






Managing communal pasture areas for goats in Inhassoro District, Mozambique: A manual for trainers



Managing communal pasture areas for goats in
Inhassoro District, Mozambique: A manual for trainers

This publication is copyrighted by the International Livestock Research Institute (ILRI). It is licensed for use under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License. To view this licence, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/>. Unless otherwise noted, you are free to copy, duplicate or reproduce, and distribute, display, or transmit any part of this publication or portions thereof without permission, and to make translations, adaptations or other derivative works under the following conditions:

	ATTRIBUTION. The work must be attributed, but not in any way that suggests endorsement by ILRI or the author(s).
	NON-COMMERCIAL. This work may not be used for commercial purposes.
	SHARE ALIKE. If this work is altered, transformed, or built upon, the resulting work must be distributed only under the same or similar license to this one.

NOTICE

For any reuse or distribution, the license terms of this work must be made clear to others. Any of the above conditions can be waived if permission is obtained from the copyright holder. Nothing in this license impairs or restricts the author's moral rights. Fair dealing and other rights are in no way affected by the above. The parts used must not misrepresent the meaning of the publication. ILRI would appreciate being sent a copy of any materials in which text, photos etc. have been used.

Authors

Birgit Boogaard (ILRI), Michaela Cosijn (Technical consultant, CARE Mozambique), Yvane Marblé (Wageningen University) and Saskia Hendrickx (ILRI).

Proofreading and editing: Tezira Lore, ILRI

Cover photograph: Yvane Marblé

ISBN: 92-9146-309-4

Citation: Boogaard B, Cosijn M, Marblé Y and Hendrickx S. 2012. *Managing communal pasture areas for goats in Inhassoro District, Mozambique: A manual for trainers*. ILRI (International Livestock Research Institute), Nairobi.

ilri.org
better lives through livestock
ILRI is a member of the CGIAR Consortium

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

Box 2100,
Maputo, Mozambique
Phone/fax: +258 21 462 454
Email: ILRI-Mozambique@cgiar.org

Contents

Preface.....	v
Introduction	1
How to use this manual.....	1
Exercises.....	2
Learning objectives	2
Materials required.....	2
Part 1: Technical aspects of managing communal pasture areas	3
Exercise 1a: Overgrazing and sustainable pastures.....	3
Exercise 1b: Sustainable practices (“dos and don’ts” for sustainable communal pasture areas)	4
Part 2: Social aspects of managing communal pasture areas	5
Exercise 2a: Legislation of pasture areas	5
Exercise 2b: Labour issues and involvement of women and children	6
Exercise 2c: Decisions to be taken in the management of communal pasture areas	7
Part 3: Developing a group training program for goat keepers.....	8
Exercise 3: Developing a training program for goat keepers	8
Final exercise: Feedback on the training.....	9
Sources.....	10
Annex 1: Sample timetable for a 1.5-day training course	11
Annex 2: Hand-out on overgrazing and sustainability	12
Annex 3: Hand-out on sustainable practices.....	15
Annex 4: Information flyer for the innovation platform.....	19
Annex 5: Hand-out on setting boundaries	21
Annex 6: Hand-out on labour issues	25
Annex 7: Seven decision steps in implementing communal pasture areas	29
Annex 8: Example of a community pasture plan.....	30

Preface

The European Commission-funded project, *Small ruminant value chains as platforms for reducing poverty and increasing food security in dryland areas of India and Mozambique* (imGoats) aims to increase incomes and food security in a sustainable manner by enhancing pro-poor small ruminant value chains in India and Mozambique. The project is implemented by the International Livestock Research Institute (ILRI) in collaboration with BAIF Development Research Foundation in India and CARE Mozambique. The project uses innovation platforms as a participatory way of identifying and testing interventions aimed at increasing smallholder goat productivity.

In Mozambique, the innovation platform identified communal pasture areas as one of the interventions to increase goat production. Each project community identified one or two areas for communal grazing of goats. However, setting up of communal pasture areas and managing them sustainably requires attention to several technical and social aspects, for example, dealing with overgrazing, community agreements and overall management.

Because the extension officers from CARE Mozambique did not have adequate knowledge and expertise in this area, imGoats technical consultant Michaela Cosijn and ILRI postdoctoral scientist Birgit Boogaard designed and conducted a 1.5-day training course¹ on communal pasture areas for CARE extension officers.

The content of the course was largely based on an MSc thesis entitled *Creation of communal grazing areas for goats in southern Mozambique: Future perspectives* by Wageningen University student Yvane Marblé (available online at <http://cgspace.cgiar.org/handle/10568/24710>).

This manual is an output of the training course and was prepared by a team of researchers from ILRI in collaboration with technical staff from CARE Mozambique and Yvane Marblé. It is aimed at trainers of extension officers and other development agents who are responsible for training of smallholder goat keeper groups in Inhassoro District, Mozambique.

The authors are grateful to Ann Waters-Bayer for facilitating contributions from members of the following mailing lists: Coalition of European Lobbies for Eastern African Pastoralism, Community of Practice for Pro-poor Livestock Development, Endogenous Livestock Development, Participatory Technology Development Forum and Prolinnova.

The contributions of Pier-Paolo Ficarelli, Michael Blümmel and Kees Swaans of ILRI and Camila Rivero-Maldonado and Amosse Maheme of CARE Mozambique are gratefully acknowledged.

For more information about the imGoats project, visit <http://imgoats.org>.

1. The training was given in Portuguese and therefore all training materials (annexes in the current document) are also available in Portuguese. To avoid repetition, this manual only includes the English versions. Portuguese versions can be sent on request; email Saskia Hendrickx (s.hendrickx@cgiar.org).

Introduction

The establishment of communal pasture areas for smallholder goat keeping requires attention to both technical and social aspects. The technical aspects cover the carrying capacity of the pasture areas to ensure its sustainability, including, for example, availability of vegetation and variation in vegetation and number of animals. The social aspects, on the other hand, focus on the management of the pasture areas and include organization of labour as well as governance of the areas.

This manual is targeted at trainers of extension workers and development agents who work with smallholder goat keeper groups in Inhassoro District, Mozambique. The aim is to convey knowledge on how to set up and manage communal pasture areas so that the extension workers can use the knowledge gained to organize and deliver a training program for goat keepers in their area.

How to use this manual

This manual is designed as a reference guide for relevant information and tools required for training extension workers on how to develop and deliver a training program for goat keepers on managing communal pasture areas. The course can be delivered by either one or two facilitators who have knowledge and experience in leading Training of Trainers courses as well as facilitation of non-formal adult learning sessions.

The ideal size of the group is three to seven extension officers as the course includes many group discussions which would be most effective and constructive with a maximum of seven people. The training material, however, can also be used for larger groups, but one might need to consider changing some of the facilitation methods, for example, by dividing the group into sub-groups.

The training is organized in three parts and is designed to be delivered over 1.5 days as follows:

Day 1

Part 1: Technical aspects of managing communal pasture areas

Part 2: Social aspects of managing communal pasture areas

Day 2 (half-day)

Part 3: Developing a training program for goat keepers

A sample training timetable for 1.5 days is indicated in Annex 1. However, if the extension officers already have experience with communal pasture areas and time is a constraint, the timetable may be adjusted so that the course is delivered in one day.

Exercises

The learning objectives are achieved through three types of exercises: learning, building block and team exercises.

Learning exercises: have the main objective to support the cognitive learning process and therefore have a strong theoretical focus with new knowledge for the extension officers.

Building block exercises are aimed at converting the recently gained knowledge into training materials for goat keepers. As such, building block exercises fulfil multiple purposes:

- Extension officers can give their input into the design of a training module for goat keepers as they are knowledgeable about the goat keepers and the situation in the field. It is easier for the extension officers to facilitate the training of goat keepers if they have been actively involved in developing the training modules.
- The building block exercises follow the topics discussed in the learning exercises, thus the extension officers can directly apply their recently gained knowledge. This enhances their overall learning process. At the end of the training, all building block exercises are combined to develop a complete training course for goat keepers.

Team exercises involve the entire project team (including facilitators of the training) to discuss specific issues regarding the project.

Learning objectives

At the end of the training, the extension workers are expected to:

- possess technical knowledge about sustainable management communal pasture areas;
- understand that there is no blueprint to manage communal pasture areas but that different communities may choose different management solutions, depending on specific environmental and social conditions in their community;
- understand the complexity of several social issues related to communal pasture areas, such as possible social conflicts and the labour involvement of women and children; and
- use the knowledge gained to deliver a training program for smallholder goat keepers on how to manage communal pasture areas.

Materials required

- Presentations (these may be downloaded from <http://www.slideshare.net/ILRI/tag/communalpasture>)
- Hand-outs of the presentations
- Flip charts
- Markers
- LCD projector
- Computer

Part I: Technical aspects of managing communal pasture areas

Exercise 1a: Overgrazing and sustainable pastures

Objective: To gain technical knowledge about overgrazing and carrying capacity and help to develop a group training module for goat keepers on overgrazing and carrying capacity.

Learning exercise 1a: Overgrazing and sustainable pasture areas

Time: About 45 minutes

Method: Buzz discussion in groups of two to three people

- What is a sustainable communal pasture area? What does 'sustainable' mean?
- What is 'overgrazing'? How is it caused and how can it be prevented?
- Why is it an important issue in terms of goat herd management and environmental management?

Feedback

- After the buzz discussions, have a group discussion on long-term use of grazing areas and the importance of sustainable use of natural resources.
- Summarize the main points of the discussion on a flipchart.
- Using the PowerPoint presentation in Annex 2, present the main causes and consequences of overgrazing, including calculations for carrying capacity for six imGoats project communities [based on Marblé (2012)].

Outputs

- Hand-outs of the PowerPoint presentation on key aspects of sustainability (Annex 2).
- Flip chart notes, to be used in building block exercise 1a.

Building block exercise 1a: What do goat keepers know about 'overgrazing' and its consequences?

Time: About 15 minutes

Method: Use the flip chart notes from learning exercise 1a and discuss with the extension officers:

- Which of these terms and ideas do goat keepers know?
- What are their ideas/perceptions of overgrazing and sustainability?
- How could goat keepers learn or become aware about the importance of not overgrazing?
- How could we include this as part of a training module for goat keepers?

Feedback

- Summarize the main suggestions for goat keeper group training on a flip chart – to be used in Part 3 of the training.

Outputs

- Flip chart notes to be used in Part 3.

Exercise 1b: Sustainable practices (“dos and don’ts” for sustainable communal pasture areas)

Objective: Gain technical knowledge about the “dos and don’ts” for sustainable communal pasture areas and use the knowledge gained to develop a goat keeper group training module on good practices for communal pasture areas.

Learning exercise 1b: Good and bad practices for communal pasture areas

Time: About 45 minutes

Method: Brainstorming session – make an inventory on a flip chart

- What are good practices for a sustainable communal pasture area?
- What are bad practices for a sustainable communal pasture area?

Feedback

- Discuss the results of the brainstorming session on the basis of a PowerPoint presentation of good and bad practices [largely based on Marblé (2012)] (see Annex 3).
- Compare with the flipchart: What practices did the extension officers already know? Which ones were new?

Outputs

- Hand-outs of the PowerPoint presentation on good and bad practices (Annex 3)
- Flip chart notes on good and bad practices.

Building-block exercise 1b: How to train goat keepers about good and bad practices

Time: About 15 minutes

Method: Discuss with the extension officers based on the presented overview

- What are the most important practices for goat keepers to learn?
- How can goat keepers learn good practices about communal pasture areas? E.g. demonstration, illustration cards with “dos and don’ts” based on the innovation platform flyer (see Annex 4)

Feedback

- Summarize the main suggestions for goat keeper group training on a flip chart (to be used in Part 3 of the training).

Output

- Flip chart with suggested topics to be used in Part 3

Part 2: Social aspects of managing communal pasture areas

Exercise 2a: Legislation of pasture areas

Objective: Understand the importance of legislation of communal pasture areas for the community, including the importance of land rights and ownership. Discuss what these issues could entail for the goat keeper group training module on communal pasture areas.

Learning exercise 2a: Importance of legislation of pasture areas

Time: About 30 minutes

Method: Interactive introduction using the PowerPoint presentation in Annex 5 covering issues such as:

- What is the importance of legislation of communal pasture areas?
- What are the challenges and lessons learned from legislation of communal lands (mainly forests) in Mozambique?

Feedback

- Interactive presentation in which extension officers are asked to give examples based on their field experiences.

Output

- Hand-outs of the PowerPoint presentation on legislation of communal pasture areas (Annex 5)

Team exercise 2a: Legislation of pasture areas in the project communities

Time: About 30 minutes

Method: Group discussion covering the following issues:

- How can the communal pasture areas of the project communities be legalized?
- What can the project management do to support this process? What steps need to be taken by the project team?

Feedback

- Summarize discussion and action points on a flip-chart – to be used in Part 3

Output

- Flip chart notes on the way forward for legislation of communal pasture areas in Inhassoro District (for Part 3)

Exercise 2b: Labour issues and involvement of women and children

Objective: Understand the complexity of several social issues related to communal pasture areas, such as the labour involvement of women and children. Discuss what these issues could entail for a goat keeper group training module on communal pasture areas.

Building block* exercise 2b: Labour issues and involvement of women and children

Time: About 30 minutes

Method: Brainstorm with the extension officers on:

- Labour and gender issues in relation to the management of communal pasture areas
- Implications of labour and gender issue for training of goat keepers

Feedback

- Write the main labour and gender issues on a flip chart (to be used in Part 3)

Output

- Flip chart notes to be used in Part 3.

**Note: In this case, the building block exercise comes before the learning exercises in order to get an idea of the level of awareness of the extension officers on gender and labour issues.*

Learning exercise 2b: Labour issues and involvement of women and children

Time: About 30 minutes

Method: Presentation on the main labour issues surrounding communal pasture management, including issues such as:

- Main activities for communal pasture areas
- Who will conduct the main activities and the additional ones
- Involvement of external (paid) labour

The presentation is largely based on Marblé (2012) (see Annex 6)

Feedback

- Interactive presentation in which extension officers are asked to give examples based on their field experiences.

Output

- Hand-outs of the PowerPoint presentation on labour issues (Annex 6)

Exercise 2c: Decisions to be taken in the management of communal pasture areas

Objective: Understand that there is no blueprint to manage communal pasture areas, but that different communities may choose for different management solutions, depending on environmental as well as social conditions

Learning exercise 2c: Decisions to be taken in the management of communal pasture areas

Time: 45 minutes (15 minutes for discussion; 30 minutes for introduction of the seven decision steps, with interaction)

Method: Open group discussion based on the following questions:

- Have you already discussed the management of grazing areas in one or more producer groups?
- If yes, what was the discussion about?
- What were the main issues addressed?

Feedback

- Summarize the main points on a flip chart (to be used in Part 3)
- Introduce the seven decisions steps for implementing communal pasture areas [based on Marblé (2012)]; see Annex 7.
- Discuss if there are new steps/issues which have not been addressed by the extension officers.

Output:

- Hand-out of the seven decision steps in implementing communal pasture areas (Annex 7)
- Flip-chart with a summary of the main points (for Part 3)

Building block exercise 2c: Training of goat keepers on management of communal pasture areas

Time: About 20 minutes

Method: Discuss the following questions with the group:

- Would it be useful for goat keeper groups to use the seven-step plan?
- What changes or adaptations would be necessary to make it easy for the goat keepers to use?
- What steps or issues are missing and should be included?
- What variation in decisions exists among communities?*
- Are there examples of differences between communities?

Feedback

- Write the main points on a flip chart (to be used in Part 3)

Output

- Flip chart notes for Part 3

** Note: It is important to clarify that there is no blueprint on how to manage pasture areas. Decisions depend on specific situations in each community, for example, water availability, vegetation, size of grazing area, distance of the grazing area to houses and so on. Hence, different communities may take different decisions.*

Part 3: Developing a group training program for goat keepers

Exercise 3: Developing a training program for goat keepers

Objective: Develop a group training program for goat keepers on sustainable management of communal pasture areas by combining the outputs of the building block exercises into a complete training program.

Team exercise: Developing a group training program for goat keepers

Time: About 1 hour

Method

- Stick the flip charts of all building block exercises in a line on the wall. Start combining the different building blocks into a full training by discussing with the team and agreeing on the main content and logical structure of the training modules
- Remember to include differences between communities. For example, specific community pasture plans can be used, including community-specific recommendations to compose a tailor-made training (see the example in Annex 8 by Yvane Marblé)

Feedback

- Write the main structure and content of the training on a flip chart.
- Discuss with the team what needs to be done to take communal pasture areas forward: Who will do what by when?

Output

- Flip chart with the main structure and content of goat keeper training on communal pasture areas.
- Action plan to take communal pasture areas forward in the project.

Final exercise: Feedback on the training

Objective: Receive feedback from group on the training and assess if they have additional training needs in order to facilitate goat keeper group trainings on communal pasture areas.

Final exercise: Feedback questions

Time: 20–30 minutes

Ask the group to provide feedback about additional training needs

- After this training, are there additional skills needed by the group to effectively train and facilitate goat keeper groups on communal pasture areas? For example, do they need additional facilitation skills?

Ask the group to provide feedback on the content and process of the training

- Was the training useful?
- Did the training meet their expectations?
- Which part did they like most?
- Which part did they like least?

Sources

- Black R and Watson E. 2006. Local community, legitimacy, and cultural authenticity in postconflict natural resource management: Ethiopia and Mozambique. *Environment and Planning D: Society and Space* 24(2): 263–282.
- CAPRI (CGIAR Systemwide Program on Collective Action and Property Rights). 2010. *Resources, rights and cooperation: A sourcebook on property rights and collective action for sustainable development*. International Food Policy Research Institute, Washington, DC.
- Chambers R. 2002. *Participatory workshops: A sourcebook of 21 sets of ideas and activities*. Earthscan, London.
- FAO (Food and Agriculture Organization of the United Nations). 1994. Cattle, sheep, goats and buffalo. In: FAO, *A manual for the primary animal health care worker*. (Available from <http://www.fao.org/docrep/T0690E/t0690e05.htm#TopOfPage>) (Accessed on 17 November 2012)
- Ficarelli PP. 1995. *Goat and sheep keeping in Malawi: A manual for trainers and extension workers*. Malawi German Livestock Development Programme, GTZ.
- IRPAA (Instituto Regional da Pequena Agropecuária Apropriada). 2001. *Criação de cabras - convivendo com o semiárido*. (Available from <http://www.irpaa.org/publicacoes/cartilhas/criacao-de-cabras.pdf>) (Accessed on 17 November 2012).
- Jansen C and van der Burg K. 2004. *Criação de cabras nas regiões tropicais*. Agromisa, Wageningen, the Netherlands. 91 pp.
- Maarse L and Salm M. 2010. *Learning AgriCultures: Module 4 Livestock Systems*. 147 pp.
- Marblé Y. 2012. Creation of communal grazing areas for goats in southern Mozambique: future perspectives. *MSc thesis*, Wageningen University. (Available from <http://cgspace.cgiar.org/handle/10568/24710>) (Accessed on 17 November 2012).
- McDermott Hughes D. 2000. *Cadastral politics: The making of community forestry in Mozambique and Zimbabwe*. Biennial conference of the International Association for the Study of Common Property, Bloomington, Indiana.
- Mehta-Bhatt P and Nyangaga J. 2011. *Pedagogy and adult training: A trainer's manual*. ILRI (International Livestock Research Institute), Nairobi. (Available from <http://mahider.ilri.org/handle/10568/5403>) (Accessed on 17 November 2012).
- Kaner S, Lind L, Toldi C, Fisk S and Berger D. 2007. *Facilitator's guide to participatory decision-making*. (Available from <http://knowledgecenter.completionbydesign.org/resource/258>) (Accessed on 17 November 2012).

Annex I: Sample timetable for a 1.5-day training course

Day One

Time	Activity	Topic
0830–0900	Welcome and Introduction	Objectives, methods and planning of the training
0900–0945	Part 1 – LE 1a	Overgrazing and sustainable pasture areas
0945–1000	Part 1 – BE 1a	Overgrazing and sustainable pasture areas
1000–1045	Part 1 – LE 1b	Good and bad practices
1045–1100	Part 1 – BE 1b	Good and bad practices
1100–1115	Break	
1115–1200	Part 2 – LE & TE 2a	Legislation of pasture areas
1200–1230	Part 2 – BE 2b	Labour issues involving women and children
1230–1330	Lunch	
1330–1350	Part 2 – LE 2b	Labour issues involving women and children
1350–1500	Part 2 – LE 2c	Management: decisions to be taken
1500–1515	Break	
1515–1545	Part 2 – BE 2c	Management: decisions to be taken
1545–1600	Closure	

LE: learning exercise; BE: building block exercise; TE: team exercise

Day Two

Time	Activity	Topic
0830–0900	Refresher exercise	Part 1 and 2
0900–1030	Part 3 – TE 3	Development of group training program for goat keepers
1030–1100	Break	
1100–1130	Closure	

TE: team exercise


Annex 2: Hand-out on overgrazing and sustainability

Communal Pasture Areas

Overgrazing and Sustainability

Yvane Marblé & Birgit Boogaard & Michaela Cosijn


8 November 2012
Vilanculos, Mozambique




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





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)



Impact on livestock

- Decline in health of animals (thinning, disease, diahoeria)
- 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 area 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 (Marblé 2012)

Communities	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

Annex 3: Hand-out on sustainable practices

Communal Pasture Areas

Sustainable Practices

Yvane Marblé & Birgit Boogaard

8 November 2012

Vilanculos, Mozambique



Natural Resource Management

- Long term use of the areas -> sufficient vegetation
- Prevent overgrazing and desertification
- *Sustainable use of the pasture areas*

GOOD



BAD

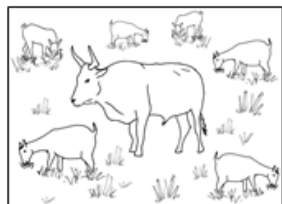


HOW?

Mixed herding

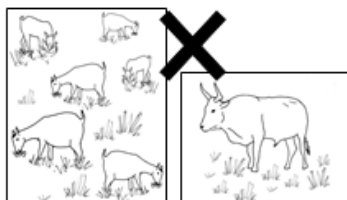
GOOD:

Mixing cattle and goats



BAD:

Separate goats and cattle



Why?

- Goats and cattle eat different vegetation
- Better utilisation of the feed resources: best long-term integrated animal production system
- Control over woody species by goats and improvement of the range vegetation by cattle grazing

Maximum number of animals

GOOD:

Maximum number defined



BAD:

Maximum number undefined



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 area 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!

Grazing pattern

GOOD:

Rotational pasture



BAD:

Using one area without rotation



Why?

- Restricting the grazing in certain parts as in rotational grazing can lead to a decrease of forage availability in short-term
- Grazing areas may be characterised by different vegetation; i.e. one area can be composed of grasses while the other has a high density of trees and bushes
- Different areas are often separated from each other geographically (e.g. by the community households, a road or a river).
- Rotate before there is no vegetation anymore: 50% grass utilisation is seen as a sustainable use

Herd movement

GOOD:

Dispersed grazing, e.g. also far from corral and water source

BAD:

Concentrated grazing, close to the corral and water source

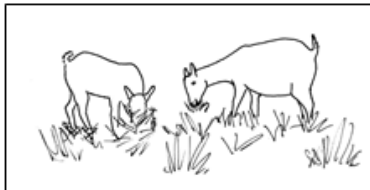
Why?

- Grazing time of the goats (h/day) on one place.
- Can lead to a fast overgrazed zone (i.e. grazing is concentrated on a small part of the pasture).
- The goat herds need to be mobile, in response of the fluctuation of the fodder availability; i.e. identifying area with more bushes/trees for the dry season.
- Implementation of trails would facilitate the use of zones further from the corral
- Communities with natural water supply should have several watering points instead of a specific one.

Animal keeping system

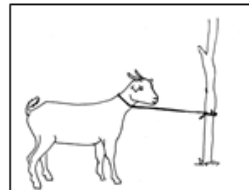
GOOD:

Free range



BAD:

Tethered



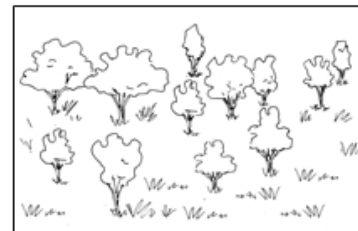
Why?

Can lead to a fast overgrazed zone (i.e. grazing is concentrated on a small part of the pasture).

Burning

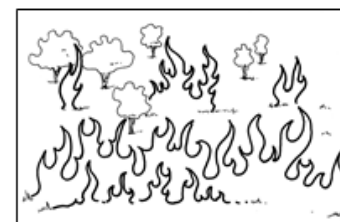
GOOD: No uncontrolled fires

(and controlled fires only every 4 years)



BAD: Uncontrolled fires

(every year)





Water sources

GOOD:
Natural



BAD:
Borehole



Why?

- The use of surface water (e.g. river, lake) has smaller impact on the natural resources than the use of groundwater (i.e. water coming from a borehole), because the refilling speed of groundwater in dry areas is much lower than for surface water: i.e. it could take centuries for a groundwater to be refilled.
- Water has to be available for goats every day. Water is as important as feed for the goat productivity

Burning

Why bad?

- Uncontrolled use of fire on the pasture or its repeated application (e.g. every year) reduces soil fertility, vegetation composition and production.
- Uncontrolled fires are very dangerous
- Uncontrolled fires are prohibited by Mozambican law
- Fires destroys shrubs, which can be eaten by the goats in the dry season
- Repeated fires emphasize ecological instability, resulting in loss of protective vegetative cover, soil compaction and accelerated erosion
- Bush encroachment on pasture can be controlled by goats, goats have high digestive efficiency for coarse roughage such as bushes and trees

Can it be good?

- If it is very well controlled
- It can remove the moribund grasses
- It can activate the development of new grasses
- It can help to reduce bush encroachment

*Most communities conduct **bad** burning practices, mostly uncontrolled. So we advocate to stop burning.*

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

Natural Resource Management

		Low land pressure	High land pressure
Practices with <u>short-term</u> impacts	Grazing pattern	Rotation between plots or area	all-year round without rotation
	Animal keeping system	Free-range	Tethered
	Herd movement	Dispersed from the corral	Close to the corral
Practices with <u>long-term</u> impacts	Mixed herding	Goats and cattle	Only goats
	Burning	No fires (or controlled fires every 4 years or longer)	Uncontrolled fires (every year)
	Water sources	Natural	Borehole
	Maximum number of animals	Defined and applied	Not defined


Grazing practices per community

Practices/ communities	Chichengue	Cachene	Vulunjene	Nhepele	Mebime	Rumbetsatse
Grazing pattern	x	x	x	x	x	x
Animal keeping system	x (long-term)	x	x		x	x
	x (short-term)			x		
Herd movement	x	x	x (women)			x (women)
			x (men)	x	x (men)	x (men)
Mixed herding		x (women)		x	x	x
	x	x (men)	x			
Burning	x	x	x	x		x
water sources	x		x			
		x		x	x	x
Max number of animals	x	x	x	x	x	x

low land pressure

high land pressure

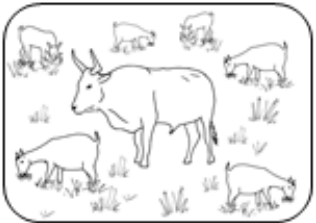
Annex 4: Information flyer for the innovation platform



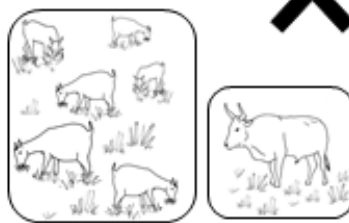
Good practices for communal grazing areas
7th meeting Innovation Platform

Mixed herding

GOOD
Mix cattle and goats in the same area



BAD
Cattle and goats in different areas




Why?


- Cattle and goats eat different plants, so everything will be used.
- Cattle eat grass
- Goats eat also other plants like shrubs.

Prevent overgrazing

GOOD
Few animals, much grass and many shrubs




BAD
too many animals, little grass and few shrubs



Why?


- To have grass and feed for the dry season and for the next year
- Pay special attention to areas close to the corral or close to the watering point




Good practices for communal grazing areas
7th meeting Innovation Platform

Prevent uncontrolled fires

GOOD
No fires: much grass and shrubs



BAD
Uncontrolled fires




Why?


- Uncontrolled fires are dangerous and can do damage to plants, animals and even people
- Uncontrolled fires destroy many shrubs, which goats can eat
- Uncontrolled fires can destroy pasture areas for the next year

Pasture rotation

GOOD
Animals graze on different areas (rotation)



BAD
Animals always graze on the same area



Why?

- To maintain pasture (prevent overgrazing)
- Move animals to another grazing zone **before** there is no vegetation anymore
- It is also a way to control (intern and extern) parasites.

Give water to the animals

GOOD

Provide water for the animals

BAD

No water



Why?

- Water is as important as feed for the animals.
- Supply water in the pasture area or at the shelter
- If possible: supply water every day

What did we do?

In May 2012, we conducted a study in Inhassoro district in the following communities: Vulanjane, Nhapele, Mabime, Rumbatsatsa, Cachane and Chichangue.

In each community we spoke with the producer group, paravet and community leader about the communal pasture areas. We also collected grass samples from the pasture areas.

Based on this study, a series of recommendations have been developed.





Annex 5: Hand-out on setting boundaries

Setting boundaries

Legislation of communal pasture areas

Birgit Boogaard & Michaela Cosijn

8 November 2012
Vilanculos, Mozambique



Importance of land legislation

Mozambique (since 1990s): establish the inalienable rights of local people to their land which protects and enfranchises **smallholder farmers**.




Illustration: Ecologist 2011

Importance of land legislation

Prevent '**land grabbing**', e.g. use of land by outsiders for timber firms, agriculture, sport-hunting and ecotourism.





Illustration: CIAT 2011

Importance of land legislation

Community members can then define the terms of any joint activities they might undertake with **outsiders as well as other community members**.



History of community

- Take into account the history, culture, and organisational structure of the communities:
- Were the pasture areas used *before* the civil war?
- How did the use of the pasture areas develop *after* the civil war?
- Who is using the pasture areas currently?

Usage of the areas

- For what purposes are the identified areas currently used?
 - Animal grazing?
 - Cut fire wood for cooking?
 - Hunting?
 - Cut grass for houses and mats?
 - Other?



CAPRI CGIAR Program on Collective Action and Property Rights (CAPRI)
International Food Policy Research Institute (IFPRI)
2013, 4 Street NW, Washington, DC 20006 USA
www.capri.cgiar.org

Usage of the areas

Do these functions maintain when it is identified as a pasture area?

E.g. is it still allowed/possible to cut fire wood for cooking?



CAPRI CGIAR Program on Collective Action and Property Rights (CAPRI)
International Food Policy Research Institute (IFPRI)
2013, 4 Street NW, Washington, DC 20006 USA
www.capri.cgiar.org

Land ownership and use rights

- The **control** over water, forests, wildlife, and land are, by their very nature, **political**.
- **Male lineage heads** accumulated subjects (e.g. land) through marriage, procreation, and various forms of economic dependence

Land ownership and use rights

It is important to make it explicit that women have rights to resources.

It's not enough to assume that they have full use of "household" or husband's resources.



Land ownership and use rights

When market values of resources increase (e.g. goats), people with weak property rights (like women) can lose out



Land ownership and use rights

- How is land ownership organised in the community? Inherited?
- Who is entitled to use the land?
- How is land access to *communal* areas organized?
- Who is excluded from access? Why?
- Are people willing to share with others?

Land ownership and use rights

The very poor lack the resources to invest in social relationships and are often excluded from local networks

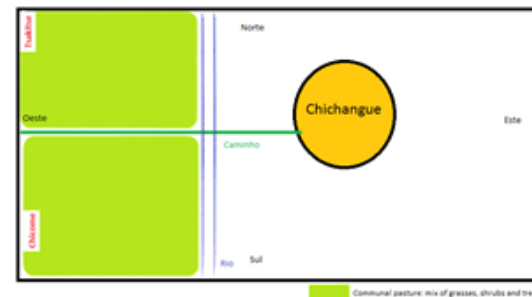


Drawing boundaries

- Who will set the of boundaries of the pasture area?
Can lead to **exclusion of people**
- How are these boundaries defined? Often boundaries are 'blurred'.
- What in case of land overlap between communities?
 - E.g. in Vulanjane and Cachane there is a overlap of pasture areas, the exact border is unclear. Producers of both communities use the same area for goat grazing. This can be fine on the short term, but if herd sizes increases and feed becomes scarce (risk of overgrazing), this could lead to **(violent) conflicts**.

Drawing boundaries

- Maps of community members and cadastre maps may look different



- How to mark the area? Fences? Cornerstone?

Government

- In general, cadastral politics in Mozambique are in favour of smallholders
- What is the position of the local and national government with regard to CPA in Inhassoro district?

Next steps/discussion

NGOs, local government and other development actors are important players in natural resources policy formulation and implementation

- What can we as imGoats team do to facilitate the legislation of the pasture areas?



CAPRI
CGIAR Program on Collective Action and Property Rights (CAPRI)
International Policy Research Institute (IPRI.org)
2003 & revised 2006, Washington, DC 20006 USA
www.capti.org.org

Annex 6: Hand-out on labour issues

Communal Pasture Areas

Labour issues

Yvane Marblé & Birgit Boogaard

8 November 2012

Vilanculos, Mozambique



Pasture activities – required labour

- Herding goats during the day
- Guarding goats during the night
- Supply water to the goats
- Construct housing for the goats

WHO?



3 Labour 'systems'

Based on degree of involvement of the goat producers

- **System 1:** Maximal intervention of producers
- **System 2:** Combined intervention of producers and paid labour
- **System 3:** Minimal intervention of producers (e.g. paid labour)

System 1: Maximal intervention of producers

Motivations for system 1:

Everything will be done by the producers themselves

- Paid herder(s) would be too expensive
- Herding day time: Producers herd goats in shifts
- Producers also shift for opening and closing the corral



System 1: Maximal intervention of producers

Motivations for system 1:

Everything will be done by the producers themselves

- Night watch:
 - women were not planning to have a night watchperson
 - while men would have one or more producers as guard, depending on the number of animals.
- Water:
 - Water would be carried by all producers.
 - The 'shift person' would be supplying it to the goats



System 2: Intervention of producers and paid labour

Motivations for system 2:

Activities will be done by producers in combination with paid labour

- Day herding:
 - animals can be looked after by their owners or by a paid herder
- Paid herder:
 - a young adult man or
 - an older man (part of the community or from outside) who could deal better with challenges such as the destruction of neighbouring crops by the herd



System 2: Intervention of producers and paid labour

Motivations for system 2:

Activities will be done by producers in combination with paid labour

- Responsibilities of day-herder:
 - opening the corral the morning,
 - controlling the goats while grazing,
 - bringing them back to their corral at lunchtime for 1-2h (or not) and/or at the end of the afternoon.
- Night watching:
 - shift among producers, or
 - pay someone from the community to guard the animals, or
 - no guard needed at night

System 3: Minimal intervention of producers

Motivations for system 3:

All activities will be done by paid labour

- Producers would not have a direct intervention with their herds
- All work is done by paid herders and night watchmen.
- Night watcher need to be man.
- Paid herders and night watchmen live on the communal pasture close to the goats' corrals.
- Pasture area would be fenced, to protect the animals from being stolen and to avoid them to escape and destroy nearby crops.
- Goat producers would only come once in a while to check on their animals. Hence, goat producers become 'supervisors'.

3 Labour 'systems'

	System 1: Maximal intervention of producers	System 2: Intervention of producers and paid labour	System 3: Minimal intervention of producers
Day herding	By producers, with or without fenced area	By producers or paid herder	By paid herder, with fenced (totally or partly) area
Night watching	Shift of producers or no night watching	Shift of producers or paid person or not needed	By paid person
Water supply	By producers, from borehole	By producers or paid herder, from natural source or borehole	By paid herder, from natural source
Housing	Traditional corral on pasture	Traditional/improved corral on pasture or next to one producer's home	Corral on pasture
Communities	Rumbatsatsa	Chichangue, Mabime, Cachane, Naphele	Vulanjane

Recommendations

- There is no blue-print of good or bad labour organisation
 - Each community can plan their activities as they prefer.



Recommendations

- However, points of attention:
 - **Children:** Are children herding the goats? Can they still go to school?
 - **Women:** If producers do everything themselves: *who* does those activities? Women's workload shouldn't increase



Women's daily activities

Women's daily activities

Work 19 hours
Rest 5 hours



- 0300 - 0400 take canes and thatching grass to the selling point on the road
- 0400 - 0500 collect and carry water, make breakfast
- 0500 - 0830 weed machamba
- 0830 - 1200 graze goats, collect vegetables, carry firewood and fodder, cook, bath
- 1200 - 1400 clean house, market
- 1400 - 1630 fetch firewood and fodder, machamba, cooking, childcare, pound maize
- 1630 - 2000 cook dinner, bath children, goats to shelter, iron clothes, prepare husband's bath, clean house
- 2000 - 2200 prepare husband's food

Source: Chibela, C. and van Gasterhout, S. 2012

Men's daily activities

Men's daily activities
work 13 hours
rest 11 hours



- 0500 - 0900 machamba
- 0900 - 1300 eat, bathe, rest
- 1300 - 1700 machamba, firewood
- 1700 - 1800 shelter goats
- 1800 - 2200 drink with friends, dinner
- 2200 - 0500 supper, bedtime

Source: Chitake, C. and van Oosterhout, S. 2012



Women and children

Next steps:

- Specific imGoats gender activities will be planned for 2013.
- Gender training for CARE staff
- Gender issues in communal pastures areas will be included in these gender activities.

Annex 7: Seven decision steps in implementing communal pasture areas

STEP 1: Identify pasture areas

Identify location of grazing areas and the different grazing zones (wet/dry season; for grazing rotation)

STEP 2: Goat housing

Identify location of the housing and its type (traditional/improved; collective/individual). Allocate specific grazing zones to the different herds depending on the housing spot

STEP 3: Herd mobility

Think about the herd mobility between the different grazing zones: How to combine movement of goats with the housing? Maybe you need more than one housing place/herd on the pasture?

STEP 4: Herd management

Define the herd management type.

Who will herd the animals? For example, producer / family shift / producer shift / paid person

What herd type will you use? For example collective/individual/cooperation of few producers/relatives (often combined with the housing)

STEP 5: Water supply

Where and how do the animals get water?

Is there a natural water source in the pasture area?

If not: producers should decide how water reaches the animals (at the corral).

How many litres of water do they provide per goat per day?

STEP 6: Grazing plan for each herd

Avoid concentrated grazing (see good/bad practices) as this will lead to a fast overgrazed pasture zone. There are differences between communities. Pay specific attention to areas close to the corral (communities that are planning to bring back the goats to the corral at lunch) and areas close to the water source.

STEP 7: Pasture council and pasture use chart

Creation and implementation of a pasture council and a pasture use chart. The pasture council should evaluate the different grazing zones, for example, every three months and their state (see land degradation process). In the pasture use chart the maximum number of goats should be included. Also need to discuss fire management; the policy of CARE and the Government of Mozambique is to discourage the use of fire. The pasture council must establish rules for management of communal pasture areas based on good practices.

NOTE: There is no blueprint on how to manage pasture areas. Decisions depend on specific situations and possibilities in each community, for example, water availability, size of the grazing area, distance of the grazing area to houses and so on.

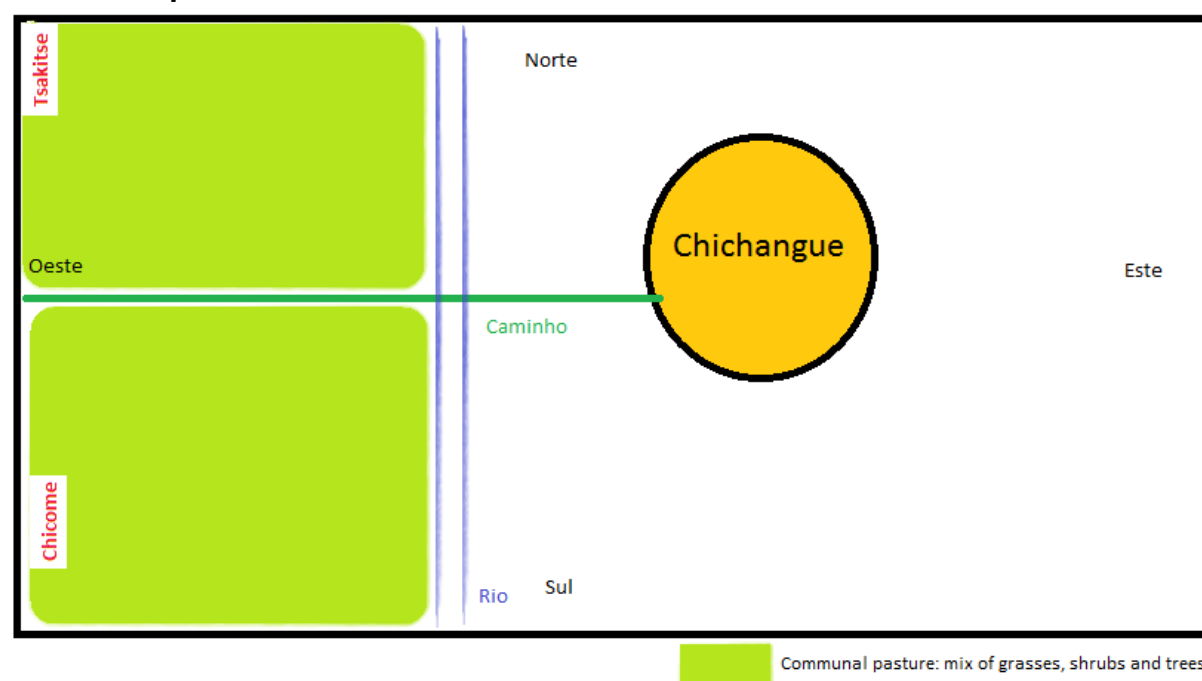
Annex 8: Example of a community pasture plan

Communal pasture management plan for Chichangue

Community characteristics

Number of project participants	32
Number of goats of project participants	240
Number of goats (potential of all community)	1350

Pasture map



Pasture characteristics

Pasture size	5000–6000 hectares
Number of identified grazing areas	One
Travel time on foot from participants' households	30 minutes to 3 hours
Natural water stream available?	Yes, on the eastern border
Grass species for goat fodder	Tsongua and Chihunga
Grazing capacity (late wet season to start of dry season)	4 goats per hectare
Grazing capacity (late wet season to start of dry season) if the whole grazing land is used	More than 20,000 goats

Planned practices

Grazing pattern	Pasture in-use all year round; no rotation between grazing plots
Mixing of cattle with goats?	No, only goats
Burning practices	Before the pasture implementation, after protection corridor
Grazing dynamics	Not discussed

Labour plans

Day herding	By goat owners
Night watching	Paid person, paid by all participants
Housing	Improved corral
Water supply	From the river, in the afternoon

Critical points that need further discussion

- The pasture is huge and cannot be currently used in its totality. Moreover, zones would be very far from the water points (river)
- A system of rotation between grazing zones should be implemented.
- The water supply at the river every afternoon implies that the corrals cannot be too far from it (1–2 km)
- Use of the pasture: will the whole pasture area be used or only a part of it? (as they are currently a small group of people with wide territories)
- Where will the housing be set up? It is important to avoid concentrated grazing and advocate an even distribution of the herds and use of the pasture.

ISBN 92-9146-309-4



The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a member of the CGIAR Consortium, a global research partnership of 15 centres working with many partners for a food-secure future. ILRI has two main campuses in East Africa and other hubs in East, West and southern Africa and South, Southeast and East Asia. ilri.org



CGIAR is a global agricultural research partnership for a food-secure future. Its science is carried out by 15 research centres that are members of the CGIAR Consortium in collaboration with hundreds of partner organizations. cgiar.org