

Key points

The way urban development is delivered, especially in low- and middle-income countries, is increasing climate risks around the world.

The SECURE framework can address this challenge by tackling power imbalances in resilience planning processes.

Use of the SECURE framework in Ajmer, India and Durban, South Africa underscored the importance of participatory learning and exchange between communities, municipalities, academic researchers and civil society organisations.

This helped institutionalise community-led data generation and amplify the influence of vulnerable communities within formal governance structures.

Strengthening urban resilience in informal settlements: the SECURE framework in practice

By 2050, an estimated 68% of the world's population will live in cities, making inclusive disaster risk reduction and urban resilience increasingly critical.¹ Yet informal settlements, which often lack basic public services and security of tenure, remain systematically excluded from urban resilience planning, despite being highly vulnerable to climate-induced stresses. The Strengthening and Enhancing Contextual Urban Resilience (SECURE) framework responds to this challenge by centring urban resilience interventions around governance and gender and social inclusion. This approach is especially effective in identifying and redressing power imbalances in resilience planning. This briefing shares lessons from the use of the framework in strengthening urban planning in informal settlements in Ajmer, India and Durban, South Africa.

The SECURE framework was developed to enhance the impact of urban living labs (ULLs). ULLs are generally understood as collaborative platforms involving communities, the private sector, the government and research institutions, which are dedicated to co-designing, testing and implementing resilience and sustainability solutions. They have emerged as a promising approach to managing the complexities of urban development in the context of increasing climate pressures.

When SECURE's rigorous context analysis informs the design of ULLs, they are better equipped to: foster inclusive collaborations among city actors; enhance community influence in decision making and planning; and facilitate access to city resources and funding. The SECURE framework does this by helping ULLs navigate conflicting visions and incentives among

city actors, and redressing collaboration barriers, such as bureaucratic inefficiencies, institutional conflicts and gendered struggles, which systematically marginalise vulnerable groups. By placing the influence of governance and cultural biases on the distribution of resources and funding in a city at the centre of ULL design, the SECURE framework can help scale up the impact of ULLs beyond their niches of innovation, transforming structural drivers of vulnerability.

SECURE promotes an approach based on co-production, integrating diverse participatory research methodologies and fostering open dialogue, knowledge sharing and local expertise. SECURE can therefore help ULLs to ensure that vulnerable groups are recognised not just as passive recipients of resilience investments, but as active knowledge producers and agents in decision making.

SECURE in practice: Ajmer and Durban

To test its efficacy, the SECURE framework was trialled in Ajmer, India by the Participatory Research Institute of Asia (PRIA) and in Durban, South Africa by ICLEI Africa in collaboration with University of KwaZulu-Natal (ICLEI/UKZN).² This was part of a broader initiative within the Adaptation Research Alliance (ARA), a global coalition of researchers, practitioners and

policy-makers with an interest and commitment to climate adaptation through action-oriented participatory research.

PRIA and ICLEI/UKZN focused on informal settlements impacted by climate change, where rising water insecurity due

to erratic weather patterns and extreme heat in Ajmer and unpredictable rainfall and increased flooding in Durban are critical issues. Both initiatives addressed water insecurity and climate change impacts through a gender equality and social inclusion (GESI) lens. This ensured that marginalised voices, particularly those of women, were central to the urban resilience planning. This is important, as municipal policies often fail to incorporate inclusive adaptation strategies or address intersectional inequalities (for example, age, gender, race and class) that shape climate vulnerability.

Early impacts

In Ajmer, SECURE's processes accelerated the formal approval of a new water pipeline project scheduled for construction in 2025, which aims to connect households across informal settlements

to improved water distribution services. Beyond this immediate infrastructure outcome, the intervention strengthened institutional learning within municipal agencies, increasing their capacity to generate credible, community-driven data aligned with national funding frameworks. This lays critical groundwork for longer-term systemic change by embedding community participation within governance processes.

In Durban, the project has catalysed new cross-settlement networks and strengthened learning feedback loops between informal communities, universities and municipal officials. Integrating community-based flood early warning systems into wider city processes demonstrates how community-driven innovations can shift disaster resilience planning towards more inclusive, locally grounded models. Additionally, the intervention fostered greater gender-responsive leadership and inter-settlement solidarity, laying the foundations for sustained collective advocacy.

Leveraging incentives for vertical collaboration

In Ajmer, longstanding water supply deficiencies in informal settlements stemmed from governance conflicts between the Ajmer Development Authority (ADA) and the Ajmer Municipal Corporation (AMC). ADA manages large volumes of national infrastructure funding and is primarily accountable upwards — to central and regional governments — through bureaucratic oversight and performance indicators tied to service quality. AMC, on the other hand, is accountable downwards — to local residents — through electoral processes, with its infrastructure maintenance efforts constrained by local tax revenues. As a result, the two entities operated along separate vertical lines of accountability, with limited coordination and weak incentives to align their actions. Informal settlements, contributing minimally to the local tax base, were further marginalised within these governance structures.

The SECURE project sought to bridge these vertical divides by introducing new forms of credible, community-generated evidence into the system. By partnering with Maharshi Dayanand Saraswati (MDS) University, PRIA facilitated collaboration between post-doctoral students and women-led self-help groups (SHGs) to co-produce rigorous data on water demand, quality and infrastructure in informal settlements (see Figure 1). This bottom-up data, underpinned by academic methodological standards, provided ADA and AMC with credible, actionable information aligned with national performance metrics.

Community-driven innovations can shift disaster resilience planning towards more inclusive, locally grounded models

Figure 1. Ajmer residents using spatial mapping to identify key social and physical landmarks, resources and vulnerabilities



Source: PRIA

To institutionalise and scale this model, PRIA developed a community-based research module for MDS University's post-doctoral curriculum, while also negotiating structured internships for students within AMC's planning unit. PRIA further brokered economic recognition for SHGs through the National Urban Livelihoods Mission, formalising their role as legitimate partners in urban governance.

Through this intervention, PRIA demonstrated that strategic data interventions can help reconfigure fragmented vertical governance structures — connecting community action to municipal and national planning frameworks — and advance a more inclusive and equitable model of urban resilience building.

Horizontal collaborations through interpersonal relationships

In Durban, fragmented governance and weak formal engagement mechanisms with informal settlements constrained municipal resilience efforts. The SECURe context analysis revealed that while eThekweni municipality benefits from relatively greater autonomy from national government, formal mechanisms for engaging informal residents are weak.

As a result, ICLEI/UKZN identified the importance of building on existing interpersonal relationships developed through earlier projects, particularly the Palmiet Catchment Rehabilitation Project initiated in 2014 and the Designing Inclusive African Coastal City Resilience (INACCT Resilience) project initiated in 2023. This project facilitated direct collaboration between the Quarry Road West informal settlement and eThekweni municipality, mediated by ICLEI/UKZN, fostering trust and long-term partnerships.

Drawing from this experience and the INACCT Resilience project, the SECURe intervention explicitly promoted horizontal collaboration between the Quarry Road West and Pholani informal settlements, to enhance learning, collective advocacy and systemic change. Quarry Road West's longstanding partnership with municipal actors was leveraged to mentor and support Pholani, where municipal relationships were weaker and community–government mistrust was more entrenched.

Through structured learning exchanges, residents from both settlements shared experiences and strategies for flood risk management and disaster response. Sharing experiences around community-based flood early warning systems provided an opportunity for Pholani to learn from Quarry Road West's experience, illustrating how community

knowledge and municipal information systems could be integrated for more effective climate adaptation responses. This horizontal collaboration strengthened residents' knowledge and advocacy capacities, empowered them to engage municipal actors more confidently and helped shift power dynamics by enabling informal settlements to present more united, collective voices.

Strategic tailoring of methodologies to governance contexts

The SECURe project strategically applied distinct methodological approaches in the two cities: quantitative participatory research to engage formal governance structures in Ajmer and arts-based methods to facilitate learning within and across informal settlements in Durban. These research methodologies were selected and adapted to fit the unique local governance environments and cultural landscapes of each city, and embedded within ULLs to provide spaces for experimentation.

In Ajmer, PRIA employed a combination of participatory GIS, Google Earth Pro and Map Locus, combined with household surveys, to map and assess water access, usage patterns and service gaps across different settlements. These quantitative methods are well recognised by institutions such as the ADA and AMC, which operate within hierarchical frameworks that prioritise data-driven evidence. Participatory transect walks and spatial mapping revealed critical gaps, such as dysfunctional water infrastructure, insufficient water to meet people's daily needs, erratic supply schedules and rising demand.

This process brought together women-led SHGs, postdoctoral researchers from MDS University and municipal representatives, creating a space where informal community knowledge could

Figure 2. Quarry Road West and Pholani community members designing early warning systems using playdough



Source: ICLEI/UKZN

influence urban planning. Given that women bear the primary responsibility for household water and sanitation management, their leadership was critical. In December 2024, the environmental sciences and remote sensing departments at MDS University trained women-led SHGs from seven informal settlements in water quality testing. Their results revealed severe contamination risks, including high water hardness, elevated fluoride concentrations and localised turbidity (cloudiness). The credibility of PRIA's quantitative methodology lent legitimacy to these findings, strengthening their influence on government decision making.

In contrast, ICLEI/UKZN's work in Durban leveraged innovative arts-based methods to foster a learning exchange between Quarry Road West and Pholani informal settlements, fostering empathy among participants. These methods aligned well with Durban's context, where informal relationships often dominate governance. Residents participated in peer-to-peer learning sessions, sharing disaster preparedness and advocacy strategies.

Innovative activities such as 'PhotoVoice' enabled residents to document their experiences through photography and storytelling, visually representing challenges and solutions to flooding in their settlement. The photographs were shared in an exhibition in September 2024 as part of the 'Learning Laboratory', open to municipalities and nongovernmental organisations. Additional exercises using playdough-based scenario planning allowed community members to physically model potential flood early warning systems for settlements located near rivers and steep slopes (see Figure 2 on previous page). By engaging physically and emotionally with the challenges, these activities surfaced rich, often unspoken knowledge that written surveys could not capture.

These methods contributed to strengthening inter-settlement relationships and supported the formation of self-organised community networks, enhancing local advocacy on, and resilience to, flooding.

Future implications

Cities in low- and middle-income countries will continue to grow rapidly in the coming decades. The way in which urbanisation takes place will determine the risk exposure and vulnerability of more than two-thirds of the global population that live in cities. This calls for urgent, large-scale action and demands a focus on urban governance and social inclusion. The SECURE framework has been shown to be an effective approach to scaling the impact of ULLs, redressing structural drivers of vulnerability and fostering inclusive governance and planning. Funders should therefore respond to the challenge of urban climate risk by:

- **Funding the deployment of the SECURE framework** to ensure that urban resilience interventions do not inadvertently reinforce marginalisation or deepen vulnerabilities
- **Funding impact assessment frameworks** to evaluate how their strategic approaches interact with city-specific governance — identifying in which instances they promote inclusive, sustainable and long-term resilience, and
- **Embedding comparative learning mechanisms, including governance and impact data**, within existing knowledge hubs to better document and disseminate best practices. This will support new ULLs in navigating institutional, cultural and physical complexities across cities, while scaling their impact and improving return on investment.

Alice Grogan, Giorgia Grist and Alejandro Barcena

Alice Grogan, research consultant; Giorgia Grist, research consultant; Alejandro Barcena, senior researcher, IIED



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Contact

Alejandro Barcena
alejandro.barcena@iied.org

44 Southampton Buildings
London, WC2A 1AP
United Kingdom

Tel: +44 (0)20 3463 7399
www.iied.org

IIED welcomes feedback via: www.linkedin.com/company/iied

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Notes

¹ Barcena, A and Bahadur, A (2024) The SECURE framework: an approach to thinking about power and politics when using co-production interventions for urban resilience. IIED, London. / ² ICLEI Africa (2024) Networks and power in co-production processes for urban resilience: an evaluation of the SECURE framework in Durban, South Africa. ARA INACCT briefing.

FIND OUT MORE

Our work on urban resilience was undertaken as part of IIED's SECURE project, supported by the Adaptation Research Alliance and run with partners PRIA and ICLEI/UKZN. Find out more at www.iied.org/secure-strengthening-enhancing-contextual-urban-resilience

