



THAMMASAT UNIVERSITY
FACULTY OF SOCIAL ADMINISTRATION

River Governance and Its Praxis to Flood Management: A Case of Flash Flood in Maesai, Thailand

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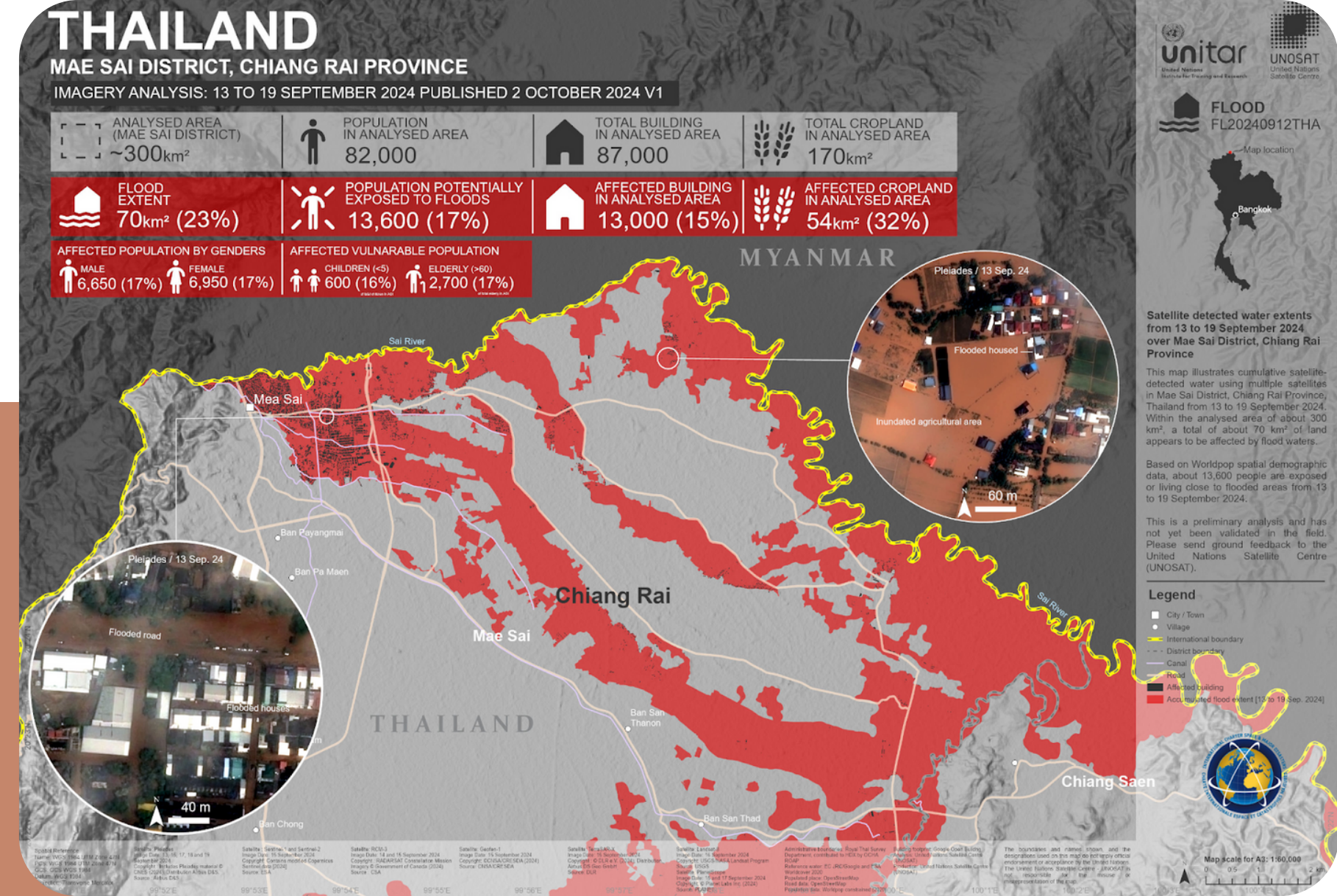
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What happened?

In September 2024

- A severe flash flood occurred in Mae Sai District, Chiang Rai
- Overflow of the Sai River caused rapid inundation of urban and border areas.
- Floodwaters carried heavy mud, debris, and sediment, worsening damage.



From UNOSAT satellite data (13–19 Sept 2024):
70 km² flooded (23% of district).

13,600 people exposed (17% of population).

13,000 buildings flooded (15%).

54 km² of cropland flooded (32%).

Damage

Flooded cropland (54 km²)

Flooded buildings (13,000)

People exposed (13,600)

Policy Vs Practice Gap

- No formal transboundary river policy
- River issues handled only via JBC (Thailand–Myanmar Joint Border Committee) and TBC (Township Border Committee).
- These bodies focus on security, for example, cross-border security, not river governance.

Thai side: structured but limited

- Urban development policies allowed encroachment into riverbanks, narrowing the river.
- Thai side follows general national flood-management policy, but border areas lack specific, coordinated plans.

Myanmar side: weak governance

- Tachileik urban expansion is unplanned, poorly regulated, and lacks a disaster-management structure.

Early Warning & Monitoring

- Floodwater from upstream Myanmar reaches Mae Sai within one day, but no shared real-time rainfall or river data.
- Information flows one-way (Thailand → Myanmar); Myanmar does not share back.

Cross-Border Coordination

- Different urban planning standards on each side → mismatch in risk reduction.
- Limited joint planning for early-warning, flood forecasting, or land-use control.
- Flood becomes a shared problem with no shared management system.





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Research Gap

- Existing studies on policy design and action practice remain insufficient to address flood risk management: for example
 - Weak early-warning and poor communication with communities.
 - Limited cross-border data-sharing with upstream Myanmar.



Objectives

Therefore, we investigate

- how institutional gaps, weak coordination, and inadequate local practices shaped the flood impacts and response

Research Design: Scope, Data Collection, Analytical Technique

Scope

- focusing on the 2024 flash flood event in Mae Sai.
- focusing on local government between Chiang Rai and Tachileik.

Data Collection

Data collected from news, government reports, UNOSAT, academic journal.

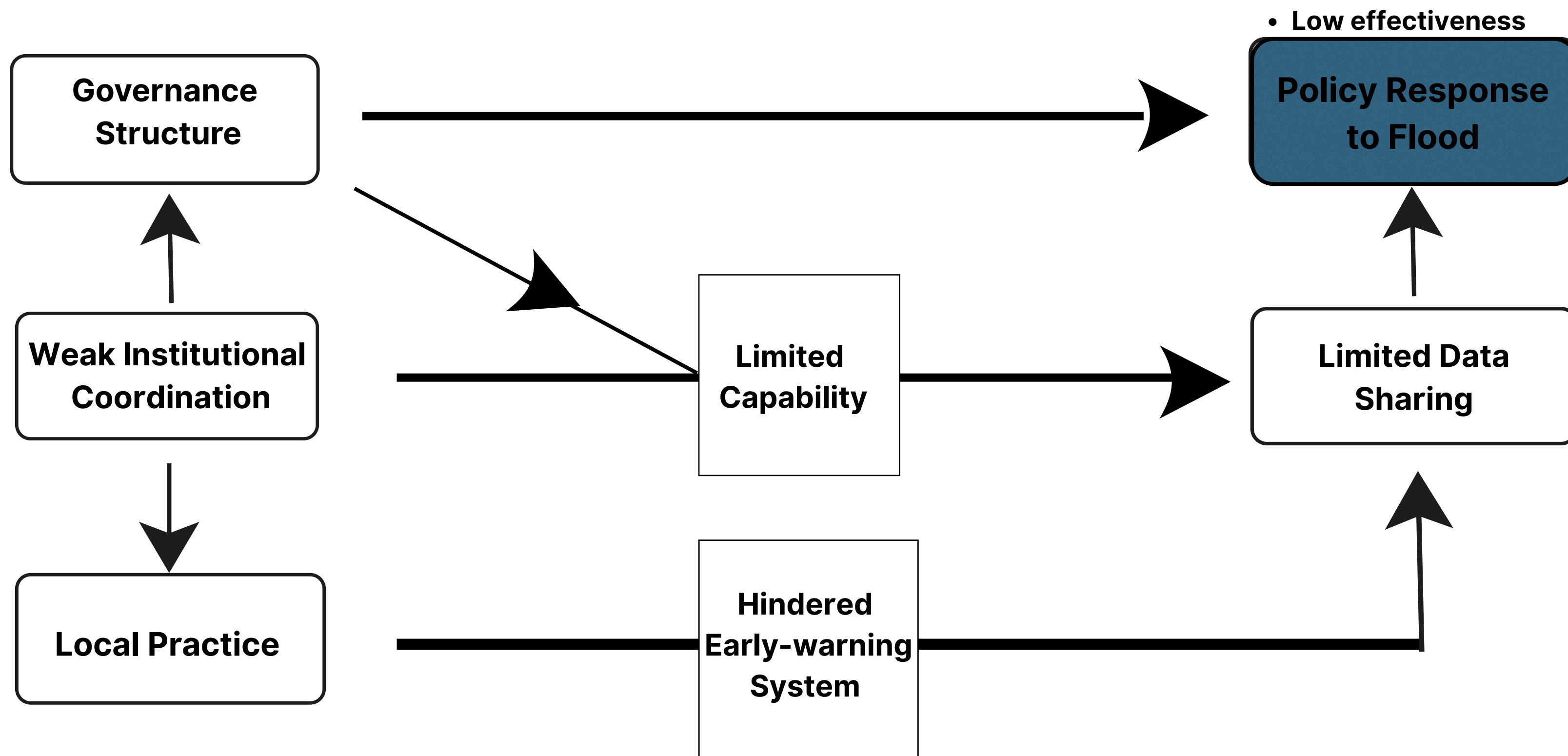


Analytical Technique

Desk review with content analysis and triangulation with expert consultation



Research Conceptual Framework



Key Findings

01 Governance Structure

- The governance structure has limited capacity, which contributes to ineffective policy responses to floods.
- Policies exist, but enforcement is inconsistent, especially for land use and riverbank encroachment.



Key Findings

02 Weak Institutional Coordination

- Weak institutional coordination leads to hinder the early-warning system, resulting in ineffective policy response to floods.
- Existing platforms (e.g., JBC, TBC) lack real-time flood information sharing.



Key Findings

03 Local Practice

- Informal cross-border cooperation (farmers, shop owners, and community groups) provides a faster response than formal institutions. However, these practices remain unrecognized in official policy and receive little support.
- Local actions fill policy gaps but cannot substitute for long-term governance reform.



Discussion

Governance Structure

Coordinated river governance is central to reducing flood risk and strengthening resilience.

Clegg et al. (2021)

Fragmented river-basin responsibilities and weak cross-border mechanisms undermine effective flood governance, as emphasized by Clegg et al. (2021).

Driessen et al. (2018)

Clear institutional roles and coordinated governance systems are essential for flood resilience, reinforcing the importance of stronger governance structures in cases like Mae Sai, Driessen et al. (2018)

Discussion

Weak Institutional coordination

Poor institutional coordination directly increases disaster impacts and reduces response effectiveness

Baker, D., & Refsgaard, K. (2007)

disaster response often fails when institutional responsibilities do not align with the scale of the hazard, leading to coordination gaps and ineffective crisis management.

Musdah et al. (2022)

Musdah et al. (2022) show that regional disaster management often suffers from unclear roles and fragmented coordination, reinforcing our finding that weak institutional linkages hinder effective flood response.

Discussion

Local Practice

Coordinated river governance is central to reducing flood risk and strengthening resilience.

De Sisto et al. (2024)

community-led practices strengthen disaster resilience, aligning with our finding that informal community networks in Mae Sai played a critical role, as argued by De Sisto et al. (2024)

Hakkim et al. (2023)

local knowledge, volunteer networks, and community-based mitigation efforts were critical in reducing impacts during the Kerala floods, demonstrating the power of empowered local response

Recommendations

Mitigation	Preparedness	Response	Recovery
Enforce river-corridor zoning; stop encroachment	Cross-border early-warning system (shared rainfall + river levels)	Activate local volunteer networks for evacuation & immediate alerts.	Rebuild in flood-resilient designs
Restore river width + drainage capacity	Community training & drills in high-risk zones	Ensure cross-border rapid assistance agreements for humanitarian aid.	Review each flood event to update policies
Harmonize Thai–Myanmar river policies.	Strengthen community-based early warning groups.	Improve inter-agency communication — single command center for flood response	Move from reactive to anticipatory governance



Conclusion

This study contributes new understanding of how fragmented transboundary river governance, weak institutional coordination, and unrecognized local practices collectively shape flash-flood risk, offering a framework for designing more adaptive, integrated, and community-anchored flood-management systems.



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Thank You For Your Participation

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