Hixon Center for Urban Sustainability

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Cities in Action: Expert Conversations for Urban Infrastructure Solutions

Speakers:

Aromar Revi
Indian Institute for Human Settlements (IIHS)

David Kooris
Connecticut Municipal Redevelopment Authority

Moderator:

Karen Seto
Hixon Center for Urban Sustainability

Problem Setting

Cities are increasingly challenged by the impacts of climate change on infrastructure resilience. Building sustainable and resilient systems requires not only the development of large-scale urban and regional infrastructure projects but also the retrofitting of existing assets. This demands a systems approach that integrates localized risk data, mobilizes significant new investments, engages communities in planning and implementation, and prioritizes low-carbon solutions. Aromar Revi and David Kooris shared expert insights on these issues, in a discussion moderated by Karen Seto.

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David Kooris, Connecticut Municipal Redevelopment Authority

Moderated by

Karen Seto, Hixon Center for Urban Sustainability

Key Takeaways

1. URBAN INFRASTRUCTURE IS UNDER THREAT

Climate change profoundly impacts economic development, with urban infrastructure playing a critical role. Aromar Revi noted that for every 2.5 to 3 percent of global economic growth, approximately 1 percent is lost to climate-related risks. As climate impacts intensify, these losses are expected to grow significantly. Reducing systemic risks will require advanced risk modeling and a deeper understanding of the complex vulnerabilities affecting urban infrastructure and economies.

2. RE-IMAGINE MANAGEMENT TECHNIQUES

Resilient infrastructure saves lives and supports economic continuity. During climate-induced disasters, communities rely heavily on these critical systems, underscoring the importance of ensuring their reliability in both everyday operations and extreme conditions. In cities, nature-based solutions consistently provide substantial value and community benefits. These approaches not only strengthen resilience but also improve overall quality of life. However, successful implementation requires strategic land use planning and a thoughtful integration of nature-based ("blue/green") and traditional ("gray") infrastructure solutions.

3. ROBUST COMMUNITY ENGAGEMENT CAN MAXIMIZE SUCCESS

Meaningful engagement with stakeholders builds trust and creates positive feedback between government and community. Historically, the neighborhoods most affected are also the least represented. David Kooris emphasized that securing consensus in the early stage of the planning process streamlines subsequent steps. Hearing from all community voices helps identify ways in which benefits of infrastructures can be maximized. The acute risk associated with disaster can be reduced while simultaneously addressing some chronic environmental stresses.

4. CREATIVE PARTNERSHIPS CAN UNLOCK NEW FUNDING STREAMS

Increasingly, there are opportunities for creative partnerships to fund large infrastructure projects. The public sector can play a role in implementing critical infrastructure projects that do not draw private sector investment. However, there are also opportunities to better capture the economic benefits of resilient infrastrucutre. These include increased property values and reduced insurance costs. This additional pool of funds can be reinvested into scaling resilience-building initiatives. In the resulting positive feedback loop, improved infrastructure reduces risks, boosts economic value, and funds itself.

Watch the entire conference panel online here.

Implementation Examples

COASTAL RESILIENCE IN NEW HAVEN

Long Wharf, which will benefit from the Inland and Coastal Flood Resiliency Project

The continuous heavy rainfall that struck New Haven in September 2022 exposed the city's drainage systems as insufficient for managing rising water levels. In response, the city secured a $200 million investment to boost its climate resilience. This funding was obtained through an innovative blend of federal and state grants.

To build resilience, New Haven has integrated a nature-based solutions approach into its development of a seawall, living shoreline, and pump system. This includes planting native vegetation along the coast to create marsh-like conditions. Once completed, the project will nearly double the city's capacity to discharge water into the harbor.

COALITION FOR DISASTER RESILIENT INFRASTRUCTURE

Coalition for Disaster Resilient Infrastructure at the UN Climate Action Summit

Launched in 2019 and headquartered in India, the Coalition for Disaster Resilient Infrastructure (CDRI) is a global partnership comprising national governments, UN agencies and programs, multilateral development banks and financing mechanisms, the private sector, and academic and research institutions. The coalition aims to strengthen the resilience of infrastructure systems to support sustainable development.

CDRI currently offers funding and technical support across all stages of infrastructure—planning, design, construction, operation, and maintenance. Its efforts focus on shaping financial incentives, standards, governance frameworks, and institutional capacities needed for resilient infrastructure.

PRIORITY ACTION: COORDINATE LOCAL & REGIONAL RESPONSES

Aromar and David emphasized the need to make risk information both accessible and actionable at the local level. Data-driven decision-making is vital for addressing the deep-rooted vulnerabilities within communities across diverse landscapes. Realizing this potential depends on effective knowledge-sharing across all levels of government. Such collaboration can strengthen community engagement, support participatory planning, and inform strategic funding decisions for resilient infrastructure. In turn, this approach can help establish scalable and replicable solutions for cities across both the Global North and Global South.

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