

Stakeholder Perspectives Inform Cascading Hazards Resilience

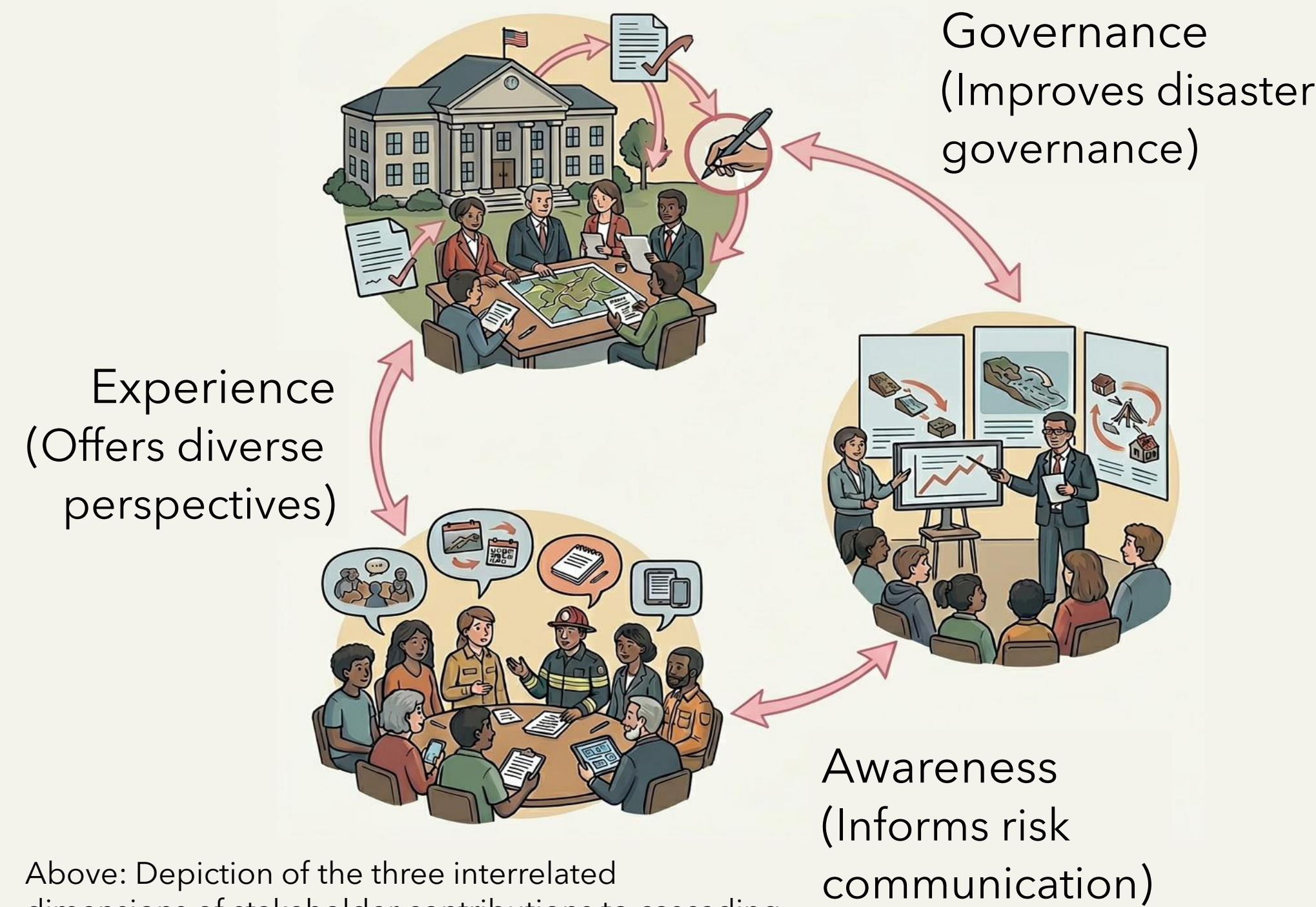
Authors: Cailin Leahy (cleahy4@gmu.edu) and Alireza Ermagun (aermagun@gmu.edu), George Mason University

Key Take-Away

Stakeholder contributions are not merely supplemental to cascading hazard management but are structurally essential for adaptive resilience.

- **Governance:** Stakeholders identify policy gaps, refine management tools, and reveal barriers to adaptive capacities.
- **Experience:** The lived experience of responding and recovering from cascading hazards exposes the limitations of conventional assessments.
- **Awareness:** Stakeholder knowledge is used to improve the quality of warning systems, education tools and risk communication platforms.

Question: How do stakeholders contribute to cascading hazards research and disaster risk management?



3. Results

This systematic review identifies governance, experience, and awareness as three recurring dimensions of stakeholder contributions to cascading hazard research and disaster risk management.

- **Governance:** perspectives are most frequently taken from government agencies, practitioners and people from academia.
- **Experience:** perspectives most often come from people who live in the impacted area, followed by people from NGO's, government agencies, practitioners, and industry representatives.
- **Awareness:** residents are also the main source of stakeholder perspectives, showing up more frequently than any other stakeholder group. However, perspectives from people associated with NGO's is notably less present in Awareness studies compared to the other two themes, and elected officials are absent from these studies altogether.

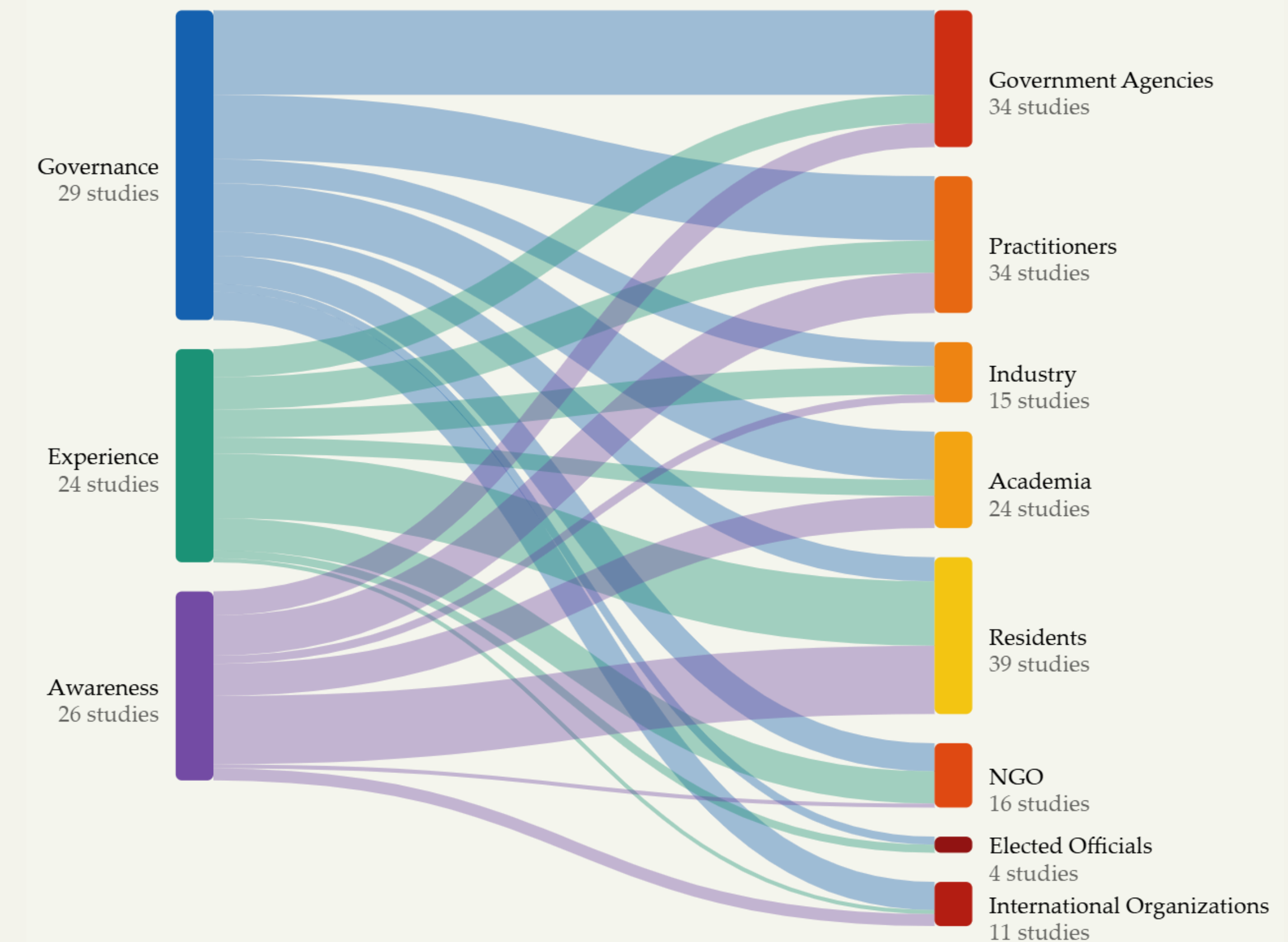
1. Background



Cascading hazards refer to processes in which an initial event, such as heavy rainfall or seismic activity, triggers a sequence of interconnected impacts. These may include physical effects like flooding or landslides, as well as infrastructure failures, service disruptions, and institutional or organizational strain that compound impacts over time. Existing research has advanced understanding of these processes through modeling, physical analysis, and integrated risk frameworks. Yet the social dimensions of cascading processes, how they are perceived, communicated, and managed by different actors, remain less articulated.

2. Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline was adopted to ensure a transparent and replicable process for identifying, screening, and selecting studies where stakeholder perspectives are centered around cascading hazards. This structured approach organized the review into four sequential stages: identification, screening, eligibility assessment, and inclusion, as illustrated in the figure to the right. In total, 79 articles were selected for review and thematic analysis.



Above: Sankey diagram depicting (on the left) the number of studies included in each theme and (on the right) the number of studies that included each stakeholder group, with proportional flows.

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