



5TH SCIENCE POLICY FORUM FOR BIODIVERSITY

SESSION 7: «SUSTAINABILITY & FOOD SYSTEMS/ AGRICULTURE: SCALING-UP AND MEASURING SUSTAINABILITY»

TRANSFORMATIVE ACTIONS TO SCALING UP SUSTAINABILITY AND FOOD SYSTEMS IN AFRICA

MS. NDEYE FATOU MAR, LAND DÉPARTEMENT COORDINATOR

MONTREAL, DECEMBER 12, 2022

THE OSS | INTERNATIONAL ORGANIZATION WITH AN AFRICAN VOCATION

Since 1992

26 African member countries

- **North Africa** : Algeria, Egypt, Libya, Morocco and Tunisia
- **West Africa** : Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Guinea Bissau, Mali, Mauritania, Niger, Nigeria and Senegal
- **Central Africa** : Cameroon, Central African Republic and Chad
- **East Africa** : Djibouti, Eritrea, Ethiopia, Kenya, Sudan, Somalia and Uganda

• 7 Northern member countries :

Belgium, Canada, France, Germany, Italy, Luxembourg and Switzerland

• 8 African S/R organizations :

APGMV, CBLT, CEN-SAD, CILSS, CRTEAN, CRU-BN, IGAD and UMA

• 2 Partner organizations :

FAO et CNULCD

• 3 NGOS (Civil Society) :

CARI, ENDA and RESAD

THE OSS | MISSION AND SERVICES

To support African countries in **the sustainable management of natural resources** in a context of particularly unfavorable **Climate Change**

Implementation of
multilateral agreements on
Desertification, Biodiversity
and Climate Change

Promotion of regional and
international initiatives
related to Africa's environmental
challenges

Definition of concepts and
harmonization of approaches and
methodologies related to
sustainable natural resources
management



Platform of North-South-South partnerships

Interface of science-policy articulations

Collaboration tool at the disposal of countries

THE OSS | 2021-2030 STRATEGY

To support Member Countries in the implementation of their Sustainable Development Policies

- A Scientific and Technical Program:

INTEGRATED AND CONCERTED MANAGEMENT OF NATURAL RESOURCES

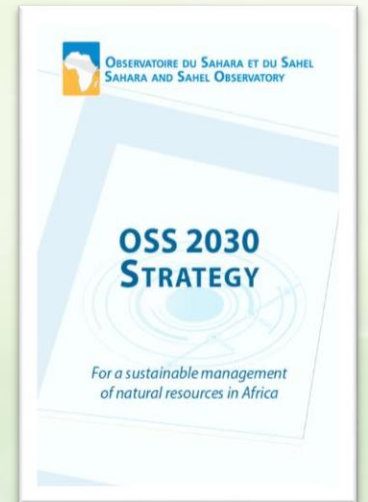
Sustainable Land Management and Mitigation of the effects of drought

Strengthening the resilience of populations and ecosystems



Contribution to the satisfaction of water needs through integrated management tools

Development of tools for the assessment of biodiversity and ecosystem services



- Cross-cutting programs :

Monitoring and Forecasting

Communication and Information

Capacity Building

AFRICA IN NUMBERS

UNDENIABLE NATURAL ASSETS

- One of the two (02) green lungs of the planet.
- 10% of the world's biological diversity.
- The only continent still harboring intact sets of large mammals on Earth.
- 08 of the 34 biomes on the planet.
- 20% of all known species of mammals, birds and plants.
- Many regional centers of endemic or endangered species.
- Indigenous and local knowledge for sustainable development.

CMAE 2019; GIZ 2013; UNEP-WCMC 2016, IPBES 2019

A SPECIAL AND ABUNDANT BIODIVERSITY



The main biomes in Africa

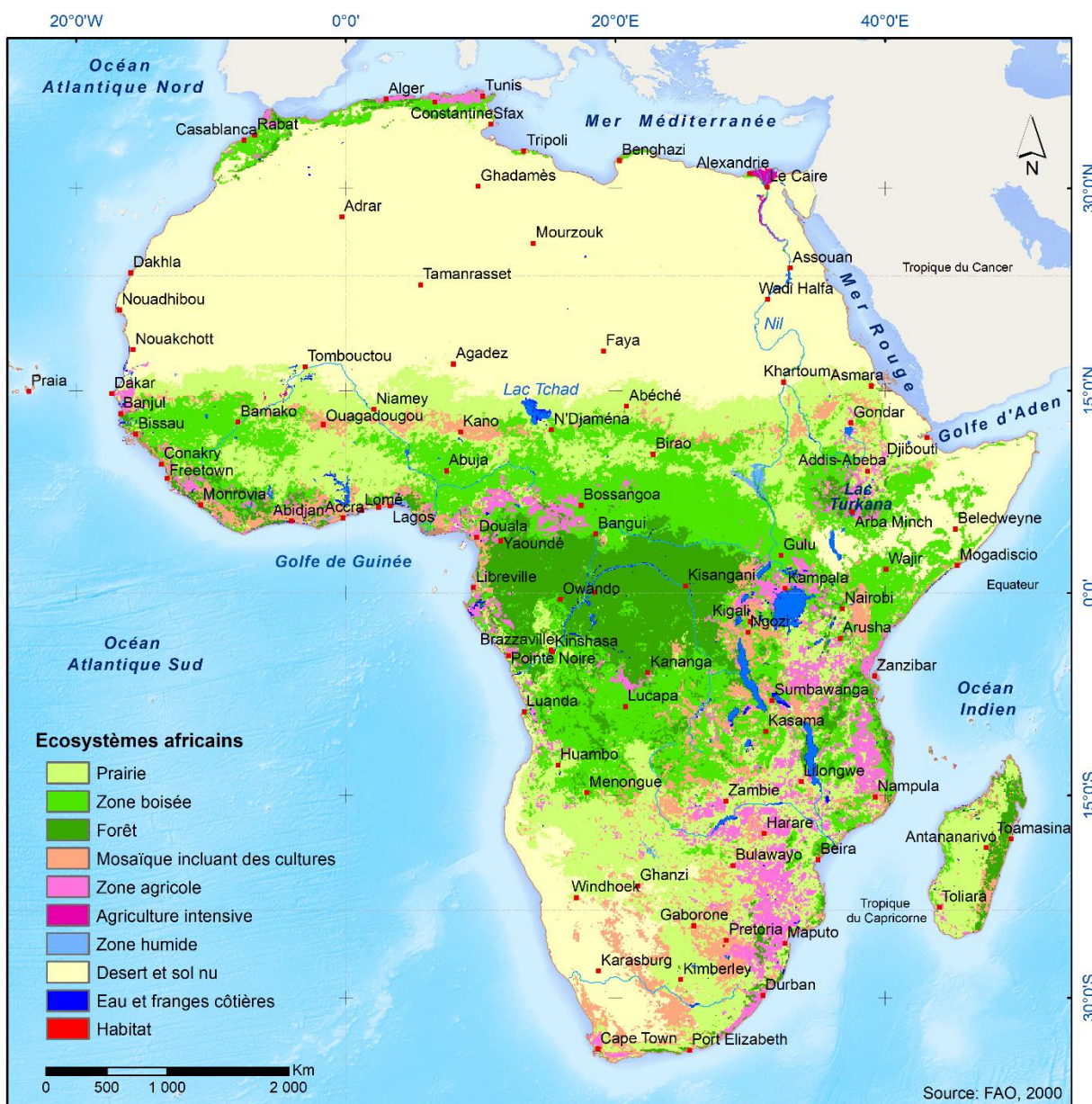
AFRICA IN NUMBERS

WEALTHY AND DIVERSIFIED ECOSYSTEMS

- 93 freshwater or wetland ecological regions.
- 14% of the continent's land surface and 2.6% of the seas are protected areas.
- 16.8% of global forest cover.
- 3.6 Km² of tropical forest spread over six (o6) countries.
- Low ecological and carbon footprints compared to other regions of the world.

CMAE 2019; GIZ 2013; UNEP-WCMC 2016, IPBES 2019

The biological wealth and diversity of Africa's ecosystems generate goods and services that are indispensable to meet the needs of the populations.



The main ecosystems in Africa

CURRENT CHALLENGES IN THE REGIONAL LEVEL

Increase and intensification of extreme events Warming

- Evaporation, evapotranspiration
- Frequency of extreme rainfall events
- drying and degradation of soils, watercourses
- Aridification / erosion



Combination of physical challenges, (water scarcity and erratic rainfall) and critical demographic issues (poverty, food insecurity and overexploitation of natural resources due to unsustainable land use practices and high population growth)

Limited capacity and resources/Governance to be improved



Mitigation and Adaptation key priorities to :

- protect populations
- restore the integrity of water & land resources

**HUGE NEED FOR
DECISION SUPPORT
TOOLS**

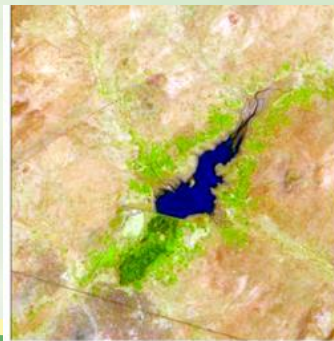


Droughts

Floods

Heat waves

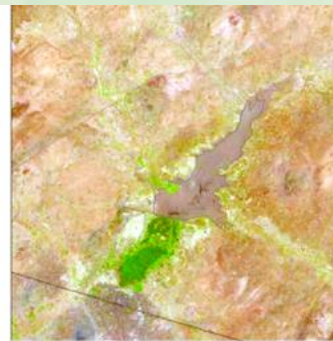
Bush fires



Février 2020



Mars 2020



Avril 2020

DESPITE ITS UNDENIABLE POTENTIAL, BIODIVERSITY IS DISAPPEARING

An alarming projection

Combination of **physical challenges** (water scarcity and inconsistent rainfall) and **critical demographic issues** (poverty, food insecurity and overexploitation of natural resources due to unsustainable use practices and high population growth).



A

Climate change could lead to the loss of African biodiversity over the next 50 to 100 year



B

70% of the protected areas in Africa were affected by war between 1946 and 2010



C

Africa could lose 20 to 30% of the lake productivity by 2100



D

50% of African bird and mammal species could disappear by 2100



BETWEEN THE PRESERVATION OF BIODIVERSITY AND ECONOMIC GROWTH : AFRICA STANDS AT A CROSSROADS IN THE IMPLEMENTATION OF GBF POST 2020

HOW SHOULD WE SCALING-UP AND MEASURING SUSTAINABILITY ?

Implementing transformative programmes



One of the most important pan-African programs to **combat land degradation** in the Sahara and Sahel integrating **food security** and **resilience to climate change**.



Great Green Wall Initiative

From a “**Green Belt**” approach to “**Integrated Ecosystem Management**”

HOW SHOULD WE SCALING-UP AND MEASURING SUSTAINABILITY ?

Goals and Targets

Socio-ecological resilience - Global agenda – Sustainable uses - Ecosystem services....

Pillar 1	Investment in small and medium enterprises and strengthening of value chains, local markets, organization of exports
Pillar 2	Land restoration and sustainable ecosystem management
Pillar 3	Climate resilient infrastructure and access to renewable energy
Pillar 4	Enabling economic and institutional framework for effective governance
Pillar 5	Capacity building



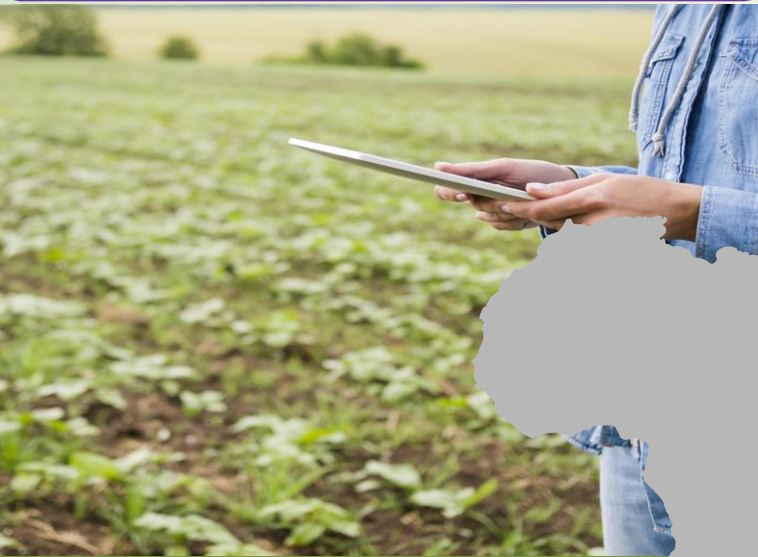
In line with the objectives of the OSS 2030 strategy axes.



HOW WE CAN SCALING-UP AND MEASURING SUSTAINABILITY ?

- Implementing transformative project

AFRICULTURES



Enhancing food security in African agricultural systems with the support of remote sensing



To harness the potential of remote sensing for **agricultural research and decision making** to achieve **food security in Africa**. Also, to improve current **monitoring and early warning** systems and services in Africa

DRESS-EA



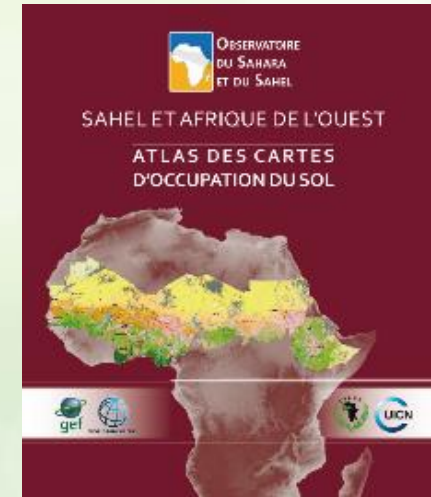
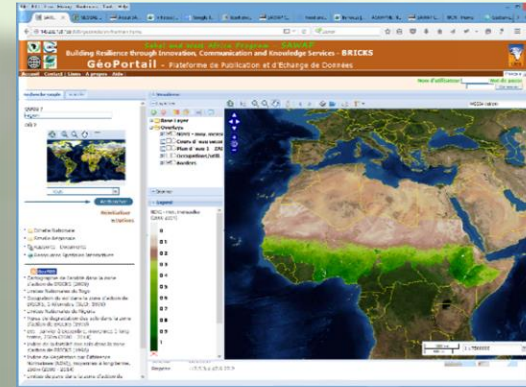
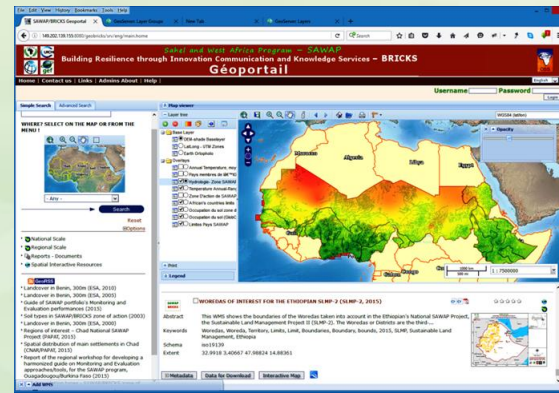
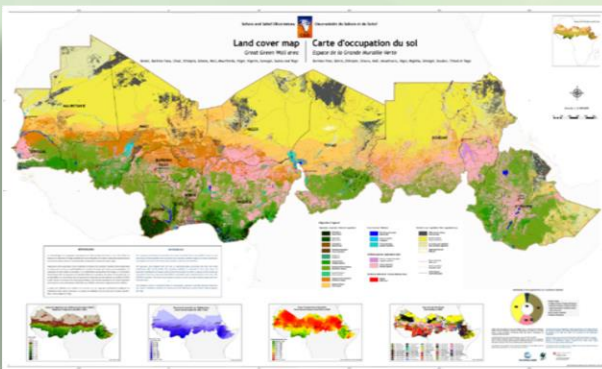
Increasing resilience to drought of small farmers and pastoralists of the IGAD Region

Early Warning Systems and implementation of drought adaptation measures in the region



HOW WE CAN SCALING-UP AND MEASURING SUSTAINABILITY ?

- **Developing tools: Multi-thematic mapping products/ Geospatial databases**
 - General/specific information and M&E platforms
 - Platforms with geospatial information, data and indicators
 - Tools for planning and monitoring/evaluation of the biodiversity elements and dynamics



- **Supporting reporting/ National Biodiversity Strategy and Action Plans**
 - Assist member countries in the implementation of the CBD 2021-2030 strategy
 - Contribute to the implementation of national frameworks and their integration in the GBF
 - Develop a capacity building plan for decision-makers

AGROECOLOGY & BIODIVERSITY

Context

The diversity of life is declining globally at a rate unprecedented in human history as a result of human activities. Biodiversity and Ecosystem Services (BES). Approximately 1 million living species of plants and animals are at risk of extinction. The loss of biodiversity is a priority to protect biodiversity and ecosystem services. Earth in relation to sustainable development goals. In drylands, this would not only secure the sustainable development of human societies that depend heavily on them. Agroecology biodiversity losses but also to develop an efficient agriculture in drylands.

Factors of biodiversity loss: pressures and threats

- The strong anthropic pressure through the unsustainable use of ecosystems (desertification)
- The use of chemical inputs and phytosanitary products causing the decline of crop quality, especially drinking water.
- The intensification and excessive tillage of the soil which disrupts and destroys the soil fauna.
- The development of specialized monocultures, using improved genetic resources and that are sometimes less productive but adapted to the climatic conditions.

Arguments from the field

Agroecology favors adapted agricultural resources

- The building of national and sub-regional networks for the protection of genetic heritage and the preservation of associated knowledge to preserve these heritage resources.
- The production and use of local varieties (farmer's seeds) and endangered breeds preserve the capacity for adaptation of these systems.

Agroecology helps preserve soil biodiversity

- Compost production, cover cropping and other practices to increase functional biodiversity.
- Agroecology integrating, for example, cereals, arboriculture, and livestock (structured diversity of ecosystem functions), including those closely linked to the soil.

Agroecology preserves spontaneous fauna and flora

- Ecological intensification on agricultural plots to limit the clearing of natural wildlife habitats.
- The inclusion of living hedges, the inclusion of trees and shrubs in the farms and other movement of fauna and flora.

Agroecology allows the valorization of a diversity of products

- Crop diversification and rotation on farms provides a diversity of production and facilitates the promotion of local biodiversity during sales on local, national or international markets. The added value of the products is increased.

Messages from civil society

To facilitate the deployment of agroecology, all stakeholders must become aware of change.

AGROECOLOGY & FOOD SECURITY

Context

With nearly 8 billion people on earth, and an unprecedented loss of biodiversity, food security is a huge challenge. Today, nearly 10% of the world's population lives in drylands. They are part of the 3 billion poor people in the world who are in a situation of food insecurity. The development of agriculture, including the drylands of developing countries, is no longer an option, but a necessity.

Drivers of food insecurity:

Global food systems, based on the industrialization of agriculture and the liberalization of trade, have shown their inability to respond to the challenges of the 21st century.

- The degradation of natural resources, including soil and water, and climate change;
- The production of a poorly diversified diet with little nutritional value;
- The health threats associated with the use of chemical pesticides;
- The important waste linked to the storage and transport of food products.

Arguments from the field

Agroecology allows abundant and diversified harvests

- The combination of water efficiency and organic fertilization practices (compost, etc.).
- Agroecological systems, such as home coffee gardens or agroforestry (trees, etc.).

Agroecology provides healthy food

- The introduction of vegetables, such as cowpeas or groundnuts in crop rotation.
- The use of biopesticides made from plants such as neem, chili, or garlic.

Agroecology promotes local food

- The production of rice and onions in irrigated areas allows the dependence on imports.
- The collective organization between the different actors of the sector allows the transformation of the products and the marketing in short circuits.

Messages from civil society

AGROECOLOGY & THE GREAT GREEN WALL

Contexte

The Great Green Wall (GGW) initiative is a policy response to the interconnected issues of desertification, climate change and biodiversity loss, which have proven consequences for the economy, food supply and stability of the Sahara and Sahel populations. The Great Green Wall is a multi-sectoral and holistic framework to address these challenges, transforming vast and arid areas into rural hubs of production and development.

Agroecological approaches and technical solutions are a relevant way to achieve the GGW results, in terms of sustainable management of ecosystems and deployment of resilient and efficient agricultural and food production systems.

Challenges to successful GGW

The Great Green Wall is an innovative pan-African initiative. It is attracting the attention of many public and private development stakeholders. Despite this enthusiasm, the Great Green Wall remains poorly implemented for several reasons:

- The poor legitimacy of expected results in the field and the absence of effective systems for monitoring and evaluating implementation progress;
- The lack of consistency between public policies around the development issues of the rural sector;
- The lack of the GGW inclusive and effective governance of the different territorial scales;
- Insufficient commitment from governments to fund the GGW;
- The lack of consideration of actions carried out by development actors, particularly civil society, which contribute to the GGW objectives.

Arguments from the field

Agroecology is an integrated response to the challenges

- The preservation of soil fertility through the use of organic fertilizers, the maintenance of soil cover or agroforestry guarantees land productivity while preserving its healthy condition;
- The use of rainwater through anti-erosion measures and the proper management of irrigation water promote climate change resilient agriculture;
- The living hedges at the edge of the fields, and the dispersion of seeds by the transhumant herds, favor biodiversity.

Agroecology is an adapted and inclusive approach

- The valorization of local knowledge allows to make diversified interventions adapted to the contexts and facilitating the involvement of the communities;
- Taking into account the links between livestock and agriculture for fertility maintenance and the use of by-products in animal feed, contribute to unity between farmers and livestock breeders at the territorial level;
- The development of value chains for products derived from assisted natural regeneration, such as moringa leaves, provides additional income to farmers and allows the creation of businesses and jobs for processing and marketing.

Messages from civil society

POSITION PAPERS ON AGROECOLOGY

Mobilizing stockholders

Summary of the reports of the **17 national workshops** to **highlight the potential of agroecology** and make recommendations to ensure the **sustainability of ecosystem services**



**AGROECOLOGY
RIGHT
NOW!**

FINAL THOUGHTS

The ecosystem assessment for the agenda 2030 is based on an assessment of the ecosystems evolution and its impact on human well-being and survival. Thus, it is more than ever necessary to lay the scientific foundation for the actions required (decision-making tools) to strengthen their conservation and sustainable use.

- ☐ Strengthen scientific and technical tools and, based on the experiences, build solid and sustainable models to support the countries ;
- ☐ Give priority to the most accessible system for better interaction between the different stakeholders.
- ☐ Support African countries to monitoring their indicators



THANK YOU FOR YOUR ATTENTION

Ms. Ndeye Fatou MAR

Head of Land Departement

fatou.mar@oss.org.tn

Ms. Abir BEN ROMDHANE

Project Manager

Abir.benromdhane@oss.org.tn

M. Thierry TAPSOBA

Project Manager

Thierry.tapsoba@oss.org.tn