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"Solidarity in a competing world — fair use of resources"

Balancing Extensive Goat Production and Conservation Interests in the Caatinga Rangeland Resource

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Abstract

Extensive livestock production is an important livelihood strategy in the semi-arid NE Brazil. However, recent studies indicated that mismanagement, high stocking rates and exploitation of resources coupled with frequent droughts threaten the sustainability of the farming and eco-systems. In the frame of the BMBF-Research Program „Sustainable Land Management", the "Innovate" project addresses the interplay and interdependencies of land management, climate change and the services provided by ecosystems. This study aims at revealing farmers' and experts' perceptions of livestock impacts on the vegetation and biodiversity of the Caatinga rangeland and adaptation strategies in order to co-develop measures for an improved management of natural resources. Data collection methods comprised interviews with 135 small ruminant keepers and 10 experts from agricultural institutions and cooperatives.

Growing goat and sheep populations, despite of the drought in 2012 and 2013, indicate that small ruminant production is a drought-robust strategy for farmers. Average stocking rates of 3 to 5 goats per ha Caatinga and a general low feed supplementation level revealed excessive pressure on the vegetation. 85 % and 80 % of farmers perceived that in the past density and biodiversity in the Caatinga, respectively, were higher or much higher compared to today. Drought was perceived as main reason for Caatinga degradation followed by deforestation, whereas overgrazing was considered irrelevant by farmers. In contrast, 70 % of experts perceived that extensive livestock production affects Caatinga degradation.

While the majority of farmers stated not to know any Caatinga management strategies, experts suggested to improve grazing management, increase forage production and conservation, stop deforestation and establish Caatinga protection areas. As an outcome of project interventions, legal status of a Caatinga conservation area has been achieved. It is recommended to adapt goat stocking rates to specific conditions, considering the carrying capacity and its simultaneous use by wild or feral animals. Communication and collaboration between local stakeholders, scientists and policy makers needs to be enhanced further in order to develop feasible, fair and site-adapted solutions for sustainable land management.

Keywords: Adaptation strategy, Caatinga rangeland, conservation, drought

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