

# Communal Pasture Areas

## Overgrazing and Sustainability

*Yvane Marblé, Michaela Cosijn & Birgit Boogaard*

8 November 2012

Vilanculos, Mozambique



# What causes overgrazing?

Is it managing number of animals in an area?

**YES**

BUT there are other factors which affect this:

- type of vegetation – % grass vs shrubs vs trees
- length of time animals graze
- season they graze
- variability in rainfall
- type of animals grazing
- type of management practices (next session)



# Impacts of overgrazing

- Degradation and loss of vegetation
- Hotter soils
- Erosion due to increased rate of runoff
- Rivers / lakes dry up
- Also flash flooding
- Changes in rainfall (changes in evapo-transpiration and albedo)

**RESULT → DESERTIFICATION & BIODIVERSITY LOSS**



# Impact on livestock

- Decline in health of animals (thinning, disease, diarrhoea)
- Potential death of cattle and goats as declining food and water



# Overgrazing vs grazing



# What is sustainability of pasture areas?

Need to looking at following factors:

- Vegetation type and mixture
- Rainfall seasons and variability
- Number of animals
- Management of herds

**IT NEEDS TO BE PRO-ACTIVE AND FLEXIBLE**

# Sustainable pasture area - Question

*Which of the two pasture areas below is the best pasture area for goats (with cattle)?*

**Pasture 1**



**Pasture 2**



**Why?**

The pasture 1 brings nutritious grasses in high quantities, **but** only for a short term and can be fast overgrazed. Moreover, in the dry-late dry season, there will be no feed anymore, compared to the pasture 2 which has a lot of bush/tree feed opportunities.

# Natural Resource Management

## *Effects of practices on pasture areas*

### *Land pressure of the practices*

- Low pressure on the land
- High pressure on the land

### *Time period of the effect*

- Short-term impact
- Long-term impact

	Low land pressure	High land pressure
Short term impact	Good	Bad
Long term impact	Good	Very bad

# Maximum Number of Animals – Carry Capacity

## Why?

- **One of the most critical factors for sustainable pasture area**
- Consequences of overgrazing due to goat **overpopulation** in one pasture are known as a major environmental issue (e.g. **desertification**)
- Maximum numbers differ per areas depending on the vegetation
- if this criterion is not included to some organisational chart, the number of animals could increase on the long-term to a point of overpopulation that can not be undone!

# Maximum number of animals based on grasses

Project communities in Inhassoro district	No of goats per ha	Current grazing capacities	Possible number of goats for the whole community
Chichangue (2 areas)	4.3	21654 – 25984	1350
Cachane	3.8	2031	2550
Vulanjane (3 samples)	3.2 (varying from 1.6 to 5.7)	5033	2600
Nhapele (3 samples)	6.6 (varying from 4.6 to 8.8)	9255	1050
Mabime (2 samples)	1.5 (varying 1 to 2)	379	4500
Rubatstatsa	3.3	10536	1500

Source: Marblé 2012

# References

Marblé, Y., 2012. *'Creation of communal grazing areas for goats in southern Mozambique: future perspectives'* Master thesis, Wageningen University.

# *Better lives through livestock*

ilri.org

ilri.org

Box 30709, Nairobi 00100, Kenya  
Phone: + 254 20 422 3000  
Fax: +254 20 422 3001  
Email: ILRI-Kenya@cgiar.org

Box 5689, Addis Ababa, Ethiopia  
Phone: +251 11 617 2000  
Fax: +251 11 617 2001  
Email: ILRI-Ethiopia@cgiar.org

other offices  
China • India • Mali  
Mozambique • Nigeria • Tanzania  
Thailand • Uganda • Vietnam

*Better lives through livestock*  
ILRI is a member of the CGIAR Consortium



The presentation has a Creative Commons licence. You are free to re-use or distribute this work, provided credit is given to ILRI.