

[A framework for] building [integrated urban] resilience

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- Mainly Nairobi
- 4m people (700 km² core); 7.5m (33000 km² metro)
- 50 - 60% **slum** residents
- 70% **informal** work
- 30% slum income for **water**; 60 - 65% residents not served.
- 62 minutes/day in **traffic** (2nd worse) even though only 13 -17% of trips involve cars.

Urban resilience

- Capacity to function so people survive and thrive no matter what they encounter.
- Capacity for self-organisation and to adapt to stress and change.
- Ability to absorb disturbances while retaining the same basic structure and ways of functioning.
- To positively adapt and transform towards sustainability.
- To find effective and pragmatic solutions that prepare for unexpected shocks or stresses.
- To maintain continuity through all shocks and stresses.

capacity to act

capacity to act

ability to act

ability to act

to plan

to operationalise

Include resilience in an integrated purpose – action framework

Nairobi resilience study (UrbanARK)

- Integrate hard (green; grey) + soft + enabling resilience assets (social capital, governance, knowledge, information + land, infrastructure, resources + finance).
- Ensure the connectedness of everything to everything else within & without an urban area.
- Establish active and creative links between public & private organisations.
- Support and enable innovation by facilitating community participation rather than build a rigid, business-as-usual, prescriptive plan.

World Bank - ISO 37101 integrated purpose – action area framework

- Ad hoc/certified management system.
- All scales, scopes, activities.
- Areas of action (typically 12) deliver 7 sustainability purposes (both outcomes and enablers).
- Commitments, baseline review, strategies, organisation, interested parties, plans, performance evaluation, & continual improvement refer to all purpose – action areas.

What an integrated purposes - action framework means for resilience

Tana Water Fund - Africa's first water fund

- 17,000 km² river basin; 95% of Nairobi water.
- Protect & conserve water resources at source.
- Green + grey + soft infrastructure = forestation + engineering + improved farming.
- Cost-effective way to improve water quality & quantity.
- Climate change = + 5% rain - 10% evaporation = more infrastructure.
- Integrated, holistic, stakeholder-driven management / governance in place.

Leading land use – transport coordination

- Slums and informal, low-wage, non-tradeable services locked in owing to poor accessibility to city-wide, tradeable goods production sites.
- Accessibility by public transport can be increased 100% with only few penalised by having mixed-use neighbourhoods.
- Mixed-use neighbourhoods boost resilience.
- Integrated strategy, plan, management essential.

The new danger – “city” enclaves

- An affordable housing crisis: two-thirds of Kenya’s total investment needed just to eliminate today’s slum backlog.
- Some initiatives (tax reductions for 400+ unit private developments; levies removed).
- Is resilience threatened by 10 planned core urban and peri-urban metro mixed-use private developments on private land for 1 million residents (15% of total), especially if this urban form persists with 27m residents in 2050?
- Largest: Northlands (0.4 m residents; 47 km²).

Key step: National Environmental Management Authority refused and then approved a mandatory but essentially unchanged 257-page Strategic Environmental Impact Assessment report.

Very formalistic process (“resilience” mentioned once; severely impacted water & transport systems not detailed).

Environmental Impact Assessment that follows has limited power to adjust plans. Enough, given the scale? Integrate urban management would give the answer.