Senior Fellowship for Dr. Oumarou Ouédraogo: Towards an efficient management of the invasive plant Senna obtusifolia, a novel threat to West Africa's rangelands

Initiative: Wissen für morgen – Kooperative Forschungsvorhaben im subsaharischen Afrika (beendet)

Ausschreibung: Postdoctoral Fellowships on Livelihood Management, Reforms and Processes of Structural Change

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West African rangelands are invaded by Senna obtusifolia, a non-palatable and non-nodulating annual legume. Its invasion has negative ecological and economic impacts in Sahelian countries. Despite its growing impact and its expansion into the Sudanian zone, the reasons for its recent invasion as well as consequences for local ecosystems and livelihoods are poorly understood. This project aims to identify environmental drivers that promote the expansion of S. obtusifolia, to determine effects of S. obtusifolia invasion on ecosystem functions and services, to examine perceptions of local land-users on S. obtusifolia expansion and their respective adaptation strategies, and to propose potential solutions and best-practices to control the invasion of S. obtusifolia and its negative impacts on rangelands. Ecological data will be collected along a steep climatic gradient, contrasting sites with various levels of invasion. A greenhouse experiment will be implemented to elucidate the local adaptation rates of S. obtusifolia. To assess effects of S. obtusifolia invasion on forage provision, field spectroscopy will be applied. Interviews will be used to explore the ecological knowledge of rural populations, related to local management strategies applied to control S. obtusifolia. This project will render an improved scientific knowledge on causes and effects of S. obtusifolia invasion. Moreover, a national risk map of S. obtusifolia invasion, technical reports and a manual of best practices to control land invasion by S. obtusifolia will be provided to stakeholders.

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Effects of Ecological Factors on Population Status and Morphological Traits of Faidherbia albida (Del.) A. Chev. in Burkina Faso
Resilience strategies of West African pastoralists in response to scarce forage resources