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Livestock Productivity, Resilience to Climate Change and Coping Strategies in Namibia: Commercial versus Parastatal Feedlot Farms

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Abstract

As one of the driest countries in sub-Saharan Africa, the Namibian economy and people are vulnerable and sensitive to climate change. An increase of 2°C to 6°C is predicted for the year 2100 along with more variability in annual rainfall. Especially in the arid savannah areas livestock production plays a key role in the country's agricultural sector. The Namibian livestock sector comprises three major sub-groups: small scale farmers, commercial farmers, and parastatal feedlot farms. Despite its importance, it remains unclear which system may prove superior regarding climate resilience. The study assess and compares the productivity and resilience of the commercial and the parastatal feedlot farms to climate variability. Information on changes in total production, production costs, and other indicators are to be collected from the study area. The indicators are to consider various timespans to account for events of drought as well as for changes in prices. In addition, livestock producers will be interviewed to grasp their coping strategies during drought events as well as their reactions to changes in prices. The analyses will be based on the qualitative and quantitative primary data collected during interviews with parastatal farmers, an online survey for commercial farmers, and the existing literature on the perception of and adaptation strategies to climate change so as to provide a detailed insight into the livestock farming systems. The business objective of parastatal feedlot farms is a constant supply of cattle. Regarding the product output, the results of the literature review indicate that a lower sensitivity to climate variability can be expected within the feedlot sector. However, a higher volatility in production costs, and consequently profits, is predicted due to compensating fodder shortages with higher costs for purchasing fodder during droughts. Contrary results can be expected in the commercial sector: The occurrence of droughts lead to higher outputs followed by years of depression in marketed cattle; Costs of production are predicted to remain constant. Overall, both livestock systems face the challenges of more erratic rainfalls. While commercial farmers manage through changing their stocking numbers, feedlot farms deal with a tradeoff between constant production and capital input.

Keywords: Climate resilience, coping strategies, livestock productivity, Namibia