

Practice of Community-Based Initiatives (CBIs) for Disaster Risk Reduction in Benue State, Nigeria: A Study of BSEMA's Roles and Challenges

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Abstract

Disaster risk management remains a significant challenge in Benue State, Nigeria, with communities experiencing frequent disasters, displacement, and loss of livelihoods. Despite the efforts of government agencies and non-governmental organizations, the existing disaster risk management strategies have been criticized for being top-down, ineffective, and unsustainable. The Benue State Emergency Management Agency (BSEMA) has been accused of being reactive rather than proactive in its approach to disaster risk management, with a focus on providing relief materials after the disaster rather than supporting community-based initiatives (CBIs) that promote community resilience. This study aimed to assess the roles of CBIs in enhancing community participation in disaster risk reduction in Benue State, investigate the impact of BSEMA's support on the effectiveness of CBIs, find out the challenges faced by BSEMA, and identify strategies for strengthening CBIs in disaster risk management. A mixed-methods approach was employed, combining both quantitative and qualitative data collection and analysis methods. A structured questionnaire was administered to 1200 respondents, while Key Informant Interviews (KIIs) were conducted with 30 stakeholders. The results showed a lack of community engagement and participation in CBIs in Benue State. The survey results reveal a concerning lack of support from BSEMA for CBIs in Benue State. Also, they revealed that BSEMA has faced many challenges such as inadequate funding, lack of capacity, and poor community engagement. The study recommends that the Benue State Government and other stakeholders provide support for CBIs, build the capacity of community members, and promote community engagement and participation in disaster risk management. The study contributes to the understanding of CBIs in disaster risk management and provides insights for policymakers, practitioners, and researchers.

Keywords: Practice, Community Based Initiatives, Disaster, Risk Reduction, BSEMA.

Introduction

Disaster management has become a critical concern globally, with the increasing frequency and severity of natural disasters and human-induced crises. Disaster refers to an emergency caused by natural hazards or human-induced actions resulting in a significant change in circumstances over a relatively short period (Hiwasaki, 2017). Typical examples are death, displacement, disease, loss of crops, damage to physical and service infrastructure, depletion of natural and social capital, institutional weakening and a general disruption of economic and social activity (Olorunfemi & Raheem, 2016). A broad definition of disasters includes the fact that they are dramatic, sudden, unscheduled events that are often accompanied by large losses of human life, suffering and affliction to a society or a significant part of it, and a temporary breakdown of prevailing lifelines and systems. Such events cause considerable material damage and interrupt the normal functioning of an economy and of society in general (Carby, 2015). The intensity of disasters often represents the intersection of human and natural disasters, conditions of poverty, poor housing, lack of information about disaster risk, poor telecommunications, and inadequate physical infrastructures, including bridges or roads, frequently exacerbate natural disasters such as floods, earthquakes, hurricanes, and volcanic eruption (Olorunfemi, & Raheem, 2016). Evacuations of large populations are complicated by low-capacity infrastructure or family or cultural impediments (Acharya, & Prakash, 2019). Although every nation is generally aware of its propensity for various kinds of human and natural disaster scenarios, their occurrence and consequences are often sudden, random and not well predicted.

The significance of local (LK) knowledge for Disaster Risk Reduction (DRR) is also recognised by international policies (Lambert and Scott, 2019). For instance, the Sendai Framework highlights the necessity of incorporating local knowledge (LK) into risk assessments at the local level (UNISDR, 2015), and the International Panel on Climate Change (IPCC, 2018) noted in its groundbreaking 2018 report on the 1.5° warmer world that LK is one of our options for climate change adaptation (IPCC, 2018). It is clear that local knowledge (LK) is becoming more and more popular (Chawawa, 2018). According to Hiwasaki et al., (2014), this was particularly noticeable following the 2004 Indian Ocean Tsunami, when local solutions that assisted indigenous communities in surviving were extensively disseminated, which prompted interest in LK as a field of study (Amini, Hosseini, Izadkhah, Mansouri, & Shaw, 2014).

While it is positive that communities and their LK are getting more attention (after decades of top-down and decontextualised approaches to disaster risk management), the reality on the ground indicates that this increased attention does not translate into actual community and LK inclusion in DRR. For example, only 16% of people at risk feel included in decisions about reducing their own risk (GNDR, 2020). In a similar vein, other writers vehemently contend that LK's rhetorical acknowledgement does not equate to its broad incorporation in DRR methodologies (Amini, Hosseini, Izadkhah, Mansouri, & Shaw, 2014).

It has been observed that most natural and man-made disasters cause widespread physical damage, death, disability, and displacement, as well as disruption of economic and social activities (GNDR, 2020). Disaster specialists focus on two types of vulnerability: the degree to which people are at risk (living on a flood plain, owning a house that cannot withstand floods) and the degree to which they can cope with the effects (through such provisions as health care and property insurance). Disaster specialists focus on two types of vulnerability. The second is how disaster-prone important organisations or systems like hospitals, emergency response networks, and water and power supplies are (Chawawa, 2018).

GNDR, (2020) asserts that natural catastrophes like hurricanes, floods, and earthquakes have the power to ruin years of urban growth by demolishing housing and infrastructure and injuring or killing thousands of people. Over 270,000 people lost their lives in the South Asian tsunami disaster, which also devastated infrastructure and caused property damage worth millions of dollars (GNDR, 2020). Human susceptibility is increased by disasters and their precursors. The risk of destruction of life and property due to natural and man-made disasters is particularly high in developing countries (Hiwasaki, 2017). Hilhorst, Baart, Van den Haar, & Leefstink, (2015) attributes this level of risk to a number of factors, including socioeconomic

stress, ageing and inadequate physical infrastructure, poor disaster education and preparedness, and a lack of financial and economic resources to properly implement the integrated emergency management components of preparedness, response, mitigation, and recovery. It is obvious that disasters are a development issue. First, certain natural occurrences, particularly those of hydro-meteorological, geodesic and vulcanological origin tend to have higher effects on poor countries than on developed countries. Second, these impacts are made worse by a number of conditions linked to a low level of development. Third, the impact of natural events on the chances for long-term growth is substantially greater in less developed countries (Hilhorst, Baart, Van den Haar, & Leeftink, 2015).

Nigeria's increasing disaster pattern has consequences for the sustainability of the country. This is because disasters, regardless of the causes, are linked to a variety of externalities, including death tolls, loss of homes, farms, livelihoods, social networks, infrastructure, and revenue (Olorunfemi, & Raheem, 2016). In developing-country cities, the rapid rate of urbanisation and the expansion of urban-industrial activity are intensifying environmental stresses and making urban residents more susceptible to technological, natural, and other man-made disasters (Olorunfemi, & Raheem, 2016). The impoverished have been forced into marginal, ecologically fragile areas due to the demand for greater urban space. Urban resilience to natural disasters is further weakened in many developing nations by overcrowding, traffic, poverty, unemployment, and a lack of proper infrastructure and services.

The impact of disasters on communities, economies, and environments necessitates effective disaster risk reduction and management strategies. In this context, CBIs have emerged as a vital approach to enhancing disaster resilience and reducing risk. CBIs on disaster management refer to efforts led by local communities to reduce disaster risk and enhance resilience (Cretney, 2016). These initiatives are designed, implemented, and managed by community members, with support from local organizations, governments, and external agencies (Hiwasaki, 2017). CBIs focus on: Community engagement and participation, Local knowledge and expertise, Building local capacity and resilience, and Addressing specific local needs and vulnerabilities. Examples of CBIs include: Community-based early warning systems, Local emergency response teams, Community-managed disaster funds, Public awareness and education campaigns, Community-led disaster risk assessment, Local-level contingency planning, Community-based disaster mitigation projects (e.g., flood-control measures, soil conservation), Community-managed shelters and evacuation centres, Local food storage and distribution systems (Amini, Hosseini, Izadkhah, Mansouri, & Shaw, 2014).

Despite the growing recognition of community-based initiatives (CBIs) as an approach to enhancing disaster resilience and reducing risk, there is a paucity of research on their effectiveness, challenges, and opportunities in the context of Benue State, Nigeria. Specifically, the Benue State Emergency Management Agency (BSEMA) has implemented various CBIs, but their impact and sustainability remain understudied. As such problems persist; limited understanding of the effectiveness of CBIs in reducing disaster risk and enhancing resilience in Benue State, inadequate knowledge of the challenges and opportunities faced by BSEMA in implementing CBIs, insufficient community engagement, participation, and ownership in CBIs, potential undermining their sustainability and impact, lack of empirical evidence to inform policy and practice recommendations for enhancing CBIs in Benue State and beyond.

The Benue State Emergency Management Agency (BSEMA) has consistently prioritized the provision of relief materials after flood disasters have occurred, rather than investing in Community-Based Initiatives (CBIs) that could enhance disaster risk management and reduce the impact of floods and other security threats. This reactive approach has resulted in a neglect of proactive measures that could mitigate the effects of floods, leaving communities vulnerable to repeated disasters. By focusing solely on relief efforts after the damage has been done, BSEMA has overlooked the critical role that CBIs can play in reducing disaster risk, promoting community resilience, and enhancing sustainable development. This oversight has significant implications for the long-term sustainability of flood risk management efforts in Benue State, and underscores the need for a more proactive and community-centred approach to disaster risk management.

Specifically, the Benue State is said to be implementing various CBIs, but their impact and sustainability remain understudied. This study therefore aims to address these gaps by investigating the effectiveness of CBIs in enhancing disaster resilience and reducing risk in Benue State, Nigeria, and exploring ways to enhance their sustainability and scalability. This research contributes to the broader field of disaster management by providing insights into the effectiveness of CBIs in a Nigerian context, highlighting best practices, and informing policy and practice recommendations for enhancing community-led disaster risk reduction efforts. Community-based initiatives are essential for effective disaster risk reduction management, as they empower communities to take ownership, build resilience, and develop context-specific solutions to mitigate and respond to disasters.

Method

This study employed a mixed-methods approach combining both quantitative and qualitative data collection and analysis methods. The cluster and random sampling techniques were utilized to select respondents. The design allowed for the collection of data from a representative sample of communities in Benue State. The five Local Government Areas (LGAs) purposively selected for this study are Gboko, Makurdi, Apa, Otukpo, and Katsina Ala. From each of these LGAs, three communities were selected for data collection. The main justification for the selection was that the areas are more prone to disaster.

In Gboko LGA, the selected communities are Mbalom, Yandev, and Ikyogen. These communities are located in the southern part of the LGA and are prone to flooding during the rainy season. In Makurdi LGA, the selected communities are Wurukum, North Bank, and High Level. These communities are located in the heart of Makurdi town and are densely populated. In Apa LGA, the selected communities are Ugbokpo, Edumoga, and Okpoga. These communities are located in the eastern part of the LGA and are known for their agricultural activities. In Otukpo LGA, the selected communities are Otukpo Town, Igbanonmaje, and Okete. These communities are located in the central part of the LGA and are known for their cultural heritage. In Katsina Ala LGA, the selected communities are Katsina Ala Town, Sati-Agirigi, and Pandeger. These communities are located in the northern part of the LGA and are prone to flooding during the rainy season.

In all the mixed method involving quantitative and qualitative data was utilised for the study. A structured questionnaire was distributed to respondents in the selected communities. Key Informant Interviews (KII) were conducted with traditional rulers of the selected communities and 2 officials of the Benue State Emergency Management Agency (BSEMA). Data were analyzed using simple percentage from a frequency distribution table and the responses on KII were ethnographically presented.

Result

Table 1: Practice of Community Based Initiatives and Community Engagement in Benue State

Items	N01200	%100
How often do you attend community events?		
Daily	101	8.4
Weekly	106	8.8
Monthly	207	17.4
Rarely	201	16.8
Never	585	48.8
Have you ever held a leadership position in a community organization?		
Yes	20	1.7
No	1180	98.3
How would you rate your level of involvement in community decision-making processes?		
Very involved	87	7.3
Somewhat involved	100	8.3
Not very involved	400	33.3
Not at all involved	613	51.1
Have you ever participated in a community project or initiative?		
Yes	320	26.7
No	880	73.3
If yes, what type of project or initiative was it?		
Disaster risk reduction	156	13.0
Emergency response	44	3.7
Community development	100	8.3
Environmental conservation	20	1.7
Not at all	880	73.3
How would you rate the level of collaboration among community members?		
Very collaborative	130	10.8
Somewhat collaborative	120	10.0
Not very collaborative	562	46.8
Not at all collaborative	388	32.3
Have you ever received training or capacity-building programs on community engagement or disaster risk reduction		
Yes	40	3.3
No	1160	96.7

Source: Field work, 2024

The survey results reveal lack of community engagement and participation in Community-Based Initiatives (CBIs) in Benue State. A staggering 48.8% of respondents reported never attending community events, while only 8.4% attend daily and 8.8% attend weekly. This suggests that community members are not actively involved in community activities, which could be a barrier to building strong, resilient communities.

Furthermore, the surveys found that only 1.7% of respondents have held a leadership position in a community organization. This lack of leadership experience and involvement in community decision-making processes is alarming, as it suggests that community members may not have a strong voice in shaping their own community's development. In fact, 51.1% of respondents reported being not at all involved in community decision-making processes. This lack of involvement and leadership experience could undermine the effectiveness of CBIs and disaster risk reduction efforts.

The survey also revealed that only 26.7% of respondents have participated in a community project or initiative. Among those who have participated, the most common types of projects were disaster risk reduction, emergency response, and community development. However, the majority of respondents (73.3%) have not participated in any community project or initiative. This suggests that there may be a lack of opportunities or incentives for community members to get involved in CBIs.

In terms of collaboration among community members, the survey found that 46.8% of respondents rated the level of collaboration as "not very collaborative." This lack of collaboration could hinder the effectiveness of CBIs and disaster risk reduction efforts. Finally, the survey revealed that only 3.3% of respondents have received training or capacity-building programs on community engagement or disaster risk reduction. This suggests that there may be a need for more training and capacity-building programs to support CBIs and disaster risk reduction efforts in Benue State. In order to compliment the quantitative data, KII was conducted among the traditional rulers in the selected communities. Their responses were presented as follows:

The traditional rulers of Yandev in Gboko LGA responded:

Honestly, community engagement has been very poor. We have not had any meaningful engagement with our community members on flood risk management. We have tried to sensitize them, but it has been challenging (KII, 2024).

In response to the reason for this lack of engagement, the chief said:

I think it's because our community members are not aware of the importance of flood risk management. They don't see it as a priority, and they are not willing to participate in efforts to mitigate flood risks (KII, 2024).

Also another traditional ruler of Ugbokpo in KII said:

Unfortunately, community engagement has been very limited. We have not had any significant participation from our community members in flood risk management efforts. We have tried to sensitize them through town hall meetings and community radio programs, but it has been challenging to get them to participate (KII, 2024).

In Sati Agirigi in Katsina Ala LGA, the traditional Ruler opined that:

Community engagement has been almost non-existent. We have not had any meaningful engagement with our community members on flood risk management. There is low awareness on the importance of flood risk management (KII, 2024).

Table 2: Assessment of BSEMA's Role in Enhancing CBIs

Items	N1200	%100
How would you rate BSEMA's support for CBIs in your community?		
Very supportive	54	4.5
Somewhat supportive	89	7.4
Not very supportive	921	76.8
Not at all supportive	136	11.3
Have you received any training or capacity-building programs from BSEMA on CBIs?		
Yes	231	19.2
No	969	80.8
How would you rate the effectiveness of BSEMA's training programs on CBIs?		
Very effective	53	4.4
Somewhat effective	92	7.7
Not very effective	930	77.5
Not at all effective	125	10.4
Has BSEMA provided any resources (e.g., funding, equipment) to support CBIs in your community?		
Yes	305	25.4
No	895	74.6
If yes, how would you rate the adequacy of the resources provided?		
Very adequate	205	17.1
Somewhat adequate	100	8.3
Not very effective	650	54.2
Not at all adequate	245	20.4
What resources do you think are most needed to enhance disaster resilience in your community?		
Financial resources	452	37.7
Human resources	341	28.4
Infrastructure	241	20.1
Equipment	160	13.3
Other	06	0.5

Source: Field work, 2024

The survey results reveal a concerning lack of support from the Benue State Emergency Management Agency (BSEMA) for Community-Based Initiatives (CBIs) in Benue State. Only 4.5% of respondents rated BSEMA's support for CBIs as "very supportive," while a staggering 76.8% rated it as "not very supportive" or "not at all supportive." This suggests that BSEMA is not providing adequate support to community members in their efforts to develop and implement CBIs.

Furthermore, the survey found that BSEMA's training and capacity-building programs for CBIs are insufficient. Only 19.2% of respondents reported receiving training or capacity-building programs from BSEMA on CBIs. Moreover, a mere 4.4% of respondents rated BSEMA's training programs as very effective," while 77.5% rated them as "not very effective" or not at all effective.

The survey also revealed that BSEMA's provision of resources to support CBIs is inadequate. Only 25.4% of respondents reported that BSEMA had provided resources (e.g., funding, equipment) to support CBIs in their community. Among those who received resources, only 17.1% rated the resources as "very adequate," while 54.2% rated them as "not very adequate" or "not at all adequate." This suggests that BSEMA is not providing sufficient resources to support CBIs, which can hinder their effectiveness.

Respondents identified financial resources, human resources, infrastructure, and equipment as the most needed resources to enhance disaster resilience in their community. This highlights the need for BSEMA to prioritize the provision of these resources to support CBIs and enhance disaster resilience in Benue State. Overall, the survey findings suggest that BSEMA needs to strengthen its support for CBIs, provide more effective training and capacity building, and increase its provision of resources to support community members in their efforts to develop and implement successful CBIs.

In response to the role of BSEMA in CBI in the area, the traditional ruler of Ikyogen community said:

Honestly, BSEMA has only provided relief materials after the flood has occurred. They have not been involved in any preventive measures or CBIs. It's disappointing. We need support before the flood occurs, not just after (KIII, 2024).

In Okekte Community, the traditional ruler said :

We have not received any support. They only come after the flood to provide relief materials and it's not sufficient. We need support to prevent the flood from occurring in the first place (KII, 2024).

In North Bank community of Makurdi LGA the chief responded that:

BSEMA has only provided relief materials after the flood. They have not been involved in any CBIs or preventive measures. They need to be more proactive. They should work with us to prevent the flood from occurring, rather than just providing relief materials after (KII, 2024).

In Katsina Ala town the traditional ruler in the area also responded that:

We have not received any support. They only come after the flood to provide relief materials and it's not sustainable. We need support to prevent the flood from occurring, rather than just relying on relief materials after (KII, 2024).

Challenges faced by BSEMA in the Implementation of CBI in Benue state

The KII was conducted with the officials of the BSEMA on the implementation of the CBI in Benue state communities and the responses were as follows;

The Director of Operations said:

We've been facing significant challenges in implementing CBIs in Benue communities. One major issue is the lack of funds. We don't have enough resources to support community-based projects, which makes it difficult for us to effectively implement CBIs. Additionally, we need to build the capacity of our staff and community members to ensure successful implementation (KII, 2024).

Also the Program Manager said:

I agree with my colleague. Funding is a major constraint. However, another critical issue is the lack of community engagement and participation. We need to work closely with community members to identify their needs and priorities. This will help us develop context-specific CBIs that address the unique challenges faced by each community (KII, 2024).

The Community Liaison Officer responded that:

From my experience working with communities, I think one of the main challenges is the lack of awareness about CBIs. Many community members don't understand the benefits of CBIs or how they can contribute to disaster risk reduction. We need to invest more in awareness-raising and education to get communities on board (KII, 2024).

Similarly, the Planning Officer buttressed that:

Another issue we're facing is the lack of coordination among stakeholders. We need to work more closely with local government authorities, NGOs, and community-based organizations to ensure that our efforts are complementary and not duplicative. This will help us achieve greater impact and sustainability in our CBI programs (KII, 2024).

Discussion of findings

The findings of this study highlighted the crucial role of community engagement, participation, and ownership in Community-Based Initiatives (CBIs) among community members in Benue State. The survey results indicated low community engagement and participation in Community-Based Initiatives (CBIs) in Benue State. This suggests that community members were not actively involved in community activities, which could be a barrier to building strong, resilient communities. This view corresponded with Olorunfemi, & Raheem, (2016) who concluded that the level of community engagement, participation, and ownership among Nigerians in initiatives focused on disaster risk reduction was found to be relatively low.

The study revealed that the Benue State Emergency Management Agency (BSEMA) has not been effective in implementing Community-Based Initiatives (CBIs) among community members in Benue State. The results show that BSEMA's support has been limited to providing relief materials after the flood has occurred, rather than providing proactive support to prevent or mitigate the flood. This suggests that BSEMA needs to rethink its approach to flood risk management and work more closely with community members to develop and implement effective CBIs. BSEMA should prioritize community engagement, participation, and ownership in its CBIs to ensure their success and sustainability. The lack of effective implementation was attributed to some challenges.

The findings of this study reveal that BSEMA faces significant challenges in implementing CBIs for disaster risk reduction in Benue State. One of the major challenges identified is the lack of funds to support CBI implementation. This finding is consistent with previous studies that have highlighted the importance of funding in supporting disaster risk reduction initiatives (UNISDR, 2015). Another challenge faced by BSEMA is the limited capacity of its staff to implement CBIs. This finding is consistent with previous studies that have highlighted the importance of capacity building in supporting disaster risk reduction initiatives (IFRC, 2019). It

was revealed that poor community engagement and participation were also identified as major challenges faced by BSEMA in implementing CBIs. This finding is consistent with previous studies that have highlighted the importance of community engagement and participation in supporting disaster risk reduction initiatives (Twigg, 2015). Finally, the lack of coordination among stakeholders was identified as a major challenge faced by BSEMA in implementing CBIs in Benue state. This finding is in tandem with the previous studies that have highlighted the importance of coordination among stakeholders in supporting disaster risk reduction initiatives (UNISDR, 2015, Olorunfemi, & Raheem, 2016, Amini Hosseini, Hosseini, Izadkhah, Mansouri & Shaw, 2014).

Conclusion

This study underscores the significance of community engagement, participation, and ownership in the success of Community-Based Initiatives (CBIs) for disaster risk reduction in Benue State. The findings reveal low community engagement and participation, limited support from the Benue State Emergency Management Agency (BSEMA), and several challenges hindering effective CBI implementation. To improve disaster risk reduction efforts, BSEMA should prioritize community-centric approaches, capacity building, and stakeholder coordination, while addressing funding constraints. By doing so, CBIs can be tailored to meet community needs, enhancing resilience and sustainability in the face of disasters. Based on this, the study provide the following recommendations;

Recommendations

1. BSEMA should prioritize community engagement and participation in the development and implementation of CBIs. This can be achieved through regular meetings, sensitization programs, and capacity-building initiatives.
2. Community members should be empowered to take ownership of CBIs.
3. BSEMA should provide proactive support to community members to prevent or mitigate floods, rather than just providing relief materials after the flood has occurred.
4. Establish a Community Engagement and Coordination Framework. BSEMA should develop a community engagement strategy that outlines how to engage with communities, identify their needs, and involve them in CBI implementation.

References

- Olorunfemi, F.B. & Raheem U. A. (2016). Sustainable Disaster Risk Reduction in Nigeria: Lessons for Developing Countries, *file:///C:/Users/User/Downloads/ajol-file_journals_336_articles_41050_submission_proof_41050-4009-19520-1-10-20080418.pdf*
- Acharya, A. & Prakash, A. (2019). When the river talks to its people: Local knowledge-based flood forecasting in Gandak River basin, India", *Environmental Development*, Vol. 31, pp. 55–67.
- Amini Hosseini, K., Hosseini, M., Izadkhah, Y.O., Mansouri, B. & Shaw, T. (2014). Main challenges on community-based approaches in earthquake risk reduction: Case study of Tehran, Iran", *International Journal of Disaster Risk Reduction*, Vol. 8, pp. 114–124.
- Carby, B. (2015). Beyond the community: integrating local and scientific knowledge in the formal development approval process in Jamaica", *Environmental Hazards*, Vol. 14 No. 3, pp. 252– 269.
- Chawawa, N. (2018). Why Do Smallholder Farmers Insist on Living in Flood Prone Areas? Understanding Self- Perceived Vulnerability and Dynamics of Local Adaptation in Malawi, University of Edinburgh, Edinburgh, United Kingdom.
- Cretney, R.M. (2016). Local responses to disaster. *Disaster Prevention and Management*, Vol. 25 No. 1, pp. 27– 40.
- GFDRR (2019). Disaster Risk Profile: Malawi, World Bank Group, Washington, DC, *available at:https://reliefweb.int/sites/reliefweb.int/files/resources/malawi_low.pdf*.
- GNDR, (2020). Views from the Frontline: Why Are People Still Losing Their Lives and Livelihood to Disasters?, Global Network of Civil Society Organizations for Disaster

- Reduction, London, UK, available at: <https://gndr.org/news/item/2057-new-report-exclusion-of-at-risk-communities-a-major-barrier-to-preventing-disaster-losses.html> (accessed 13 February 2021).
- Hilhorst, D., Baart, J., Van den Haar, G. & Leeftink, F.M. (2015). Is disaster 'normal' for indigenous people? Indigenous knowledge and coping practices", *Disaster Prevention and Management: An International Journal*, Vol. 24 No. 4, pp. 506-522.
- Hiwasaki, L. (2017). Local knowledge for disaster risk reduction including climate change adaptation", in Kelman, I., Mercer, J. and Gaillard, J.C. (Eds.), *The Routledge Handbook of Disaster Risk Reduction Including Climate Change Adaptation*, Routledge, London, UK, pp. 227-237.
- IPCC. (2018). Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty, edited by Masson-Delmotte, V., Zhai, P., Pörtner, H.-O., Roberts, D., Skea, J., Skhula, P.R., Pirani, A., et al., *International Panel on Climate Change*, Geneva, Switzerland, available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.
- Izumi, T., Shaw, R., Djalante, R., Ishiwatari, M. & Komino, T. (2019). Disaster risk reduction and innovations", *Progress in Disaster Science*, p. 100033
- Lambert, S. & Scott, J. (2019). International Disaster Risk Reduction Strategies and Indigenous Peoples", *International Indigenous Policy Journal*, Vol. 10 No. 2, pp. 1-21.
- Šakiaė Trogrlić, R., Wright, G.B., Adeloye, A.J., Duncan, M.J. & Mwale, F. (2018). Taking stock of community-based flood risk management in Malawi: different stakeholders, different perspectives", *Environmental Hazards*, Vol. 17 No. 2, pp. 107-127.
- Robert, S.T., Melanie, D., Grant, W., Marc Van, D.H., Adebayo, A. & Faidess, M. (2022). GLOBAL assessment Report on Disaster Risk Reduction, UN Office for Disaster Risk Reduction, <https://www.undrr.org/media/80279/download?startDownload=20250118>