

A Multi-dimensional Framework for Assessing Disaster Recovery Pathways: Lessons and Experiences from Germany and Nigeria

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Background

The recent surge in extreme events globally highlights the importance of implementing comprehensive and coordinated measures to achieve sustainable recovery and resilience. Existing research has predominantly concentrated on the recovery of individuals, locations, and processes, while overlooking a comprehensive analysis of the interplay between actors, institutions, and decision-making across various timeframes. This study aims to bridge this gap by introducing the concept of disaster recovery pathways and presenting a multidimensional framework for evaluating these pathways.

Research Questions

- RQ1:** What does disaster recovery pathways entail?
- RQ2:** What factors, or combinations of factors, serve as barriers or facilitators to the implementation of recovery pathways in the aftermath of disasters?
- RQ3:** How do these factors contribute to understanding the disaster recovery pathways in the context of building back better?

Methods And Data Analysis

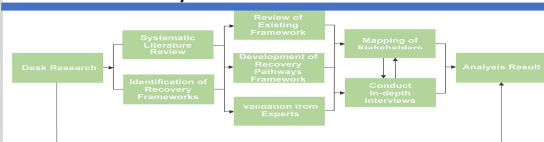


Fig. 1: Methods informed by „Water Storylines“ as developed by Beveridge et al. (2012)

Conceptual Framework

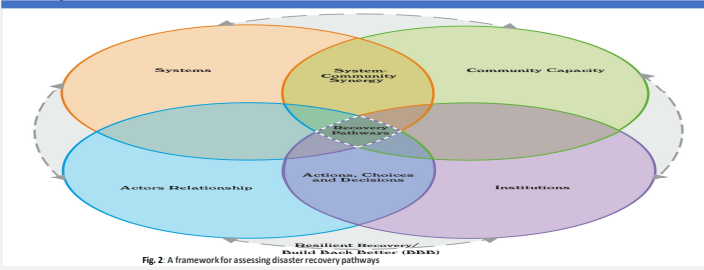


Fig. 2: A framework for assessing disaster recovery pathways

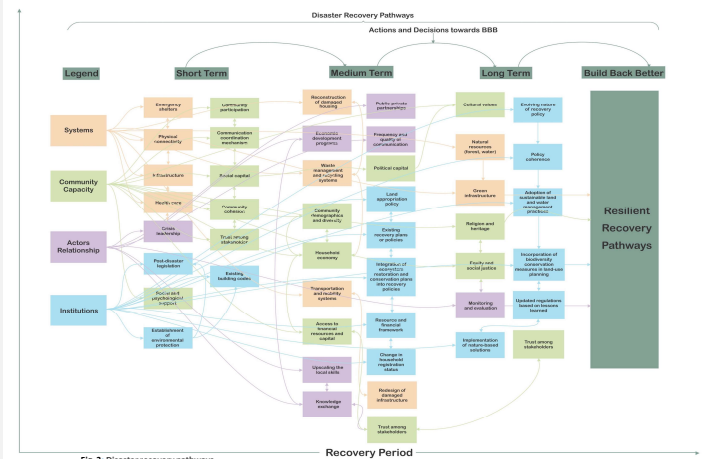


Fig. 3: Disaster recovery pathways

Case Studies: Ahr Valley, Germany and Lagos, Nigeria

Ahr Valley, Germany

- Severe flooding in July 2021 caused over €33 billion in losses and 189 deaths
- Flooding overwhelmed narrow valleys in the Eifel mountain range, leading to widespread damage
- Early warning and evacuation efforts were largely ineffective, contributing to loss of life
- Flooding disrupted critical infrastructure like transportation networks and utilities

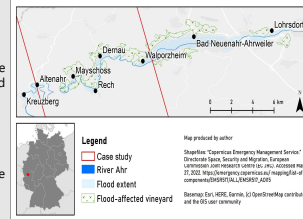


Fig. 4: Map of Ahr valley showing the extent of the 2021 flood

Lagos, Nigeria

- Facing escalating flood risks due to sea level rise and land subsidence of 87mm/year
- Frequency, magnitude, and spatial extent of rainfall and storm surge flooding have increased since 2000
- Flooding has had direct and indirect impacts on health, social, economic, and financial systems
- Previous flood management focused on relief distribution and temporary relocation of victims

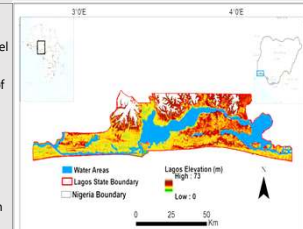


Fig. 5: Map of Lagos showing the areas affected by flooding

Scoring Criteria

Table 1: Disaster recovery pathways criteria and scoring approach

Level of evidence	Description of recovery pathways scoring approach	Score
No recovery activity	The interviews and policy documents provide no evidence of the recovery indicator in the case study.	0
Unclear recovery activity	The case study shows some recovery activities, but their extent and effectiveness are limited.	1
Limited recovery activity	The recovery activities in the case study are limited and insufficient to fully address the needs.	2
Partial recovery activity	There is evidence of substantial recovery activities in the case study	3
High evidence of disaster recovery	A strong indication of extensive recovery activities in the case study	4

Key findings

- Germany's recovery process lacks institutional flexibility, while Nigeria lacks an existing institutional framework for disaster recovery
- In the Ahr Valley, stakeholder collaboration was weak due to power struggles, while in Lagos, key stakeholders work in silos due to conflicting agendas
- Political rivalries and lack of coordination and trust between government and community members hamper sustainable disaster recovery efforts in Nigeria
- The framework highlights gaps in community capacity to recover from flood events. Insufficient emphasis on economic aspects, disjointed social and psychological support, and limited insurance coverage contribute to vulnerabilities and hinder comprehensive recovery efforts.
- Community-led initiatives in Germany and Nigeria, such as communal heating systems and the use of sustainable materials for reconstruction, serve as enablers in implementing recovery

Learnings on recovery pathways

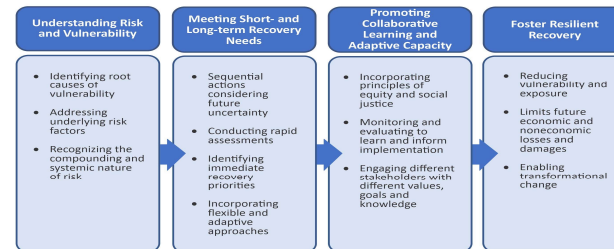


Fig. 6: Propositions and outcomes in the learning framework on recovery pathways (source: author)

References

Boaden, R., Powell, D., Shaw, D., Bealt, J., O'Grady, N., Fattoum, A., & Furnival, J. (2020). Journal of Safety Science and Resilience, 1(2), 67–69. doi:10.1016/j.jnlsr.2020.06.002

Gorddard, R., Colloff, M. J., Wise, R. M., Ware, D., & Dunlop, M. (2016). Values, rules and knowledge: Adaptation as change in the decision context. Environmental Science & Policy, 57, 60–69. https://doi.org/10.1016/j.envsci.2015.12.004

Mohan, P. S. (2023). Disasters, disaster preparedness and post disaster recovery: Evidence from Caribbean firms. International Journal of Disaster Risk Reduction, 92, 103731

Schwartz, S. H. (2012). An Overview of the Schwartz Theory of Basic Values. Online Readings in Psychology and Culture, 2(1). https://doi.org/10.9707/2307-0919.1116

Sendai Framework for Disaster Risk Reduction 2015–2030, June 23, 2015. https://www.preventionweb.net/files/resolutions/N1516716.pdf

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