




IMPORTANCE OF ECOSYSTEM SERVICES TO UGANDA

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1






IMPORTANCE OF ECOSYSTEM SERVICES IN UGANDA

- **Ecosystems** are a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit (**Definition by the Convention on Biological Diversity**)
- Thus an ecosystem is a biological environment consisting of **living organisms** in that particular environment as well as the **non-living (physical component)** of the environment.
- Uganda is endowed with a rich natural resource base resulting from different ecosystems, namely forests, wetlands, savanna, hilly and mountainous areas, water bodies (lakes, rivers, streams) –Hence the reference to it as the Pearl of Africa, Gifted by Nature

3/26/2011









IMPORTANCE OF ECOSYSTEM SERVICES IN UGANDA

- In economic terms natural resources can be defined as assets that have been furnished by nature and can be exploited for man's welfare and livelihood.
- Uganda's land area (estimated at 241,500km²) consisting of 35% farmland, 21% grassland, 20% forest/woodlands, 15% water bodies, 6% bushland and 3% commercial farms/urban areas
- The different ecosystems provide diverse ecosystems services which are ecologically, socially and economically important to the local communities and country at large.

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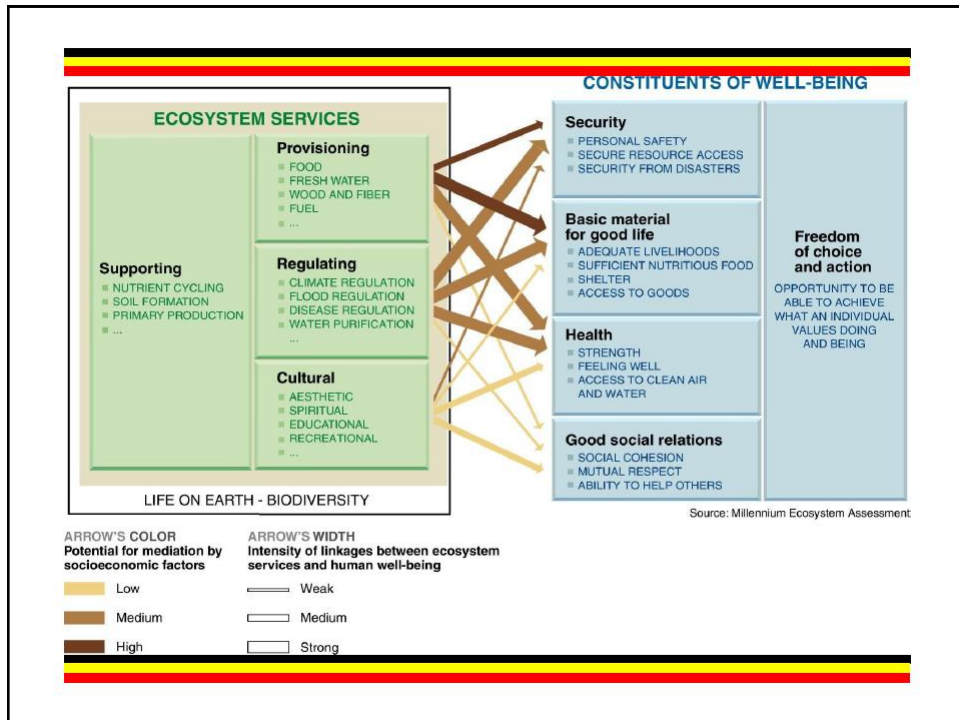



IMPORTANCE OF ECOSYSTEM SERVICES IN UGANDA


- The ecosystem services provided by the different ecosystems in Uganda fall within the four broad categories of ecosystem services:
 1. Provisioning,
 2. Supporting,
 3. Regulating and
 4. Cultural

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Uganda



⇒ **ECOSYSTEM SERVICES AND LIVELIHOODS OF LOCAL COMMUNITIES**

- ⇒ Over 80% of the population in Uganda depend on subsistence agriculture for their livelihoods and these are mainly the poor rural communities
- ⇒ The agricultural production systems are rain fed and therefore dependent on reliability of rainfall.
- ⇒ Nearly all farming methods are organic and thus rely on the nutrient re-cycling from natural processes
- ⇒

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⇒ **IMPORTANCE OF ECOSYSTEM SERVICES**

- ⇒ The gross economic output attributable to biological resource use in the fisheries, forestry, tourism, agriculture and energy sectors is estimated to be in excess of US\$ 546 Million a year
- ⇒ The ecosystem services from biodiversity are estimated US\$ 200 million a year. Very vital to agriculture is the services from pollinators for example bees and birds.
- ⇒ Globally, approximately **75% of wild and cultivated plant species are pollinated by bees. The value of pollination to agricultural production worldwide is currently estimated to be worth €153 billion per annum**

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⇒ **IMPORTANCE OF ECOSYSTEM SERVICES**

- ⇒ In terms of energy, only about 8% of the population of Uganda (now estimated at about 31 million) have access to/use electricity, the rest of the population are dependent on firewood/biomass.
- ⇒ **90 % of energy is biomass – Natural tropical forest and woodlands-firewood (rural), charcoal- urban**
- ⇒ It is estimated that between **16-18 million tonnes of firewood are consumed annually** as domestic firewood while another **4 million tonnes of charcoal are consumed annually.**

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- **IMPORTANCE OF ECOSYSTEM SERVICES**
- The diverse ecosystems in Uganda has blessed the country with a rich biodiversity upon which local communities depend for their livelihoods for example:
 - Tangible products forest products– food, water, medicine, construction materials, intangible products/services – cultural, soil erosion control, mitigation against climate change
 - **Wetlands** – food, water, medicine, construction materials, while the intangible benefits include – water purification, storm water/flood regulation, mitigation against climate change

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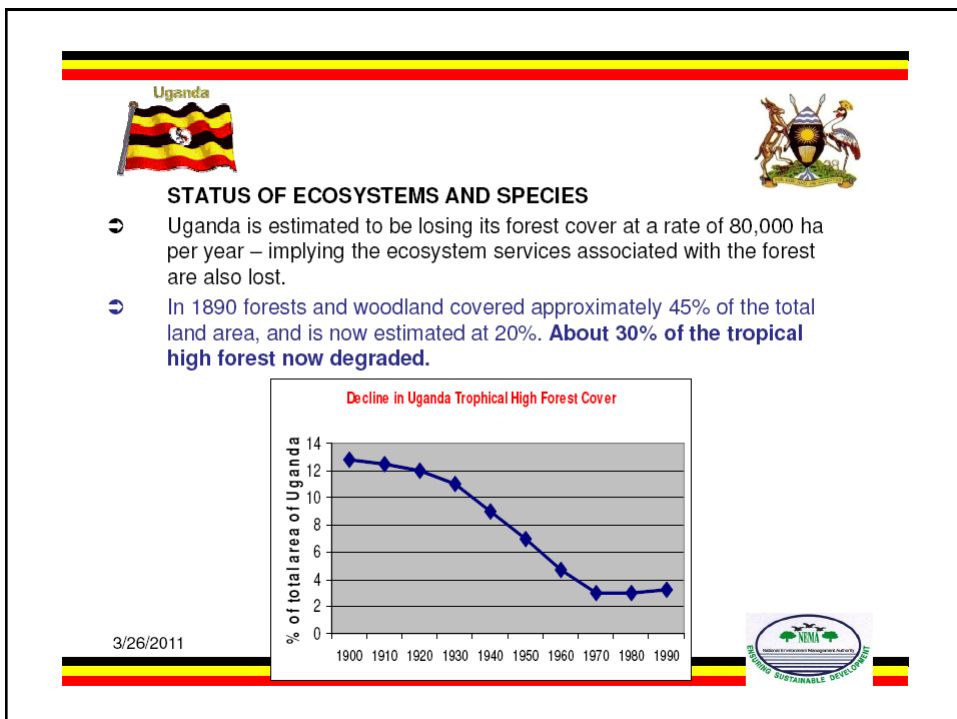
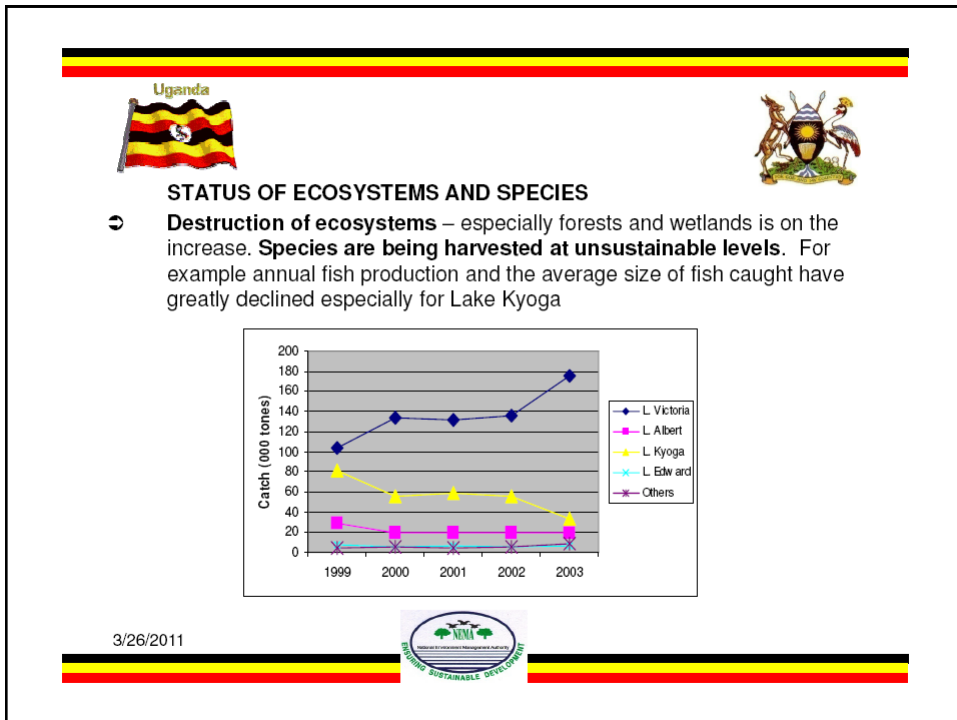
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- **IMPORTANCE OF ECOSYSTEM SERVICES**
- The annual production value of wetlands range between \$300-600 per ha while the purification and carbon sequestration is estimated at about US10,000 per ha.
- **Considering that wetlands in Uganda cover approximately 29,000 km², the production and carbon sequestration value of wetlands in Uganda is huge;**
- The contribution of waetlands in purification of water runs in millions. For example Nakivubo wetland in Kampala alone contributes to US\$1.7 million annually to the economy as a tertiary wastewater treatment..

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STATUS OF ECOSYSTEMS AND SPECIES

- **Soil erosion and land degradation are becoming more pronounced country. Rivers are getting more silted.** Recent estimates of costs of natural resource degradation in the country is put at 17% of the GDP of which 11% is constituted by soil degradation. **The annual economic value of soil nutrient loss is estimated at US \$ 625m**
- Uganda is now estimated to be losing 80,000 ha of its forest cover annually. The biggest loss is in the private forests and forests on communal lands (which is 70% of the total forest cover in the country)
- Deforestation and rangeland degradation is estimated to costing Uganda US\$ 1.8 million and US\$ 400 million while loss of wildlife is estimated at US\$ 26 million annually

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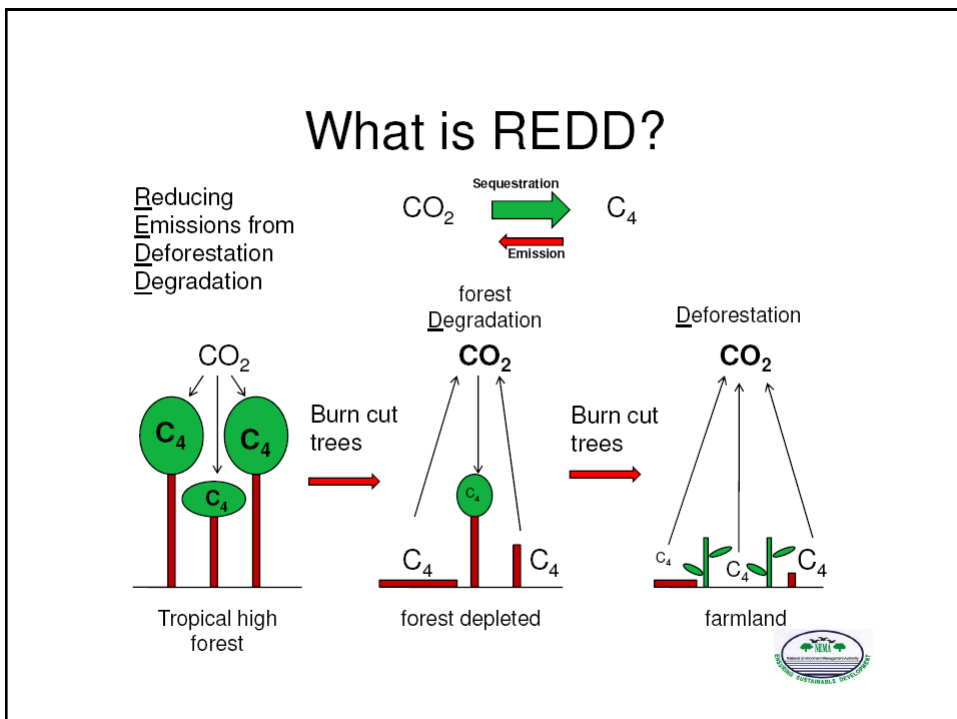
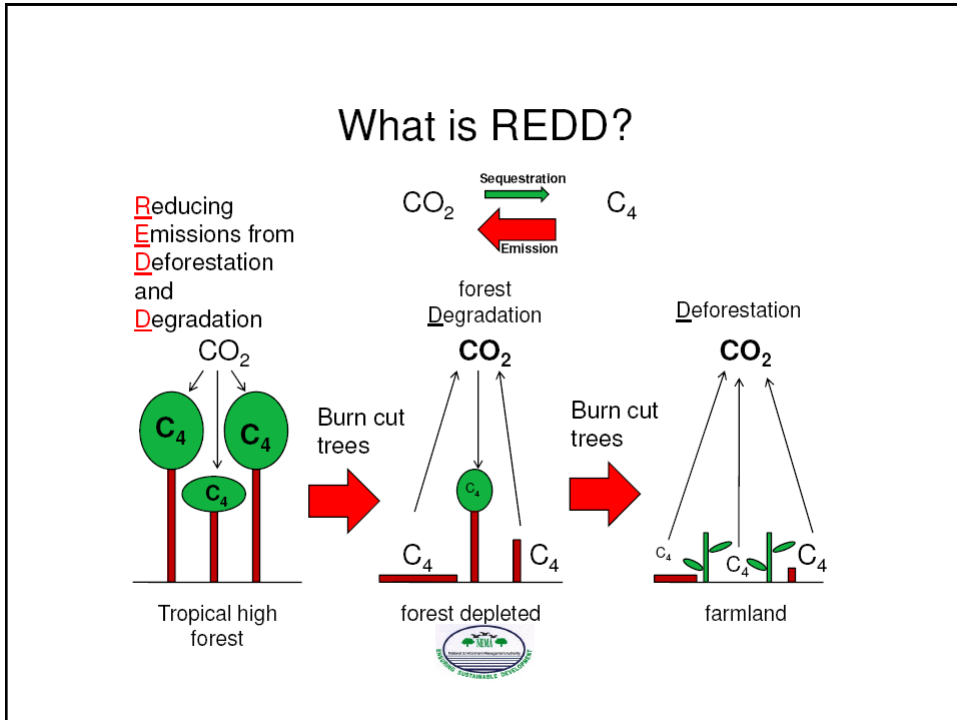



WHY UGANDA NEEDS ECOSYSTEM SERVICES

- **Ecosystem services form the foundation for human wellbeing on earth. In Uganda ecosystem services is needed for:**
 - Poverty eradication
 - Provision of water and water purification
 - Flood regulations - wetlands
 - Sustainable national development
 - Cultural values
 - Mitigation against climate change – Reducing Emissions
 - Maintenance of fertile soils for agricultural productivity
 - Hydropower – clean and environmentally friendly
 - Reducing biodiversity loss outside protected areas

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CONCLUSIONS

1. Environment degradation leads to loss of ecosystem services. Loss of ecosystems services impacts negatively on individuals, society and national development.
2. Interventions (incentive measures) that promote the protection and sustainable use of ecosystems are vital for the present and future generations.

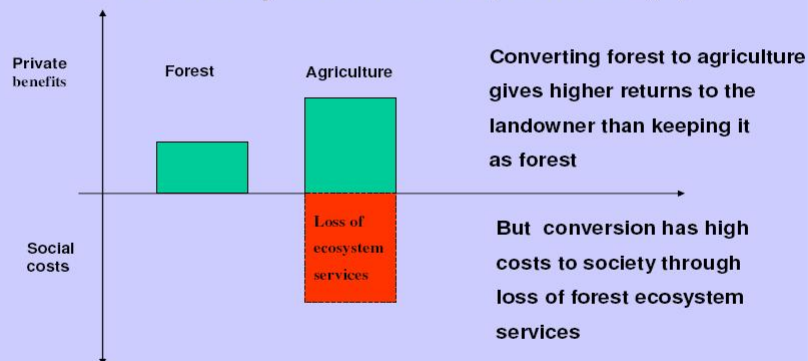
WAY FORWARD

Interventions for **PES should be mainstreamed** in Government development programmes and activities at the national, district and local levels to reduce environmental degradation (see illustration on the theory behind PES)

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The theory behind the practice (1)





The theory behind the practice (2)

