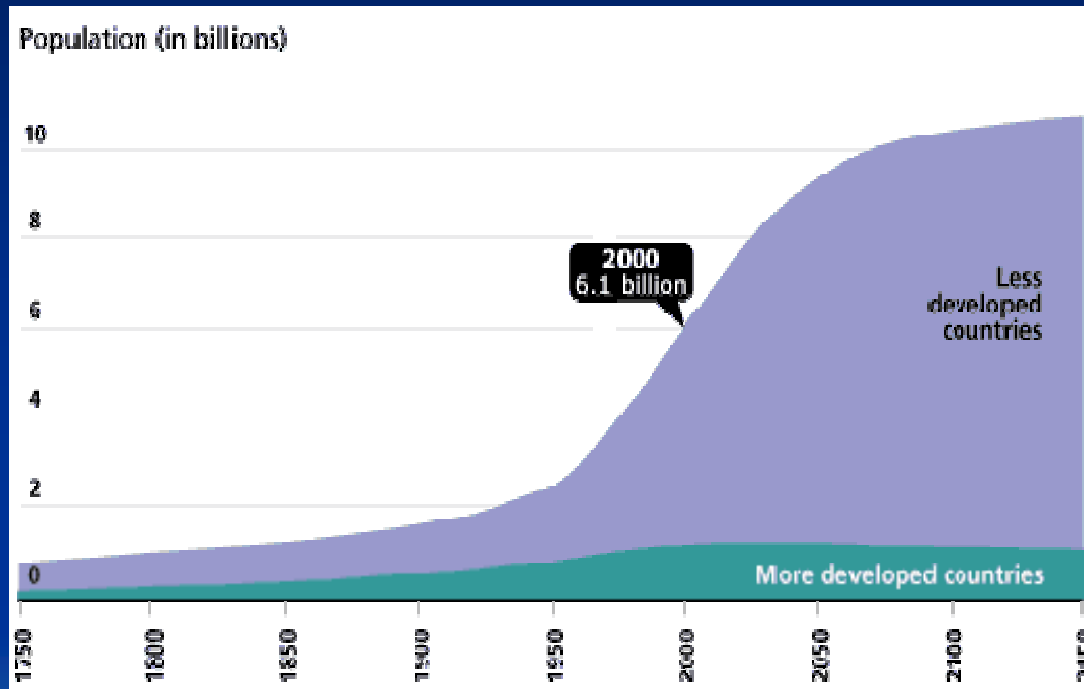


Skills for Green Jobs: System Perspectives & Lessons in Plastic Waste Management



Kabasa John David; Principal Consultant, Countryside Innovations Network Llc & Professor, Makerere University, Uganda

1. SS Africa's Exploding Population & Urbanization : Globalization is driving the poor to towns with their cows, goats, chickens and crops. Numbers is Insurance for the weak



- 6.1 Billion people in 2000
- ~9.4 to 11.2 Billion in 2050
- 2000
 - 47% world population living in urban areas
- 2030
 - 60% world population living in urban areas

- 2.7% Popn annual growth rate (< 2%- Asia; 2.2% - Latin America).
Huge demographic changes & declining agricultural production & productivity in Africa

2. SS Africa's worrying food insecurity: a chronically hungry sub-region

- 21 out of the 36 countries worldwide facing food insecurity are African.
- > 300 million Africans are chronically hungry –
- 235 millions chronically hungry people in Sub-Saharan Africa. The region on the planet, with the highest proportion of chronically hungry people.



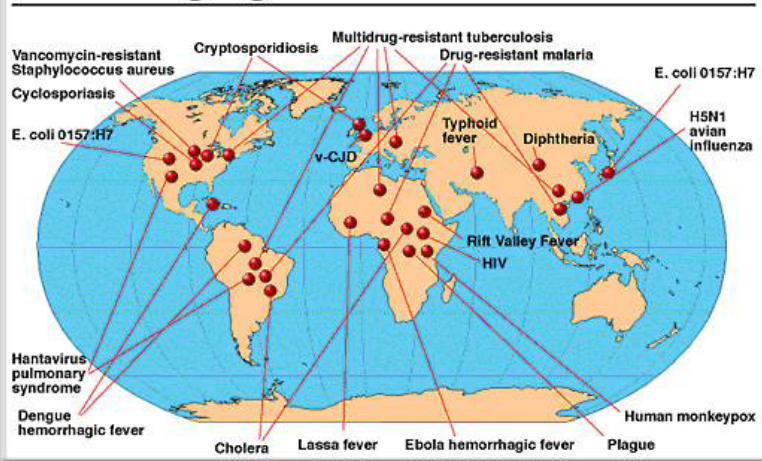
3. SS Africa's growing youth unemployment: the brewing Social Tsunami

- 31% Ugandans in absolute poverty. The Young people are the poorest
- 51% (< 15 yrs) Ugandans are school going
- About 25% are youths of 15 -35 years needing secondary / post secondary education & employment.
- Population growth rate of > 3% (3 million per year) .
- > 60% of the poor & > 70% of the poorest of the poor are females
- Youths demanding earlier retirement age
- Indications of segregation and oppression of the elderly have been observed. Need for fight for elders rights.



4. SS Africa's worrying Health situation: a health risk incubator

Examples of Emerging and Re-Emerging Diseases



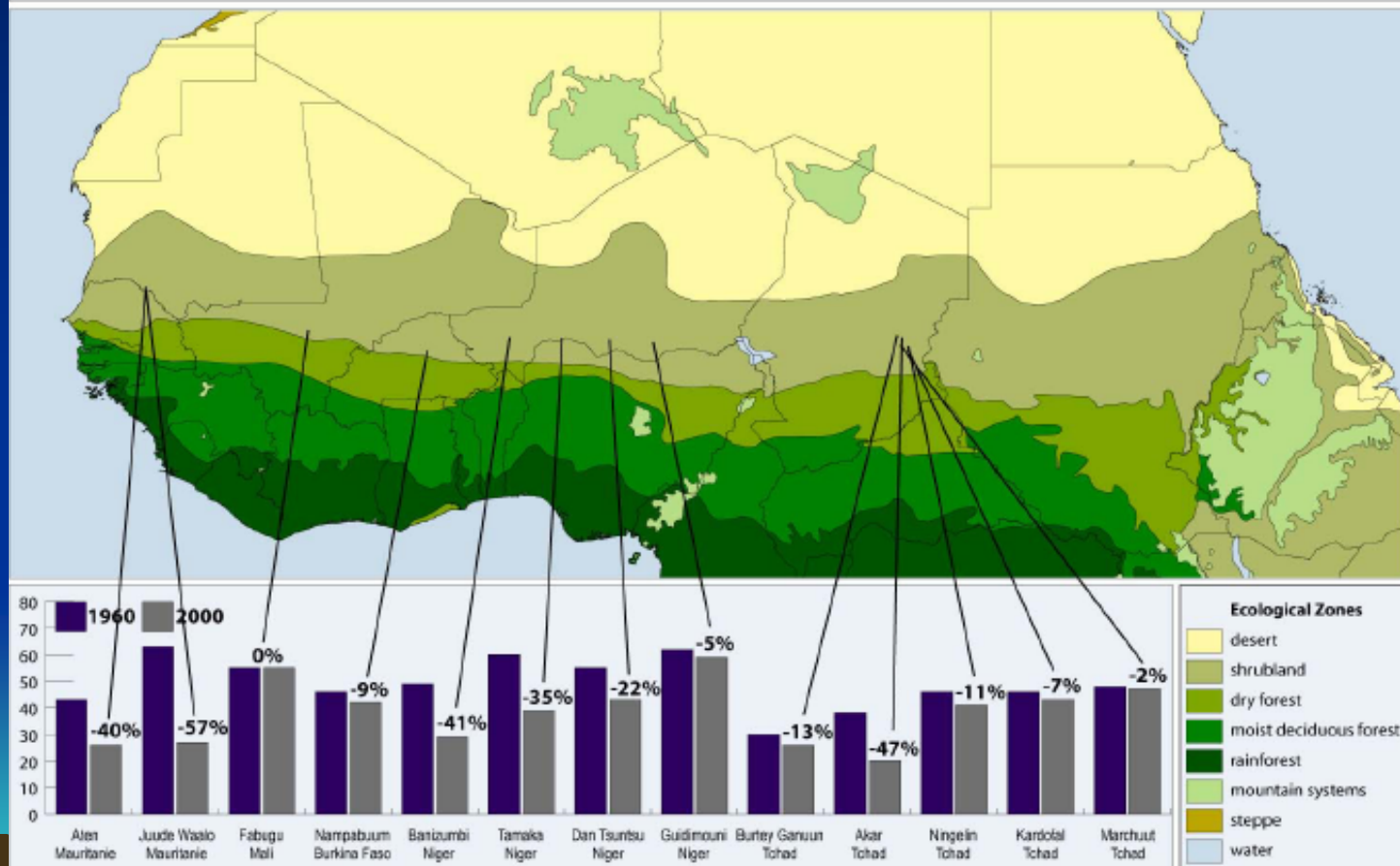
- > 70% global HIV-infected - in SSA.
- Most active age Gp (18-35 yrs) struck
- > 70% popn < 40 yrs - in SSA
- > 50% of herds sold to health bills of HIV/AIDS affected livestock farming households - in Uganda
- > 70% global zoonoses of trade - in SSA.
- Africa's share in global livestock trade dropped from 5 to < 1%



5. SS Africa's Worsening environmental Health & Biodiversity Loss –

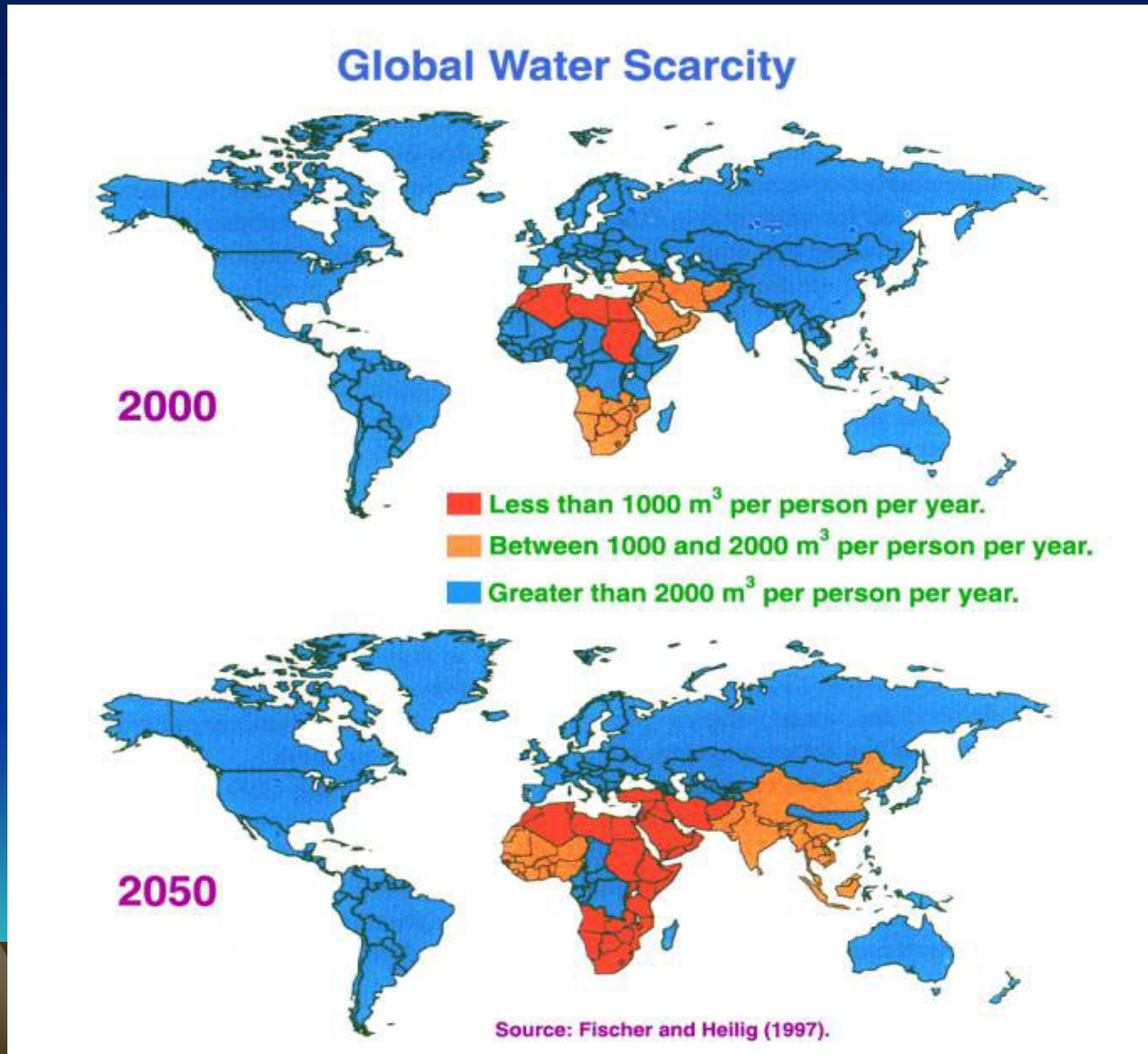
Forest species loss in the Sahel 1960-2000, field data

Total number of forest species on village lands and percent decline



Forest species: villagers, U.S. Geological Survey (USGS), field representatives of the Famine Early Warning System Network (FEWS NET).
Ecological zones: Food and Agriculture Organization (FAO), 2001. Global forest resources assessment 2000. FAO, Rome, Italy.
Map: USGS Earth Resources Observation Systems (EROS) Data Center, 2002.

6. SS Africa's growing water insecurity: a time bomb for the next generation of Africa's wars

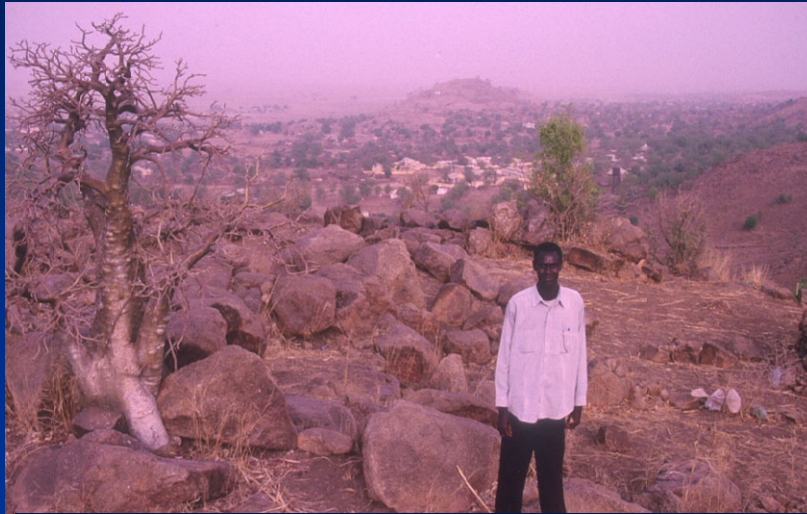


7. SS Africa's Marginalization on basis of production standards



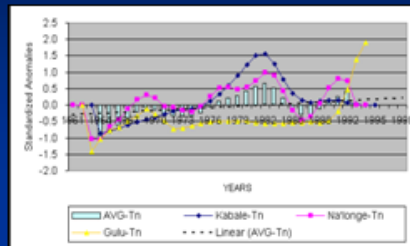
8. SS Africa's Climate Change Disasters.

Droughts (increasing frequency & intensity)

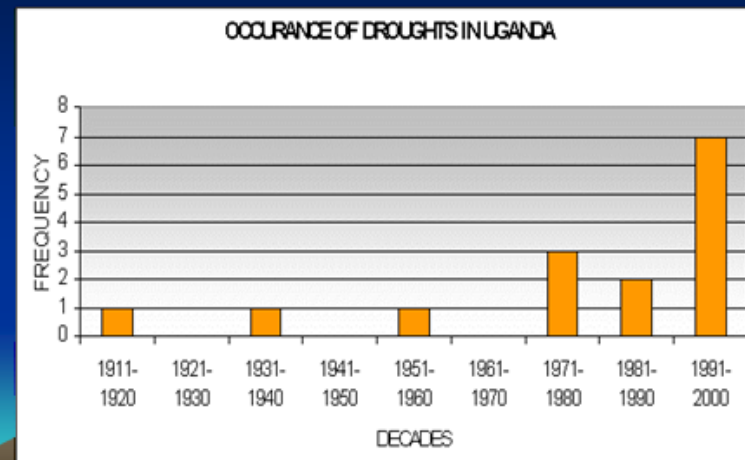


Uganda's climate changing!

- In the 20th century, Uganda's fastest warming regions were in the Southwest of the country where the rate was of the order of 0.3°C.



Occurrence of Droughts in Uganda



9. SS Africa's Violent Conflicts



Conclusion: 21st Century SS Africa is Besieged

**Rise of Anthropogenic
Ecosystem Pathology**

**Fight for Livelihoods &
Natural
Resources**

**Rise of Climate
Change Disasters**

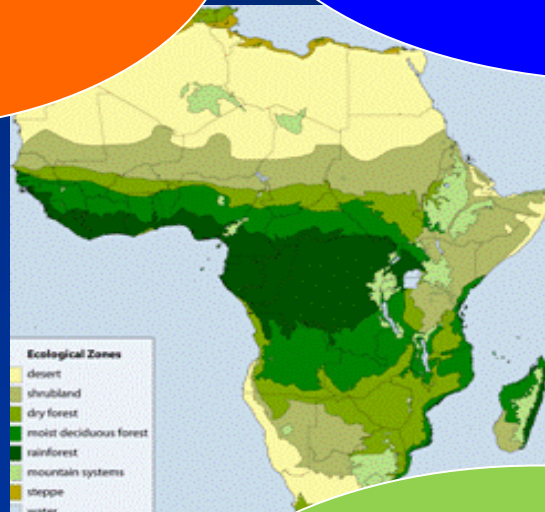
**Clash of Civilizations
Westernization versus
Indigenization**

Tsunamis

**Y2K8 Food & Energy
Crisis**

**Rise of Emerging &
Re-emerging
Diseases & Epidemics**

**Bioterrorism
& Bio-security**



SS Africa Issues

1. It is not about Greening jobs only, livelihoods, education, training, policy or development process are involved
2. What is our common challenge and shared vision? Is it merely low carbon economy?
3. SSA has some decades to catch up technologically. SSA is more on the user side!
4. SSA intervention must address system issues. Building Green systems, thinking & planning
5. The concept of greening economies that rely on unprocessed raw materials, crops, animals and natural resources may be different from that of the industrial nations
6. Differentiate between skills for green technology? green livelihood? or green development? There are public good and private sector components.



Concept of Neglected Climate Change-Viscous Cycle of Poverty (NCC-VCP)

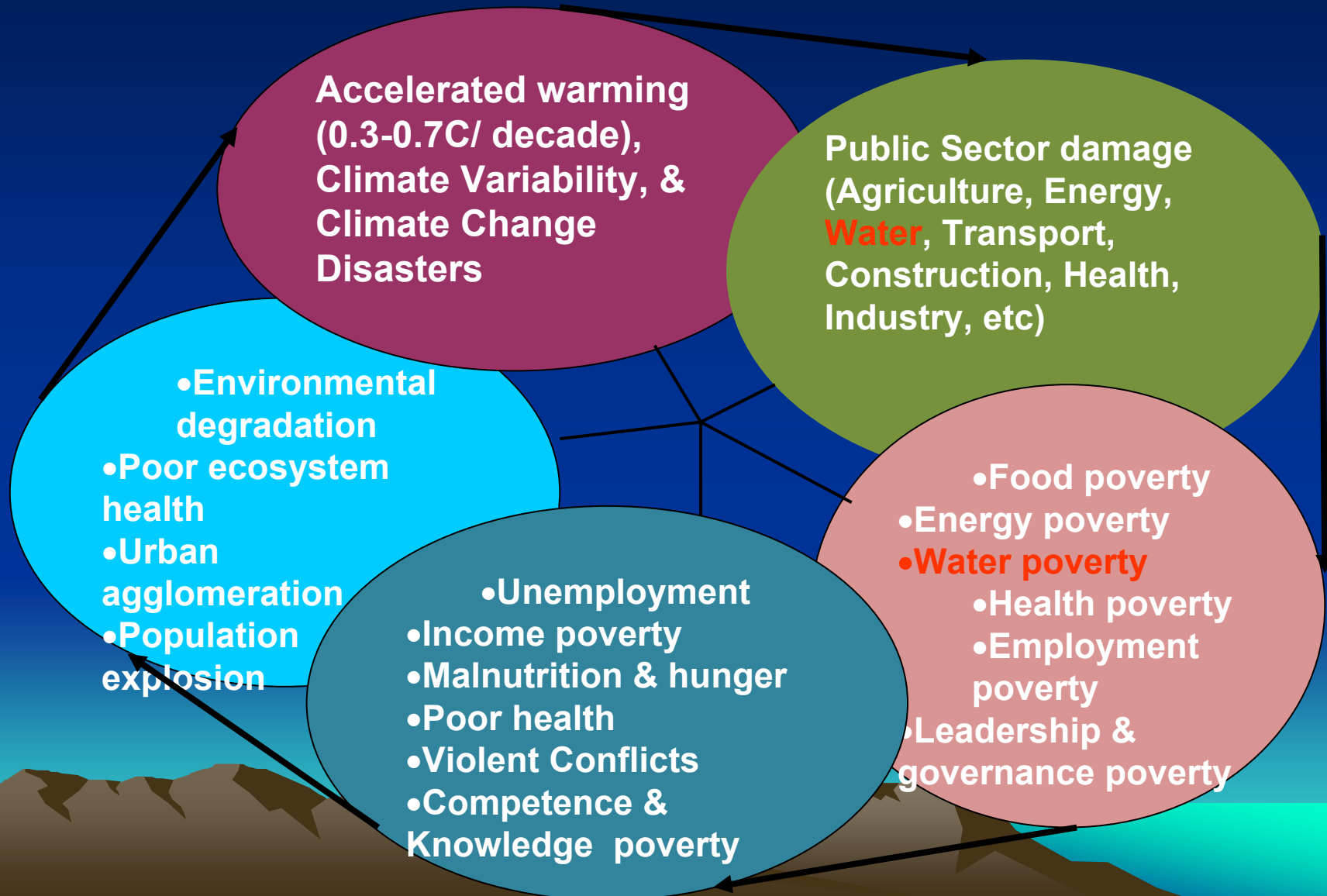


Table showing Share in Public Funding of selected Sectors relative to the cost of Climate Change Damage in Uganda

Sector	Sector Share (%) of national budget
Agriculture	4.3
Education	16.1
Health	9.0
Water & Environment	3.3
Works & Transport	13.2
Energy & Mineral Development	9.4
Tourism, Trade & Industry	0.9
Lands, Housing & Urban Development	0.2
Social Development	0.5
Security	9.3
Climate Change Damage	4.4

Uganda Plastics Waste: Case study



Kampala Plastics plants continue to churn out plastics



Plastic wastes mgt strategy 1:

Recycling

- Only Nile plastics and Midpoint investment manufacture biodegradable plastics
- Employ 200 workers; > 60% P7 education
- 45% males; 55% females

Plastic wastes mgt strategy 2: use biodegradable plastics

- 8 recycling industries
- **Plastic Recycling Industry** - the leader; 20 permanent staff & 45 casuals; 80% women.
- Next 2 yrs > 90% plastics companies to recycle and produce biodegradable plastics.

1. Clogging of Nakivubo Channel in Kampala after a heavy down pour



Clog waterways and drainage channels

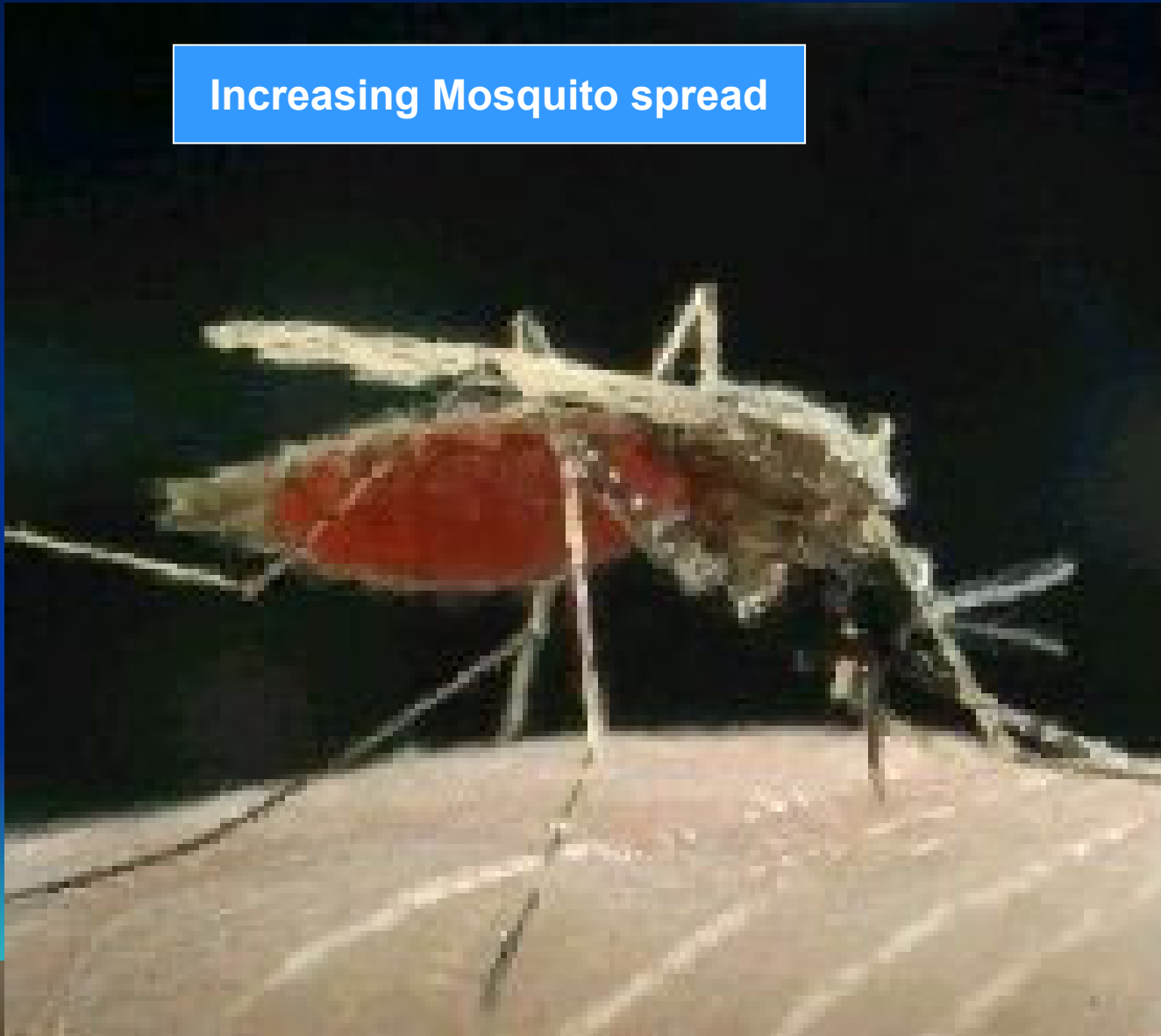
- floods in low land areas
- roads in slums are impassable (cholera)
- Breeding sites for disease vectors especially mosquitoes (increasing malaria prevalence)

Floods Complex; need for climate proofing



Pests & Disease Epidemics

Increasing Mosquito spread



2. Cocktail urban development precipitated by market economy & globalisation: mingling the rich & poor people, with animals, crops, plastics, & other solid waste



Urban mingling of people, animals, & plastics



- 3000 tons of plastic bags dumped into soils annually
- Declining soil and agriculture productivity, the backbone of national economy
- > 60% of stray cattle death caused by polythene bags consumption

Mingling of people & animals, coupled with poor sanitation & plastics toilets in slums is a perfect incubator for emergence & reemergence of diseases



Mingling manure with glass and plastics is a complication in the management of solid wastes like plastics



Private sector response: Alternative use of Plastic waste: includes making bags, making building bricks



- Many indirectly employed by plastic recycling companies (collecting plastics from garbage bins and landfills). No official figures from this green occupation.
- Skills development being done privately on how to turn waste into useful products

Government Response

1. Private sector led economy.
2. Government gives tax holidays and guarantees loans from international banks
3. No observable response towards supporting training in training institutions on plastic recycling.
4. Technology requirements. 2007/8 FY, all East African countries agreed to ban polythene. Little progress. Instead, Opting to give time to companies to develop recycling and development of biodegradable polythene and the total ban may not be implemented
5. Little / No public education about plastic waste management
6. Policy and strategy in place. But underfunding.
7. Renewed interest in vocational training by MOES. Competent trainers and curricula required.
8. Blended Curricula and training model recently approved by a Government-Academia (Makerere University).

Where next for Green Education in SSA? Public education? Pre-service training; In-service training; Systems development



1. Training of all manufacturers of plastics the process of recycling used plastics.
2. Training in the technology of making biodegradable plastics
3. Training in the technology of conversion of used plastic into other useful products.
4. Green skills for Urban development; Land use; health planning; Agriculture; tourism
5. Greening sectoral planning & development
6. Climate change unit has been established to coordinate

THANK YOU

