



## Factsheet # 07



# How do livestock farmers in Namibia's communal areas perceive and manage desertification tipping points (DTP)?

## Challenge

- Desertification in drylands involves a transition from areas with dense coverage of perennial grasses to predominantly bare soil conditions, which are very difficult to restore.
- These tipping points of desertification pose a significant threat to farmers, particularly those in communal areas who rely on subsistence livestock farming for their livelihoods.
- Identifying, predicting and managing these tipping points is crucial to prevent negative socio-economic consequences in these regions.
- **Local knowledge and perceptions can provide valuable insights into understanding desertification tipping points (DTP) from the farmers' perspective.**

## Approach

- We used a qualitative approach based on open-ended interviews and veld visits with key informants from four different settlements in the Okakarara Constituency.
- These individuals were considered locally to be exceptionally knowledgeable about farming and rangelands. They were all Otjiherero speakers and full-time farmers.

## Local conceptualizations of DTP

- Although there is no equivalent concept of DTP in Otjiherero, **key DTP processes were known and recognized by farmers through lived experience.**
- For example, farmers recalled the disappearance of certain types of local perennial grasses and/or noticed in retrospect that grazing near settlements had become scarce. Reasons given for these processes included a combination of factors, such as droughts and overgrazing.

## Ways of anticipating DTP

Farmers use various methods to detect and anticipate DTP. These methods include:

- **Identifying direct indicators in rangeland** (e.g. low grass densities, mostly annuals; high levels of bush encroachment).
- **Recognizing indicators in livestock** (e.g. thin body conditions after good rain periods; hard, dark dung in the form of pellets; low milk yield).
- **Observing indicators of good/bad rainfall** (e.g. wind directions from December onwards; behavior of bats and dragonflies; sprouting of camel thorn tree (*Vachellia erioloba*)).

# Managing DTP in practice

**Managing DTP at the individual level in communal areas is not feasible.** Therefore, communities develop measures to control DTP at the settlement level. These include:

- Regulating the number of households (and therefore the number of livestock) in a given area and restricting the temporal use of local rangelands to herders from other places.
- Preventing new homesteads from being constructed in the grazing zones and restricting the size of 'bull-camps'.
- Allow rangelands around the settlement to rest by using a cattle post (if available).

However, the practical implementation of these measures is challenging as it requires the cooperation of all livestock owners involved.

## Policy Implications

**Develop and implement measures to support community efforts to control desertification.**

Such measures could include:

- Strengthening communities' tenure rights over their grazing lands.
- Introducing cattle posts infrastructure alongside measures to keep them for seasonal use only.
- Facilitate cooperation among community members through visits from Ministry of Agriculture extension workers.

Moreover, climate change adaptation plans and early warning systems should incorporate farmers' anticipatory knowledge of DTP and enhance their resilience by promoting sustainable community-based land use practices.

## Key Findings

- Local farmers recognize DTP from their experiences and have various complementary methods to identify and anticipate them.
- These ways of predicting DTP include not only identifying indicators directly on the rangeland but also circumstantial indicators in cattle, as well as signs of rainfall conditions.
- Efforts to manage DTPs include measures that operate at the community level. These are primarily aimed at preventing the reduction of communal grazing land and allowing it to rest depending on the availability of a cattle post.
- **Farmers have so far prevented large-scale DTP despite the challenges of communal farming**, but rising temperatures and more frequent droughts could overwhelm rangelands' resilience and farmers' ability to cope, potentially increasing DTP risks.

## References

Menestrey Schwiager, D. A. (2022). Exploring pasotralists' perceptions of desertification tipping points in Namibia's communal drylands: An Ethnographic case study from Okakarara Constituency. *Pastoralism* 12(1), 3.

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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.

[www.uni-potsdam.de/en/namtip](http://www.uni-potsdam.de/en/namtip)

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