Tropentag, September 10-12, 2025, hybrid conference

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Bush biomass value chains in Namibia – A transformation in the making?

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Abstract

Bush encroachment already affects about 42 million hectares in Namibia posing a significant problem for cattle ranching, the traditional farm activity of commercial farmers in Namibia. The Otjozondjupa region, which constitutes the study area, is the most severely impacted by bush encroachment in Namibia. In recent years, bush biomass turned from superfluous to an economic opportunity. In this study, we focus on three bush-to-energy value chains aiming at producing thermal and electrical energy: charcoal, wood chips and wood pellets. The research is guided by two questions: 1) What is the current state of the transformation toward bush-to-energy value chains in Namibia? 2) What technical, economic, political, social and ecological factors facilitate or hinder the emergence of bush biomass value chains in Namibia? We conducted 30 semi-structured interviews with commercial farmers, companies, associations, state entities and international cooperation organisations. The findings indicate that charcoal production for export to the EU is widespread among commercial farmers. This is attributed to its relatively low costs, minimal technological requirements, availability of specialised farm workers, and familiarity with certification standards. In contrast, wood chip and pellet value chains are still limited to a reduced group of innovative farmers and companies. Reasons are that producing and using wood chips and pellets requires expensive machinery, skills to adapt the machinery to Namibian conditions, factory installations, processes and logistics. These value chains are still not profitable, suffer from low bush biomass offer and demand, and state support is missing. Despite the high potential of bush-to-energy value chains in Namibia acknowledged by interview partners, our findings demonstrate that only the low value-added charcoal value chain has been successfully established, while the higher value-added wood chip and wood pellet value chains remain in early stages of development.

Keywords: Bush encroachment, bush-to-energy value chains, transformation

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