Factsheet # 05

Causes of bush encroachment on freehold and communal land in Namibia

Challenge

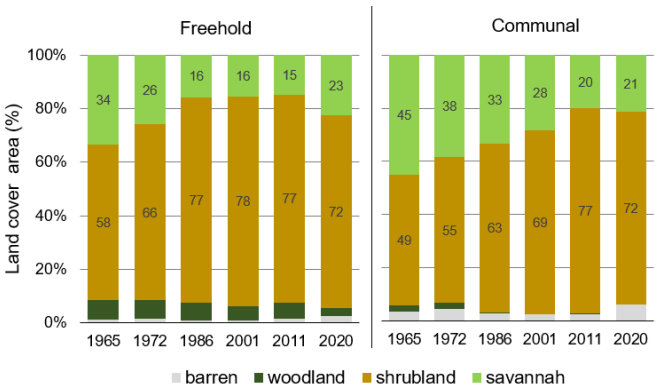
- One of the main symptoms of land degradation in Namibia is woody plant encroachment, known as bush encroachment.
- Ca. 45 million hectares are affected, reducing livestock carrying capacity in both freehold and communal areas. However, this situation presents an opportunity to use bush biomass for charcoal production or animal feed.
- It is essential to grasp how these changes evolved, identify the root causes, and develop suitable responses for each land tenure system.

Approach

- Our research focused on the broader Waterberg area comprising private farms and communal settlements.
- Private farms are individually owned and managed, commercially orientated and practice rotational grazing.
- Communal settlements comprise several households mostly dependent on subsistence farming, managing rangelands conjointly and practicing continuous grazing.
- We analysed land-use and land cover changes spanning from 1965 to 2020, along with a comparison of these changes and their causes in the two land tenure systems.
- The analysis integrated remote-sensing methodologies, literature review and interviews with farmers in both land tenure systems.

Different bush encroachment tendencies

- In 1965, **freehold land** showed significant bush encroachment, with 58% of savannas being bush-dominated. From 1965 to 1986, shrubland increased, but from 1986 to 2011, this trend stabilized. Between 2011 and 2020, shrubland decreased and savanna areas increased. By 2020, bush-dominated savanna represented 72% of freehold land.
- In 1965, 49 % of the **communal land** was shrubland. From 1965 to 1986, shrubland increased, while woodland declined. From 1986 to 2011, shrubland continued to grow. From 2011 to 2020 shrubland decreased. By 2020, 72% of communal land was bush-dominated savanna.



Land-cover area (in %) from 1965 to 2020 on freehold and communal land in the Greater Waterberg Landscape region, Namibia. Credit: Katja Brinkmann

Credit cover photo: Vistorina Amputu

Trends in shrubland (arrows) and management				
Freehold land			**Communal land**	
Until 1965	↗	Higher cattle numbers due to state subsidies	→	Lower cattle numbers owing to low population and restrictions on owning livestock
1965-1986	↗	Decline in cattle numbers, onset of improved rotational grazing, increase in camps & expansion of trophy hunting tourism	↗	Increase of households and livestock, reduction of pastoral mobility, introduction of heavier cattle breeds
1986-2011	→	Increase in cattle numbers, reduction of state subsidies, income diversification	↗	Infrastructural and market improvements, rise in cattle numbers, reduction in the net communal grazing area
2012-2020	↘	Decline of cattle numbers, large-scale bush-control measures	↘	Lack of state interventions, small-scale de-bushing initiatives begun

What are the causes?

- **Freehold farmers'** strategies such as improved rotational grazing, income diversification and bush control were supported by state policies and halted bush encroachment.
- Rangeland management in **communal areas** has been constrained by colonial policies, forced resettlement and a lack of farming infrastructure, increasing grazing pressure. The lack of effective cooperation between communal farmers in this context exacerbates the problem.

Practical and Policy Implications

- Optimal bush cover in savannah rangelands needs to be identified, taking into account site conditions and farmers' management objectives (e.g. cattle versus game).
- Bush thinning approaches should consider the contribution of bush to ecosystem services (e.g. erosion control) and the use of surplus biomass (e.g. charcoal).
- Expand incentives for the development of value chains for bush biomass other than charcoal (e.g. wood chips).
- The implementation of the newly established governance framework for bush control in communal areas needs to be improved and simplified.

Key Findings

- **Bush encroachment is affecting both land tenure systems, but its causes and management differ.**
- Land management and its historical and socio-economic context of colonialism affected bush encroachment on freehold and communal land differently.
- Effective management of bush encroachment requires a close examination of specific challenges and tailored solutions for both land-tenure systems.

References

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The NamTip Project

The collaborative German-Namibian research project "NamTip – A Namibian Perspective on Desertification Tipping Points in the Face of Climate Change" aims to better understand the development of ecological tipping points in dryland rangelands by assessing desertification and woody plant encroachment processes. It also explores management options for preventing such tipping points and restoring degraded rangeland ecosystems.

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