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HOW DO PASTORALISTS ARBITRATE BETWEEN ACCUMULATION OF THEIR HERDS AND SALES? A CASE STUDY IN THE PASTORAL AREA OF FERLO, SENEGAL

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SAPT 2: Sustainable animal production in the tropics and high constraints areas:
multidisciplinary approaches

INTRODUCTION

- **Controversies around herd capitalization in pastoral development**
 - **Vulnerability issues in Sahelian countries & pastoral populations**
 - **Mixed Herds = central in pastoral economy**
 - Cattle herds: saving accounts => big needs, special events
 - Small stock (sheeps, goats): cash needs => daily cash needs
 - **A limit for livestock marketing, a threat for environment?**
- **But several dynamics in pastoral societies**
 - Development of sheep herds and new market opportunities
 - Diversification of activities and rural exodus

INTRODUCTION

⇒ Question: How do pastoralists arbitrate between accumulation of their herds and sales?

⇒ Hypotheses:

- A diversity exists in the management of stocks:
capitalization / off-takes
- Diversification of activities and natural productivity play a central role in this management

MATERIALS & METHODS

- Analysis of livestock production in sahelian countries: demographic indicators

- Herd Numerical Productivity (HNP)
- Net Animal Off-takes (NAO)
- Gross Herd Rates (GHR)

- Other indicators:

- **Livestock Contribution to Economic Needs:**
Def: margin from livestock activities/social reproduction threshold
- **Direct Animal Saving from Herds**

Approximated values for Sahelian countries (Otte & Chilonda, 2002)

	Cattle Herds	Sheep Flocks
HNP	11%	31,5%
NAO	12,3%	20%
GHR	0,1%	[0,7-5,7%]

MATERIALS & METHODS

- **Field study:**

Ferlo, Senegal: an historical pastoral reserved area

- **One-year monitoring**

Herds and settlements

Herd demographic events

Data collected every monthes

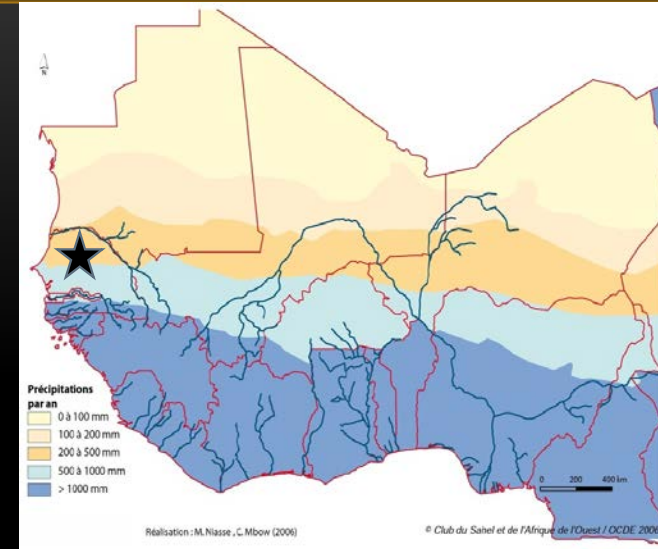
- **Sampling**

Mixed settlements herds (10)

Built to illustrate a diversity

Criteria: diversity of activities, herd size, settlement size, mobility

- **Case-study analysis**



RESULTS

A. Values of capitalization and off-takes in the different herds

	Cattle	Sheep
HNP	Mostly > 20%	Mostly > 30 %; high variability
NAO	[0;43%]; high variability	High: > 50 %
GHR	[-10; 15%]; high variability	Negative for all cases except one

Approximated values for Sahelian countries
(Otte & Chilonda, 2002)

	Cattle	Sheep
HNP	11%	31,5%
NAO	12,3%	20%
GHR	0,1%	[0,7-5,7%]

⇒ Sheep flock: high off-takes rates; mostly in decapitalization

⇒ Cattle Herd: capitalization but High off takes

Contribution to margin is important in some cases.

RESULTS

B. Four different patterns for animal saving

- 1: basic needs just covered; capitalization (n=3)
- 2: basic needs just covered; decapitalization (n=1)
- 3: basic needs largely covered, decapitalization (n=2)
- 4: basic needs largely covered, capitalization (n=1)

Mixed herds

	Livestock contribution to economic needs	Direct animal saving from herds
1	+/- 100%	[4;12%]
2	+/- 100%	[-15%]
3	>> 100%	[-35; -20%]
4	>> 100 %	[10%]

... a link with the diversity of system of activities

... but not only!

RESULTS

D. 4 cases of trade-off between species

Big herds (> 100 TLU)

1 : ANIMAL SAVING: 8 %

- Livestock margin: sheeps (88%)
⇒ Low GHR for sheeps(-3%)
- Low NAO for cattle (2%) sheep(18%)

⇒ **Strategy:**

Diversification

Livestock= Cattle Storage

2 : NO ANIMAL SAVING: -35 %

- Livestock margin: sheeps (65%) and cattle
- High sheep mortality
- High cash needs
- ⇒ High NAO for sheeps (71%)

⇒ **Strategy:**

Livestock= storage used for special events

RESULTS

D. 4 cases of trade-off between species

Small Herds (< 42 TLU)

3: SAVING: 4 %

- Livestock margin: cattle > (63 %)
- High NAO for sheeps
- Small sheep flock

⇒ **Strategy:**

Based on Cattle for margin and storage

4: NO ANIMAL SAVING: - 21%

- Livestock margin : sheep > (80 %)
- High NAO for sheeps and cattle,
- Cattle herd very small

⇒ **Strategy:**

No store available, decapitalization
Survival diversification

DISCUSSION AND CONCLUSION

- ✓ **Capitalization of herds is not universal in pastoral settlements**
 - Cattle herds are capitalized but contribute largely to basic needs
 - Sheep herds are often decapitalized

- ✓ **Traditional balance among cattle and sheeps in pastoral mixed herds to be questioned**
 - => Strategies based on cattle OR sheeps
 - => Differences between species in natural productivity, labor requirement, market opportunities

- ✓ **Results to be discussed:**
 - Data collection
 - Datas limited to one year

- ✓ **To go further:** The special place of goats in individual vulnerability

THANK YOU

