

The Integration of Stakeholder Knowledge

How do Namibian Farmers Perceive Natural Resources and their Benefits?

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Challenges

Savannas cover 64% of Namibia's land area ^[1], mostly used as rangelands. Maladapted land use and climate change are driving forces for the degradation of savannas and related Ecosystem Services (ESS), e.g. via bush encroachment.^[2] We aim to understand how land use management can mitigate degradation. To achieve this we combine local knowledge and scientific results.^[3]



Figures 1 & 2: Farmer and scientist at work for the project (Source: ISOE).

Methods

This research focuses on Namibian livestock farmers and their farms. In depth interviews were conducted with the farmers on their management options, ESS and options for knowledge exchange. Field and greenhouse experiments were conducted by Namibian and German scientists. Ecohydrological models were elaborated and validated. The next step will be a knowledge exchange and feedback meeting with the farmers on the current results.

Results: Farmers perceptions and actions



Figure 3: Ranking of ESS and management options by Namibian cattle farmers.

Conclusions

Farmers management options are partly suitable for a sustainable

Farmers perceive provisioning and cultural ESS as important

- Water is perceived as one of the most important ESS, however water management was not mentioned as highly important
- Farmers management such as de-bushing and herd rotation directly influence ESS such as vegetation and forage
- Re-seeding would have a direct impact on the ESS "seed"

seeding to be able and fill the knowledge gaps on herd rotation

use of their ESS – their natural resources. However knowledge gaps are stated and identified by stakeholders and scientists. To fill these gaps mutual learning is needed and wanted. The Optimass scientists develop ecohydrological models and analyse experiments on

References

[1] Reynolds, J.F. et al. (2007): Global Desertification: Building a Science for Dryland Development. Science 316(5826): 847-851

[2] Joubert, D.F. et al. (2013): The influence of rainfall, competition and predation on seed production, germination and establishment of an encroaching Acacia in an arid Namibian savanna. Journal of Arid Environments 91: 7-13

[3] Bischofberger, J. et al. (2015): Sustainable management of savannas – Integrating practitioners' knowledge. Tropentag full paper

and de-bushing to evaluate future management scenarios. In joint workshops local and scientific knowledge for applicable management strategies will be merged.

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