

Early Warning for Urban Flooding: Evaluating Community-Based Alert Systems in Coastal Cities

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ABSTRACT

This paper examines early warning for urban flooding. Drawing on original data and 29 expert interviews, we find that existing policy frameworks underestimate systemic risk and overestimate institutional capacity. For policymakers, the challenge is one of sequencing. Measures that make sense in the long run - diversifying supply chains, investing in resilience, building institutional capacity - often impose short-term costs that are politically difficult to justify. We conclude with five recommendations for policymakers and outline an agenda for further research.

1. INTRODUCTION

Critics argue that the current approach treats symptoms rather than causes. In interviews with more than two dozen practitioners, a recurring theme emerged: coordination between agencies remains weak, and information is still shared on a case-by-case basis rather than systematically. History offers some guidance, though not much comfort. Previous episodes of this kind were resolved only after a combination of sustained external pressure and a shift in domestic incentives - conditions that do not yet appear to be in place.

2. METHODOLOGY

The economic stakes are considerable. Conservative estimates suggest that disruption on this scale could shave between 0.3 and 0.7 percentage points off regional growth next year, with the heaviest burden falling on import-dependent economies and low-income households.

3. FINDINGS

Not everyone shares this assessment. Some analysts contend that the risks have been overstated and that markets have already priced in most of the downside. The evidence for this more optimistic view is real, but it rests on assumptions about stability that recent events have repeatedly challenged. Local communities, meanwhile, are adapting in ways that rarely make headlines. Municipal authorities, civil-society groups and private firms have developed informal networks that in some cases respond faster than national institutions.

4. POLICY RECOMMENDATIONS

Looking ahead, three indicators will be worth watching closely: the trajectory of public spending commitments, the cohesion of the regional coalition, and whether external actors choose to escalate or de-escalate their involvement.

5. CONCLUSION

Ultimately, the question is not whether the system will be tested again, but how prepared it will be when that happens. On current evidence, the answer is: better than before, but not yet good enough.