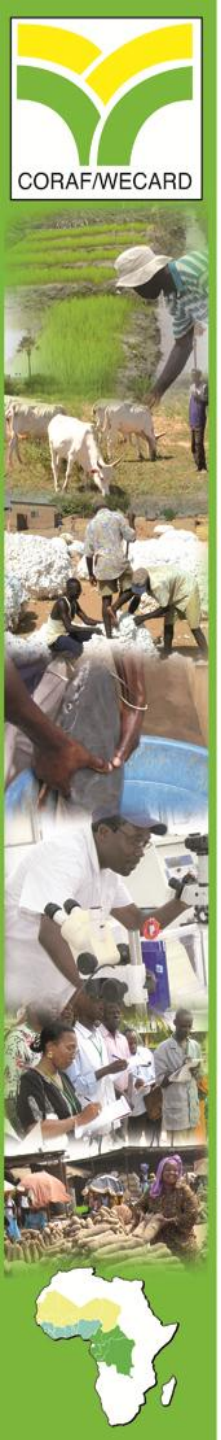

Status and challenges of sustainable soil management in West and Central Africa

Presentation by

A. Jalloh, Manager, Natural Resources Management Programme, CORAF/WECARD

Launch of Global Soil Partnership in Western and Central Africa; 4-6 February 2013, Accra, Ghana

Presentation Outline

- General overview of agriculture in West and Central Africa
- Constraints to agricultural production
- Opportunities for soil and water management (SWM)
- CORAF/WECARD strategy and initiatives for SWM

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Agriculture in West and Central Africa

The West and Central Africa sub-region has a total population of about 318 million people; and

- agriculture accounts for more than **35% of GDP** and
- more than **40% of its exports**.

Approximately 70% live in the rural areas and more than a third live on less than one dollar per day.

Most of the agricultural sector is characterized by small-holder farms with heavy reliance on rain-fed production systems, natural methods of soil fertility maintenance and limited access to markets

Research coordination, climate and soils of WCA

CORAF/WECARD

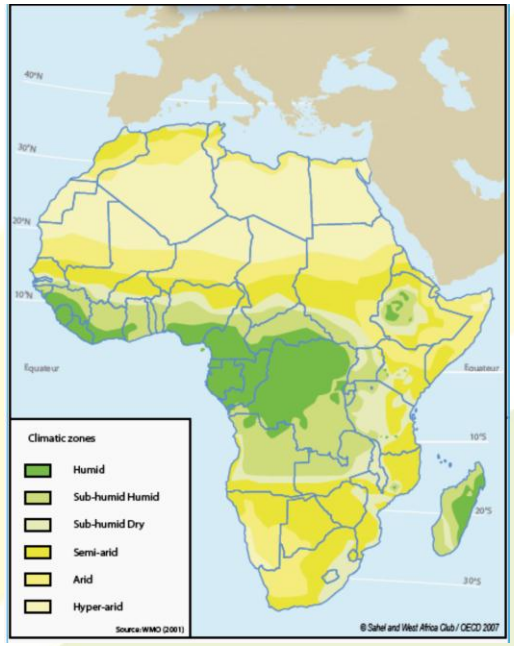
FARA

North Africa SRO

ASARECA
Transforming Agriculture for Improved Livelihoods

CORAF/WECARD

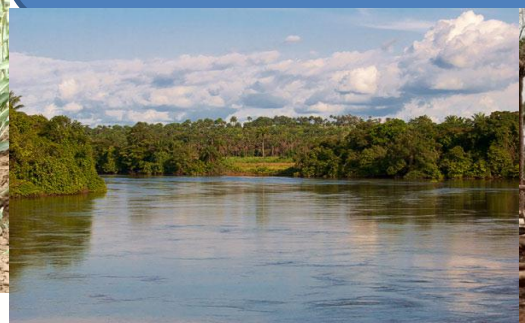
CCARDESA



SEMI ARID: **Lixisols** Arenosols and Vertisols

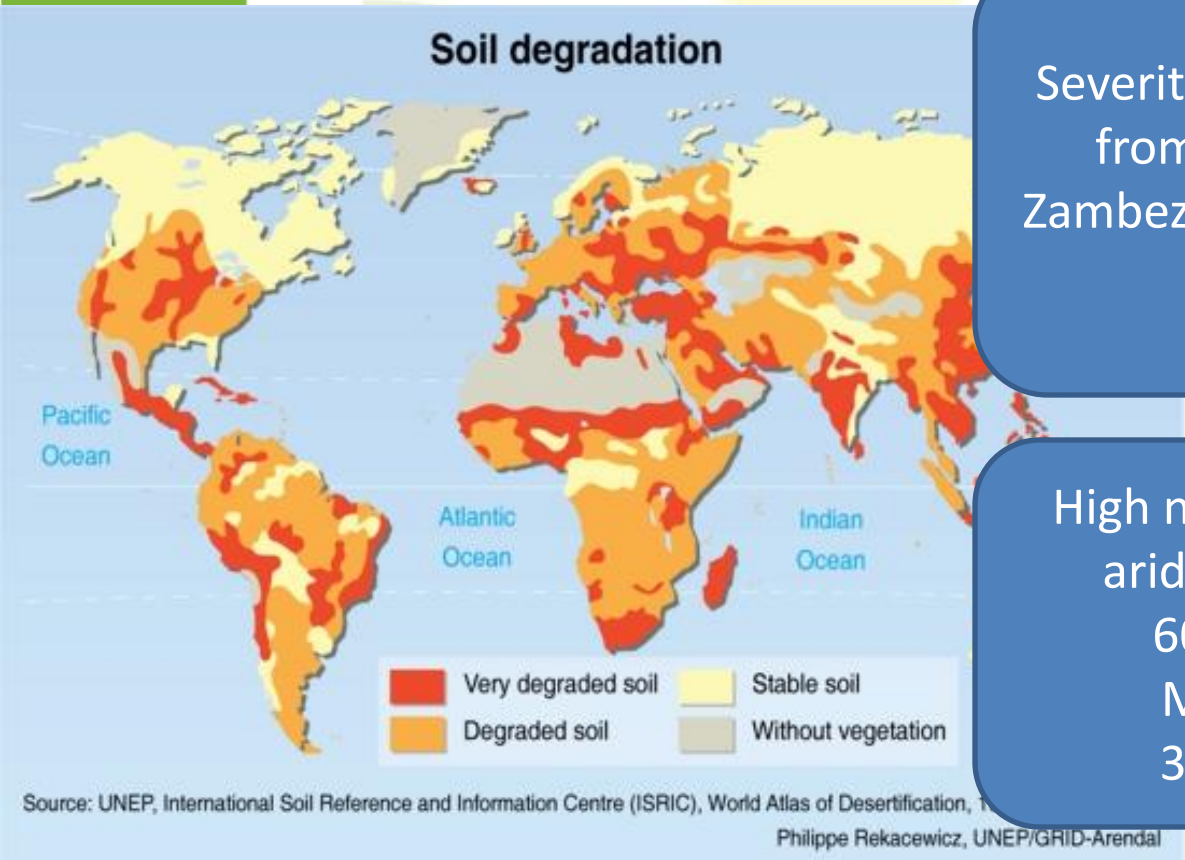
SUB HUMID: **Ferrrasols , Lixisols,** Acrisols, Arenosols, and Nitosols

HUMID: **Ferrasols, Acrisols,** Arenosols, Nitosols and Lixisols



Constraints to agricultural production in WCA

Sub-Saharan Africa is faced with bio-physical constraints such as droughts, soil acidity, nutrient depleted and degraded agricultural and pastoral lands, etc., which impinge on agricultural development .



Severity of land degradation increases from 24 – 29% in the Congo and Zambezi basins to 78 -86 % in the Niger and lake Chad basins

High nutrient losses in the semi arid, arid and Sudano Sahelian areas:
60 – 100kg/ha $N+P_2O_5+K_2O$
Moderate in Central Africa
30 – 60 kg/ha $N+P_2O_5+K_2O$

CORAF/WECARD – Programmes

1. Livestock, Fisheries and Aquaculture
2. Staple Crops
3. Non-staple crops
4. **Natural Resource Management**
5. Biotechnology and Biosafety
6. Policy, Markets and Trade
7. Knowledge Management
8. Capacity Strengthening and Co-ordination

Constraints to sustainable SWM

- Climate variability and climate change

- Unfavourable biophysical factors
- Inappropriate and low productive farming systems

Cross cutting constraints

- Unfavourable socioeconomic factors
- Poor management of irrigated systems
- Inadequate knowledge of SWM practices and rate of adoption
- Inadequate data and information on the resource base
- Low consideration of traditional knowledge in soil water management
- Inappropriate Research/ Extension approach and services
- Poor governance, inadequate policy formulation and implementation

Opportuinities

SAHELIAN ZONE

- Availability of SWM technologies
- Long term data on agro-meteorology

CENTRAL AFRICA ZONE

- Availability of SWM technologies
- Good water resources

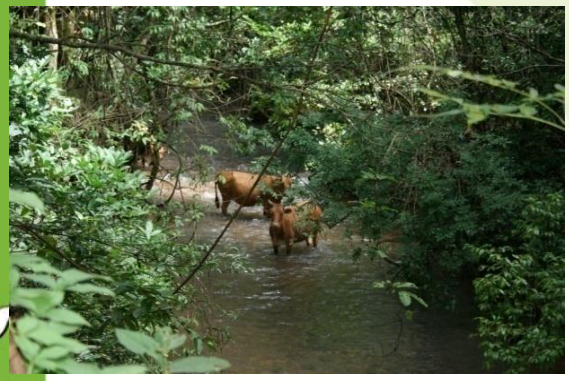
CROSS CUTTING (SAHELIAN/CENTRAL AFRICA/WEST AFRICA COASTAL ZONES)

- Availability of land for irrigation
- Involvement of NGO's in SWM
- Concern by Farmers organization for SWM
- Decentralization of research and development services
- International conventions and global commitment to tackle the effects of climate change and desertification
- New agricultural research for development paradigm
- National plans related to soil and water management
- Regional strategies and programmes on SWM

CORAF/WECARD Strategy

A three pronged overarching strategy, underpinned by social and economic Considerations

1. Prevention of the degradation of the natural resources
2. Preservation and improvement of the productivity of natural resources
3. Rehabilitation of degraded resources



NRM Research priority setting

Scoping study for NRM research identified the following four major research themes.

- Sustainable management of land and water and adaptation to **climate change**
- Sustainable intensification and diversification of agriculture
- Biodiversity (Animal, plants, fisheries) conservation and improvement
- Socioeconomics and policy research on natural resource management

- Stakeholders at the validation workshop recommended that **Climate Change** should be considered as a key and cross cutting issue in natural resources management.

Sub themes - biophycical

Sustainable management of land and water and adaptation to climate change

- Integrated soil fertility management
- Water management in rainfed systems
- Reclamation of degraded lands
- Sustainable land and water management and climate change

Sustainable intensification and diversification of agriculture

- Integrated soil fertility management
- Integrated crop/livestock/aquaculture system
- Management of water : access, availability and quality
- Adaptation to climate change with respect to new crop varieties, breeds of livestock, fish and water resources
- Promotion and development of efficient irrigation
- Integrated pest management

Sub theme - Socioeconomics

Socieconomics and policy research on natural resource management

- Economic and social impacts of policies and programmes on resource management at different levels
- Impacts of natural resource management technologies at different scales
- Adoption of natural resource management technologies at different scales
- Land tenure and management of natural resources
- Gender and natural resources management
- Financial and economic analysis of proposed natural resources management technologies
- Use of natural resources and improvement of livelihoods

CORAF/WECARD Initiatives

- *Nature and management of soils in West and Central Africa (WCA): A review to inform farming systems research in WCA*
- *Reviewing climate of WCA to inform farming systems research and development in the sub humid and semi arid agroecologies of the region*
- *AusAID funded projects on crop-livestock integration in the sub humid and semi arid regions of WCA*
- *Integrated Land and Water Management for Adaptation to Climate Variability and Change (ILWAC)*
- *AfricaInteract: Enabling research-to-policy linkage for adaptation to climate change in Africa*

Complementary action is required

- Out-scaling and up-scaling of proven soil management technological options to groups of soils and farmers with similar biophysical and socioeconomic circumstances
- Capacity building of NARS staff in the use of modern tools for assessing and mapping soil degradation and evaluating integrated soil fertility management options. Such tools would include Geographic Information Systems, Global Positioning Systems, and Decision Support Systems.

THANK YOU FOR YOUR ATTENTION

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