United Nations Institute for Training and Research

Sustainable Cycles (SCYCLE) Programme

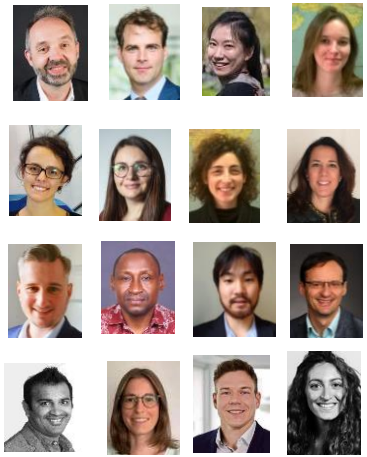
E-waste management in East Africa

Dr. Kees Balde
UNITAR-SCYCLE Programme

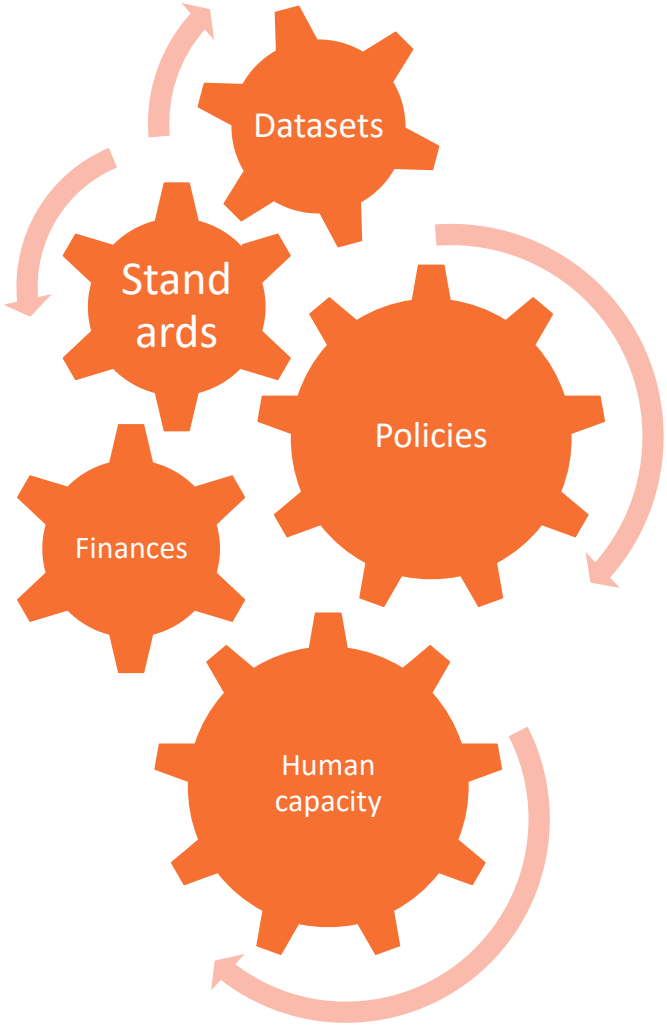
Session 6: E-waste Statistics Opportunities, challenges, and resource mobilization for e-waste management

SCYCLE Programme

- United Nations Institute for Training and Research established in 1963
- Sustainable Cycles (SCYCLE) Programme is based in Bonn (Germany) and joined UNITAR's Division for Planet in 2021 after transitioning from the United Nations University (UNU)



Five gears towards effective and safe management of e-waste



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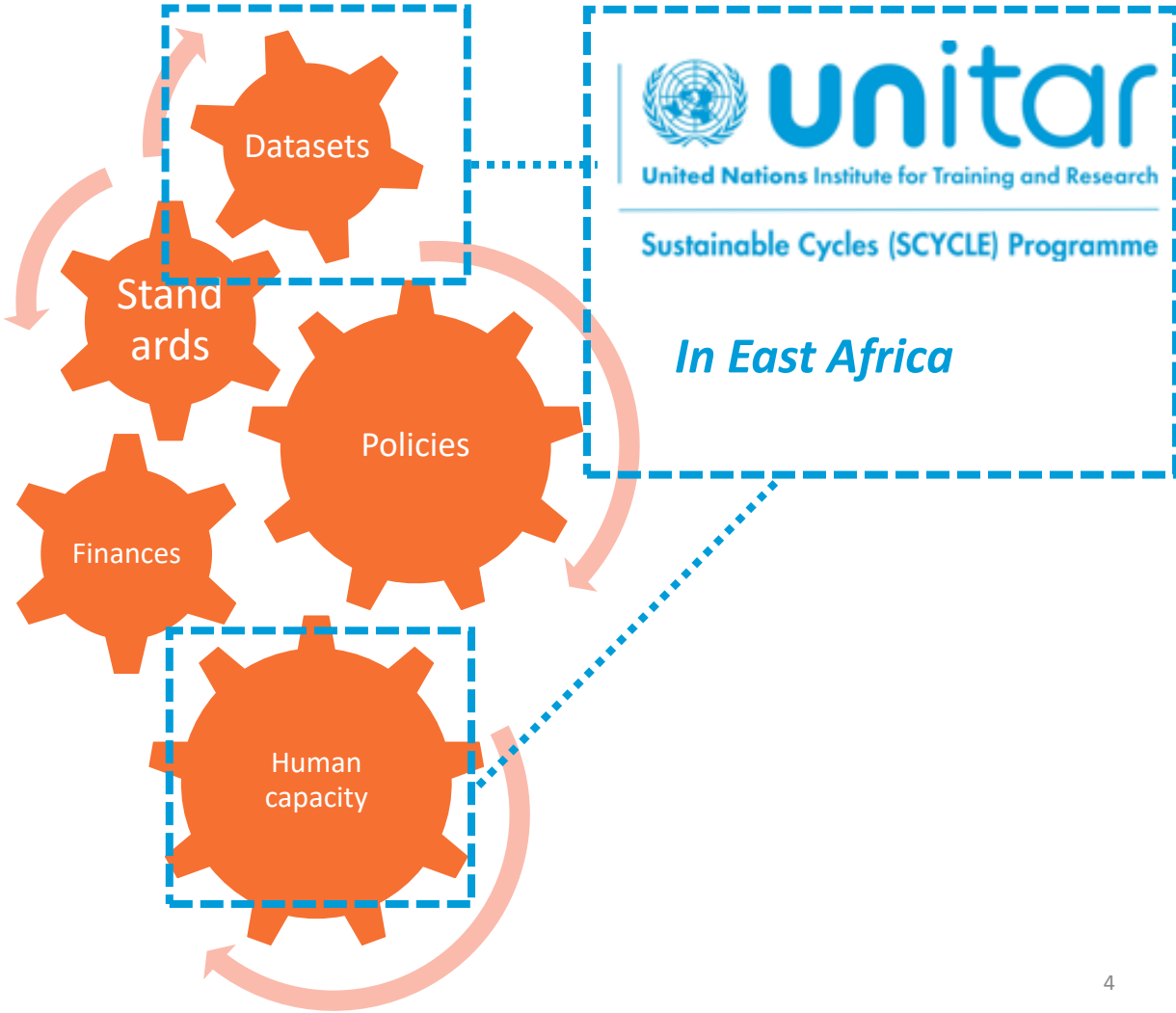

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In East Africa

Overview of datasets for the region

Project period:	01.2021 – 10.2022
Project partners:	UNITAR SCYCLE
	World Resources Forum
	Vice Presidents Office Tanzania
	National Environment Management Council (NEMC) - Tanzania
	East African Communications Organisation (EACO)
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	Otmar Deubzer otmar.deubzer@unitar.org
More details:	https://prevent-waste.net/en/tanzania/

Organization and set up

The pilot was organized by the National Environment Management Council (NEMC) in partnership with the competent authorities for inspections and port administration, i.e. the Tanzanian Revenue Authority (TRA), the Ports Authority (TPA), the Bureau of Standards (TBS), and the Vice President's Office (VPO).

Implementation

The pilot took place fron
preparatory activities prec
Salaam port specifically
passenger port of Dar es

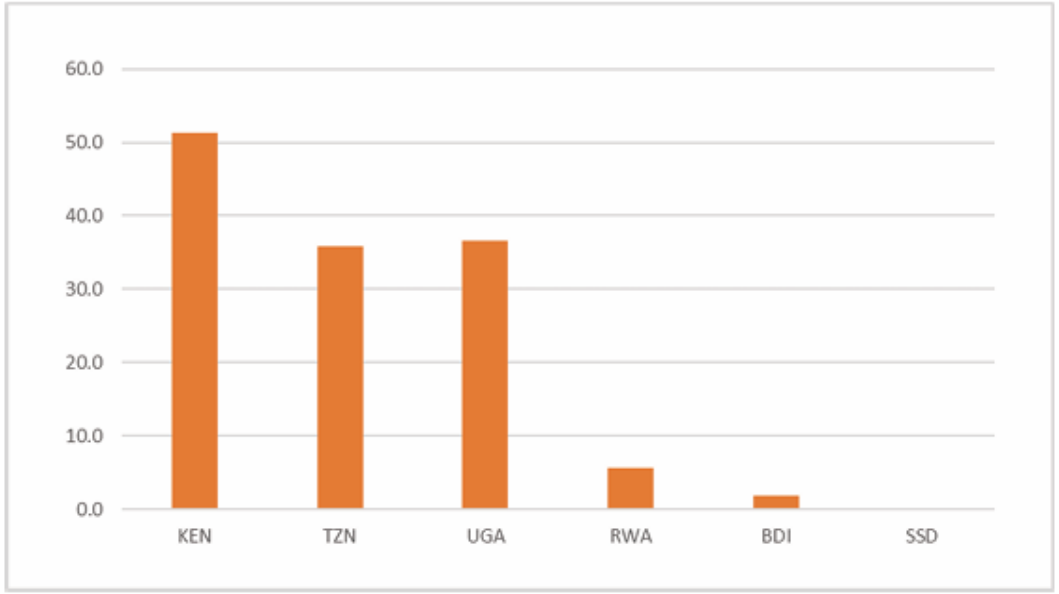
1) The baggage room
2) Azam Sealink Inla
3) Malindi Shed
4) Other ICDs upon
Services)

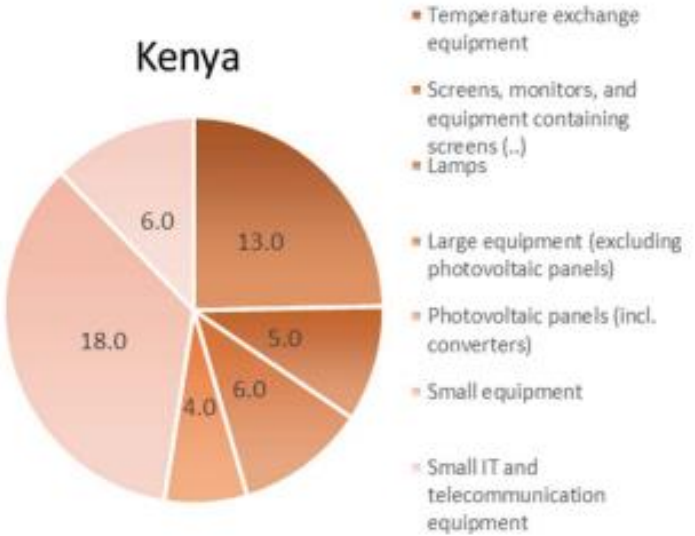
www.globalewaste.org

www.scycle.info

Main datasets

Every year: close to 130 kt (million kg) of e-waste is generated. Growing at a fast pace.





Less than 5% of e-waste is brought to a recycling center

Example 2: Disposal routes for products with the highest possession rate in Kenya households

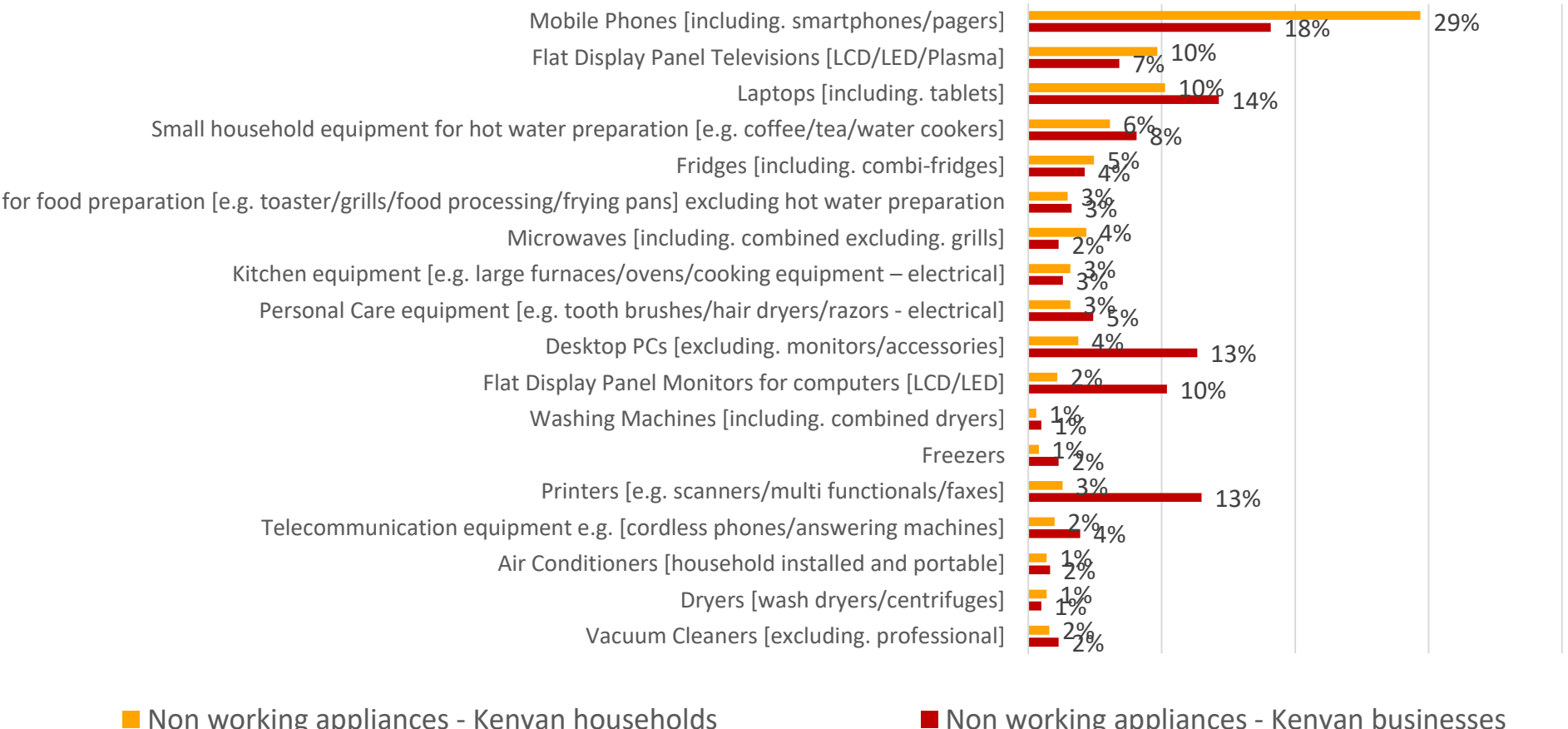
Disposal route	Fridges	Laptops	Flat Display Panel TVs	Small household equipment	Mobile Phones
Picked up from home by the company that sold me the product	30%	7%	11%	NA	5%
Collected by door-to-door worker	10%	5%	4%	10%	7%
Sold online	10%	7%	5%	NA	3%
Sold to a refurbishment or repair shop	15%	51%	33%	33%	34%
Disposed of in the mixed municipal solid waste bin	NA	7%	12%	31%	15%
County picked-up from home	NA	2%	NA	4%	2%
Brought to an e-waste collection center or County designated drop off point	20%	NA	2%	2%	4%
Picked up by an e-waste collection center	NA	2%	2%	2%	1%
Donated	5%	9%	18%	2%	11%
Other	10%	9%	14%	16%	18%

Sold to repair shops

Less than 5% is brought to a recycling center

Due to absence of recycling: storage of broken devices at households + businesses

Example 1: Percentage of non-functioning equipment possessed by households and businesses in Kenya



RESULTS: Pilot testing data conducted between 21 September to 12 October 2022 in Dar-es Salaam

Most imports from Zanzibar

Origin country	Units found	Percentage of total	Units tested	Percentage of total tests
Hamburg, Germany (Used household items)	5000	82%	16	4%
Sohar, Oman (Personal effects)	10	0.2%	5	1%
UK (Personal effects)	145	2%	18	5%
Zanzibar	936	15%	353	90%
Business for spare parts	19	0.3%	19	5%
Personal Effects	883	14%	311	79%
Used goods	28	0.5%	17	4%
Non specified	6	0.1%	6	2%
Total	**6091**		**392**	

RESULTS: Pilot testing data conducted between 21 September to 12 October 2022

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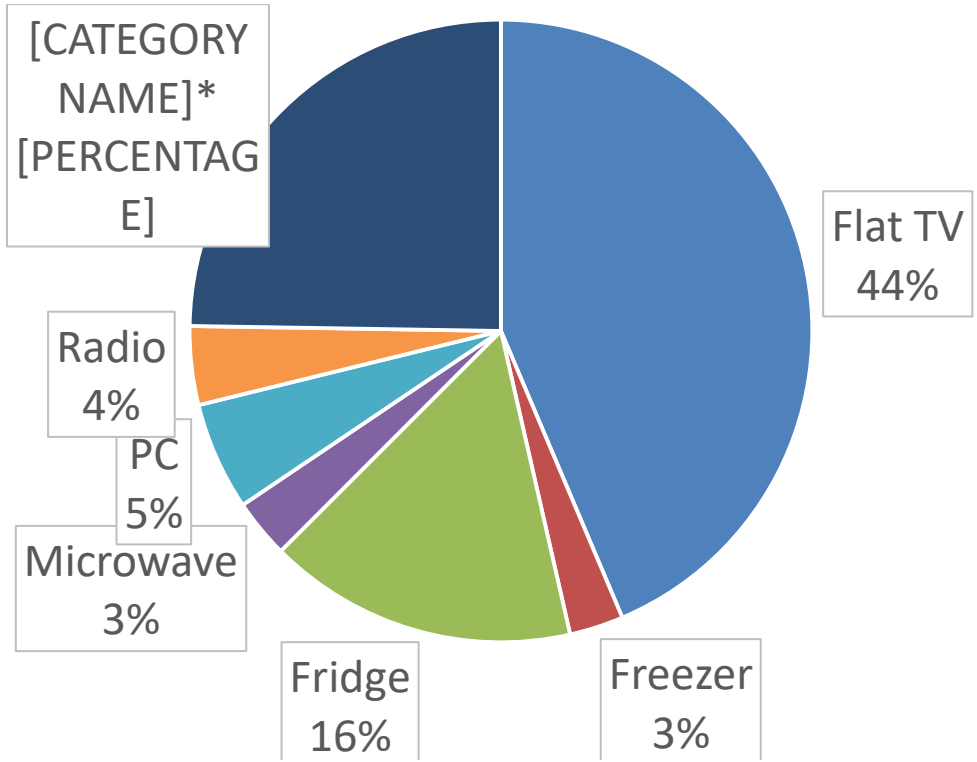
Share of products inspected and tested by type



* Other variety of products include blenders, heaters, oven, cookers, toasters, pianos, mixers, freezers, vacuum cleaners, washing machines, kettles, stoves etc.

RESULTS: Pilot testing data conducted between 21 September to 12 October 2022

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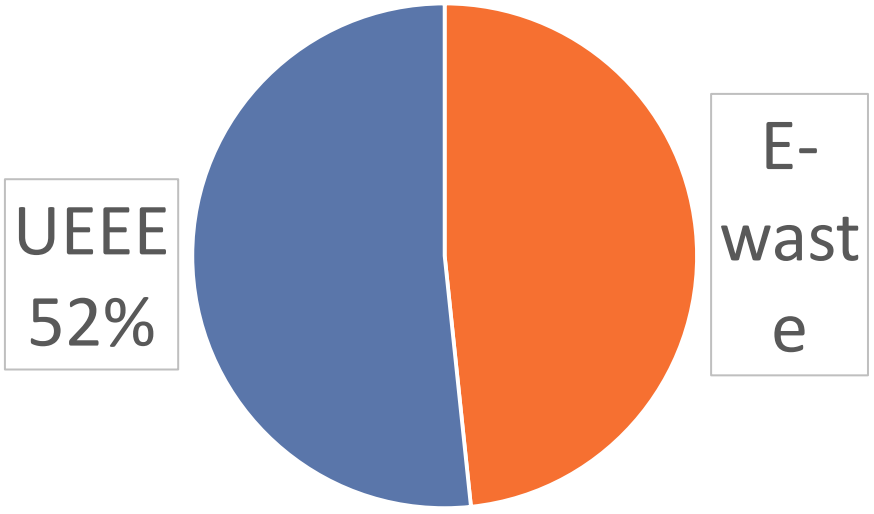
Share of E-waste out of total appliances inspected



Main reasons
No cable
Damaged cable
Damaged screen
Failed to switch on
Used other cable
No test done
No cable plug
Damaged
Outdated
Used as spare
Many reasons
Outdated but functions
Returned to wholesaler
Upper part missing
Door modified
No cable & damaged screen
Most parts missing
No hard drive
No electric current
Damaged internally

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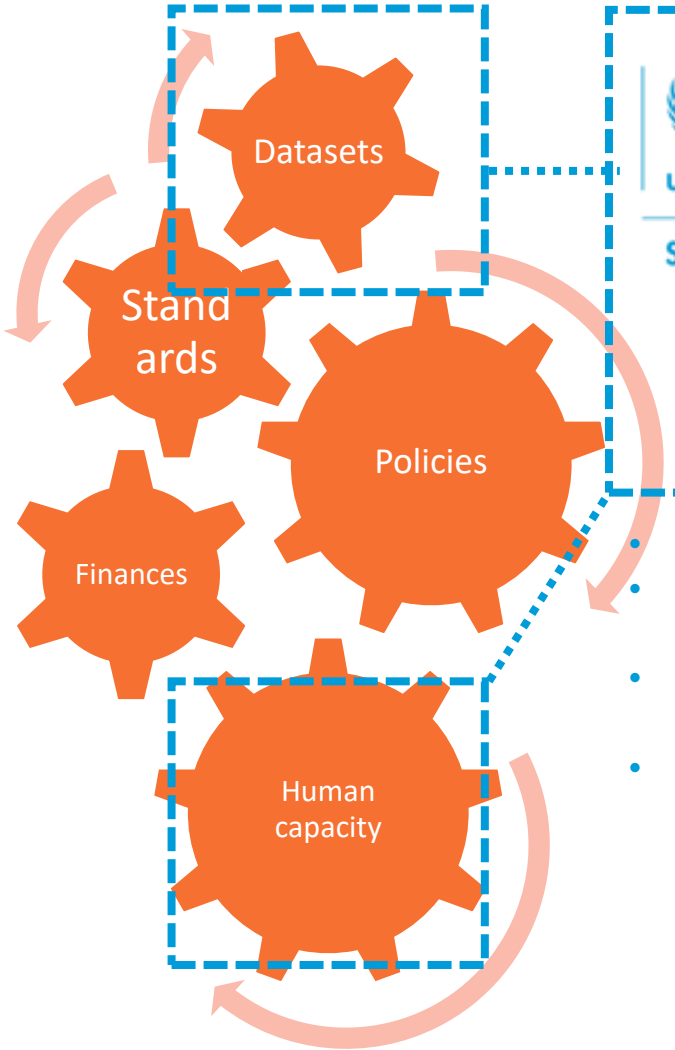

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In East Africa

- **E-waste amounts are growing**
- **Intention to repair for most broken equipment**
- **Non-adequate policies + e-waste management infrastructure**
- **E-waste is being dumped through declaring under used-EEE is entering mainland of East Africa through Zanzibar port**

SCYCLE Datasets

Whole package for the region

- **Facilitate policy decisions**
  - Extending statistical timeseries to 2050 under various scenarios + option for e-waste management
- **Businesses case development for recycling and repair + creating level playing field on e-was standards**
  - Integrating material compositions
    - *component – material composition*
  - Mapping recycling technology. Compare to EU. Find business opportunities
    - *Recovery + recyclability of e-waste into secondary raw materials*
  - Overall economic assessment of e-waste recycling, including treatment costs and externalized costs
- **Improving legislation**
  - Managing and combatting the illegal e-waste imports
  - Stakeholder consultations improving and harmonizing legislation
  - Mapping status and scope of legislation for all countries
- **Capacity building**
  - E-waste Academy for Managers and students (EWAM and EWAS).
  - Business bootcamps

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