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Typical Fence-Line Contrasts — Land Degradation in Southern Namibia

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Abstract

Uncontrolled grazing has severe effects on the semi-arid rangelands in Southern Namibia. Alongside fences that separate different land tenure systems, land use induced changes to the phytodiversity were observed in many areas of Namibia. Within the framework of the multidisciplinary BIOTA Southern Africa project research was started in 2001 in order to develop standardised and also feasible concepts for the monitoring of degradation processes and the sustainable utilisation of biodiversity for degraded drylands in southern Africa.

In the *Nama-Karoo* in southern Namibia, the establishment of one km² large Biodiversity Observatories at the Gellap Ost Research Station and in the neighbouring *Nabaos* communal land, respectively, allows interdisciplinary investigation on the impact that different land use intensities have on the environment (JÜRGENS et al. 2001).

Preliminary results so far show that the open grazing system in the communal *Nabaos* land has led to a decline in the phytodiversity, especially in the low growing life-forms. An overall decrease in the cover values could also be recorded. Comparative field work from the seemingly intact habitats of the Gellap Ost Biodiversity Observatory shows that the loss of vegetation cover in the *Nabaos* communal land has also led to a decline in microhabitats and food sources for small mammals. A higher species diversity and density was recorded in the regulated farming area of the Gellap Ost Research Station (ZELLER et al. 2001).

We see the possibility that long-term multidisciplinary investigations in the Biodiversity Observatories could supply relevant information for the development of sustainable land use systems and also cost-effective rehabilitation measures for degraded drylands in Namibia.

Keywords: Biodiversity, drylands, land degradation, sustainable development