





UN Department of Economic and Social Affairs
Division for Sustainable Development





LAND DEGRADATION ASSESSMENT IN DRYLANDS AND SUSTAINABLE LAND MANAGEMENT

Use of Sustainable Livelihood, Ecosystem and DPSIR frameworks: Case study from LADA Senegal

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CONTEXT

Located in the **Atlantic Sahelian region of Sub-Saharan Africa**, between the Sahel and the tropical forest

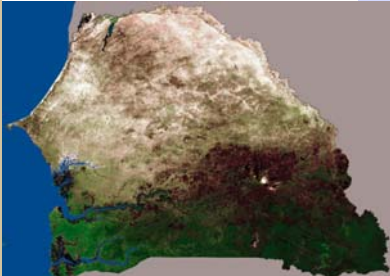
19.7 million ha land
Onely **3.8 millions ha arable** of which **50% cultivated**

Most of crop production is in drylands, under rainfed farming systems.



Arid in the North, semi-arid in the Center (the largest area) and sub-humid in the South

Agriculture : **17% of GDP, 70% of labour force**, the main pillar of the PRSP "wealth creation" approach



LADA PROCESS



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- Set up a **National Land Degradation Network** and **Multidisciplinary National Task Force**

- Identification of **information needs**

- **Selection of Indicators** of Driving forces, Pressures, State, Impacts and Reponses (DPSIR)

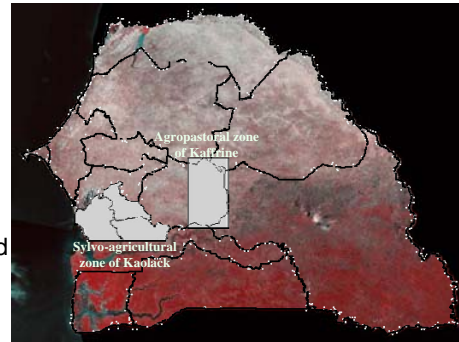
- **Local assessment survey**

- Assessment of **LD impacts** on goods and services (*national level*)

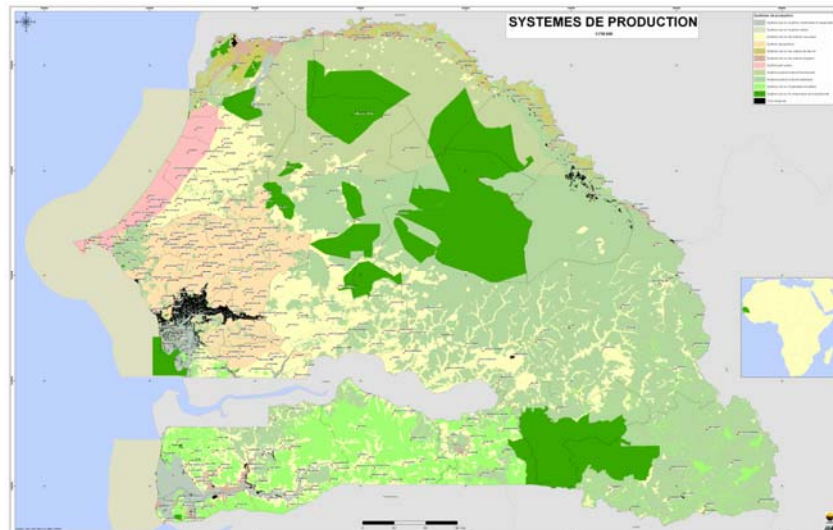
- Identification of **best practices** (*in bright spots*) and **remedial solutions** (*in hot spots*)


- Development of **methodologies for LA and NA**













- **Validation of stratification methodology** (Framework for Characterisation And Mapping of land use systems) –FCAM (→ drivers)




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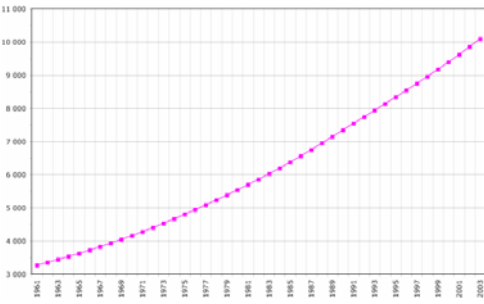


Legend	Label	Attributs
	Pêche continentale et aquaculture	Mangrove et végétation aquatique, zones régulièrement inondées
	Pêche côtière	Partie de la zone économique exclusive (ZEE) couvrant les 25 milles nautiques (zones de pêche artisanale et de pêche industrielle nationale)
	Cultures sous pluie	Présence significative de terres en culture, peu de bétail
	Agropastoral	Beaucoup de bétail, présence significative de terres en culture, 400 à 700 mm de pluie
	Cultures de décrue	Présence significative de terres en cultures, zones inondables
	Cultures irriguées	Présence significative de terres en cultures, importants aménagements hydro-agricoles, apports intensifs d'intrants
	Péri-urbain	Activités mixtes (élevage, horticulture, pêche), unité hydrogéologique du Littoral Nord, proximité de centres urbains, apports intensifs d'intrants
	Pastoral extensif transhumant	Effectifs importants de bétail, faible densité de population, présence très peu significative de terres en cultures
	Pastoral extensif sédentaire	Effectifs moyens de bétail, présence significative de terres en cultures
	Exploitation forestière	Formations boisées et patrimoine forestier en dehors des zones de conservation de la biodiversité
	Conservation de la biodiversité	Zones protégées (parc national, réserve de biosphère, réserve sylvopastorale, réserve naturelle, parc zoologique)
	Zone marginale	Tannes, affleurements rocheux/cuirasses, sols nus, zones artificielles

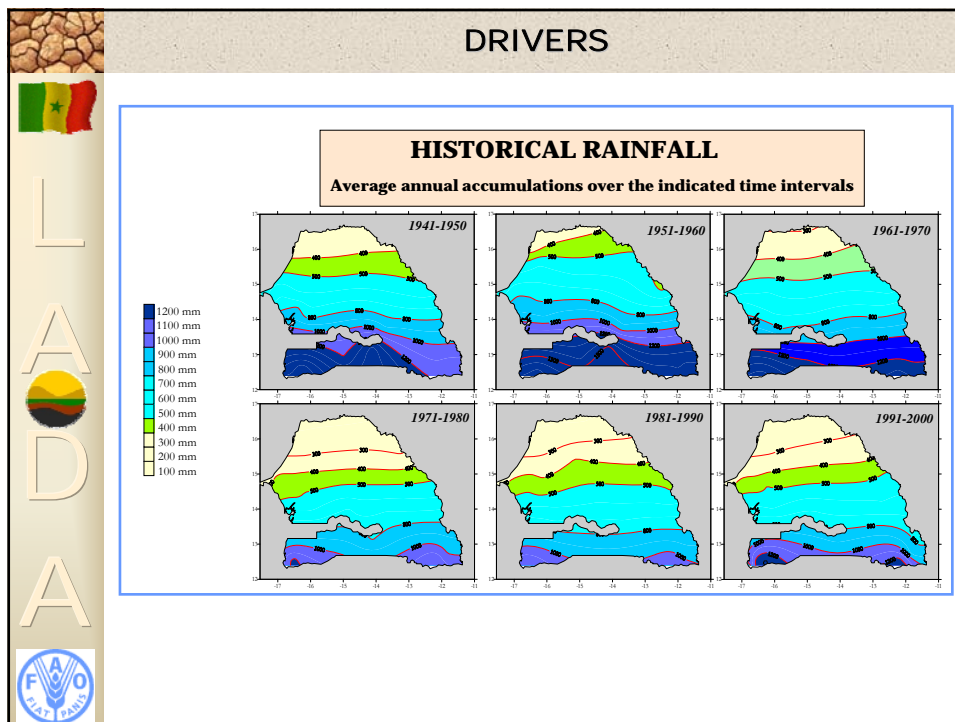


DRIVERS

- High population growth rate (~ **2.7%** per year)
- **3 millions** habitants in **1960** → **10 millions** habitants in **2003**, (predicted to be **14.5 millions** in 7 years - in **2015**)
- Poverty is deeply embedded in Senegal: **over 1 third** of the population live below national poverty line.
- Decades of **diminishing rainfall** and **growing population** has put **increasing pressure** on the country's **natural resources**, affecting crop and livestock production and making soil less fertile.
- **Investment** in the agriculture sector is still **concentrated in the areas where irrigated crops predominate** (~ **4%** of cropland), whereas poverty **and degradation** are more marked where rainfed agriculture is practiced
- **Agriculture's contribution to the GDP remains low and unstable**



Year	Population (Millions)
1960	3.0
1963	3.5
1965	3.8
1967	4.2
1969	4.5
1971	4.8
1973	5.2
1975	5.5
1977	5.8
1979	6.2
1981	6.5
1983	6.8
1985	7.2
1987	7.5
1989	7.8
1991	8.2
1993	8.5
1995	8.8
1997	9.2
1999	9.5
2001	9.8
2003	10.0



- ## INITIATIVES
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- Government of Senegal priority on
 - ✓ **diversifying** crop production, **developing** local crop farming
 - ✓ **preventing desertification and degradation** of arable land
 - ✓ **water retention basins, promoting artificial rainfall**
 - ✓ and **improving the income and living conditions**
 - **2004 Law on agriculture, forestry and livestock production (LOASP)**
 - ✓ *designed to create sustainable and enduring growth in agricultural production and a reduction in rural poverty*
 - ✓ *also serves as the basis for developing and implementing operating programs such as the National Agricultural Development Program (PNDA), the Senegal Forestry Action Plan (PAFS) and the National Livestock Development Plan (PNDE).*
 - ✓ *Not yet operational because of the absence of implementation regulations*
 - **On going Land Law reform**
 - **Great Green Wall** (Community of Sahel-Saharan States):
 - ✓ *Aim to emphasize Sahel-Saharan regions through sustainable management of natural resources and fight against poverty.*
 - **Water retention ponds**
 - **New "Great Agricultural Offensive for Food and Abundance" (GOANA)**
 - ✓ *Aim to boost agriculture, achieve self-sufficiency and tackle the crisis triggered by rising global food prices, and stem rural exodus.*

ADDRESSING NATIONAL OBJECTIVES



What potential for LADA to address these national objectives

- Help **overcome barriers** by :
 - ✓ **providing tools and methods for LD assessment** in Senegal and in the Sahel-Saharan region ,
 - ✓ **assessing the extent and rate of LD** in Senegal,
 - ✓ **providing a baseline to monitor achievements of the different initiatives,**
 - ✓ **increasing capacities** for LD assessment and monitoring at different scales.
- **Make demonstration** of how better management of land resources can increase revenue, diversify household economies, and increase food security

