La végétation à l'intérieur de la Forêt communautaire de Saré Bidji (CSE-LADA (Dakar, Sénégal))

Aménagement forestier (Senegal)

Ebbode santinagol ladde

DESCRIPTION

Aménagement d'une forêt communautaire pour une gestion rationnelle et durable des ressources naturelles

Dans la Communauté rurale de Saré Bidji (Région de Kolda, au sud-ouest du Sénégal), la mise en aménagement d'une forêt a été retenue comme solution pour faire face à la dégradation des ressources forestières. En effet, du fait de la proximité avec la ville, les zones forestières étaient l'objet d'une exploitation clandestine (carbonisation et exploitation du bambou) et d'une recrudescence des feux de brousse, compromettant la résilience des écosystèmes.

But de la technologie: L'aménagement de la forêt communautaire de Saré Bidji a commencé en 2005 avec l'appui conjoint du Programme USAID Agriculture - Gestion des Ressources Naturelles «Wula Nafaa» et du Service Régional des Eaux et Forêts de Kolda. Il repose sur l'élaboration d'un plan d'aménagement. Ce dernier comporte une phase préparatoire au cours de laquelle sont réalisées des séances d'information et de sensibilisation des populations des villages riverains, ainsi que des enquêtes socioéconomiques. C'est au cours de cette même étape que la demande de mise en aménagement est adressée au Conseil rural pour délibération et transmise à l'autorité territoriale pour approbation. L'aménagement à proprement parler consiste à la division de la forêt en blocs (production, protection) selon un plan de gestion, suivie d'un inventaire qui a permis une meilleure connaissance du capital.

Activités d'établissement et de maintenance et entrées:La mise en oeuvre est prévue sur une durée de 20 ans et s'accompagne d'un programme de suivi-évaluation régulier.

Les structures de gestion pour la mise en oeuvre du plan d'aménagement sont les 25 comités inter-villageois de gestion de la forêt (CIVGF) au niveau village, les 5 unions de comités inter-villageois de gestion de la forêt (UCIVGF) au niveau du bloc ou unité d'aménagement et le comité communautaire de gestion de la forêt (CCGF).

Le Conseil rural est le responsable institutionnel de l'élaboration et de la mise en œuvre du plan d'aménagement. Il exerce sa responsabilité à travers le cadre que constitue le CCGF.

Cette mesure permet une utilisation rationnelle et durable de la ressource, mais elle repose sur des financements extérieurs.

LOCATION

Location: Communauté Rurale de Saré Bidji, Dépatement de Kolda, Senegal

No. of Technology sites analysed:

Geo-reference of selected sites
- -15.011, 12.912

Spread of the Technology:

Date of implementation: less than 10 years ago (recently)

Type of introduction
- ☐ through land users' innovation
- ☐ as part of a traditional system (> 50 years)
- ☐ during experiments/ research
- ☑ through projects/ external interventions

Vue panoramique de la Forêt Communautaire de Saré Bidji (CSE-LADA (Dakar, Sénégal))

CLASSIFICATION OF THE TECHNOLOGY

Main purpose

- [x] improve production
- [x] reduce, prevent, restore land degradation
- [x] conserve ecosystem
- [ ] protect a watershed/ downstream areas – in combination with other Technologies
- [ ] preserve/ improve biodiversity
- [ ] reduce risk of disasters
- [ ] adapt to climate change/ extremes and its impacts
- [ ] mitigate climate change and its impacts
- [ ] create beneficial economic impact
- [ ] create beneficial social impact

Land use

Mixed (crops/ grazing/ trees), incl. agroforestry - Agro-silvopastoralism
Main products/ services: Bois d'oeuvre, bois de feu, fruits et graines, pâturage / broutement, autres produits / utilisation des forêts (miel, pharmacopée, etc.), conservation de la nature / protection

Water supply

- [ ] rainfed
- [ ] mixed rainfed-irrigated
- [ ] full irrigation

Number of growing seasons per year: n.a.
Land use before implementation of the Technology: n.a.
Livestock density: n.a.

Purpose related to land degradation

- [x] prevent land degradation
- [x] reduce land degradation
- [ ] restore/ rehabilitate severely degraded land
- [ ] adapt to land degradation
- [ ] not applicable

Degradation addressed

biological degradation - Bc: reduction of vegetation cover, Bq: quantity/ biomass decline, Bf: detrimental effects of fires, Bs: quality and species composition/ diversity decline

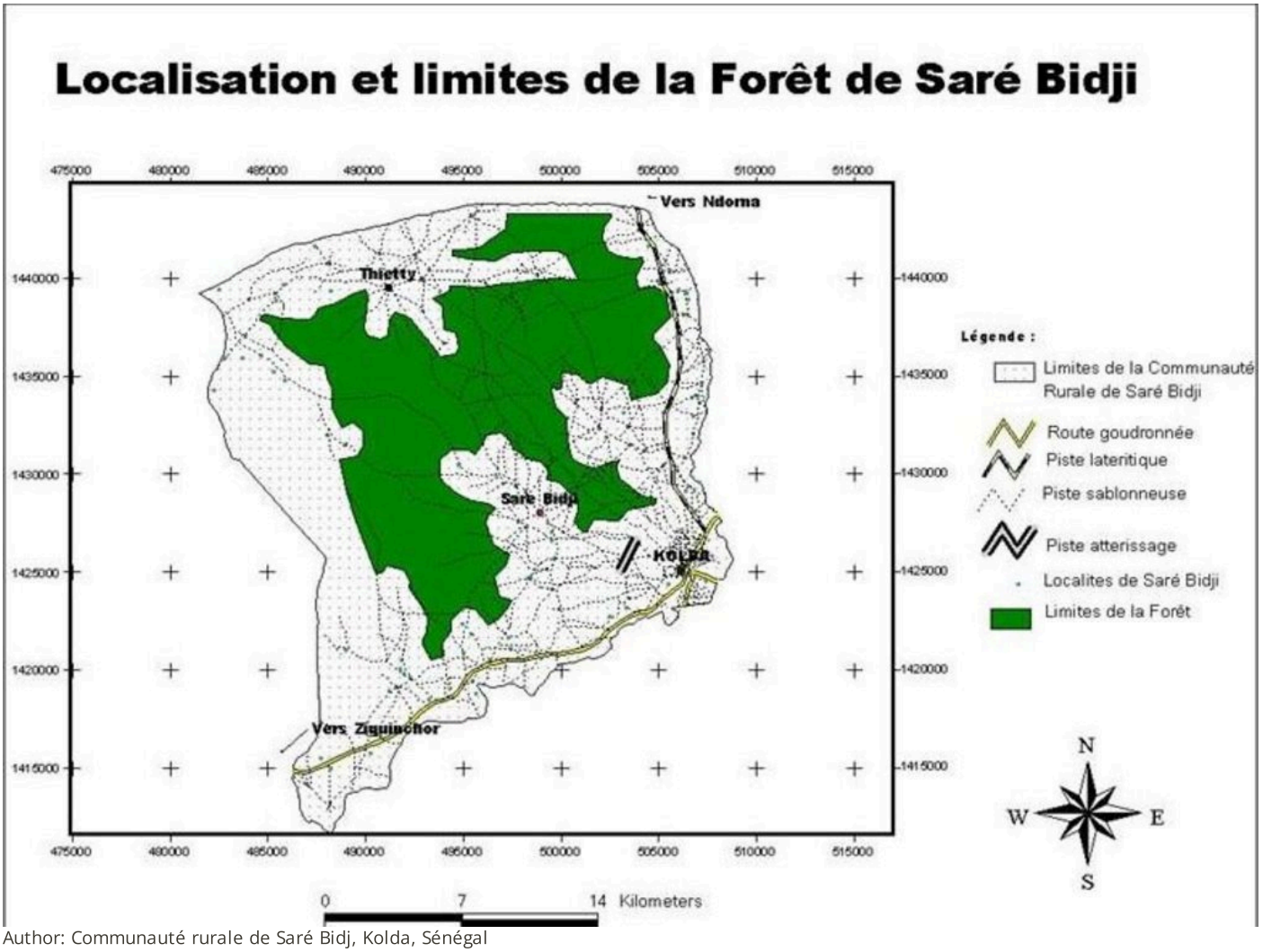
SLM group

- natural and semi-natural forest management
- forest plantation management

SLM measures

TECHNICAL DRAWING

Technical specifications



Author: Communauté rurale de Saré Bidj, Kolda, Sénégal
Carte de la forêt communautaire de Saré Bidji

Lieu: Saré Bidji. Kolda

Connaissances techniques requises pour le personnel de terrain / les conseillers: moyen

Principales fonctions techniques: Amélioration de la couverture du sol, stabilisation du sol (par ex. par des racines d'arbres contre les glissements de terrain), augmentation de la matière organique, augmentation de la disponibilité des nutriments (réserve, recyclage, ...), augmentation de l'infiltration, augmentation du niveau / recharge de la nappe phréatique, réduction de la vitesse du vent, augmentation de la biomasse (quantité), développement des espèces végétales et de la variété (qualité, ex: fourrage appétent), contrôle des feux, réduction des matériaux secs (combustibles pour les feux sauvages), diversification et arrangement spatiaux pour l'utilisation des terres

Fonctions techniques secondaires: contrôle de la battance ('splash'), contrôle du ruissellement en nappe: ralentissement / retardement, contrôle du ruissellement en ravines: ralentissement/retardement

Aligné: -une frontière
Matériel végétatif: F: arbres / arbustes fruitiers

Espèces d'arbres fruitiers / arbustes: anacardium occidentale (planté)

Changement de pratiques d'utilisation des terres / niveau d'intensité

ESTABLISHMENT AND MAINTENANCE: ACTIVITIES, INPUTS AND COSTS

Calculation of inputs and costs

- Costs are calculated:
- Currency used for cost calculation: **Francs CFA**
- Exchange rate (to USD): 1 USD = 500.0 Francs CFA
- Average wage cost of hired labour per day: n.a

Most important factors affecting the costs

n.a.

Establishment activities

1. Production de plants (Timing/ frequency: None)
2. Transport de plants (Timing/ frequency: None)
3. Reboisement (Timing/ frequency: None)
4. Sensibilisation des populations sur l'aménagement (Timing/ frequency: 2 jours)
5. Enquêtes socio-économiques (Timing/ frequency: None)
6. Elaboration du plan d'aménagement (Timing/ frequency: None)
7. Délibération et approbation (Timing/ frequency: None)

8. Découpage en blocs et inventaire forestier (Timing/ frequency: None)

Establishment inputs and costs

Specify input	Unit	Quantity	Costs per Unit (Francs CFA)	Total costs per input (Francs CFA)	% of costs borne by land users
Labour					
Sensibilisation des populations sur l'aménagement	5 personnes par jour	2.0	50.0	100.0	
Enquêtes socio-économiques	10 personnes par jour	5.0	100.0	500.0	
Elaboration du plan d'aménagement	10 personnes par jour	1.0	100.0	100.0	
Equipment					
Carburant	Litres	110.0	1.3	143.0	
Total costs for establishment of the Technology				**843.0**	

Maintenance activities

1. Mise en place des structures de gestion (Comité Inter-Villageois de Gestion de la Forêt, Union des Comités Inter-Villageois de Gestion de la Forêt) (Timing/ frequency: None)
2. Formation des exploitants (Timing/ frequency: None)

Maintenance inputs and costs

Specify input	Unit	Quantity	Costs per Unit (Francs CFA)	Total costs per input (Francs CFA)	% of costs borne by land users
Labour					
Mise en place des structures de gestion (Comité Inter-Villageois de Gestion de la Forêt, Union des Comités Inter-Villageois de Gestion de la Forêt)	10 personnes par jour	6.0	100.0	600.0	
Formation des exploitants		1.0	3000.0	3000.0	
Restauration		1.0	1000.0	1000.0	
Equipment					
Carburant	20 litres par jour	6.0	26.0	156.0	
Total costs for maintenance of the Technology				**4'756.0**	

NATURAL ENVIRONMENT

Average annual rainfall

- ☐ < 250 mm
- ☐ 251-500 mm
- ☐ 501-750 mm
- ☑ 751-1,000 mm
- ☑ 1,001-1,500 mm
- ☐ 1,501-2,000 mm
- ☐ 2,001-3,000 mm
- ☐ 3,001-4,000 mm
- ☐ > 4,000 mm

Agro-climatic zone

- ☐ humid
- ☑ sub-humid
- ☐ semi-arid
- ☐ arid

Specifications on climate

Thermal climate class: tropics

Slope

- ☑ flat (0-2%)
- ☐ gentle (3-5%)
- ☐ moderate (6-10%)
- ☐ rolling (11-15%)
- ☐ hilly (16-30%)
- ☐ steep (31-60%)
- ☐ very steep (>60%)

Landforms

- ☑ plateau/plains
- ☐ ridges
- ☐ mountain slopes
- ☐ hill slopes
- ☐ footslopes
- ☐ valley floors

Altitude

- ☑ 0-100 m a.s.l.
- ☐ 101-500 m a.s.l.
- ☐ 501-1,000 m a.s.l.
- ☐ 1,001-1,500 m a.s.l.
- ☐ 1,501-2,000 m a.s.l.
- ☐ 2,001-2,500 m a.s.l.
- ☐ 2,501-3,000 m a.s.l.
- ☐ 3,001-4,000 m a.s.l.
- ☐ > 4,000 m a.s.l.

Technology is applied in

- ☐ convex situations
- ☐ concave situations
- ☐ not relevant

Soil depth

- ☐ very shallow (0-20 cm)
- ☑ shallow (21-50 cm)
- ☐ moderately deep (51-80 cm)
- ☐ deep (81-120 cm)
- ☐ very deep (> 120 cm)

Soil texture (topsoil)

- ☐ coarse/ light (sandy)
- ☐ medium (loamy, silty)
- ☑ fine/ heavy (clay)

Soil texture (> 20 cm below surface)

- ☐ coarse/ light (sandy)
- ☐ medium (loamy, silty)
- ☐ fine/ heavy (clay)

Topsoil organic matter content

- ☐ high (>3%)
- ☑ medium (1-3%)
- ☐ low (<1%)

Groundwater table

- ☐ on surface
- ☐ < 5 m
- ☑ 5-50 m
- ☐ > 50 m

Availability of surface water

- ☐ excess
- ☐ good
- ☐ medium
- ☐ poor/ none

Water quality (untreated)

- ☐ good drinking water
- ☐ poor drinking water (treatment required)
- ☐ for agricultural use only (irrigation)

Is salinity a problem?

- ☐ Yes
- ☐ No

Occurrence of flooding

- [ ] unusable

- [ ] Yes
- [ ] No

Species diversity
- [x] high
- [ ] medium
- [ ] low

Habitat diversity
- [ ] high
- [ ] medium
- [ ] low

CHARACTERISTICS OF LAND USERS APPLYING THE TECHNOLOGY

Market orientation
- [ ] subsistence (self-supply)
- [x] mixed (subsistence/ commercial
- [ ] commercial/ market

Off-farm income
- [x] less than 10% of all income
- [ ] 10-50% of all income
- [ ] > 50% of all income

Relative level of wealth
- [ ] very poor
- [x] poor
- [x] average
- [ ] rich
- [ ] very rich

Level of mechanization
- [ ] manual work
- [ ] animal traction
- [ ] mechanized/ motorized

Sedentary or nomadic
- [ ] Sedentary
- [ ] Semi-nomadic
- [ ] Nomadic

Individuals or groups
- [ ] individual/ household
- [x] groups/ community
- [ ] cooperative
- [ ] employee (company, government)

Gender
- [x] women
- [x] men

Age
- [ ] children
- [ ] youth
- [ ] middle-aged
- [ ] elderly

Area used per household
- [ ] < 0.5 ha
- [ ] 0.5-1 ha
- [ ] 1-2 ha
- [ ] 2-5 ha
- [ ] 5-15 ha
- [ ] 15-50 ha
- [ ] 50-100 ha
- [ ] 100-500 ha
- [ ] 500-1,000 ha
- [ ] 1,000-10,000 ha
- [ ] > 10,000 ha

Scale
- [ ] small-scale
- [x] medium-scale
- [ ] large-scale

Land ownership
- [x] state
- [ ] company
- [ ] communal/ village
- [ ] group
- [ ] individual, not titled
- [ ] individual, titled

Land use rights
- [ ] open access (unorganized)
- [x] communal (organized)
- [ ] leased
- [ ] individual

Water use rights
- [ ] open access (unorganized)
- [ ] communal (organized)
- [ ] leased
- [ ] individual

Access to services and infrastructure

health	poor ✓	good
education	poor	✓ good
technical assistance	poor	✓ good
employment (e.g. off-farm)	poor ✓	good
markets	poor	✓ good
energy	poor ✓	good
roads and transport	poor ✓	good
drinking water and sanitation	poor ✓	good
financial services	poor ✓	good

IMPACTS

Socio-economic impacts

fodder production	decreased	✓ increased
wood production	decreased	✓ increased
product diversity	decreased	✓ increased
diversity of income sources	decreased	✓ increased

Socio-cultural impacts

food security/ self-sufficiency	reduced	✓ improved
community institutions	weakened	✓ strengthened
SLM/ land degradation knowledge	reduced	✓ improved
situation of socially and economically disadvantaged groups (gender, age, status, ehtnicity etc.)	worsened	✓ improved
Amélioration des moyens de subsistance et du bien-être humain	en baisse	✓ augmenté

Ecological impacts

surface runoff	increased	✓ decreased
groundwater table/ aquifer	lowered	✓ recharge
evaporation	increased	✓ decreased
soil moisture	decreased	✓ increased
soil cover	reduced	✓ improved
nutrient cycling/ recharge	decreased	✓ increased
soil organic matter/ below ground C	decreased	✓ increased
biomass/ above ground C	decreased	✓ increased

emission of carbon and greenhouse gases	increased	decreased
fire risk	increased	decreased

Off-site impacts

COST-BENEFIT ANALYSIS

Benefits compared with establishment costs

Short-term returns	very negative	very positive

Benefits compared with maintenance costs

Short-term returns	very negative	very positive

CLIMATE CHANGE

Gradual climate change

annual temperature increase	not well at all	very well

Climate-related extremes (disasters)

local rainstorm	not well at all	very well
local windstorm	not well at all	very well
drought	not well at all	very well
general (river) flood	not well at all	very well

Other climate-related consequences

reduced growing period	not well at all	very well

ADOPTION AND ADAPTATION

Percentage of land users in the area who have adopted the Technology

- [ ] single cases/ experimental
- [ ] 1-10%
- [ ] 10-50%
- [ ] more than 50%

Of all those who have adopted the Technology, how many have done so without receiving material incentives?

- [x] 0-10%
- [ ] 10-50%
- [ ] 50-90%
- [ ] 90-100%

Has the Technology been modified recently to adapt to changing conditions?

- [ ] Yes
- [ ] No

To which changing conditions?

- [ ] climatic change/ extremes
- [ ] changing markets
- [ ] labour availability (e.g. due to migration)

CONCLUSIONS AND LESSONS LEARNT

Strengths: land user's view

- Favorise l'appropriation de la gestion des ressources par les populations

  How can they be sustained / enhanced? Vulgariser le plan d'aménagement
- Amélioration des revenus des populations

  How can they be sustained / enhanced? Renforcer les moyens de production des populations
- Permet une utilisation rationnelle et durable des ressources

Strengths: compiler's or other key resource person's view

- Meilleure connaissance du capital

  How can they be sustained / enhanced? Inventaires réguliers

Weaknesses/ disadvantages/ risks: land user's viewhow to overcome

- La prise de conscience des populations des populations a mis du temps à se matérialiser Donner plus de temps au travail de sensibilisation

Weaknesses/ disadvantages/ risks: compiler's or other key resource person's viewhow to overcome

- Repose sur des financements extérieurs

REFERENCES

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Date of documentation: April 15, 2011

Last update: May 8, 2017

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Full description in the WOCAT database

https://qcat.wocat.net/en/wocat/technologies/view/technologies_1439/

Linked SLM data

n.a.

Documentation was faciliated by

Institution

- CDE Centre for Development and Environment (CDE Centre for Development and Environment) - Switzerland
- CSE (CSE) - Senegal
- United States Agency for International Development (USAID) - Senegal

Project

- Recueil d'expériences de gestion durable des terres au Sénégal (GEF-FAO / LADA)

Key references

- C.R. de Saré Bidji, 2007. Plan d'aménagement de la forêt communautaire de Saré Bidji. Plan réalisé avec l'appui conjoint du Programme USAID Agriculture-Gestion des Ressources Naturelles «Wula Nafaa» et du Service Régional des Eaux et Forêts de Kolda: