Assessing Forage Species Diversity, Habitat Distributions, Abundance Trends and **Ecological Drivers from Local Agro-pastoralists' Perspectives in West Africa**

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Introduction

- Studies have shown that land users' local knowledge (LEK) ecological on forage resources is of critical relevance for their adaptive rangeland management¹.
- Notwithstanding, there has been little discussion on how smallholder farmers

Research objectives

on perceptions of local Based agropastoralists, this study aims to:

- 1. estimate forage species diversity,
- 2. analyze habitat types of forage resources,
- 3. investigate abundance trends of available forage resources,

perceive important ecological variables in the management of natural forage resources in West Africa.

Materials & methods

- Sampling strategy: We carried 526 out ethnobotanical interviews using structured questionnaires in 16 villages within northern Ghana and southern-central Burkina Faso.
- Data analysis: Data were analyzed using descriptive statistics and cognitive salience index² calculation to disentangle the dynamics of local responses to the ecological variables considered in this study.

- 4. identify local ecological drivers and
- 5. document local conservation measures.

Study area



Results

Fig. 1: Map of the study area



- According to local agro-pastoralists, approximately 82% of reported items were considered to be commonly available in local landscapes; e.g. varied species of cereals & legumes were frequently cited as readily available forage sources while *Ficus sycomorus L*. regarded as few in number.
- It was also established that local agro-pastoralists associated their cited forage plants more with upland topography than lowland and combined landscapes of the two topographic positions (A).
- Majority of agro-pastoralists indicated that available forage resources have been experiencing a gradually increasing trend over the past few years **(B)**.
- It was also revealed that rainfall variability, tree cutting and drought were the topmost perceived threats causing changes in the trends of forage species abundance (C) and locally accepted conservation measures were offered by the smallholder farmers themselves (D).

Discussion & conclusion

- Local agro-pastoralists exhibited extensive knowledge in forage species diversity, habitat types, abundance trends, ecological drivers and conservation measures for sustainable management.
- In conclusion, understanding perceptions of local agro-pastoralists regarding above-stated ecological variables could have practical implications in favor of biodiversity conservation.

References

¹Naah et al. 2017. Factors influencing local ecological knowledge of forage resources: Ethnobotanical evidence from West Africa's savannas. Journal of Environmental Management. 188, 297-307. ²Sutrop, U. 2001. List task and a cognitive salience index. Field Methods 13:263-276.





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