Communal Pasture Areas

Overgrazing and Sustainability

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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
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

<table>
<thead>
<tr>
<th></th>
<th>Low land pressure</th>
<th>High land pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short term impact</td>
<td>Good</td>
<td>Bad</td>
</tr>
<tr>
<td>Long term impact</td>
<td>Good</td>
<td>Very bad</td>
</tr>
</tbody>
</table>
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

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

*Source: Marblé 2012*
Better lives through livestock

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