



PRIORITIES FOR SUSTAINABLE SOIL MANAGEMENT IN UGANDA

*A Presentation at
The African Soil Partnership*

By

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The Pearl Of Africa

Good climate and fertile soils

UGANDA



Location

- Uganda is a landlocked country located in East Africa between latitude 1° South and 4° North and longitude 30° - 35° East.
- It is bordered by Tanzania in the South, Kenya in the East, Sudan to the North, Democratic Republic in the West and Rwanda in the Southwest.

Area

- It covers 142,000 square Kilometers.
- About 21% of the land is cultivated.
- 45% of the country is woodland and grassland. However some of this has been cleared for roads, settlements and farmland.
- 13% of the country has been set aside for national parks, forests and game reserves.

Climate

- Uganda has an equatorial climate moderated by altitude.
- Rainfall is well distributed throughout the country except in the northeastern corner.
- The mean annual rainfall ranges from 500mm in the northeast (Karamoja region) to 2100mm in the Lake Victoria region in the southeast.
- Mean annual temperatures range from about 16 degrees in the southwestern highlands to 25 degrees in the north west; but in the northeast, temperatures exceed 30 degrees centigrade about 254 days per year.

Population

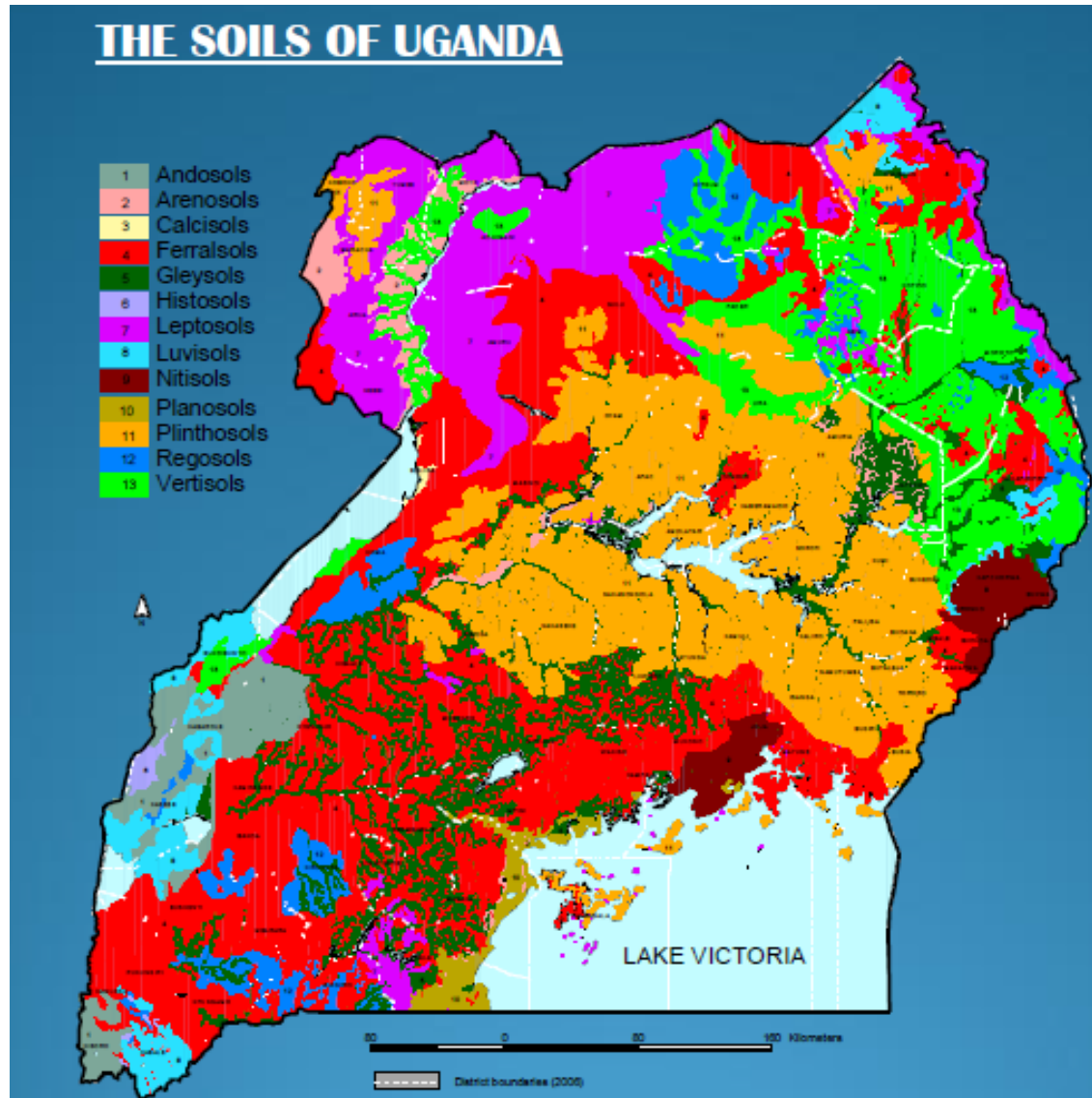
- The population is about 34 millions with a growth rate of 3.2 % per annum. About 80% live in the rural areas and derive their livelihoods from agriculture.
- The majority of the farmers are smallholders with an average land size of about 2 ha.
- Large oil deposits have been discovered. Other natural resource include forests, cement, cobalt, copper, gold, timber, marble, wild life.

Agriculture

- Agriculture contributes about 26% to GDP, the largest sources of export earnings, about 53% of export earning from 2007 – 2012/13 and employs over 75% of the labor force, provides raw materials for agro based industries.
- It is the main driver to economic development of the country
- Uganda has a potential to produce a range of crops. Major cash crops include coffee, Oil palm, cocoa, cotton, tea, sugarcane and food crops includes; rice, bananas, maize, wheat, potatoes, sunflower, sorghum, cassava, fruits e.g. Oranges, mangoes, apples & horticultural crops.
- Over 60% of the crops are grown mainly for food.

Soils of Uganda

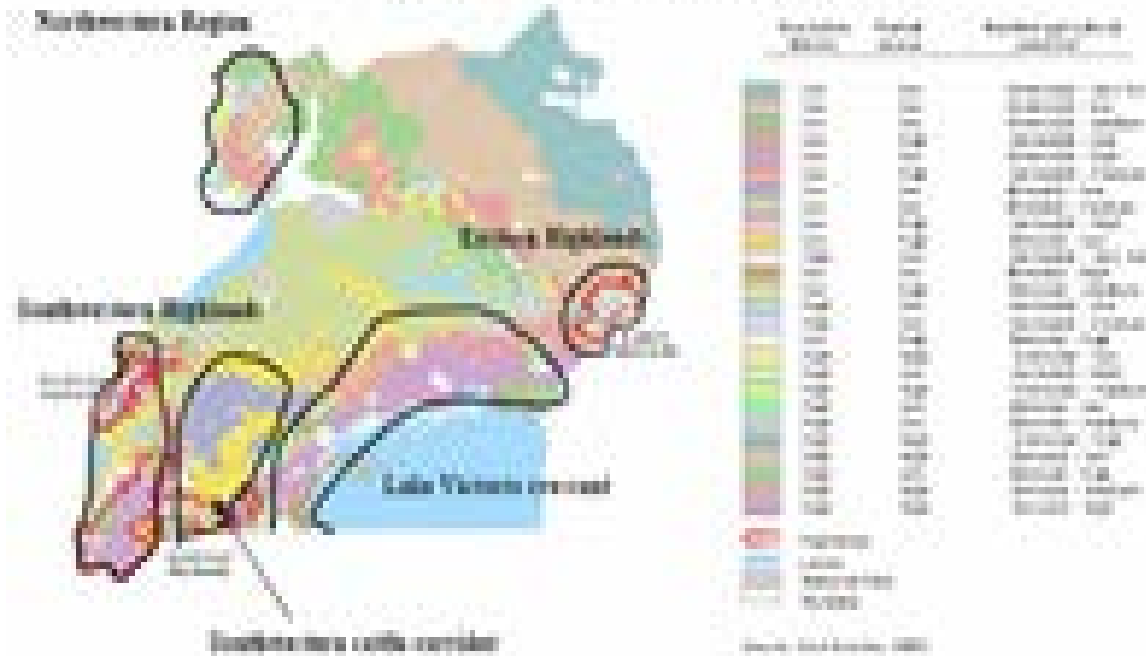
(By NARO)



Status of Land Degradation

- About 46% of Uganda's soils are degraded and 10% is very degraded
- Costs of natural resources degradation in the country estimated at 17% of GDP per year
- Key drivers for land degradation and low productivity on smallscale farms are lack of labour and capital to invest in sustainable land management, poverty and land fragmentation leading to over exploitation of land.
- Major forms of land degradation are soil erosion, decreasing soil fertility, bush burning, overgrazing, overcultivation, soil mining, landslides, agrochemicals pollution and deforestation.
- Main causes are high population growth rate leading to deforestation and encroachment of wetlands, poor methods of cultivation, bush burning, overgrazing.
- Land degradation effects expressed via declining yields, rural poverty, food insecurity, high cost of food etc

Development Domains in Uganda

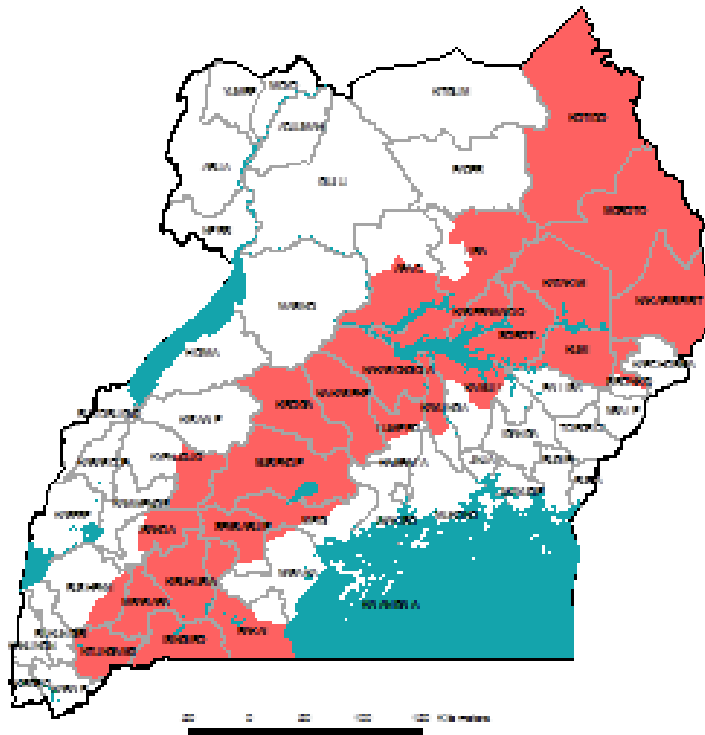


Lake Victoria Crescent

- Most urbanized region and therefore with high population
- Extensive pressure on land and lake based resources
- Point and non-point pollution of Lake Victoria

The Cattle Corridor

Characterized by low population density, low market access and low agro-ecological potential.



Bears the greatest impacts of land degradation

Degradation in Cattle Corridor

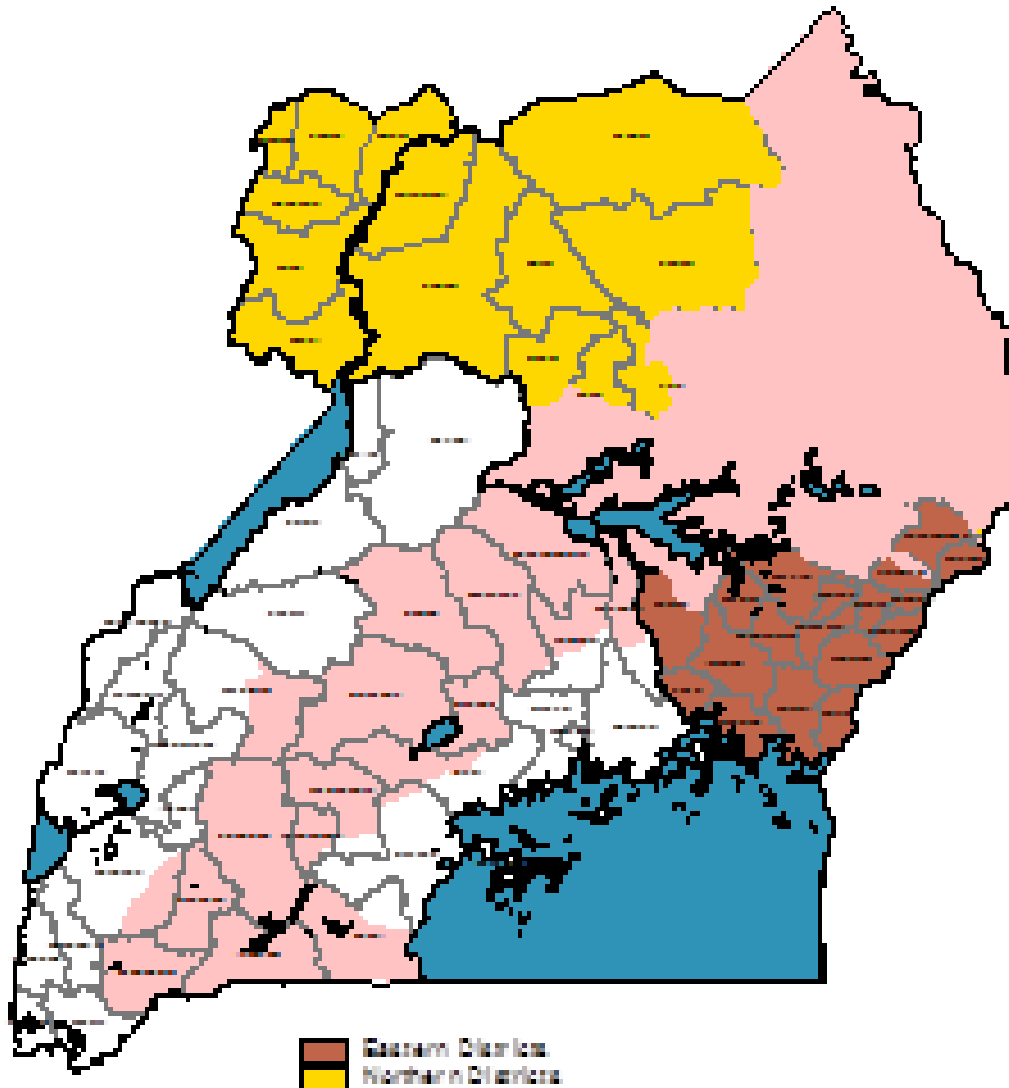


Eastern and Northern Uganda

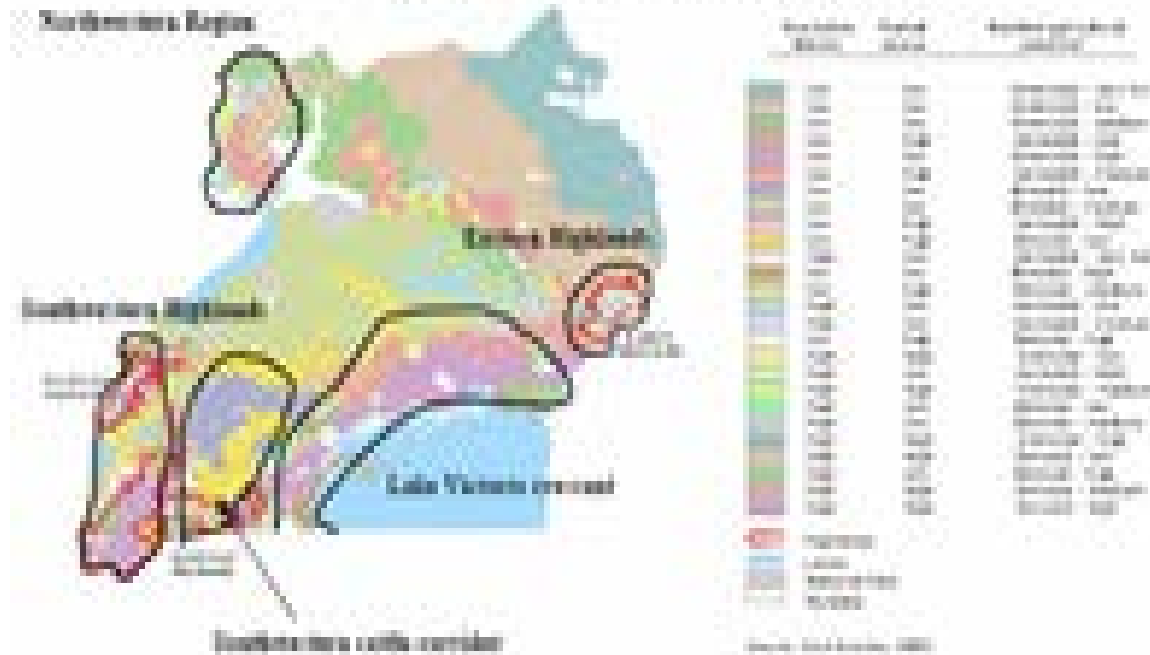
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Inherently low soil fertility and nutrient depletion is extreme

The poorest Households reduced fallow periods, deforestation, and extensive drainage of wetlands.

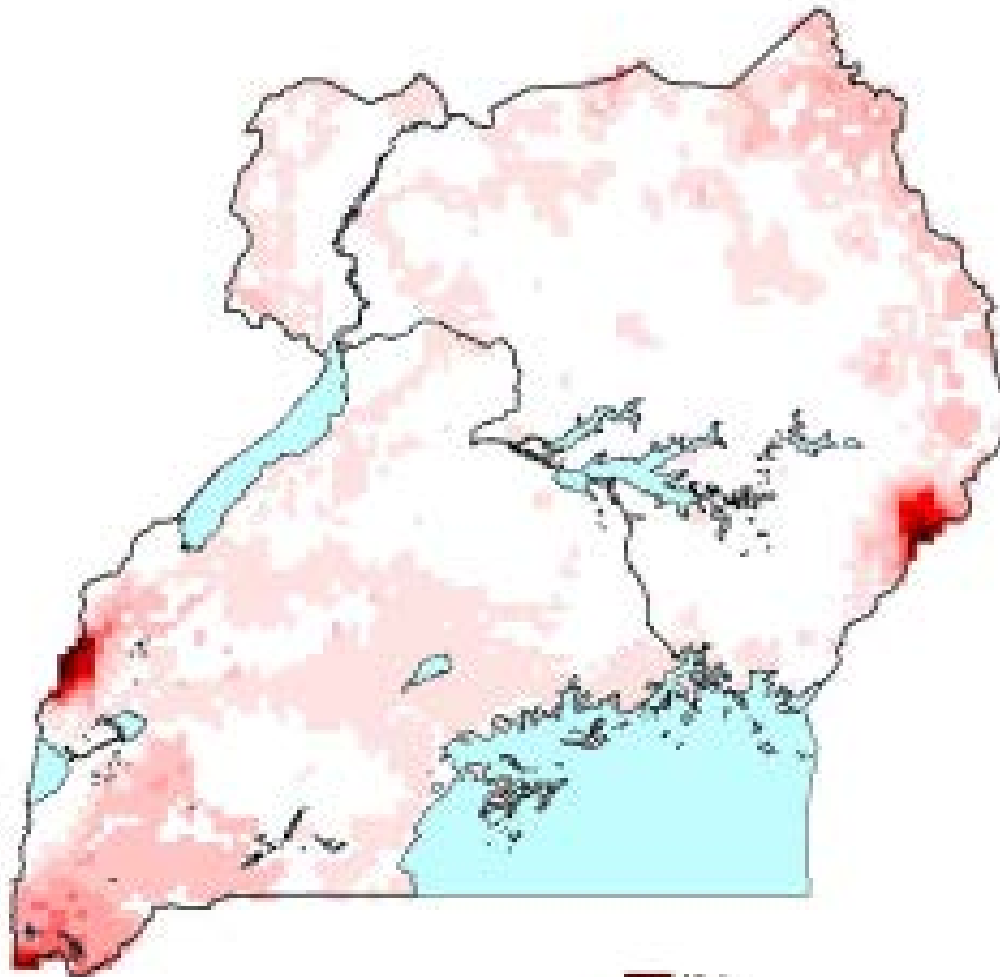


Development Domains in Uganda



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Southwestern and Eastern Highlands

high population
density;
extensive land
fragmentation;
High risk of
erosion

Degradation of terraces

Terraces in
western Uganda
being eroded



Erosion by Rivers

Erosion destroying crops, infrastructure, buildings, etc.

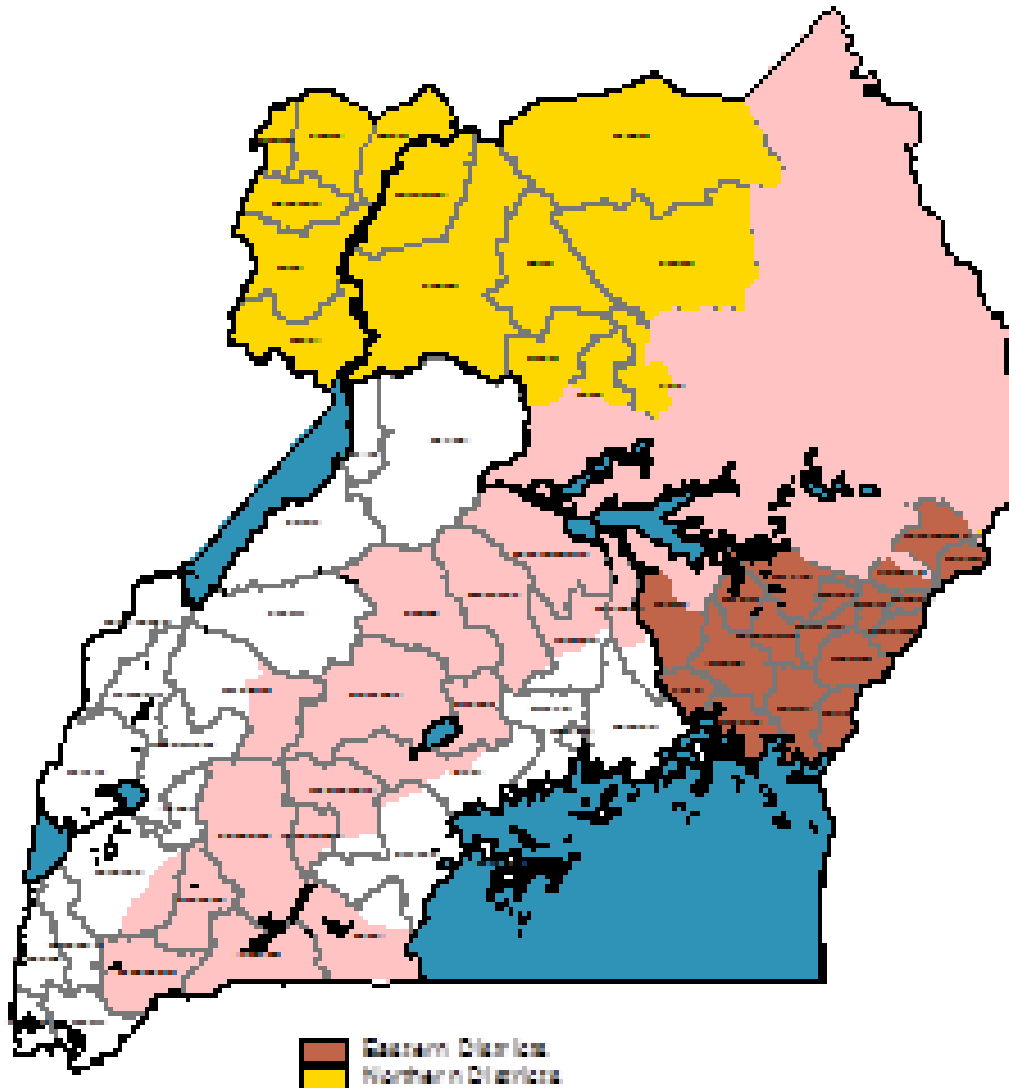


Eastern and Northern Uganda

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Indiscriminate burning



Institutional Arrangement

- In the Ministry of Agriculture, Animal Industry & Fisheries (MAAIF), Soil and Water Conservation and Water for Agricultural Production are under the Department of Infrastructural Development (Farm Development).
- Government ministries and government agencies such as Ministry of Water & Environment, Ministry of Energy & Mineral Development, NEMA, etc.
- Research Institutions
- Academia Public & private Universities and institutions, schools & colleges

Institutional Arrangements (Cont'd)

- Non Government Organizations e.g. Rural Enterprise Services Ltd, WWF, IUCN, IIRR, etc
- Faith based Organizations
- Donor sponsored projects that have been sponsored by COMESA, UNDP, Ireland, Norway, World Bank, etc

Policy environment to address soil degradation

Development of enabling environment for proper land use and management include

The National Land Use Policy; The Land Policy; The Draft National Soils Policy for Uganda; The Prohibition of the Burning of Grass Act; Cattle Grazing Act; The National Environment Management Policy for Uganda (1994); The National Environment (Minimum Standards for Management of Soil Quality) Regulations; National Forestry and Tree Planting Act; Regulations on Mountainous and Hilly Areas; Regulations on Wetlands, Riverbanks and Lakeshores

Priorities for Sustainable Soil Management

- Development of Land Suitability maps and Land Use Plans
- Updating the soils information/mapping
- Develop and operationalize of watershed management plans
- Developing Climate Smart Agriculture Programme
- Promotion of Sustainable Land Management Sustainable Land Management Practices/ Climate Smart Agriculture
- Rehabilitation/restoration of degraded agricultural landscapes

Priorities Cont'd

- Increase tree cover on agricultural landscape through promotion of agro forestry and afforestation with at least 60 tree nurseries. Strengthen and train cooperatives/groups in the development of SLM friendly value chains in
- Support development of local community alternative livelihood initiatives.
- Support communities to adopt wood fuel saving technologies
- Completion of fertilizer policy
- Develop climate agriculture smart programme

Priorities (cont'd)

- Mainstream sustainable soil management in agricultural sector development plan
- Developing guidelines to mainstream climate change issues in agricultural sector
- Development of Climate Smart Agriculture Programme is in progress
- Developing Fertilizer policy to improve access to fertilizers to restore degraded soils
- Draft National Irrigation Policy

Government Budget for SLM

The multispectral Uganda Investment framework for Sustainable Land Management Investment Framework will cost US\$ 245,305,000 for 10 years

Some ongoing/Ended Donor supported projects

- **NB: These projects are small and cover small areas of the country but doing tremendous work**
- MoFPED to various ministries and agencies
- A 5-year Agricultural Technology and Agribusiness Advisory Services project (ATAAS) **SLM Component of US \$ 7,200,000** -2012-2016 (on going)
- A 4-year GEF-UNDP funded-SLM project to overcome land degradation in the cattle corridor” of **US \$ 1,830,730** from GEF (2011-2015) (ongoing)

Ongoing projects (Cont'd)

- FAO in drought resilience, climate change, and slm
- A 4 –year (2014-2017) GEF-UNDP project **US \$ 3,000,000** Addressing barriers to adoption of improved charcoal production technologies and sustainable land management practices through an integrated approach”
- A COMESA-UNDP FAO project for Enhancing Adaptation to Climate Smart Agriculture now on-going in five districts of Eastern Uganda of **US \$1,000,000** from Norway, DFID,EU(2012-2015)
- Ecosystem-based adaptation (EBA) project for Mt. Elgon A **US \$ 2.3m**

Some projects (cont'd)

- A 3 year (2012-2014) GEF/UNEP Stimulating Community Initiatives in Sustainable Land Management (SCI-SLM) project – US \$**100,000**
- A 4 year (2011-2014) UNDP project on Improving Policies and Strategies for Sustainable Environment, Natural Resources and Climate Risk Management implemented country-wide.
- Strengthening Sustainable Environment, Natural Resources Management, Climate change Adaptation and Mitigation in Uganda (UNDP/WWF SENRMCAM Project) (ending)
- A 4-year SLM Mainstreaming Project funded by the Government of Norway and the UNDP/DDC to the tune of **US \$ 4,430,730** (2010-2013) –cattle corridor. (ended)

Some projects Cont'd

- A 5 year (2014-2018) UNDP/GEF Strengthening Climate Information and Early Warning Systems in Uganda **US \$ 4 million** (on going)
- Kagera Trans-boundary Agro-ecosystem Management Project
- Some projects by AGRA on soil mapping
- Initiatives by various NGOs like WWF, REDS and PELUM (Participatory Ecological Land Use Management) a regional Association in East Central and Southern Africa

Technologies being promoted under CSA

Include improved farming methods e.g. Mulching, Crop rotation, Fallowing, Integrated soil nutrient and pest management practices for water retention and maintaining soil structure and soil biodiversity and improved yields. About 1million farmers are targeted under CSA in 10 years time



Contour Strip Farming



Minimum Soil Disturbance e.g. Basin planting and ripping



Contour Hedgerows and retention ditches



Fuel saving technologies

to conserve wood fuel and save our forests



Agro forestry



Night Kraaling to Restore Degraded Rangelands



Integrated mulching and drip irrigation giving more yields



Some of the Strategies Being Used

- Multi-sectoral approach involving various ministries, NGOs, Faith based organization, research, academia, etc
- A multi-sectoral approach involving all state and non state stakeholders
- Research in soil management practices
- Soil fertility mapping one out of sixteen maps done by NARO
- Mainstreaming sustainable soil management in all government sectors that deal with natural resources
- Integrated soil nutrient management

Building capacities of Central & local governments, and NGOs

- . Recruiting more staff
at central and local
governments.

Training of

- . Central and local
government staff

- . NGOs

- . Teachers

- . Faith based
organizations



Involvement of schools

- . Training staff
- . Training students
- . Developing school curriculum for conservation smart agriculture



Involvement of women, youth and other vulnerable groups in sustainable soil management



Women play the biggest role in agriculture

Use of Volunteers



Some Constraints to Addressing Land Degradation

- Inadequate investment in sustainable soil management and alternative livelihoods
- Poverty and high dependency on extraction of NR for income
- High cost of external inputs e.g. fertilizers and water harvesting facilities
- Limited knowledge of Sustainable Soil Management
- Inadequate extension services
- Limited research capacity
- Use of rudimentary tools
- Lack of credit facilities and high interest rates where credit is available
- Inadequate incentives for the private sector to provide services in sustainable soil management

**Looking forward to
rehabilitated, preserved,
protected and developed
soils for a health and
prosperous human race and
environment**

THANK YOU