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GOOD PRACTICES IN FIRE MANAGEMENT COP 2

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Fire breaks in Niger pastoral areas

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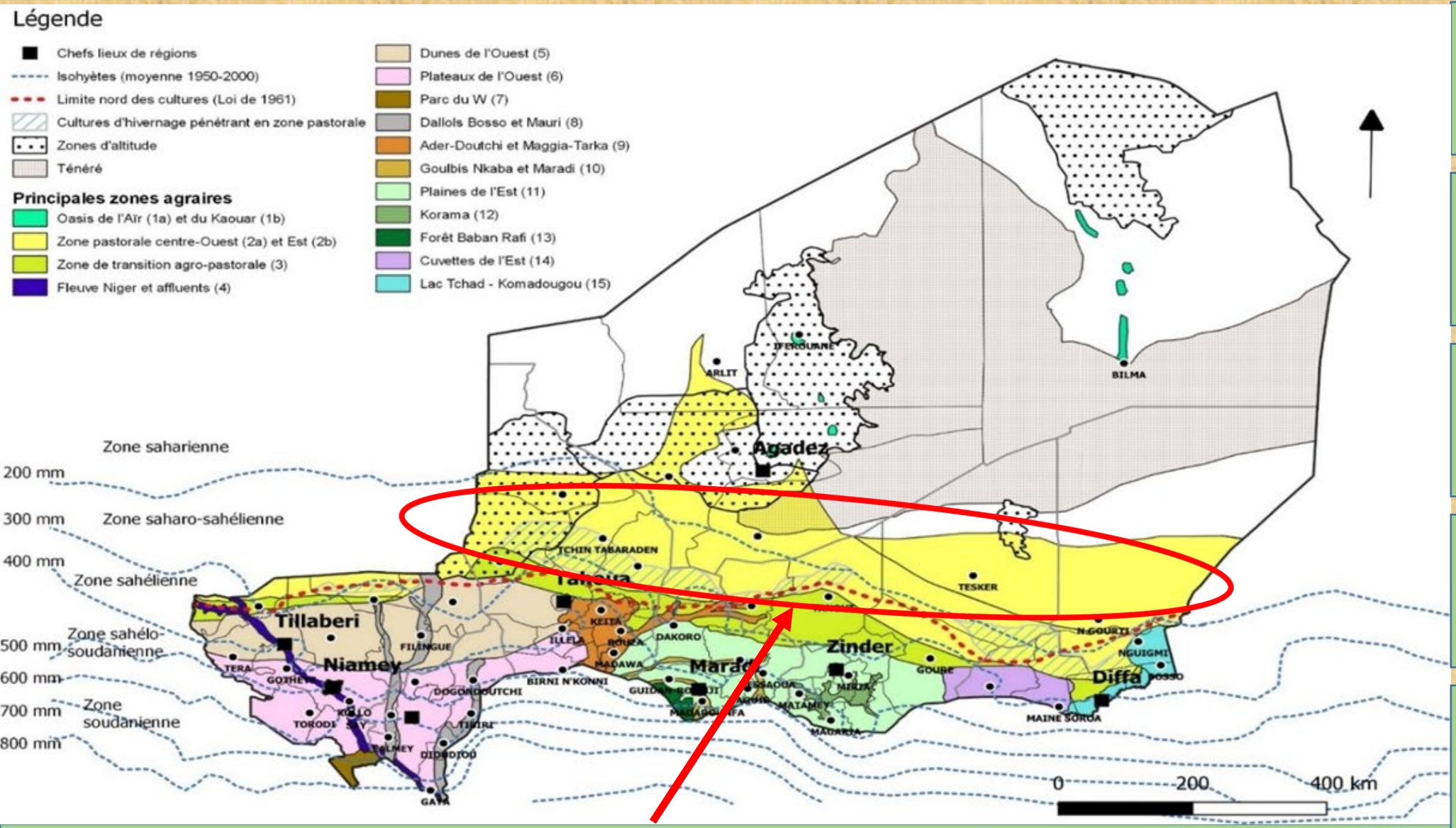
1. Context



Niger Pastoral zones: Sahelian zone suffering the effects of climate change/desertification in a context of chronic food insecurity and high risk of bushfires

Average annual rainfall
> 250 mm – 500 mm

Agro-climatic zone:
Semi-arid

Slope: flat
Altitude: 0-100 a.s.l.
Land forms:
plateau/plains

Species and habitat diversity: low

Zones exclusively dedicated to **livestock**; **Mixed** market orientation; **Low** income.

2. Fire Breaks: Description/Classification

Spacing between firebreak strips: 3 km to 4 km

GRAZING AREA

Firebreak strip: ground without any vegetation

width: 20 m to 30 m

length: > 10 km depending on the area to be protected

SLM group:

- pastoralism and grazing land management
  - protection and securing grazing land

Direction of dominant Winds

Main Purpose

- reduce, prevent, restore land degradation
- preserve/ improve biodiversity
- reduce risk of disasters

Land Use

Mixed within the same land unit: Agro-silvo-pastoralism

Cropland

Annual cropping: cereals - millet, cereals - sorghum, vegetables - leafy vegetables (salads, cabbage, spinach, other), root/tuber crops - potatoes, tomatoes Tree and shrub cropping: citrus, mango, mangosteen,guava

Number of growing seasons per year: 1

Grazing land

Nomadism Semi-nomadic, Pastoralism, Transhumance

Animal type: goats, camels, horses, mules and asses, sheep, cattle

Degradation addressed

biological degradation: Bc: reduction of vegetation cover, Bq: quantity/ biomass decline, Bf: detrimental effects of fires

SLM measures

vegetative measures: Clearing of vegetation

Prevent and reduce land degradation

3. Establishment and maintenance: activities, inputs and costs

Establishment activities

1. **Information/awareness-raising/mobilization** of the local populations (Timing/ frequency: At the start of the project, after the harvest and the clearing of the fields in the agro-pastoral zone. In the pastoral zone, this activity is after the end of the rainy season.)
2. **Planning workshop to identify the direct beneficiaries** (Timing/ frequency: After the campaign of information/awareness-raising/mobilization of the local populations, during one day)
3. **Training of fire guards** (Timing/ frequency: After the identification of direct beneficiaries, over three days.)
4. **Laying-out of the firebreaks** (Timing/ frequency: After the rainy season and following the training of fire guards.)
5. **Weeding** (Timing/ frequency: After the laying-out the firebreaks.)
6. **Collection, transport and storage of the straw** (Timing/ frequency: At the same time as weeding of the outlined strips.)
7. **Selling of the straw on the markets** (Timing/ frequency: During the lean season (March-June).)
8. **Monitoring and evaluation** (Timing/ frequency: During the period of implementation of the technology, and after the end of the project.)

Establishment inputs and costs

Inputs

Labour: Labor provided by direct beneficiaries of 'cash for work' , Technical trainers, Technical surveyors, Supervision and monitoring

Equipment

Tools for weeding (scythes, rakes, machetes, 'daba', shovels)

Mule/oxen carts

Other: Fuel, Administrative costs, etc.

Costs

20,000 $ us per 3 Km2

Maintenance activities

1. Weeding (Timing/ frequency: Once a year after the rainy season)
2. Collection and storage of the straw (Timing/ frequency: Once a year after the rainy season)
3. Selling of the straw (Timing/ frequency: Continuously during the lean season)

Implementation approach: cash for work project approach

4. Effects/Impacts

Socio-economic effects/impacts

Increase significantly of:

- ❑ Fodder production and quality
- ❑ Animal production
- ❑ Diversity of income sources
- ❑ Growth rate of household income

Socio-cultural impacts

sustainable strengthening of:

- ❑ community institutions
- ❑ national institutions
- ❑ conflict mitigation
- ❑ the improvement of situation of socially and economically disadvantaged groups(gender, age, status, ethnicity etc.)

Ecological impacts

- ❑ surface runoff → 20% after SLM
- ❑ soil cover → reduce 5% after SLM
- ❑ fire risk → decreased 99% after SLM

Off sites impacts

Water and wind erosion increased 10% after SLM

Cost-Benefit Analysis

Benefits compared with establishment costs

Short-term returns → very positive

Long-term returns → very positive

Benefits compared with maintenance costs

Short-term returns → very positive

Long-term returns → very positive

Gradual climate change

Increase of annual and seasonal temperature, decrease of seasonal rainfall

Climate-related extremes disasters: land fire, drought, local sandstorm/ duststorm

5. Adoption and Adaptation

Percentage of land users in the area who have adopted the Technology: 1-10%

Of all those who have adopted the Technology, how many have done so without receiving material incentives?
91%-100%

Has the Technology been modified recently to adapt to changing conditions? Yes. The adaptation consisted of developing markets for the straw, and especially for forage seeds, which are collected during the weeding of the fire breaks

6. Main conclusions and lessons learnt

Strengths: land user's view

- The protection of the grazing land against bush fires
- The marketing of the straw. Significant income was generated following the implementation of the fire breaks.
- The ease of implementation and maintenance of the technology, and its low costs, apart from labour.

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

- ***The protection of the grazing areas*** from the impacts of bush fires, which have become a disaster for the transhumant livestock keepers in the last decades.
- ***The approach of "cash for work",*** which was implemented during the construction of the fire breaks, enables on the one hand support of the vulnerable populations during the lean season, and on the other hand the creation of positive momentum for the conservation and protection of the grazing land.
- ***Combination of measures for sustainable land management*** and food security is an effective strategic instrument for this pastoralist zone.

Weaknesses/ disadvantages/ risks: land user's view how to overcome

- The implementation of the technology could threaten the extensive management of the grazing land through the marketing of the straw.
- The regulations for the marketing of straw should best lengthened, and especially the rural markets should be regulated.
- The transport of the straw carries along certain forage seeds to other zones, where they could become invasive plants.

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

- The systematic marketing of the straw is a major weakness.
- This may reduce the potential of the vegetation cover to regenerate in the grazing areas, and cause conflicts between the traders of straw and the land users (livestock keepers, agro-pastoralists).
- Conservation measures for herbaceous species and measures to control soil degradation should be put in place in the fire breaks.


Thank you very much