



CLIMATE CHANGE: CITIES ON FIRE, CITIES UNDER WATER

Global Urban Resilience Monthly Programme

26th November 2024, 11:00 – 13:00 / GMT



Executive Summary

The Global Urban Resilience Climate Change session: Cities on Fire, Cities Under Water highlighted a shared global reality, where extreme climate-driven events are now routine, increasingly severe and consistently beyond the limits of existing models, systems and institutional readiness. Across regions—from the Caribbean to the Mediterranean and Australia—practitioners agree that traditional emergency frameworks are no longer adequate for the scale, speed and complexity of contemporary urban crises.

Urban resilience must shift from reactive response to proactive, systemic adaptation. The session underscored that all disasters begin locally and effective crisis management depends on empowered communities, integrated governance and sustained investment in long-term development. During the discussion, the participants stressed some critical gaps: fragmented policy environments, outdated risk models, limited public understanding and insufficient mechanisms for rebuilding in safer, more adaptive ways.

As a result, three core insights emerge:

- **Risk has become systemic and unpredictable.** Events once considered rare now occur frequently, overwhelming response capabilities and invalidating long-standing planning assumptions.
- **Community-centred resilience is essential.** Local ownership and behavioural change are central to managing cascading impacts and accelerating recovery.
- **Governance and communication remain major barriers.** Siloed institutions, inconsistent warnings and political constraints hinder implementation of resilience measures and slow adaptation.

Overall, the forum reflected a consensus: urban resilience requires a fundamental rethinking of how societies prepare, respond and rebuild. The path forward demands integrated planning, transparent communication and a shift from **'lessons learned'** to **'lessons lived'**.



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ADAPTING TO AN ERA OF INCREASING AND UNPRECEDENTED RISK

The forum highlighted the growing complexity, frequency and severity of disasters and the implications for disaster risk management across climate-vulnerable regions, including the Caribbean and the Mediterranean. Increasingly severe wildfires, extreme weather events and cascading hazards are challenging conventional risk models, preparedness frameworks and emergency management approaches. At the same time, limited resources and growing uncertainty reinforce the need for more adaptive, collaborative and long-term approaches to resilience.

A central message was that disaster risk management should be understood not only as an emergency response function, but as an integral part of development and sustainability. Building resilience requires the integration of resilient infrastructure, appropriate financing, institutional capacity, environmental protection and community preparedness into everyday decision-making and long-term planning. This represents a shift from a predominantly reactive approach towards one that anticipates emerging risks and strengthens the underlying conditions that enable societies to withstand and recover from disruption.

The discussions also emphasised the importance of moving from 'lessons learned' to 'lessons lived' by ensuring that experience from previous disasters is translated into policies, planning and everyday practice. This requires continuous learning and a willingness to recognise the limitations of existing models, particularly where rapidly changing environmental and social conditions create levels of uncertainty that cannot be captured through conventional risk assessments alone. Scientific knowledge and professional expertise must therefore be complemented by local and community knowledge, practical experience and effective risk communication.

Community capacity emerged as a fundamental component of resilience. Crisis management ultimately takes place at the local level, where individuals, families and communities must be able to understand warnings, make informed decisions and sustain essential needs during emergencies. External agencies and emergency services should consequently focus not only on responding to crises, but also on enabling and strengthening local capacity. This requires meaningful community participation, accessible communication, preparedness measures and stronger connections between communities, technical experts and decision-makers.

Regional and cross-sectoral cooperation was identified as equally important. Cooperation between cities, national governments, emergency management organisations, scientific institutions and communities can strengthen collective capacity to address risks that increasingly transcend administrative and sectoral boundaries. Maintaining public awareness of both frequent hazards and low-probability, high-impact events is also essential to sustaining preparedness and avoiding the loss of institutional and societal memory between crises.

Hence, resilience should be understood as an ongoing, society-wide process rather than a fixed state or a set of emergency measures. It depends on recognising the interdependence of people, institutions, economies and the environment, while developing the capacity to learn, adapt and act under conditions of uncertainty. In an era of unprecedented risk, effective disaster risk management will increasingly depend on shifting from reactive crisis response towards anticipatory, community-centred and collaborative approaches that translate knowledge and experience into practical resilience.

'Resilience requires moving from reactive crisis response to anticipatory, community-centred action that turns knowledge and experience into practical preparedness.'

BUILDING LOCAL AND SYSTEMIC RESILIENCE

Readiness can no longer be measured solely by the ability to respond to individual hazards, but by the capacity to manage their wider consequences across infrastructure, essential services, communities and economies. This requires a shift towards systemic and consequence-based risk assessment, supported by flexible approaches capable of addressing unfamiliar, cascading and cross-sectoral threats.

During the discussion, a key distinction was made between **emergency response and crisis management**. While emergency response focuses on the immediate incident, crisis management must address the wider societal and systemic consequences that follow. The COVID-19 pandemic demonstrated that responding effectively to an initial emergency does not necessarily ensure effective management of the broader crisis. Preparedness must therefore consider continuity, interdependencies, resource allocation and the ability of institutions and communities to adapt as circumstances evolve.

The participants also emphasised the importance of ensuring that risk assessments inform meaningful decisions on policy, investment, infrastructure and resource allocation. Risk information should function as a practical basis for prioritising action, particularly where resources are limited and interconnected risks may generate cascading consequences.

At the local level, community capacity and practical adaptation were identified as fundamental components of resilience. The 2022 Maribyrnong River flood demonstrated the consequences of gaps in warning systems, risk awareness, preparedness and recovery capacity. Strengthening resilience therefore requires communities to understand local risks, respond effectively to warnings and participate meaningfully in decisions that affect their safety and wellbeing.

Post-disaster recovery also provides an opportunity to reduce future vulnerability. Rather than simply restoring damaged infrastructure, reconstruction should incorporate measures that strengthen resilience and address underlying risks. Community-based adaptation can support this process by involving residents in identifying vulnerabilities and developing practical solutions that reflect local knowledge and priorities.

Finally, effective resilience depends on connecting local experience with wider institutional and policy frameworks. Fragmentation across local, regional and national levels can limit the effectiveness of resilience initiatives. A more integrated approach is therefore needed, linking community knowledge, emergency management, technical expertise and government policy.

Overall, resilience requires a transition from hazard-specific preparedness towards consequence-based, systemic and community-centred approaches. It means developing the capacity of institutions and communities not only to respond to emergencies, but also to anticipate cascading impacts, adapt to changing conditions and recover in ways that reduce future vulnerability.

‘Resilience requires moving beyond hazard-specific preparedness towards systemic, consequence-based and community-centred approaches that anticipate cascading risks and enable adaptation.’

INTEGRATING RESILIENCE AND CLIMATE ADAPTATION

Climate change is no longer a distant or future risk, but an operational reality affecting cities and communities through increasingly frequent heatwaves, wildfires, flooding, coastal erosion and climate-related displacement. These pressures are exposing the limitations of traditional approaches to emergency response and resilience planning.

Effective resilience requires infrastructure that is designed, maintained and adapted to changing climate conditions, supported by sustainable urban planning, resilient governance, accessible financing and targeted measures for vulnerable populations. However, physical and technical measures alone are insufficient. The less visible consequences of climate-related disasters—including heat-related mortality, displacement, disruption to livelihoods and the loss of cultural and community assets—also need to be incorporated into resilience planning.

A central message was the importance of shifting ownership of resilience towards communities. Residents should be meaningfully involved in decisions concerning adaptation, preparedness and, where necessary, relocation. This requires continuous engagement, access to relevant information, adequate resources and genuine opportunities to influence decisions. Governments and institutions should therefore provide enabling frameworks, funding and technical support while recognising and incorporating local knowledge and priorities.

The discussion also highlighted that some climate risks may exceed the capacity of conventional protection measures. In such circumstances, resilience may require difficult long-term decisions, including changes in land use, relocation or significant investment in adaptation. These decisions must be supported by transparent planning processes and meaningful community participation.

In conclusion, it is crucial to reinforce the need to move from reactive emergency response towards proactive, integrated and community-centred adaptation. Building resilience in a changing climate requires sustained investment, coordinated governance and the capacity to anticipate emerging risks while ensuring that communities are active participants in shaping the solutions that affect their future.

‘Climate resilience requires moving from reactive response to proactive, community-centred adaptation, with communities actively shaping the solutions that affect their future.’



RECOGNISING THE NEW REALITY OF URBAN RISK

Flooding, extreme weather, water scarcity and infrastructure failure are no longer exceptional events but emerging conditions that cities must be designed and prepared to withstand. Reliance on historical risk patterns is increasingly inadequate, requiring new approaches to infrastructure, planning and resilience.

A central theme was the need to strengthen the professional foundations of emergency and crisis management. Unlike established professions such as engineering and medicine, the field lacks a widely recognised common body of knowledge. Greater integration of academic research, professional practice, planning, risk management and interdisciplinary expertise is essential to build consistent capability.

The discussion also stressed that emergency management extends well beyond emergency response. Effective resilience requires organisational planning, education, logistics, communication and cross-sector coordination. In fact, organisational structures must enable rather than constrain these functions, supported by leadership that understands emerging risks and can make informed decisions.

The Caribbean experience demonstrated the value of regional integration, cross-training and civil-military coordination. Limited resources and shared vulnerabilities have encouraged a consolidated approach that brings together security, humanitarian, health, meteorological and telecommunications capabilities. This model reinforces the importance of coordination before crises occur, particularly in addressing the critical 'last mile' of humanitarian response and ensuring resources reach affected communities effectively.

'Resilience requires moving beyond traditional emergency response towards integrated, professionally grounded and coordinated approaches that anticipate emerging risks and ensure support reaches communities effectively.'



MOVING FROM SILOS TO INTEGRATED RESILIENCE

Risk considerations should be embedded across sectors—including tourism, health, education, agriculture and infrastructure—with all stakeholders having a meaningful role in planning and decision-making.

A key priority is strengthening social capital and community ownership. Regional networks, cross-sector relationships and engagement with local community organisations can create trusted channels that significantly improve preparedness and response. Effective resilience depends on partnerships that are established before crises occur, rather than assembled during emergencies.

The session also highlighted the importance of transparent learning from past crises. Lessons must be identified and applied quickly, translated into broader organisational and policy improvements rather than treated as isolated recommendations. Academic knowledge, practitioner experience and community perspectives should be connected to support adaptive planning and continuous improvement.

Finally, emergency management must demonstrate its value within organisations where it is not the core business. Resilience should be linked to organisational priorities, financial sustainability and operational outcomes. Building a shared body of knowledge, translating theory into practice and learning across sectors will be essential to strengthening resilience in an increasingly uncertain risk environment.

‘Resilience is strengthened through cross-sector partnerships, community ownership and continuous learning that translate shared knowledge and experience into adaptive planning and meaningful action.’

REIMAGINING SYSTEMS FOR A RESILIENT FUTURE

The forum stressed the significance of future thinking. Systems change and collective action in addressing complex climate and resilience challenges is of paramount importance. The Grangemouth example demonstrated how bringing communities, government, businesses and other stakeholders together to envision alternative futures can support economic transition, innovation and new pathways to resilience.

A key theme was the need to reconsider existing economic and financial models. Traditional measures of growth and prosperity may not adequately reflect long-term resilience, while climate adaptation requires significantly greater investment and innovative public-private financing mechanisms. Financial institutions are increasingly assessing climate preparedness at asset level, creating opportunities to link resilience investments with financial risk management.

The session also stressed the importance of cross-regional knowledge sharing and collaboration. Experiences from the Middle East, Europe and Australia highlighted common challenges around water scarcity, energy, food security, coastal resilience and urban growth. Future solutions must account for interdependencies and test whether today’s technologies and nature-based approaches remain effective under future climate conditions.

The overarching message was that wicked problems cannot be addressed through isolated solutions. Resilience requires integrated thinking, stronger collaboration between science, government, industry and communities and finally, a willingness to challenge existing systems. Structured platforms such as the Centre for the Study of Wicked Problems can help translate these complex challenges into practical, collaborative and actionable responses.

‘Resilience requires future thinking, integrated approaches and collective action that challenge existing systems and translate complex climate risks into practical, collaborative solutions.’

ADAPTING TO A NEW REALITY OF CLIMATE RISK

The accelerating scale and unpredictability of climate-related hazards, with extreme rainfall, flooding and heat have become increasingly plausible rather than exceptional events. Cities must recognise that infrastructure, emergency systems and planning frameworks designed around historical conditions, may no longer be fit for purpose.

A central concern was the persistent gap between **risk awareness and practical preparedness**. Barcelona is developing simulations for extreme heat and has identified flood-prone areas, but significant gaps remain in understanding community vulnerabilities and ensuring effective early warning, response and recovery. Resilience therefore requires greater focus on people, particularly vulnerable communities, before, during and after emergencies.

The session also emphasised the failure to consistently convert lessons from past disasters into updated plans, modelling and policies. Effective resilience must move beyond post-event reviews towards continuous learning, future-focused risk assessment and systems thinking. Integrating emergency planning with land-use and infrastructure decisions, including difficult choices around relocation and adaptation, was identified as increasingly necessary.

The central point was that resilience cannot be built by repeating historical assumptions. Governments, practitioners, communities and policymakers need to engage in more evidence-based and forward-looking conversations to prepare for conditions that may fundamentally differ from those experienced in the past.

‘Resilience requires moving beyond historical assumptions towards forward-looking, people-centred planning that turns risk awareness into practical preparedness and continuous adaptation.’



FROM LESSONS LEARNED TO SYSTEMIC ACTION

The session highlighted the persistent gap between identifying lessons and translating them into lasting change. Experiences from Tbilisi, Hackney and Scotland demonstrated how historical risk can be forgotten, infrastructure can become inadequate as conditions change and previous recommendations can remain disconnected from planning, regulation and investment. Effective resilience requires mechanisms that institutionalise learning and prevent risks from being repeatedly recreated.

A key priority is **integrated, whole-of-society risk management**. Emergency management, climate adaptation, land-use planning, infrastructure, biodiversity and community resilience must be connected rather than addressed in isolation. Community resilience groups were highlighted as a practical example of how local empowerment, resources and established relationships can strengthen preparedness and recovery.

The participants also emphasised the need to rethink organisational learning. Large numbers of reviews, inquiries and recommendations do not necessarily produce improvement unless organisations have structured processes to determine what must change and how learning will be embedded. Resilience should therefore be understood not simply as the ability to absorb disruption, but also as the capacity to adapt, transform and challenge systems that are no longer fit for purpose.

The main message was that the challenge is no longer a lack of knowledge, reports or frameworks, but a lack of coordinated action and implementation. Building future resilience will require systemic thinking, consequential risk assessment, stronger accountability, better use of existing resources and education that equips future leaders and communities to understand their role in managing interconnected risks.

‘Resilience depends not on generating more knowledge, but on turning lessons into coordinated action that institutionalises learning, strengthens accountability and enables systems to adapt and transform.’



FINAL THOUGHTS: FROM CONVERSATIONS TO COLLECTIVE ACTIONS

The closing discussion emphasised the value of sustained professional communities in overcoming isolation and strengthening collective resilience. Continued dialogue, shared experience and collaboration are essential to maintaining momentum on complex global challenges.

A key priority was **responsible and accessible risk communication**. Experts have a responsibility to translate data and technical knowledge into clear information for communities and decision-makers, while ensuring that major transitions—such as the shift to clean energy—are properly planned for their wider resilience and infrastructure implications.

The session also reinforced the importance of local action, community ownership and learning across jurisdictions. Sharing successful initiatives and empowering communities to act as good neighbours were identified as practical pathways for turning knowledge into measurable progress.

The main message was a call for greater courage, accountability and urgency from governments and institutions. Addressing super-wicked problems requires moving beyond incremental action and delayed responsibility towards empowered communities and stronger leadership for systemic change. Resilience must ultimately be built through collaboration, ownership and sustained action at every level.

‘Resilience is built through collaboration, shared knowledge and empowered communities. Addressing complex global challenges requires moving beyond incremental action towards greater courage, accountability and sustained leadership at every level.’



ABOUT

ABOUT THE ISRM GLOBAL URBAN RESILIENCE PROJECT

The ISRM Global Urban Resilience Project was developed out of a series of papers written together with the International Federation of the Red Cross / Red Crescent Societies, and more recently in partnership with the National Preparedness Commission.

It is designed to bring together academics, policy makers and practitioners from across the global urban resilience and major city management spectrum to facilitate action-oriented dialogue and interaction from multiple perspectives.

The launch of the ISRM Management Award in Global Urban Resilience and Major City Management in May 2024 set the foundation for the latest series of programmes, based on the 130 participants from over thirty countries who participated in the programme.

For more details on the Global Urban Resilience and Major City Management project, or to discuss how you can be involved, please contact

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