



Africa Water Congress

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*In partnership with Sanitation and Water for All
February 2018*

Rapid urbanization throughout the developing world has exacerbated the sanitation crisis

4.1B

People live in communities where waste is never treated

1M

Sanitation-related deaths per year

\$260B

lost globally each year in economic productivity

Kenya's 8M residents of slums lack safe sanitation, leading to profound health, economic and environmental challenges.

17,000

Child deaths
each year

\$270M

Lost in
economic
productivity

90%

Waste never
treated

3 big challenges that developing cities face in delivering safe sanitation to residents of urban slums

1. Slum residents are **not treated like customers**

2. Focus is on **access**, not the full value chain

3. Sewers are **expensive and impractical**

1. Residents are not treated like customers



**2. Focus is on access, not the full value chain
→ 90% of waste in Nairobi slums is never treated**



3. Sewers are expensive and impractical

\$56

pp/year for
sewers

\$3

pp/year: KE's
2016 WASH
spending

\$12

pp/year: KE's
projected 2030
WASH spending

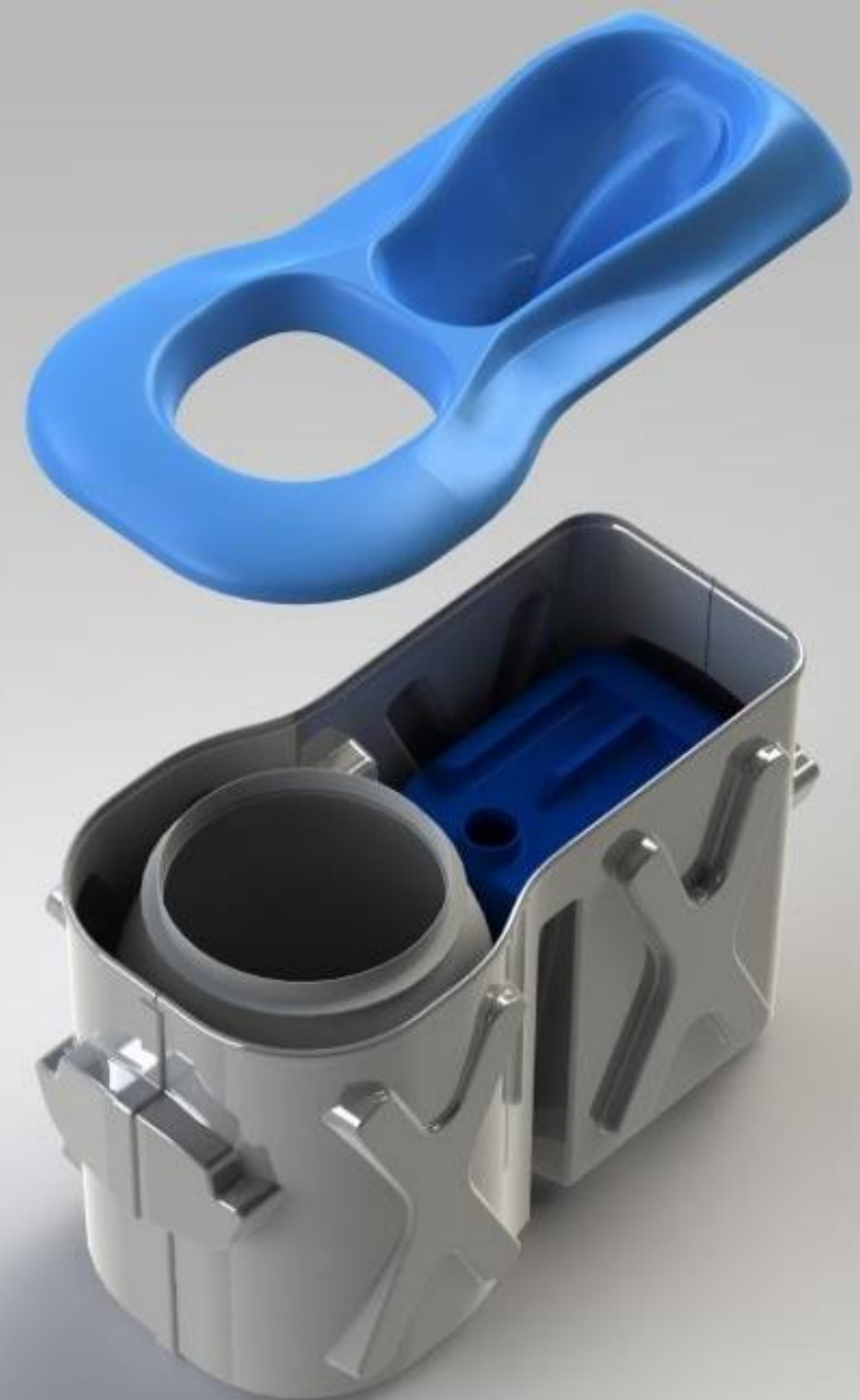
Full value chain to serve cities' non-sewered areas



Build



- Affordable
- Small footprint
- Easy to clean
- Durable
- 40% less water required



Franchise



Community members invest in FLT's:

- **Commercial operators** provide pay per use service in the community.
- **Residential operators** provide a value-add service to their tenants.





- **Securing land access**
- **Financing**
- **Marketing & branding**
- **Hygiene & business training**



Collect
and treat



Local residents provide a safe and regular collection service.

Training, proper PPE, health insurance & inoculations provided.

Waste sealed in cartridges, consolidated and trucked out.



Treatment at plant which has capacity to process waste from 500,000 people.

Collect
and treat





- **Semi-automated co-composting eliminates pathogens.**
- **Rigorous protocols in place to ensure safety of all workers.**



Convert and
distribute



The compost
matures in a
series of
windrows, which
are mechanically
-churned on a
routinized basis.





Our lab tests for safety of end-products. Tests include presence of helminth eggs, e. coli, and other pathogens.

Independent labs validate the safety of end products.



With our
**Organic
Fertilizer**, farm
ers see fewer
weeds, faster
growth, and
>30% increase
in yields.



Convert and
distribute

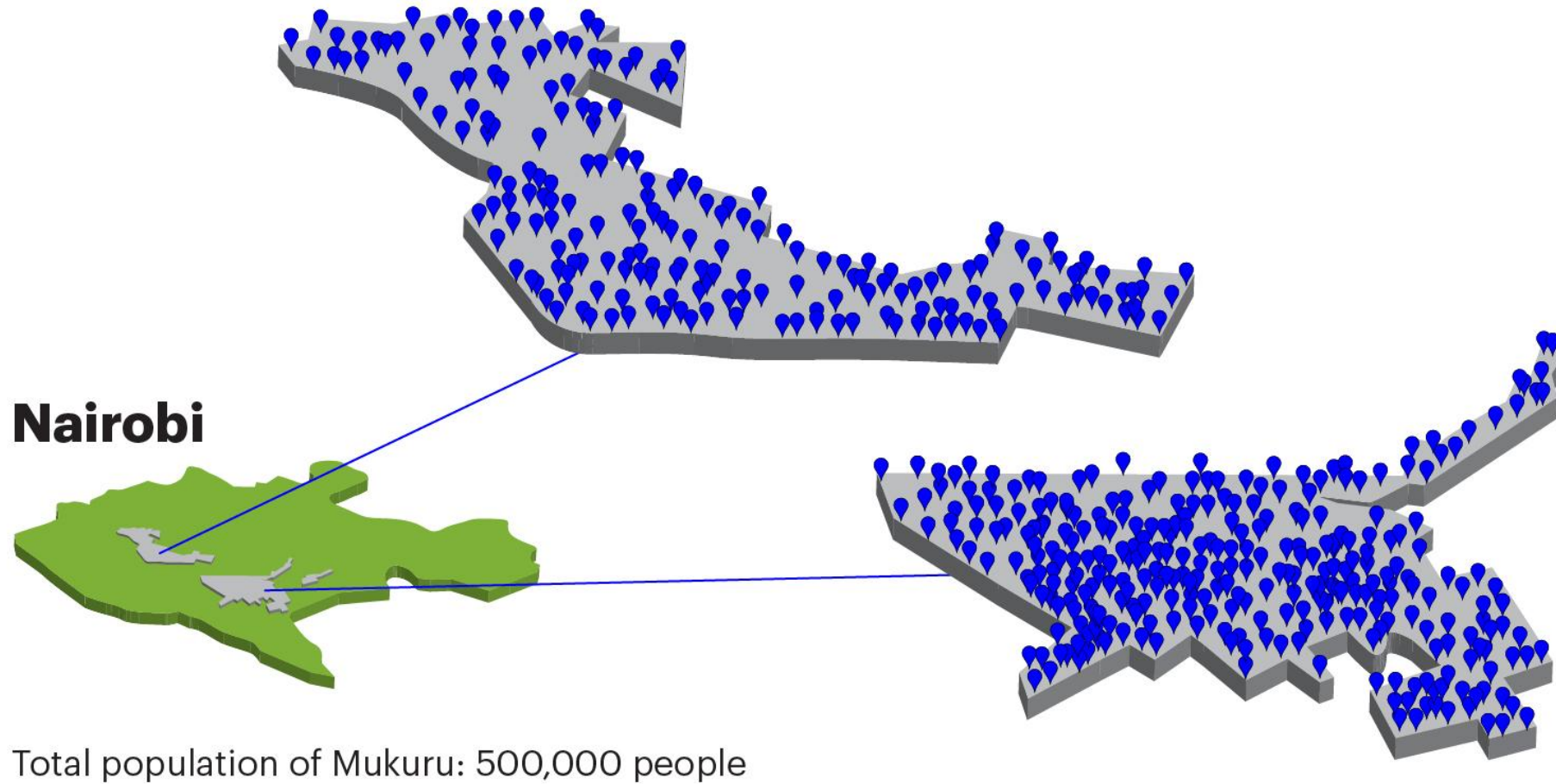


Sanergy rears a colony of Black Soldier Flies, a protein-rich animal feed.

Farmers are seeing 30% increases in chicken and pig weight!



Results to Date: Sanitation and Environment



54,000
Users per day
through a
network of
1400 FLT's

6,000
T of waste per
year

100%
Of waste
treated

Results to date: Employment

250

direct jobs –
65% from the
communities
we serve

700+

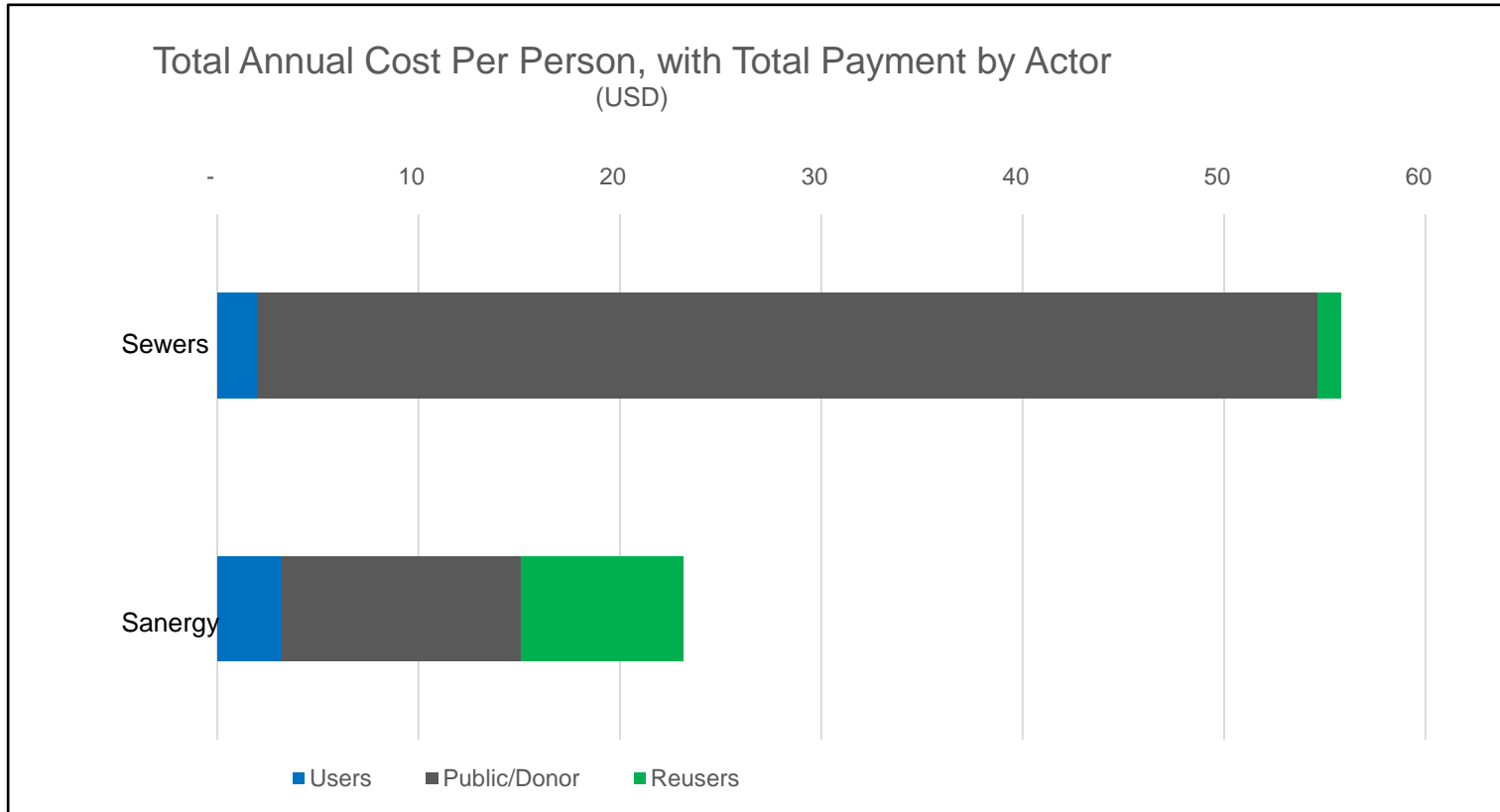
Fresh Life
Operators

900+

Farmers



Overall impact: Our model, serving 54,000 people, is more cost-effective than alternatives



\$56
/ person /
year

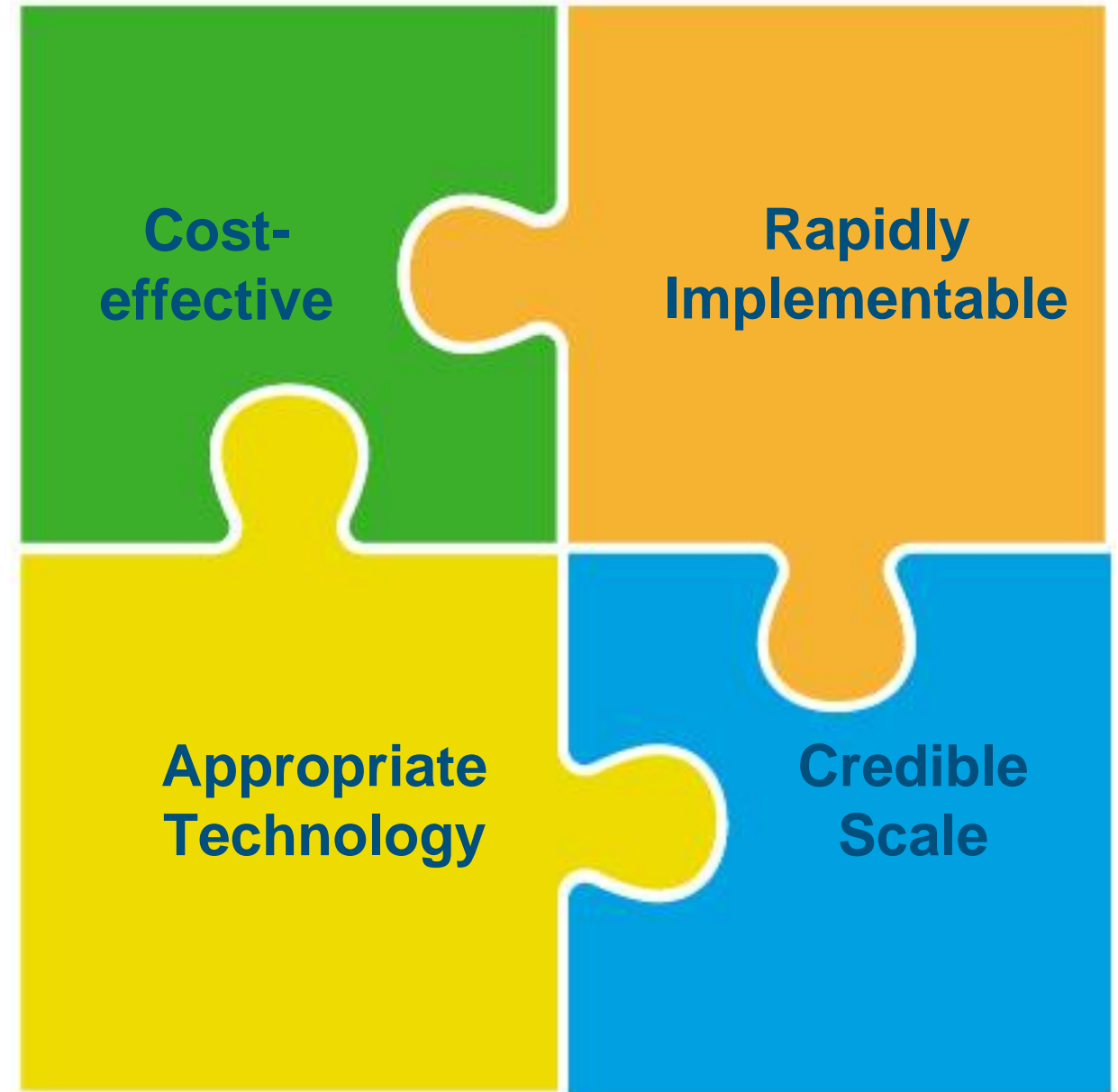
\$54
of cost
borne by
govt

\$22
person /
per / year

\$11
of cost
borne by
govt

Case study by World Bank validates our effectiveness and appropriateness

- ✓ **Cost:** Much lower cost to operate Sanergy's container-based sanitation (CBS) service vs. sewers
- ✓ **Time to scale:** serve ~500k by year 6 of the project life
- ✓ **Small FLT footprint:** allows for closer proximity to residence vs. public toilet blocks for sewers
- ✓ **Experience at credible scale:** Sanergy serves 54K/day



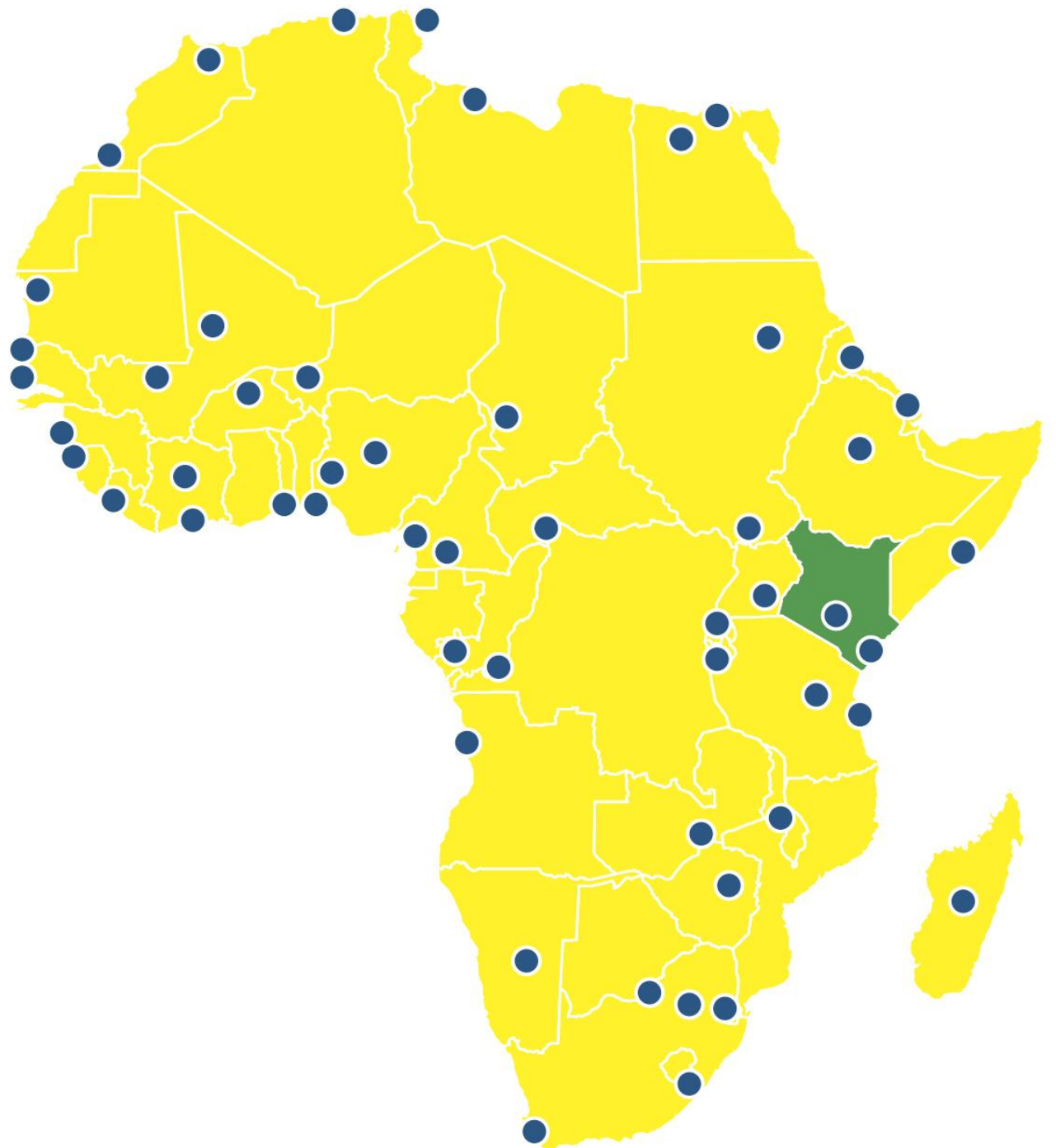
The Future

1000+ cities face the exact same challenges as Nairobi.

A PPP paves the way for replication at scale.

Criteria for Scale:

- ✓ **Government committed to improving informal settlements**
- ✓ **Capital investment by government**
- ✓ **Supportive regulatory environment**



Asante!

Join us as we build the cities of tomorrow

