

BUILDING CITY RESILIENCE IN NAIROBI

A cross-disciplinary team of Institute for Global Innovation academics visited Nairobi to explore a holistic approach to protecting vulnerable cities.

How can Low-and Middle-Income Countries (LMICs) around the world best withstand the shocks to their core systems and inhabitants brought about by major challenges such as conflict, famine, flooding and pollution?

A cross-disciplinary team of experts from the University of Birmingham visited Nairobi in Kenya in September this year to explore how a multi-system approach could help to minimise the damaging consequences of long-term change, be it environmental, economic or political; and increase a city's resilience.

Organised by the University's Institute for Global Innovation under its City Resilience research theme, the trip was supported by the Global Challenges Research Fund and included a specially convened symposium on urban resilience, held jointly with the University of Nairobi. Attended by more than 40 delegates, it focused on how acute change and longer-term forces have a distinct impact on people living in LMICs.

The United National Human Settlements Programme UN-HABITAT estimates that by 2030 the population of Nairobi will have grown by 82 per cent, to 7,140,000. Urbanisation, coupled with industrialisation, vastly increased vehicle ownership and use of biomass for domestic fuel, is predicted to worsen air pollution. There are other significant problems too: poor housing and a proliferation of 'slum' settlements; lack of co-ordinated planning and historic poor management of the privatisation of public transport.

'Our aim was to develop a meaningful description of resilience for Nairobi and agree the basis for a research programme that would explore resilience in the context of the city's links to other cities and rural areas of Kenya,' says Dr Jonathan Radcliffe, who leads the Resilient Cities theme at the IGI and headed the Birmingham team's trip. 'This included



investigating the drivers and impacts of urban distress and responses in cities undergoing transition at different levels of analysis over different timescales.'

Resilience is a complex characteristic, especially in LMICs, he says.

'While cities can bring economic growth and efficient services, there are diverse forces which can expose the population to economic or social distress and overload infrastructure and environmental systems. A more resilient city can limit the impact of these forces and therefore improve the lives of its inhabitants.'

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The symposium agreed that the conventional concept of resilience was lacking in Nairobi. 'It assumed a steady state, perturbed by a shock, and a return to a desired state. Adapting to change or quick transformations is not a realistic outcome in a city experiencing almost continuous disturbances or 'shocks'. An event may be a shock in one person's eyes but to others it is just a way of life. People perceive shock differently.'

Delegates heard how one planned change using development funding had unintended consequences. 'A wall had been built alongside a busy road to increase safety. However, it led to an increased accident rate as people broke through the wall to cross the road. It divided the community. Eventually, footbridges were built.'

Another major focus included the severe flooding that hit Nairobi, and other parts of East Africa, in April 2018. More than 130 people were killed and over a quarter of a million inhabitants displaced. Coupled with the spectre of a cholera outbreak, the city suffered acute distress.

'We explored the factors that directly affected the population as a consequence, from increased anxiety and disruption to travel to water and sewerage problems, power cuts and an increase in crime,' says Dr Radcliffe. There were cultural factors too, such as people in Nairobi being described as being 'allergic' to rain, running to find shelter, avoiding buying raincoats and preferring to stay in their homes.

At a system level, the flooding highlighted lack of effective planning. 'The city was designed for vehicles not people, plans had not kept up with population growth or the effects of climate change, and private sector developments had proliferated without control.'

The shocks which affect a city and its people are often presented as natural disasters, he reports, whereas the reality is much more diverse. While flooding and air pollution were studied in detail during the symposium, delegates also focused on other negative factors, such as obesity.

During the trip, Birmingham's academics visited a tribe on the edge of the Masai Mara national park, where a new road under construction may bring many more people to the area. The benefits of a new road providing accessibility could potentially be offset by increased pollution from traffic, yet it might also raise land values in the area. 'There were clear positives and negatives affecting the local population and we would like to do more work looking at

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the impact of this road-building on a local community linked to a city to see how it transforms or otherwise affects rural life.'

Dr Radcliffe concludes: 'Thinking on resilience needs an integrated approach that involves the community and brings together experts in a wide range of systems, including health, transport, energy and education. By recognising the complexity of a city and working with local stakeholders, we can assess appropriate interventions, which will be very context dependent.

'It is our aim to describe that complexity and to encourage further collaboration that encourages governments and other organisations to focus on the longer term well-being of the population.'

Attended by more than 40 delegates, the group examined recent flooding in the city, and the rise in air pollution from traffic, as case studies. The trip was organised by the University's

Institute for Global Innovation under its Resilient Cities theme, supported by the Global Challenges Research Fund.

The cross-disciplinary research team is investigating how cities, particularly in Low- and Middle- Income Countries (LMICs), can best respond to the impacts on their core systems and inhabitants brought about by disruptive change, such as from conflict, environmental disaster and economic transitions.

Delegates concluded that conventional thinking on resilience is not easily transferred to a city that is in a state of constant disruption and longer-term change. Analysis that focuses on the well-being of the population needs an integrated approach. Experts from a wide range of disciplines, including health, transport, energy and education, can recognise the complexity of a city and propose appropriate interventions.

