Joburg

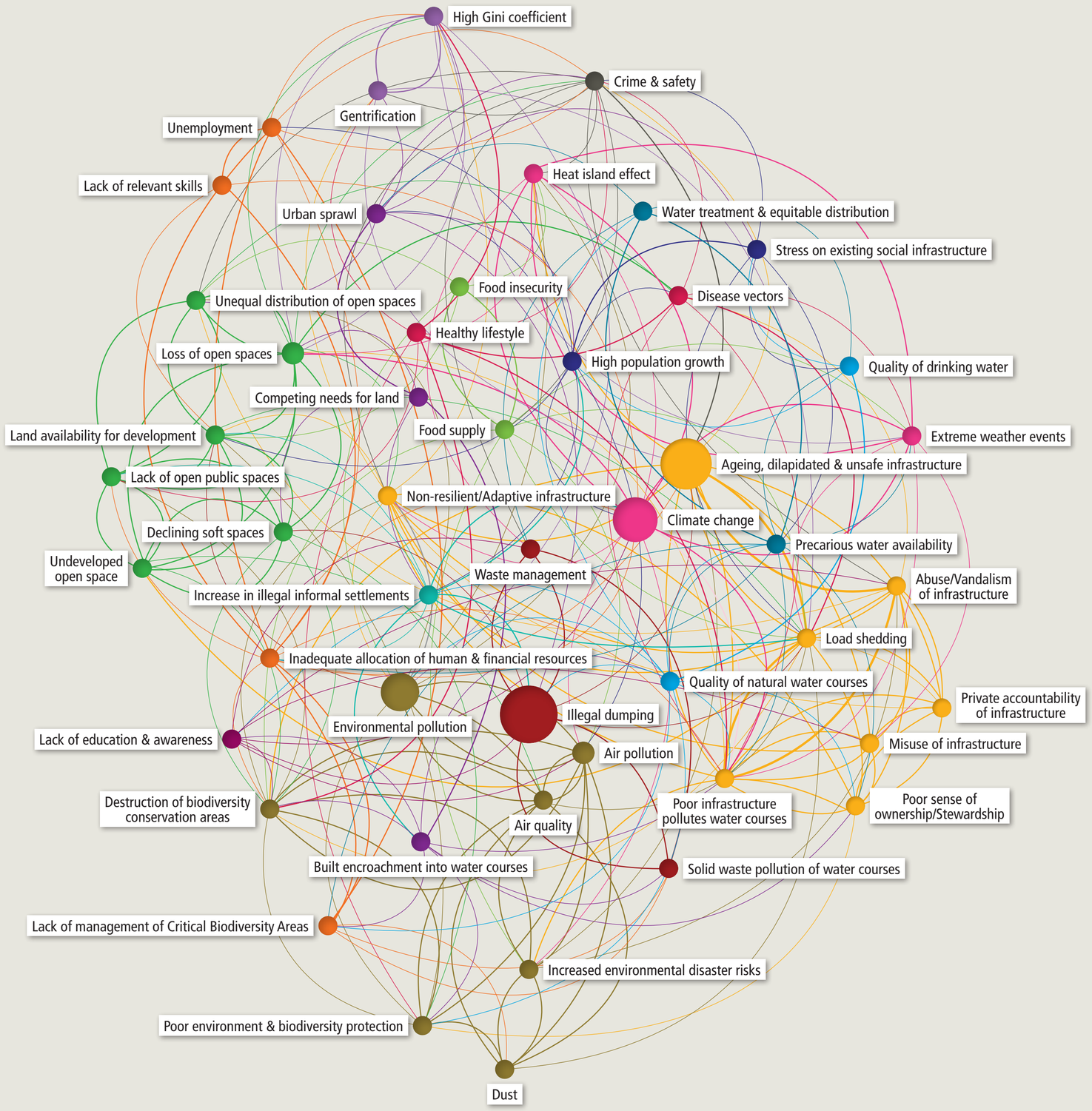
a world class African city

Mapping systems of impact in THE CITY OF JOHANNESBURG

How various issues influence environmental sustainability

Taking a systems approach to urban development allows us to see how seemingly separate issues are interconnected and interdependent. It also offers the chance to see where we can intervene to have the widest impact across the city.

This systems map was created* as part of an exercise to identify the drivers of environmental challenges within the City of Johannesburg (CoJ). It shows how **49 issues**, grouped within **16 themes**, are connected to each other.



SOME KEY TAKEAWAYS

1. The issues at the edges of the map may be more abstract, or less clearly connected to environmental sustainability, while the issues in the centre of the map are integral to addressing many of the other issues.
2. The issues within some themes, such as *Open space* (mid-left), *Failing infrastructure* (bottom-right), *Pollution & ecological degradation* (bottom), are found grouped loosely together; this may suggest that they can be addressed quite effectively as a theme. The issues within other themes are dispersed across the map, such as those in *Climate change*, *Urban sprawl*, *Water security*, *Water quality*, *Food security*, *Waste management*, and *Informal settlements*; this suggests that they must be addressed in relation to other themes.
3. *Waste management*, *Increase in illegal informal settlements*, *Non-resilient/Adaptive Infrastructure*, *Climate change*, and *Food supply* are central features of this map, suggesting that interventions to address these issues will have wide-reaching impacts on other issues to which they are related.
4. Key levers for wide systems change include addressing illegal dumping, ageing, dilapidated and unsafe infrastructures, improving climate change responsiveness, and reducing environmental pollution. This aligns with priorities articulated by the CoJ Environmental Sustainability Strategy and Action Plan, as well as the Climate Action Plan that is under development. otes that the specific issue received.

What insights do you see in this map?

*As part of an exercise to identify the drivers of environmental challenges within the CoJ, stakeholders from relevant departments and entities within CoJ came together to articulate and prioritise these specific challenges. In this engagement, 49 specific issues were identified and grouped into 16 themes. The stakeholders present then voted for the issues that they believed were most urgent to improve environmental and social sustainability. It should be noted that votes show stakeholder perceptions of the urgency and potential systemic value of the issue, and are not meant to show importance of this issue to the City (These are well captured in CoJ's Integrated Development Plan). After the exercise, the specific issues were linked to each other, based on whether or not they shared a 'related' theme. The systems map, shown above, is the result of visualising these connections. It displays a dense network of 49 issues (nodes) and 563 connections. The nodes are coloured by theme and sized by the number of votes that the specific issue received.

Key

Climate change · Crime & safety · Failing infrastructure · Food security · Health & wellbeing · Inequality · Informal settlements · Jobs, unemployment & human resources · Lack of awareness · Open space · Pollution & ecological degradation · Population · Urban sprawl · Waste management · Water quality · Water security

ICLEI Local Governments for Sustainability

August 2020