



Food and Agriculture Organization  
of the United Nations

# **Agriculture and land use changes in West Africa : drivers, impacts and strategies for sustainable agricultural intensification»**

**Eugene Rurangwa, Land & Water Officer, FAO/RAF**

# *Introduction*

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- Land use and landscape structures are facing serious challenges: rapid population growth and pressure on land resource, Agriculture expansion, urban sprawl, climate change,...
- Demand for agricultural production will continue to increase over the coming decades in two ways:
  - Expansion of the land area for agricultural use
  - Agricultural land-use intensification: produce more with less.



# *Introduction*

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- Because land expansion is limited and unsustainable, Agriculture intensification will increasingly become more important in the future.
- Many FAO works focus on sustainable agriculture intensification for poverty reduction, food and nutrition security. FAO promote Sustainable Agriculture development practices involving the intensification of production on existing agricultural land (produce more with less paradigm developed by FAO)



Some critical figures:

- By 2030, the demand for food, energy, and water is expected to increase by at least 50%, 45% and 30%, respectively
- Meeting these demands will require 175-220 million hectares of additional cropland.
- Inappropriate land use practices leading to land degradation and Desertification affects the global loss of biodiversity, with 27,000 species lost each year.

# *Introduction*

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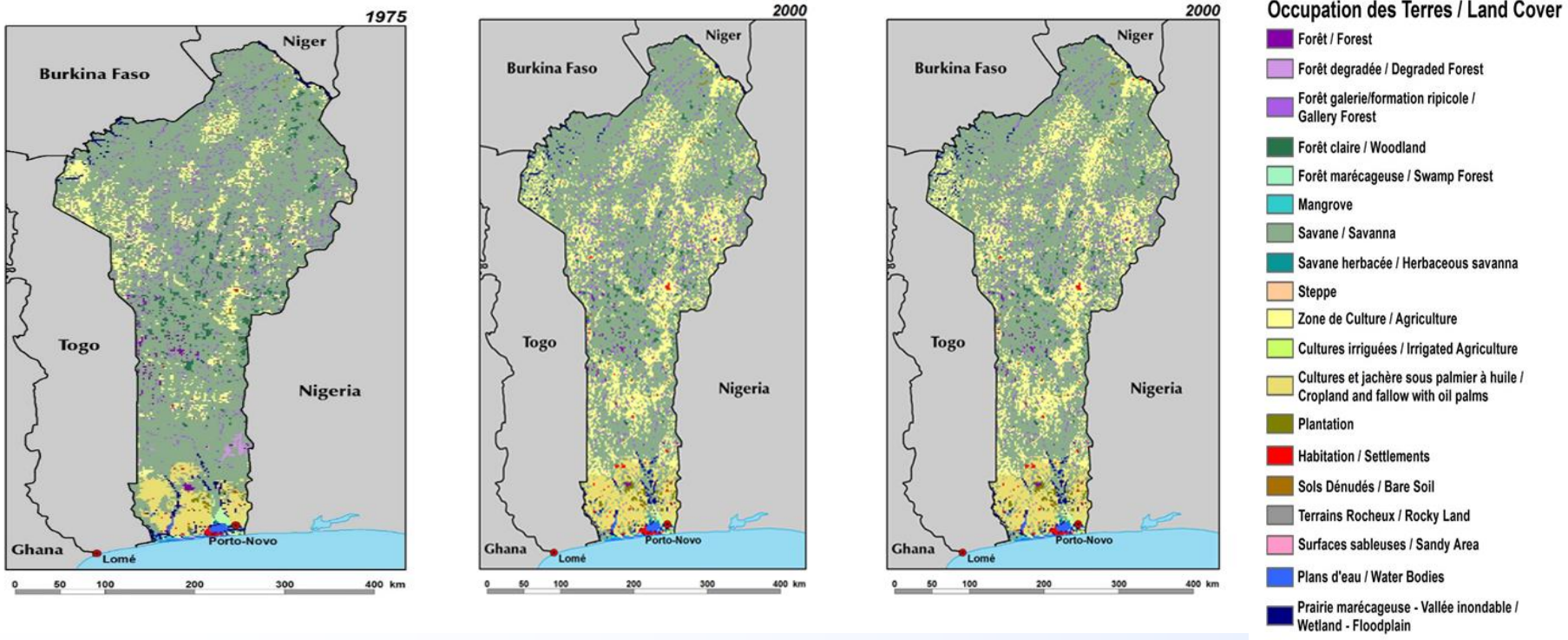
- Due to drought and desertification each year 12 million ha are lost, where 20 million tons of grain could have been grown.
- Over the last twenty years increases in production have generally been obtained by putting more land under cultivation, with a 229% increase in farmland accounting for 70% of the growth in regional production.
- The population of the region currently stands at 290 million, and is set to exceed 400 million by 2020, and 600 million by 2030.



# Land use trends in West Africa

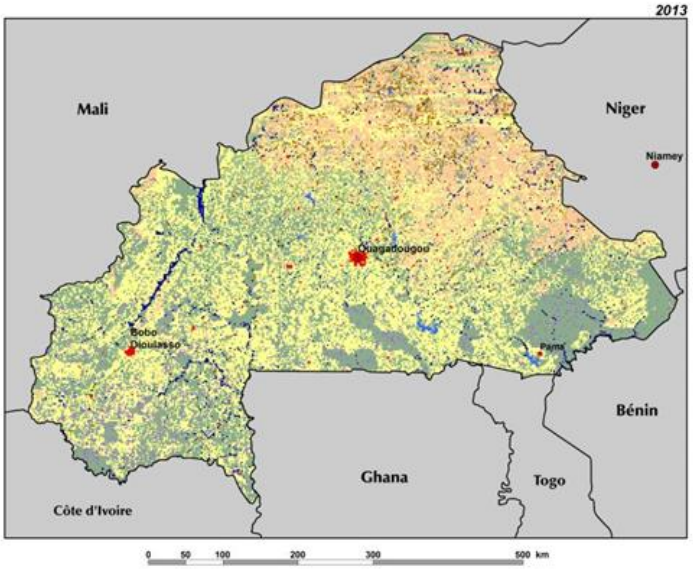
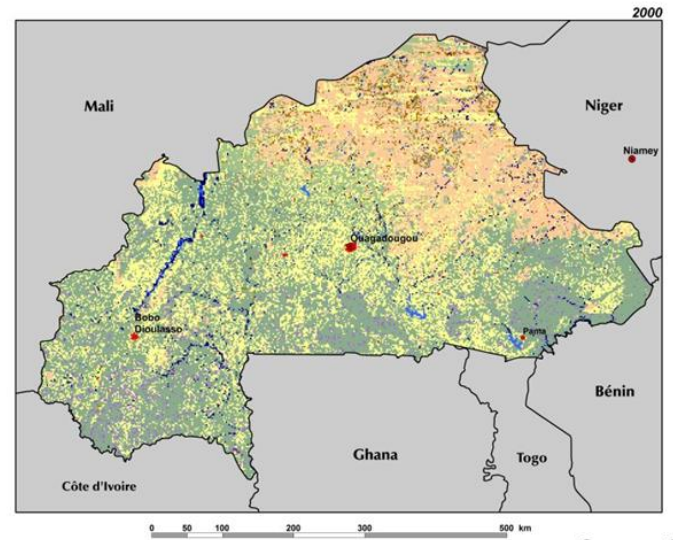
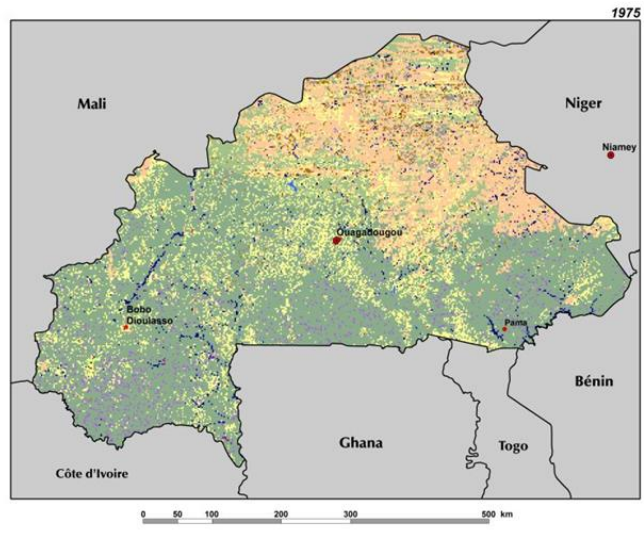
(maps from [www.eros.usgs.gov/westafrica](http://www.eros.usgs.gov/westafrica))

## 1. Benin:



Significant increase in Agricultural land: 15,000 km<sup>2</sup> to 27,000 km<sup>2</sup>

# 2. Burkina Faso :



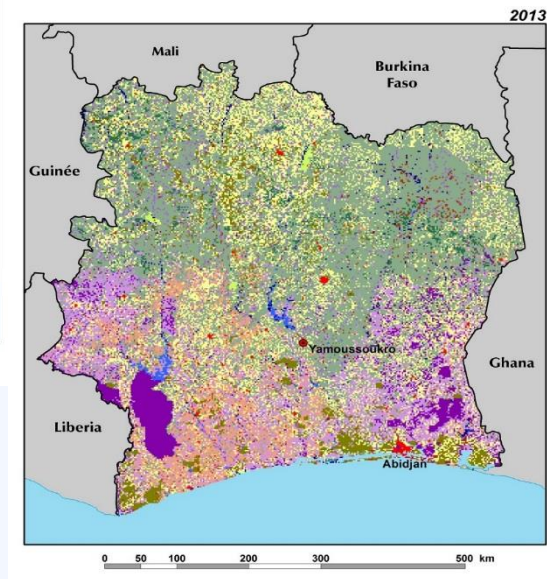
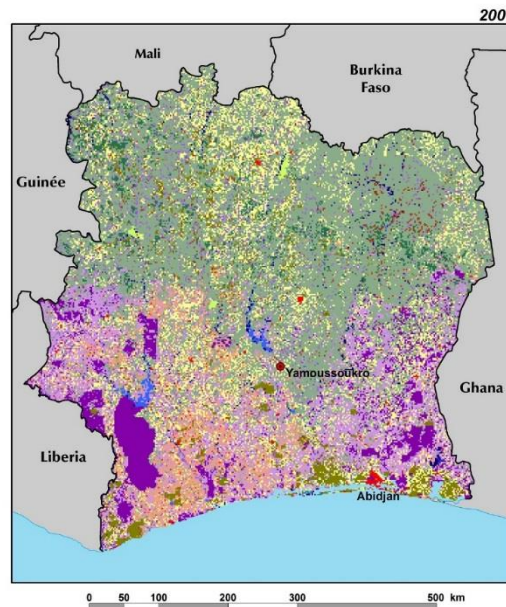
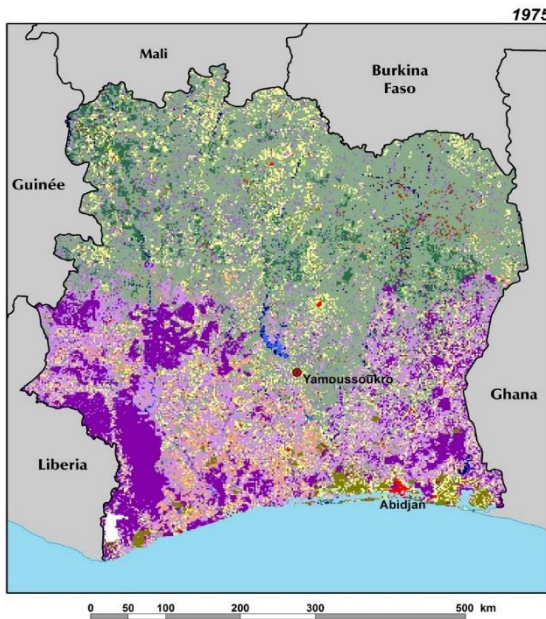
The country's land area covered by rainfed agriculture increased from 41130km<sup>2</sup> (15%) in 1975 to 106938 km<sup>2</sup> (39 %) of the total land area (274200 km<sup>2</sup>)

**Occupation des Terres / Land Cover**

- Forêt / Forest
- Forêt galerie & formation ripicole / Gallery forest & riparian forest
- Savane / Savanna
- Savane sahélienne / Sahelian short grass savanna
- Steppe
- Zone de culture / Agriculture
- Cultures irriguées / Irrigated agriculture
- Cultures des bas-fonds et de décrue / Agriculture in shallows and recession
- Plantation
- Habitation / Settlements
- Sols dénudés / Bare soil
- Terrains rocheux / Rocky land
- Surfaces sableuses / Sandy area
- Carrière / Open mine
- Plans d'eau / Water bodies
- Prairie marécageuse - vallée inondable / Wetland - floodplain

### 3. COTE D'IVOIRE:

Expansion of agricultural lands with population increase remains the key driver to deforestation. Nearly 60% of the 37,300 km<sup>2</sup> of dense tropical forests were lost.



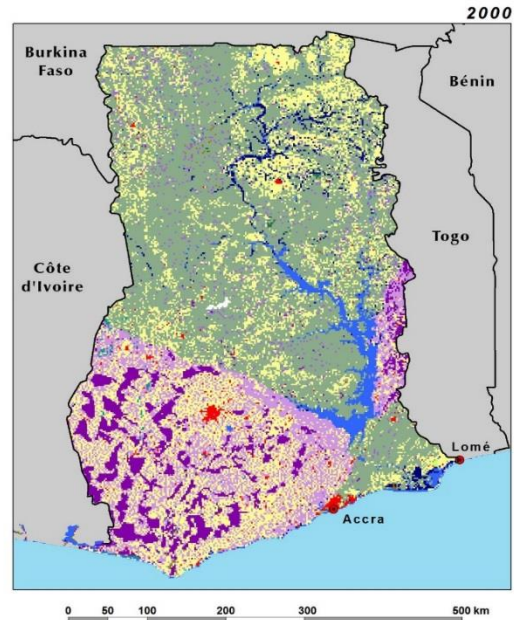
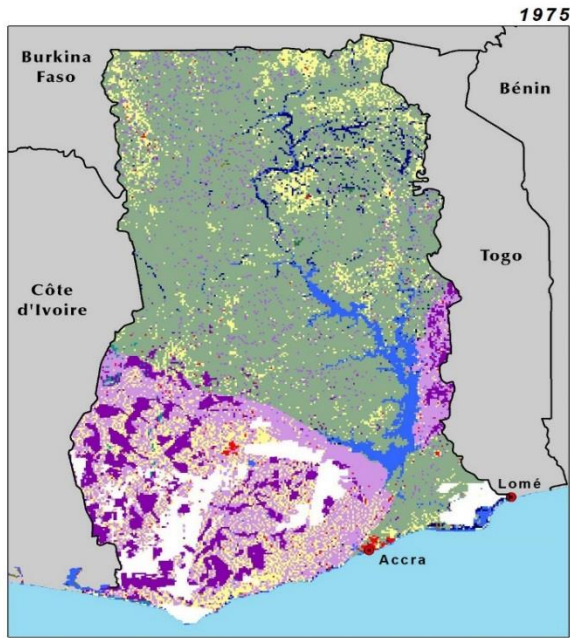
#### Occupation des Terres / Land Cover

- Forêt / Forest
- Forêt dégradée / Degraded forest
- Forêt galerie & formation ripicole / Gallery forest & riparian forest
- Forêt claire / Woodland
- Forêt marécageuse / Swamp forest
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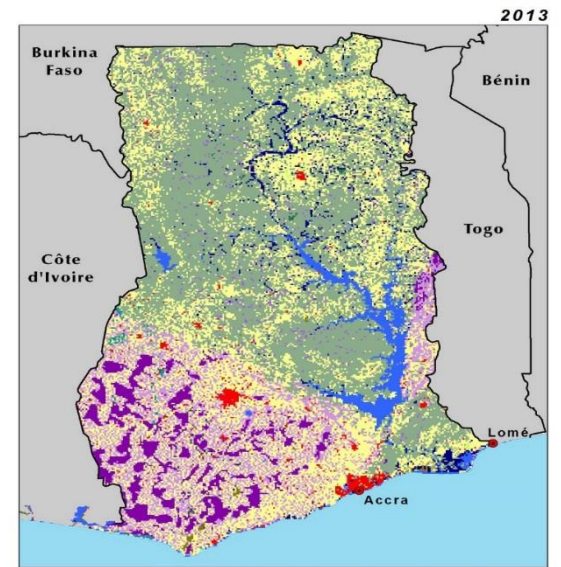




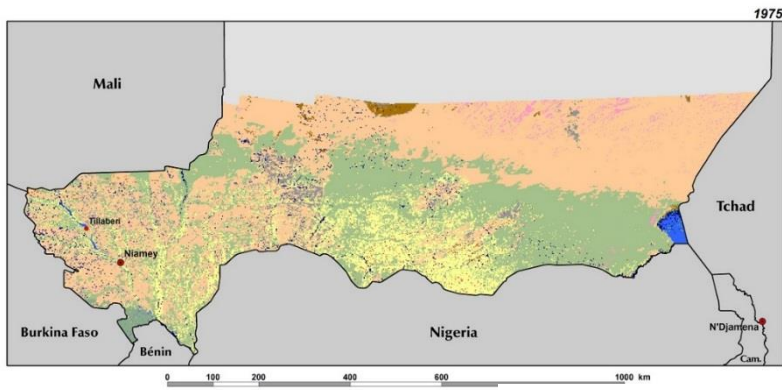
# 4. GHANA:



From 1975 to 2000, Expansion of agricultural lands from 13% (31,552 km<sup>2</sup>) to 32% (76,331 Km<sup>2</sup>) of Ghana's total land area (238,535 Km<sup>2</sup>)



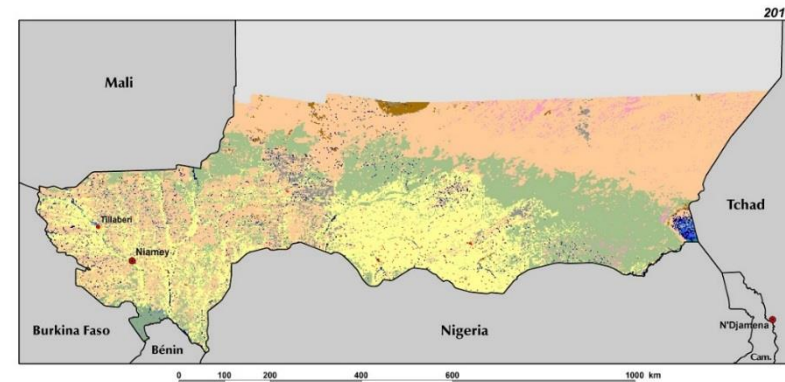
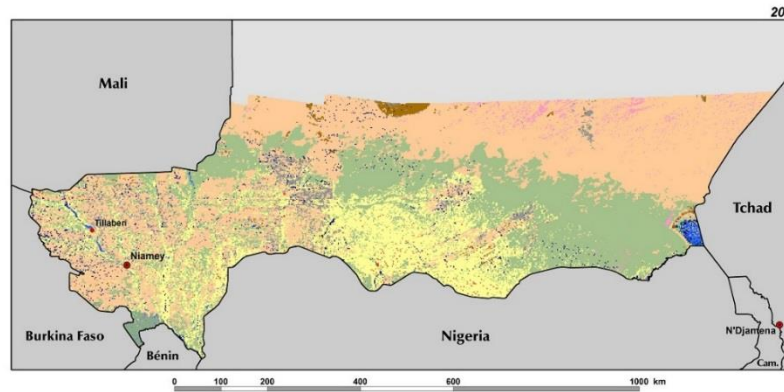
# 5. NIGER:



## Occupation des Terres / Land Cover

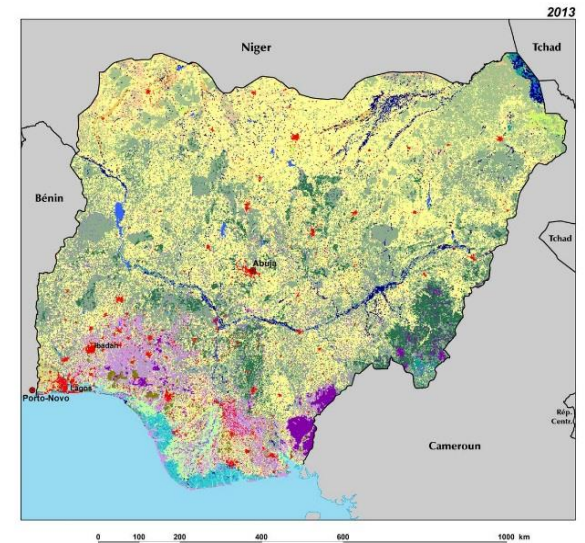
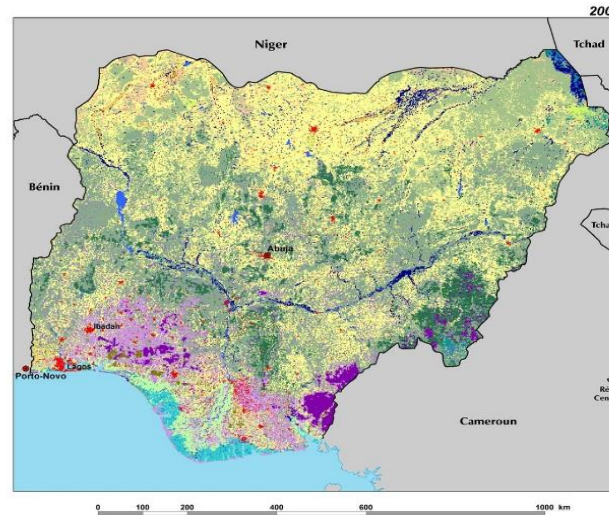
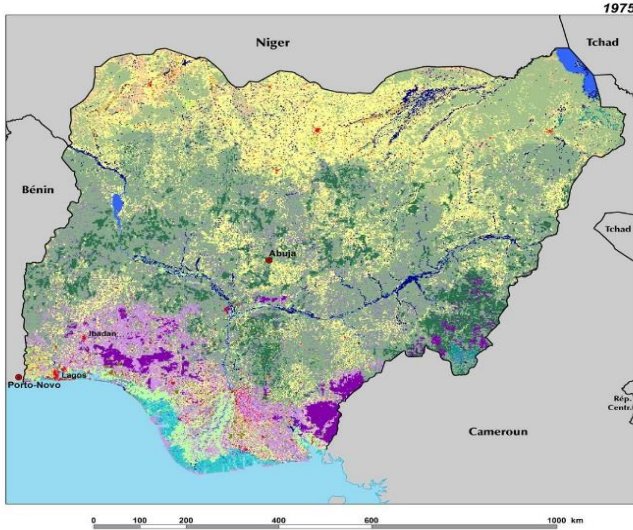
- Savane / Savanna
- Steppe
- Savane sahélienne / Sahelian short grass savanna
- Savane herbacée / Herbaceous savanna
- Forêt galerie & formation ripicole / Gallery forest & riparian forest
- Zone de culture / Agriculture
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Agricultural land areas have increased from 12.6 % in 1975 to 18.1% in 2000 and 24.5% in 2013



# 6. NIGERIA:

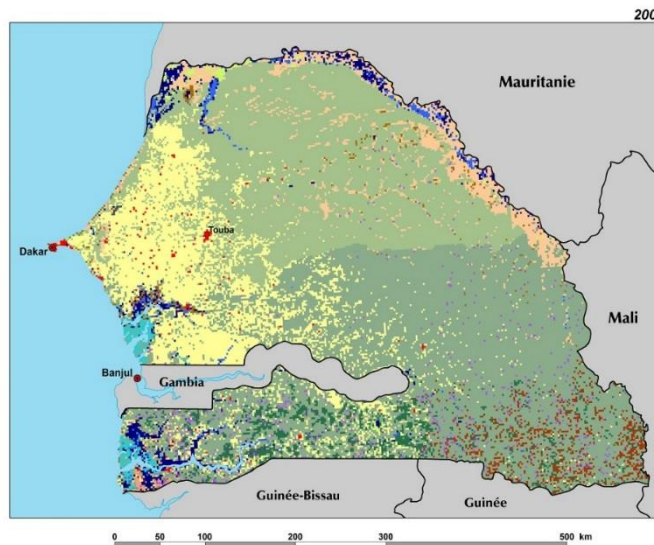
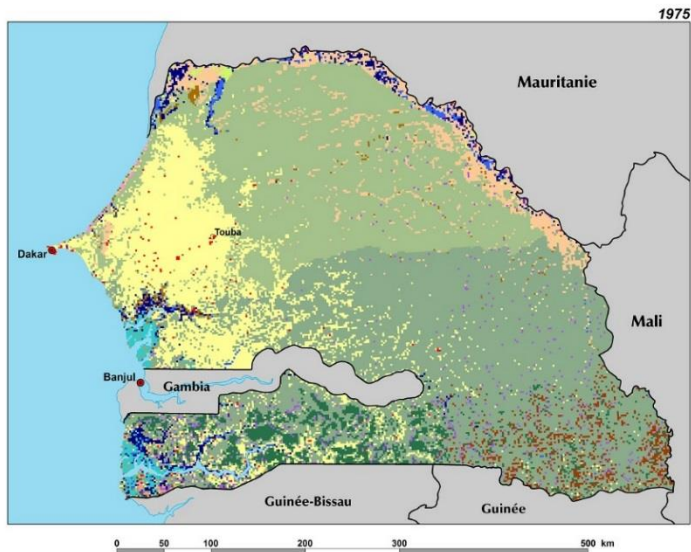
- Forest / Forêt
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- Agriculture / Zone de culture
- Irrigated Agriculture / Cultures irriguées
- Agriculture in shallows and recession / Cultures des bas-fonds et de décrue
- Cropland and fallow with oil palms / Cultures et jachère sous palmier à huile
- Plantation
- Settlements / Habitation
- Bare soil / Sols dénudés
- Rocky land / Terrains rocheux
- Sandy area / Surfaces sableuses
- Open mine / Carrière
- Water bodies / Plans d'eau
- Wetland - floodplain / Prairie marécageuse - vallée inondable



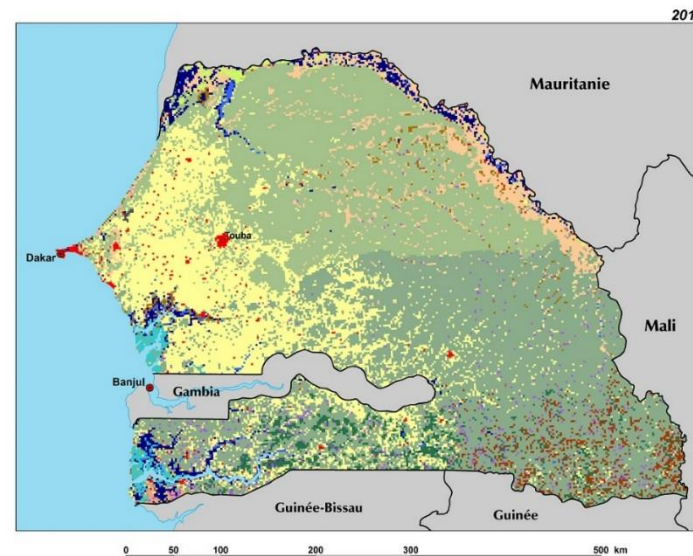
In 1975, agricultural land covered 184,754 km<sup>2</sup> (20% of Nigeria land area: 923,768 km<sup>2</sup>). 130,000 km<sup>2</sup> of new agricultural land were gained.

In 2013, agricultural land covered 380,000 km<sup>2</sup> (40% of the total land area). Forest land decreased by 45 percent from 1975 to 2013.

# 7. SENEGAL:



Agricultural land area passed from 32,600 km<sup>2</sup> in 1975 to 32,900 km<sup>2</sup> in 2000 and 41,000 km in 2013, or a 26% increase between 1975 and 2013.



# *Approaches to reconcile land use and agricultural intensification*

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- **Global:**

- SDGs; COPs (UNFCCC, UNCCD, CBD, Ramsar, Convention on Migratory Species (CMS) or the Bonn Convention,...
- Policies/Governance: VGGT, Guidelines on Forestry, Fisheries, Land use, Wetlands,.....

- **Regional:**

- AU/AFDB/UNECA/LPI: F&G (framework and guidelines on land policy in Africa

- **National:**

- Land policy, LUP & Participatory territorial development




# FAO's Programs on Sustainable Agriculture intensification

## ■ FAO's Strategic Objectives:



- Cross-cutting/ Integrated
- Multi-actor/inclusive
- Harmonized
- Strategic and focused for greater impact
- Responsive to country needs/demand driven

- **FAO's Regional Initiatives (3 RIs):**




Africa's Commitment to End Hunger by 2025

**Africa's Commitment to End Hunger by 2025**



Sustainable Production Intensification and Value Chain Development in Africa

**Sustainable Production Intensification and Value Chain Development in Africa**



Building Resilience in Africa's Drylands

**Building Resilience in Africa's Drylands**

# 5 GUIDING PRINCIPLES OF SUSTAINABLE FOOD AND AGRICULTURE INTENSIFICATION (SFA)

1. Improving efficiency in the use of resources **(more produce with less inputs and externalities)**

5 Enhanced resilience of people, communities and ecosystems **(managing risks)**

2. Direct action to conserve, protect and enhance natural resources and ecosystem services **(SLM practices + ILM for ESB)**

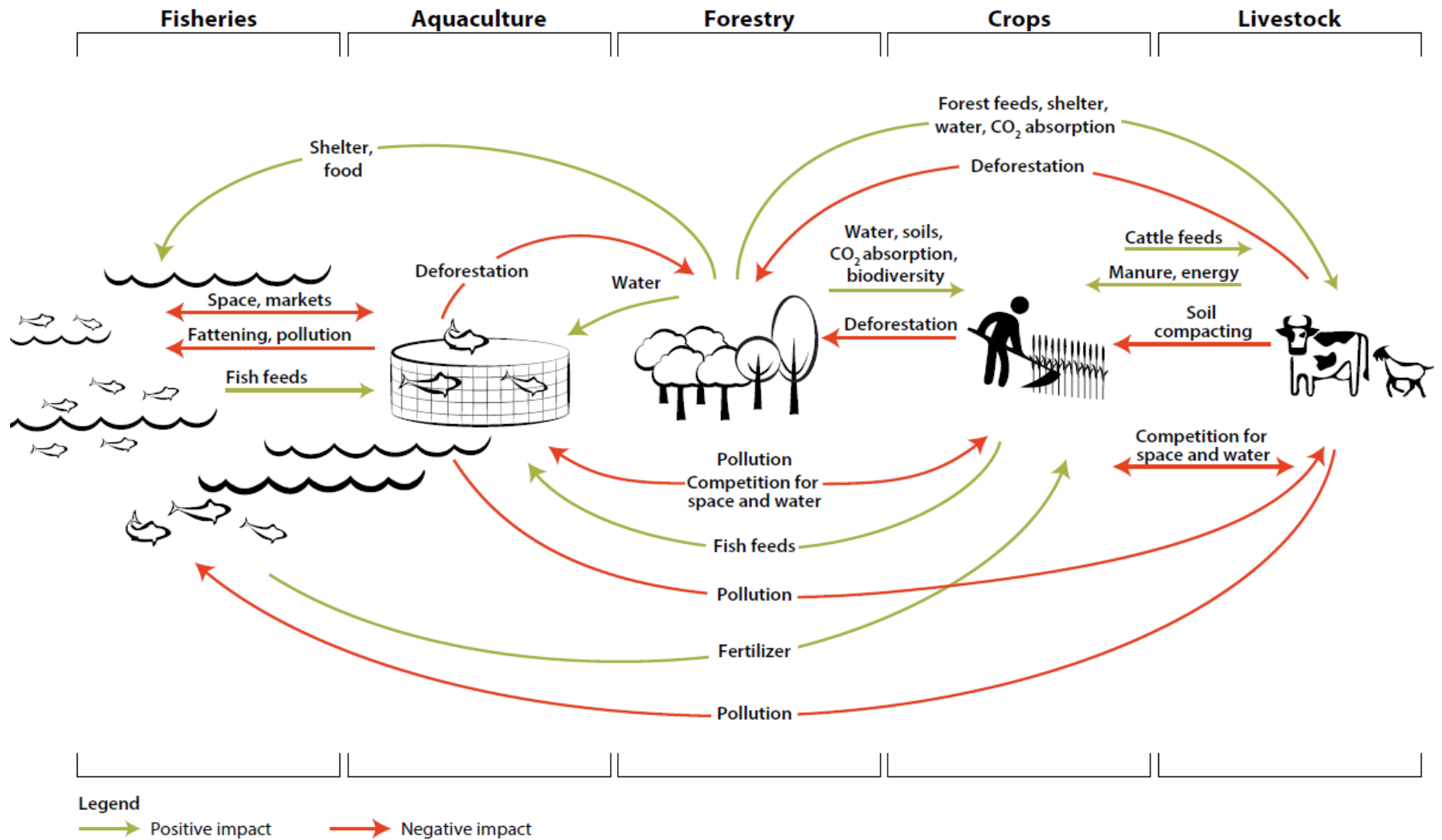
3. Protect and improve rural livelihoods, equity & social well-being **(Inclusive efficient food systems)**

4. Responsible and effective governance mechanisms **(VGGT, guidelines on forestry, fisheries, wetlands, LUP and territorial negotiation, conflict resolution)**





# An approach based on cross-sectoral interactions



# SDGS AND TARGETS THAT REFER EXPLICITLY TO AGRICULTURE AND FORESTS

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## *SDG 2: End Hunger, Achieve Food Security and Improved Nutrition and Promote Sustainable Agriculture.*

- **Targets:**

**2.3** : By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment



**2.4** : By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

**SDG 6: *Ensure Availability and Sustainable Management of Water and Sanitation for all.***

**Target 6.6:** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.



***SDG 15: Protect, Restore and promote Sustainable use of Terrestrial Ecosystems, Sustainably manage Forests, Combat Desertification and halt and reverse land Degradation and halt Biodiversity loss.***

**Targets include:**

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.



15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.

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## KEY MESSAGES:



Meeting the world's increasing demand for food and other land-based products will require **HIGHLY PRODUCTIVE LANDSCAPES** that are managed sustainably.




Forests play key roles in the **WATER CYCLE, SOIL CONSERVATION, CARBON SEQUESTRATION,** and **HABITAT PROTECTION**, including for pollinators. Their sustainable management is crucial for sustainable agriculture and food security.




Agriculture remains the most significant driver of global deforestation, and there is an urgent need to promote more **POSITIVE INTERACTIONS** between agriculture and forestry.



**IMPROVED COORDINATION** is required between policies on forests, agriculture, food, land use, and rural development. Equally important are clear legal frameworks governing land-use change, including secure land-tenure systems that recognize traditional customary rights to use land and forest products.



Where large-scale commercial agriculture is the principal driver of land-use change, effective **REGULATION OF CHANGE** with appropriate social and environmental safeguards, is needed. Private governance initiatives, such as voluntary certification schemes and commitments to zero deforestation, also have a positive impact.



Where local subsistence agriculture is the principal driver of land-use change, wider **POVERTY ALLEVIATION** and **RURAL DEVELOPMENT** measures should be implemented alongside actions to improve local agricultural, agroforestry and other land-use practices.





**INTEGRATED LAND-USE PLANNING** provides a strategic framework for balancing land uses at the national, subnational and landscape scales. This should include meaningful stakeholder participation to ensure the legitimacy of land use plans and obtain stakeholder buy-in for their implementation and monitoring.



Food security can be achieved through **AGRICULTURAL INTENSIFICATION** and other measures such as social protection, rather than through expansion of agricultural areas at the expense of forests.

# THANK YOU FOR YOUR KIND ATTENTION

