

## 1. Land degradation – DRIVERS AND PRESSURES

based on the national studies and stakeholder consultations

**Increased demand for food.** The nation's dependence on food imports is high and growing. Imports account for approximately half of the total domestic cereal requirements and are expected to increase at above-average levels. The cropland area has increased by 175 % (2001-2009) and further expected to extend into natural land, exacerbating fragmentation and degradation of ecosystems.

**Poverty and weak social capital resulting in migration.** Senegal ranked 168 out of 189 in Human Development Index (2020) and 57% of the rural population are classified as poor. Lack of employment and business opportunities in agriculture is the main driver of rural migration, which leads to urbanization and emigration. Those left behind, especially women, children and the elderly, are particularly exposed to food insecurity and other risks. Gender disparities remain widespread in the country, especially in rural areas.

**Weak LDN governance, including land tenure, and inter-institutional coordination.** Land access and use is primarily regulated by customary law that generally neglects small-holders. Land disputes have become increasingly common. Inclusive land governance through greater involvement of local and regional authorities and effective coordination mechanisms are missing. Practices of the informal sector is the most severe constraint for formal companies to invest, followed by access to finance, electricity, and land.

**Poorly structured value chains, weak infrastructure, limited access to finance and markets.** Access to agricultural inputs, micro-lending, and insurance is poor. *Plan Sénégal Emergent* identified weak value chains structure as a major constraint to agricultural development. The available financial instruments are limited in their range, diversity, and sophistication vis-à-vis the requirements of the value chain actors. As the sector is principally made up of family smallholdings (about 90%), removal of the barriers preventing family farmers from participating in the value chains is important.

**Reduced delivery of vital ecosystem services.** 59% of the costs of land degradation is due to the decline in provisioning ecosystem services, such as food availability and wood production.

**Drought.** Drought events consistently demonstrate reduced production, leading to an inflation of food prices and food insecurity for a population where the majority depends mainly on agriculture. Drought susceptibility happens various levels: *agriculture* (loss of revenue from groundnut and vegetable production, food insecurity due to failure of grain production, livestock loss due to lack of natural pasture), *water supply* (water shortages, lake Guiers, Drying of wells), and *environment* (disappearance of animal and vegetable species, soil cover degradation and soil erosion. Early depletion of natural pastures in the north exposes livestock to severe diet. Herders are forced to an early transhumance towards the south, causing conflicts between farmers and herders and cattle raid in protected areas.

**Climate change and Covid-19** pose significant risks worsening the trends above.

## Theory of Change [1] for “Restoration of degraded landscapes for sustainable food systems in the Peanut Basin and Eastern Senegal” GEF project (adapted DPSIR framework [2])

### 3. Project RESPONSE

**Project Objective:** Demonstrate the LDN approach in the Peanut Basin and Eastern Senegal for biodiversity conservation and delivery of ecosystem services to achieving food security and livelihood resilience.

#### Barriers to LDN

**Barrier 1.**  
Poor dissemination of sustainable land management best practices and resilience-enhancing approaches

**Barrier 2.**  
Limited scientific knowledge and data.

**Barrier 3.**  
Integration of sustainable land management and land tenure into policy implementation and local development plans.

**Barrier 4.**  
Limited development of inclusive value chains.

#### Components and outcomes

<b>Component 1: Enabling environment for large-scale SLM dissemination</b>	<b>Driver of change: LDN governance</b>
1.1 Strengthened inclusive land governance for better biodiversity conservation and natural resources access through the application of LDN and VGGT principles approaches	
1.2 Enhanced capacity for the mobilization and sustainable management of financial resources by the municipalities and the coordination of SLM interventions in favor of LDN and biodiversity conservation and the coordination of SLM interventions in favor of LDN	<b>Driver of change: LDN implementation</b>
<b>Component 2: Scaling up SLM and biodiversity conservation using a landscape approach in the Peanut Basin and Eastern Senegal</b>	
2.1 Increased technical and institutional capacities of agro-sylvo-pastoral communities on SLM technologies and approaches	<b>Driver of change: Livelihood resilience</b>
2.2. Improved ecosystem services, habitat for biodiversity and resilience in target agroecosystems of Peanut Basin and Eastern Senegal in line with LDN principles	
<b>Component 3: Rural employment and livelihoods enhanced to sustain improved management of production land</b>	<b>Driver of change: Effective KM and</b>
3.1. Enhanced incentive mechanism framework for investment in family farms in local agro-sylvo-pastoral value chains for improved livelihoods	
<b>Component 4: Learning, knowledge management</b>	<b>Driver of change: Effective KM and</b>
4.1. Learning and political engagement for scaling up and sustainability of project achievements	

## 4. GEBs and co-benefits

### Environmental stress-reduction indicators

- Increased amount of productive land (12,000 ha restored and 400,000 ha under climate-resilient SLM) in four regions
- Increased CO2 sequestration in agro-sylvo-pastoral systems (6,818,889 Mton CO2-eq) thanks to SLM measures

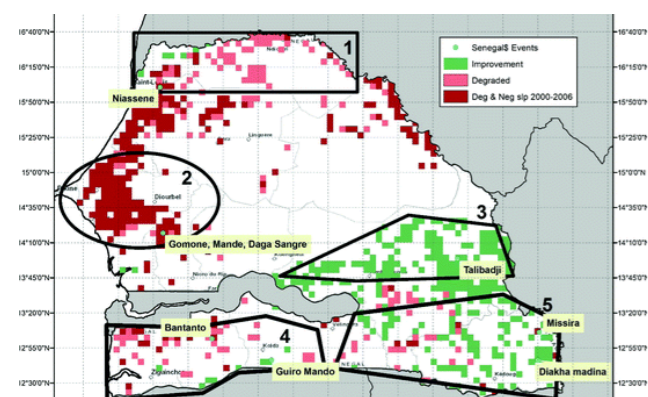
### Socio-economic benefits

- A number of farmers with access to advisory or extension services (total # per region)
- Increased investments in SLM
- Number of awareness raising activities
- Increased livelihoods and economic resilience through improved climate resilient value chains
- Improved food security through increased land productivity (project contribution defined, but attribution not monitored)
- Increased social resilience and human well-being (Gender equality, access to information and finance)
- Improved access to finance for small-holder farmers
- Increased climate resilience of the local farmer communities

## 2. Land Degradation – STATUS AND TYPE

based LADA (2010), NBSAP, and stakeholder ground-truthing

**Status of land degradation under Business-as-Usual scenario.** Source: Sow S. et al (2015). Costs, drivers and action against land degradation in Senegal, in *Degradation and Improvement*.



### Status of land degradation and biodiversity loss under Business-as-Usual scenario

Main type of land degradation and biodiversity loss	Main causes of land degradation and biodiversity loss	Main impacts of land degradation and biodiversity loss
<ul style="list-style-type: none"> <li>Biological</li> <li>Chemical</li> <li>Physical</li> <li>Water erosion</li> </ul>	<ul style="list-style-type: none"> <li>Overexploitation of vegetation (firewood)</li> <li>Deforestation and canopy degradation</li> <li>Agricultural encroachment onto savannah and woodlands</li> <li>Unsustainable cropland management</li> <li>Destruction and fragmentation of habitats (urbanization, construction of dams, bush fires, etc.)</li> <li>Overgrazing</li> <li>Invasive plants, pollution, coastal erosion</li> <li>Urbanization</li> <li>Climate change</li> </ul>	<ul style="list-style-type: none"> <li>Reduced net income</li> <li>Reduced productivity</li> <li>Increased poverty</li> <li>Food insecurity</li> <li>Declined terrestrial carbon stock rates</li> </ul>

## 5. LDN monitoring system

Global (GI) and National SMART [3] Indicators

### 1. Impact indicators

- Area under sustainable management (ha, expansion)
- 1.1. Land cover**
  - Land Cover Change (Collect Earth) (GI)
- 1.2. Land productivity**
  - Net primary productivity, NPP (PPG methodology) (GI)
- 1.3. Carbon stocks**
  - Soil organic carbon, and digital SOC map (GI)

### 2. Process indicators

- 2.1. Adoption of the LDN monitoring framework**
- 2.2. Strengthened LDN monitoring framework**
  - Improved land governance (degree of change indicator TBD during PPG)
  - Number of sectoral and local authorities that report on improved policy and institutional framework supporting SLM
  - Number of participatory land management plans
  - Number of people trained on SLM (broken by group)

### 3. Stress-reduction indicators (see GEBs above)