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Sustainable Livelihood in the context of culturally acceptable resilient post-disaster resettlement infrastructure – A systematic review

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Abstract

Climate change and the devastating, catastrophic events that accompany it have intensified the discourse on the provision of post-disaster resettlement (PDR). The literature indicates that most PDRs are not acceptable mainly due to a lack of beneficiary involvement, including their peculiar needs such as cultural and religious beliefs, in the planning and implementation of the PDR. However, limited studies have addressed the integration of culture into sustainable theories that encompass the economic, environmental, and social dimensions of PDRs. The research aims to (1) identify the challenges of the current PDR planning and Implementation and (2) explore principles that may be used to enhance the cultural acceptability of PDRs. This study employed a systematic literature review using the PRISMA approach. Using keywords, the search year was set between 2020 and 2025. A total of 148 documents were retrieved from Scopus and Google Scholar digital databases, and Endnotes 21 software was used to remove duplicates. After screening and sorting, 22 eligible papers were used for the study. The results showed that achieving culturally acceptable sustainability and resilient PDR infrastructure is possible if policymakers see affected community members as partner stakeholders and involve them in the recovery, reconstruction and resettlement of the communities. The other key finding of this study is that the principle of sustainable resettlement can be achieved by adopting a holistic approach, which encompasses resilience, cultural beliefs, and the factors outlined in the Sustainability Livelihood Framework, in PDR planning and implementation to ensure cultural appropriateness and acceptability.

Keywords

Acceptable, Cultural, Post-disaster resettlement infrastructure, Resilient, Sustainable Livelihood Framework.

1. Introduction

The topic of the need for sustainable and resilient post-disaster resettlement (PDR) has intensified owing to the non-abating increase in the severity of natural disasters. The UNDRR (2025:3) observed that disasters affected over 120 million people between 2015 and 2023, with the global cost of disasters within the same period equivalent to US$1 trillion. According to the Africa Risk Capacity (ARC, 2024:7), 1436 disasters were observed between 2000 and 2023, of which 66% were associated with floods, 15% were related to storms, and 12% were due to droughts, with some countries spending almost 10% of their GDP on disaster management in 2023.

The catastrophic results of these disasters often lead to the displacement of entire communities, necessitating comprehensive efforts to restore and improve the lives of the affected through reconstruction and relocation to PDRs. Many researchers have attempted to define PDR in the literature, but all can be synthesised as a multifaceted approach that encompasses efforts aimed at providing physical structures, facilities, and services to restore and improve the living conditions of communities displaced by disasters (Dharmadasa et al., 2025).

Despite numerous frameworks such as the UN's Sendai framework (Reduction, 2021) and mandates such as the Build Back Better (Landaeta & Richman, 2023), most of the affected communities are not satisfied with these PDRs because they do not meet the communities' cultural expectations (Dube et al., 2021; Ngulube, 2024; Shrestha et al., 2025; Shrestha et al., 2023).

The literature indicates that most PDRs are not acceptable, mainly due to a lack of beneficiary involvement in including their unique needs, such as cultural and religious beliefs, into the planning and implementation of the PDR. However, limited studies have addressed the integration of culture into sustainable theories that encompass the economic, environmental, and social dimensions of PDRs. Therefore, this study aimed to investigate how PDRs can be more culturally acceptable by addressing the following questions.

1. What are the challenges of PDR planning and implementation approaches?
2. What principles or elements can be used for culturally acceptable PDR?

3. Research Methodology

A systematic review approach was employed by the researcher, utilising the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) framework to analyse the literature (Moher et al., 2010). The researcher then employed thematic synthesis to examine the themes of the studies related to culturally sustainable PDR. The relevant literature on culturally sustainable and resilient post-disaster infrastructure was retrieved from various digital databases, such as Scopus, Web of Science, and Google Scholar. The researcher preferred the Scopus database, which was used in this study, because it has a broader range of topics than the Web of Science (Owojori & Okoro, 2021). Furthermore, Google Scholar was used because it contains documents that are not indexed in Scopus but were found to be useful for the study. The documents from both databases were exported to EndNote 21 software, which was used to remove duplicates from those considered for the study to avoid reference adulteration, as cautioned by Onososen and Musonda (2023).

Furthermore, publications from the Global South were preferred for the study; however, the researcher included approximately 18% of the 22 eligible papers, which were from outside the Global South, to facilitate comparison with those from the Global South. Again, documents that were not written in English were eliminated to avoid misinterpretation of the results (Linares-Espinós et al., 2018) and publications outside the topic of post-disaster resettlement infrastructure were not used in the study.

The search prompts entered into Scopus and Google Scholar are ("sustainable livelihood" OR "livelihood" OR "sustainability" OR "resilience") AND ("framework" OR "model" OR "approach" OR "system") AND ("post-disaster" OR "disaster recovery" OR "emergency response" OR "crisis management") AND ("infrastructure" OR "facilities" OR "services" OR "systems") AND ("rehabilitation" OR "reconstruction" OR "development" OR "planning") with the search year limited to 2020 to 2025 for current research areas (Aghimien et al., 2020) and journal articles and review papers to rationalise the studies for a systematic process (Moshood et al., 2023).

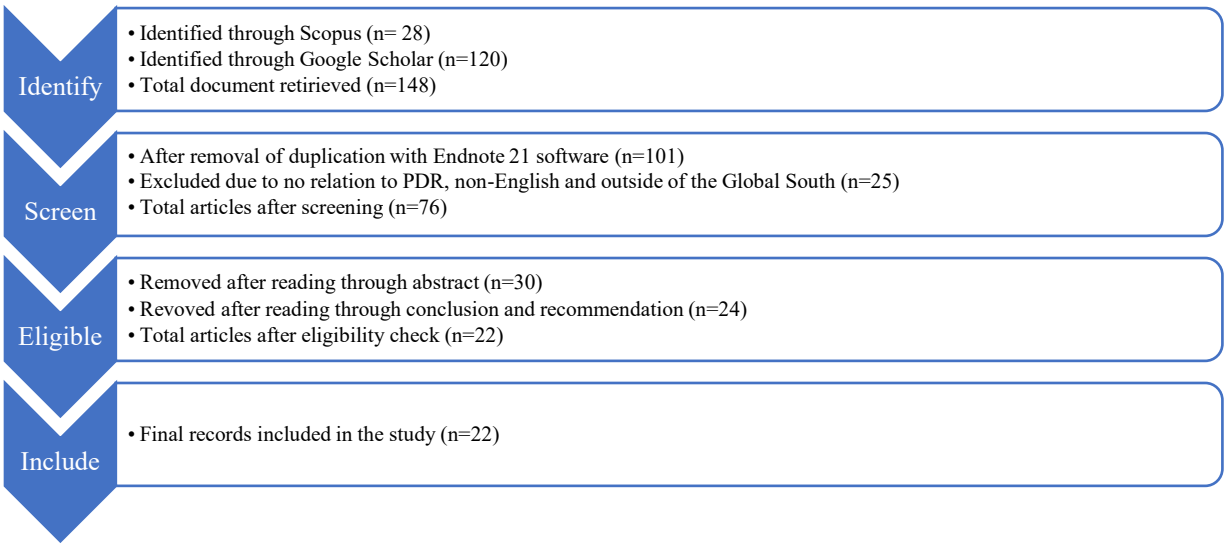

Fig. 1. A flow diagram of the search process for the systematic review

4. Results

Most of the literature reviewed for the PRISMA was from the Global South. It was found that Asia accounted for the highest number of the literature reviewed (10), which constitutes 45%, with Africa having 7, and a percentage of 32%. The Middle East, UNFCCC, UK, USA and a Hybrid all had one literature each with a rate of (4.5%).

4. 1 Current approaches of PDR planning and implementation

The study revealed that the status quo for most PDR planning and implementation is provider-centric or top-down. Some top-down approach PDRs are Panipokhari in Nepal (Shrestha et al., 2025), Bunambutye in Uganda (Cherotich

& Tumwine, 2025), Tsholotsho in Zimbabwe (Dube et al., 2021; Ngulube, 2024), Tacloban in the Philippines (Pormon et al., 2023), and various in Ache in Sri Lanka (Silva & Ballinger, 2021).

4.2 Challenges of the PDR planning and implementation approaches

Provider-centric or top-down strategies result in a lack of community engagement and participation, which, according to previous studies, is often at the core of the challenges faced by PDRs. The lack of collaboration and community involvement in the planning and implementation of PDRs has resulted in abandonment (Ngulube et al., 2024a), seasonal immigration for survival (Cherotich & Tumwine, 2025), impoverishment (Cherotich & Tumwine, 2025; Dube et al., 2021; Pormon et al., 2023; Shrestha et al., 2025; Silva & Ballinger, 2021), Poor health (Cherotich & Tumwine, 2025; Pormon et al., 2023; Shrestha et al., 2025; Silva & Ballinger, 2021) and loss of cultural identity (Cherotich & Tumwine, 2025; Dube et al., 2021; Ngulube et al., 2024a; Pormon et al., 2023; Shrestha et al., 2025; Silva & Ballinger, 2021).

4.3 Principles for enhancing culturally acceptable PDR

The principles for achieving sustainable and resilient post-disaster resettlement infrastructure are multifaceted (Table 1).

Table 1. Principles of Culturally Acceptable Post-Disaster Resettlement Infrastructure

Factors	Description	Principles/Requirements	Reference
Physical	Provision of critical functional structures, including water, energy, sanitation, and transportation facilities.	Timely completion, safe designs, and workable utility areas to ensure sustainability and resilience.	(Dube et al., 2021; Ngulube, 2024; Ngulube et al., 2024; Shrestha et al., 2025; Shrestha et al., 2023)
Social	Social cohesion, equity, and community networks are crucial for regaining a sense of identity that has been lost.	Social well-being, restoration of the social fabric, respect, and equitable recognition within the community are essential for ensuring sustainability and resilience.	(Dube et al., 2021; Ngulube, 2024; Ngulube et al., 2024; Shrestha et al., 2025; Shrestha et al., 2023)
Economic	Reinstatement and restoration of economic activities and livelihoods of the affected community.	Access to economic areas, restoring income-generating activities, and support to restart businesses.	(Cherotich & Tumwine, 2025; Mfon & Olurotimi, 2023; Ngulube et al., 2024; Rosenheim et al., 2021; Shrestha et al., 2025)
Environmental	Minimising environmental and ecological degradation, and sustainable natural resource management.	Efficient use of natural resources, minimise carbon footprint, and environmental and ecological integration.	(Adnan et al., 2024; Afsahhosseini, 2024; Mfon & Olurotimi, 2023; Pormon et al., 2023; Rosenheim et al., 2021; Shrestha et al., 2025)
Spiritual / Traditional / Cultural	Acknowledge spiritual, traditional and cultural beliefs and norms of the displaced.	Tolerance and respect for the beliefs, cultures, heritage, and history in the design and implementation of communities.	(Dube et al., 2021; Hao & Lun, 2024; Lin & Lin, 2020; Ngulube, 2024; Ngulube et al., 2024; Shrestha et al., 2025; Shrestha et al., 2023)
Process and Governance	Community coordination, institutional support, and transparency	Equitable, transparent and accountable leadership. Community involvement, engagement, participation and unity.	(Abdillah et al., 2025; Alam & Ray-Bennett, 2021; Gonzales-Iwanciw et al., 2023; Ouyang et al., 2023)
Psychological	Support mental health, provide emotional	Reduce stress and anxiety, provide emotional and psychological	(Coates et al., 2021; Ngulube et al., 2025;

	assistance, and ensure the well-being of the displaced.	restoration, and provide care and support.	Opoku et al., 2024; Shrestha et al., 2025; Silva & Ballinger, 2021; Tiwari & Shukla, 2022)

4.4 Main Element for Culturally Acceptable Post-Disaster Infrastructure

The main elements of using the Sustainable Livelihood Framework to achieve a culturally acceptable, sustainable and resilient post-disaster resettlement infrastructure, as postulated by the studies, may be synthesised into Table 2.

Table 2. Elements for Culturally Acceptable Post-Disaster Resettlement Infrastructure

Elements	Description	Reference
Cultural Integration	Policymakers and PDR implementers must incorporate local cultural beliefs and practices in the reconstruction of PDRs.	(Dube et al., 2021; Ngulube, 2024; Ngulube et al., 2024; Shrestha et al., 2025; Shrestha et al., 2023)
Community Participation	Identify and meaningfully engage community leaders, elders, and tribal heads to ascertain and address their beliefs and livelihood needs.	(Dube et al., 2021; Hao & Lun, 2024; Lin & Lin, 2020; Ngulube, 2024; Ngulube et al., 2024; Shrestha et al., 2025; Shrestha et al., 2023)
Comprehensive Building Back Better	Integrate physical reconstruction with livelihood restoration, cultural beliefs, and rituals.	(Cherotich & Tumwine, 2025; Mfon & Olurotimi, 2023; Ngulube et al., 2024; Rosenheim et al., 2021; Shrestha et al., 2025)
Benchmark Models and Indicators	Benchmark frameworks, such as SLF and livelihood indicators, serve as yardsticks for any interventions.	(Adnan et al., 2024; Afsahhosseini, 2024; Mfon & Olurotimi, 2023; Pormon et al., 2023; Rosenheim et al., 2021; Shrestha et al., 2025)
Best Standards on Sustainability and Resilience	Tailor international best practices to balance sustainability and resilience by considering the different community needs.	(Adnan et al., 2024; Afsahhosseini, 2024; Mfon & Olurotimi, 2023; Pormon et al., 2023; Rosenheim et al., 2021; Shrestha et al., 2025)

5. Discussion

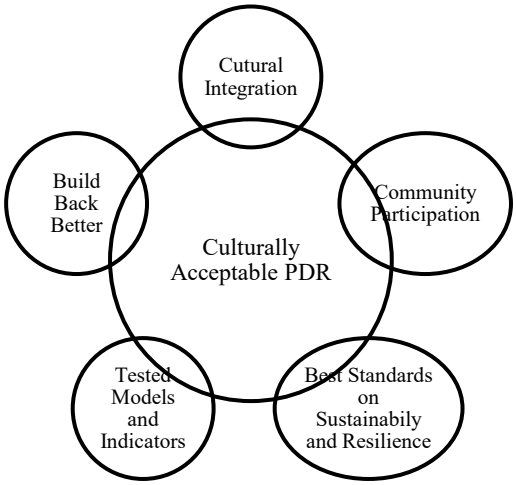

Fig. 2. A diagram of elements for culturally acceptable post-disaster resettlement infrastructure (Source: Author's design)

Post-disaster resettlement is a very demanding and delicate process as it involves the well-being of communities who have lost their livelihoods and are mostly traumatised. Dealing with such situations requires tacit planning to ensure that more problems are introduced into the new communities. Proper planning and implementation can significantly reduce the negative reception towards PDRs.

The reviewed studies have identified the provider-centric model, characterised by a top-down approach to PDR, as one of the primary challenges to the acceptability of PDR. The neglect of affected communities in the planning and implementation of PDRs often breeds discontent and resistance to relocation within communities (Shrestha et al., 2025) and sometimes leads to the complete abandonment of the PDR (Ngulube et al., 2024a).

The success of PDRs hinges on active participation and engagement with the affected communities to achieve culturally acceptable sustainability and resilient infrastructure. It is possible if policymakers see affected community members as partner stakeholders and involve them in the recovery, reconstruction and resettlement of the communities. PDR sponsors and implementers are mostly not from the affected communities and may not be aware of the cultural and religious beliefs of these communities; therefore, excluding them from the process is likely to cause dissatisfaction, further impoverishment, and psychological problems.

The main finding of this study is that the principle of sustainable resettlement can be achieved by adopting a holistic approach, which includes cultural integration, community participation, comprehensive 'build back better' strategies, benchmarking good models and indicators, and employing best practices in sustainability and resilience. The adoption of these principles may help ensure resilience, cultural beliefs, and the factors enshrined in the Sustainability Livelihood approach are incorporated into PDR planning and implementation, thereby ensuring cultural appropriateness and acceptability.

6. Conclusions

The top-down planning and implementation paradigm may be fundamentally linked to the implementation gap of the PDR, where the profound multidimensional value of culture in elevating communities' well-being, social cohesion, inclusiveness, and the long-term viability of the PDR is overlooked. As a result, PDRs become culturally inappropriate, leading to constant community disgruntlement, dissatisfaction, abandonment, and therefore, waste of scarce resources and finances.

Although planning and implementing PDR may be challenging due to the complex and diverse requirements of every community, proper community identification, participation, and engagement may assist in tailoring PDRs to the satisfaction of the affected community.

According to the reviewed literature, a successful and culturally acceptable PDR must include cultural integration, community participation, Building Back Better, Benchmarking approved models and indicators and adopt best standards on sustainability and resilience.

The findings of this study will provide a relevant contribution to the current body of knowledge on PDR planning and implementation, which may help policymakers in their future provision of PDRs. It will also provide researchers with insights into some of the gaps in PDR implementations that they can pursue in their future research.

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