

Junior Fellowship for Dr. Sabine Doamba: Fire impact on ecosystem services in Sudanian savannas in a context of climate change

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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Fires are considered the most important disturbance agent in various ecosystems including savannas, grasslands, and forest ecosystems. In the sudanian zone, it is estimated that 25 to 50% of the area burns annually. Moreover, with expected rise of the temperature and decrease of the rainfall because of climate change in the West African savanna region, the spread and the intensity of wildfires are likely to increase and bring about rapid structural and functional changes of these ecosystems. The objective of this current research proposal is thus to analyse local communities perception of fires impact on ecosystems services local, and indigenous knowledge in order to propose a better management system of savanna ecosystems. Several research activities will be undertaken (1) Analyses of local people perception of fire impact on the sustainability of ecosystem services (especially productivity) in Savannas; (2) Quantification of Carbon and Nitrogen losses as well as nutrient supply from fire burning; (3) Evaluation of the impact fire has on gaseous fluxes of nitric oxide (NO), nitrous oxide (N₂O), carbon dioxide (CO₂) and methane (CH₄) from soil; (4) Analysis Sharing and dissemination of project research results through local media, workshops and manuals for state institutions. The knowledge gained on local people perception on fire and traditional fire management practices will allow us to propose a better management of savannas ecosystems.

Projektbeteiligte

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