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A Novel Decision Support Environment for Risk Informed Urban Planning in Tomorrow's Cities

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This talk introduces the United Kingdom Research and Innovation (UKRI) Global Challenge Research Fund (GCRF) Urban Disaster Risk Hub, the “Tomorrow's Cities” project. Working internationally, the ultimate goal of the Hub is to reduce disaster risk for the poor and most marginalised in tomorrow's cities by facilitating a transition from reactive crisis management to proactive risk-informed, people-centred, and pro-poor urban planning and design. Against a backdrop of ever-increasing human populations, urbanisation, social inequality, and climate change, this ambition is critically time-sensitive.

This talk specifically discusses the development of a state-of-practice decision support environment (DSE) that advances beyond the limits of current conventional risk models by placing knowledge co-production at the heart of risk-informed decision-making. Through a democratisation of the concept of risk, we explore understandings of risk that recognise the life experiences of the poor and most marginalised social groups. The DSE explicitly incorporates these diverse understandings to enable the iterative assessment of different policies, urban plans, and interventions in terms of their disaster-related impacts on future economic, environmental, and social objectives cooperatively agreed with relevant stakeholders. These assessments are underpinned by interdisciplinary open-source tools and processes that include: state-of-the-art physics-based multi-hazard and physical vulnerability models, innovative methods for harmonising physical and social sciences, and rigorous capacity-strengthening and knowledge exchange strategies.