., 2020). Strengthening the capacity of village government, as the actor closest to the community, is also consistent with findings that local government involvement is an important determinant of the success of community-based disaster risk management (Cvetković et al., 2021).

The exploration of the local wisdom of the Ngada community in this activity also reinforces the argument that the traditional knowledge of the East Nusa Tenggara community, as found among the Rote community in facing earthquake hazards, remains relevant to be integrated with modern disaster knowledge in mitigation efforts in island regions with similar geological characteristics (Thene & J, 2016). Thus, the capacity-building model applied in Aimere Timur Village, which combines a participatory approach, the strengthening of village institutions, and the appreciation of local wisdom, has the potential to be replicated in other villages in Ngada Regency or in NTT regions with similar disaster-vulnerability characteristics.

In addition to strengthening knowledge and institutions, this activity included an environmental management component as part of the disaster mitigation strategy, through actions such as clearing waterways, managing waste, and reforestation in the coastal area of Aimere Timur Village. The integration of disaster education and environmental management actions reinforces the argument that disaster risk reduction cannot be separated from efforts to maintain the physical environmental carrying capacity of an area, in line with the hazard-vulnerability-capacity framework, which asserts that reducing physical vulnerability is just as important as improving the non-physical capacity of the community (Puspitaningrum et al., 2023); (Nayoan et al., 2021). The establishment of a village-level disaster preparedness volunteer group and the drafting of a contingency plan and evacuation route by the end of the activity are early indicators of the success of the disaster risk reduction institutionalization process at the village level, as reflected in the appreciation expressed directly by the Aimere Timur Village Secretary on behalf of the village government. This reinforces the finding that the support and active involvement of village government are determining factors for the sustainability of an established disaster risk reduction forum (Cvetković et al., 2021).

4. CONCLUSION

This Community Service activity successfully improved the knowledge and preparedness of the Aimere Timur Village community, Aimere Subdistrict, Ngada Regency, to face potential disasters through a participatory approach comprising socialization, training, evacuation simulation, and mentoring to establish a village-level disaster risk reduction forum. The strengthening of local wisdom relevant to the

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cultural and geographical context of the Ngada community further enriched this capacity-building process. It is recommended that the Aimere Timur Village government, together with the Ngada Regency BPBD, continue regular mentoring, integrate the village disaster management plan into village development planning documents, and replicate this model in other villages in Ngada Regency with similar levels of disaster vulnerability.

It is recommended that the Aimere Timur Village Government, in coordination with the Ngada Regency BPBD: (1) formally legalize and gazette the Village Head Decree on the DRR Forum within [insert timeframe]; (2) install permanent evacuation-route and assembly-point signage at the agreed locations by [insert timeframe]; (3) conduct a mandatory annual evacuation simulation, ideally scheduled before the onset of the rainy season; (4) allocate a specific budget line within the APBDes for DRR Forum operations and evacuation-infrastructure maintenance; and (5) integrate the village disaster management plan into the Village Medium-Term Development Plan (RPJMDes).

This activity has several limitations. First, evaluation relied on short-term pretest–posttest knowledge scores without a longer-term follow-up assessment of behavior change or DRR Forum performance. Second, the intervention was limited to a single village and a single round of training and simulation, without a comparison group or repeated-measures design. Third, documentation of local wisdom was exploratory, based on FGD input rather than systematic ethnographic recording. Building on these limitations, a roadmap for continued community service is proposed: (1) a six- to twelve-month follow-up evaluation of DRR Forum activity and community retention of preparedness knowledge; (2) piloting of low-cost, locally appropriate early-warning technology (e.g., simple rain-gauge/slope-movement sensors linked to the existing communication mechanism), consistent with technology-integration models documented elsewhere in Indonesia (Irawan et al., 2024; Sakurai, Sato, & Murayama, 2022); (3) training of a dedicated village-level SAR/first-response team; and (4) systematic documentation of Ngada local wisdom relevant to disaster mitigation as a standalone community-knowledge product for future Destana programs in the region.

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