

COUNTRY PROFILE [1]

- **Location:** East Africa. Land locked
- **Population:** 35.6 million (2015), growing at 3.4% per annum
- **Capital city:** Kampala (31% of total urban population)
- **Electricity:** 84% from hydropower dams along River Nile and its tributaries



Figure: Map of Uganda showing major urban centres



Figure: Skyline of Kampala (Photo Credit: Uganda Safaris Tours)

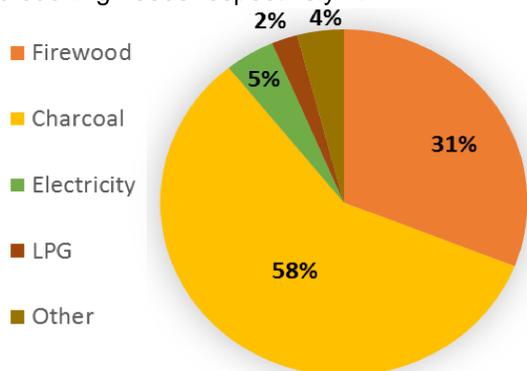
UGANDA'S URBAN CENTRES [1] [2]

- 7 million dwellers (20% of the total population)
- 21 million will live in urban areas by 2040
- Contribute 70% of non-agricultural GDP
- 40% of urban population connected to electricity grid

1. SOURCES OF EMISSIONS

Household Energy

Majority of Uganda's urban households rely on petroleum products (kerosene) and solid biomass fuels (charcoal and firewood) to meet their lighting and cooking needs respectively^[1].



Energy for cooking in urban households

Transport

16+ year old second hand cars are imported into Uganda, and then driven for another 20+ years. Toxic fuels with unhealthy levels of sulfur and benzene are also imported and used^[3].



Image: The New Vision

Municipal Waste

Kampala city alone generates 1,500 tons of waste daily, and only 40% of this is collected and suitably disposed of by the city council^[5]. The rest is burned in backyards, left to rot in the streets, or dumped in water and sewer channels.



Image: Sanitation Crisis in Unsewered Slum Areas (SCUSA)

2. DRIVERS, IMPACTS AND VULNERABILITIES



Key Drivers

- Increasing rural-to-urban migration
- Rapid population growth
- Costly and unreliable electricity supply
- Deficient social service provision
- Crippled and poorly planned infrastructures
- Lack of/slack policy measures



Impacts

- Indoor and outdoor pollution
- Respiratory ailments
- Premature deaths
- Loss of forest/tree cover
- Waste run-off into water bodies and drainages
- Urban heat islands. Flooding in wet seasons



Who is Vulnerable?

- Women and children - more involved in domestic chores
- Persons with heart and/or lung conditions
- Young children with underdeveloped lungs
- The urban poor in slums or low income neighborhoods
- Water bodies and their ecosystems
- Forests, trees and their ecosystems
- Drainage channels and related infrastructure

3. KNOWLEDGE GAPS AND OPPORTUNITIES FOR INTERVENTION



Waste Management

- Collection and separation
- Transportation
- Processing and treatment
- Waste to energy



Policy and Regulation

- Policy enforcement on: plastics, old vehicles, waste disposal
- Protecting forests, lakes, wetlands
- Sustainability incentives

❖ What steps should be taken to bridge the gap between environmental policies and their enforcement in cities?

❖ Can the fairly new concept of Micro Cities be feasibly applied to the planning, expansion, and development of Uganda's urban centers?

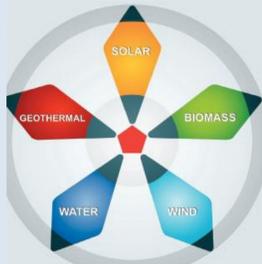
Opportunities

Infrastructure Development

- Public Private Partnerships
- Inclusive transport systems
- Duly planned housing, social centers, road networks, water and sewerage structures

Energy Provision

- Sustainable
- Reliable
- Affordable
- Diverse



Knowledge Gaps

❖ How best can Uganda's vast energy resources be leveraged to build a diverse, sustainable, and decentralized energy portfolio for its expanding cities?

❖ What lessons can be learned from rural-to-urban migration patterns and slum ecosystems to inform inclusive social service provision?

References

- [1] Uganda Bureau of Statistics, "National Population and Housing Census Report 2014 – Main Report", 2016.
- [2] The World Bank, "Uganda Economic Update: Fifth Edition: The Growth Challenge: Can Ugandan Cities Get to Work?", 2015.
- [3] United Nations Environment Program, "Exporting Pollution: Dumping Dirty Fuels and Vehicles in Africa", 2016.
- [4] Public Eye, "Dirty Diesel: How Swiss Traders Flood Africa with Toxic Fuels", 2016.
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Acknowledgements

I would like to thank the 2018 Cities and Climate Change Science Conference organizers, sponsors and partners. My attendance and participation at this conference was generously funded by UN-Habitat and Mbarara University of Science and Technology.

