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## Indigenous knowledge-sustainable decisions comparing local and scientific use of plants as indicators

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**Key words** : range management, indicator, local knowledge, risk-minimization

**Introduction** Investigating local environmental knowledge is crucial for understanding functional aspects of pastoral nomadic range management. Nomads in arid and semi-arid ecosystems have to cope with high spatial and temporal unpredictability of natural resources. A Berber fraction in the High Atlas region of Morocco is adapted to this variability by adjusting mobility patterns.

**Material and methods** Our interdisciplinary study focuses on local knowledge of forage plants as one criterion for decision making processes. Plants serve as indicators for decisions when to utilise or rest certain pasture areas. We hypothesize that local rating and ecological performance will differ for plant species with high indicative or grazing value.

Ecological and anthropological data on the importance of plant species are contrasted. Ecological rating is based on plant performance, i.e. frequency and abundance, assessed on different local pasture types. Local rating of these plants has been determined with anthropological methods.

**Results and discussion** Both rating approaches are directly matched using weighted rank correlation. Differences between species performance and their local valuation are analysed with respect to grazing values of species and life forms. Implications for a sustainable range management and a minimization of natural, economic and social risks in semi-arid ecosystems are discussed.

**Conclusion** The interdisciplinary approach gives valuable information for identifying local preferences: not the plant species' ecological performance but its emic grazing value is one explanation for the local ranking of plants. Herders act and decide according to their extensive knowledge on plants and pastures.

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