



Tropentag, September 11-13, 2024, hybrid conference

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## Community-based prioritisation and conservation planning of wild edible plants: Insights from Turkana county, Kenya

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### Abstract

Over 90 % of the population in arid Turkana County is food insecure. Wild edible plants (WEPs) play a crucial role in filling seasonal food gaps and providing essential nutrients, contributing 12–30 % of the dietary intake of consumers in Turkana. Due to climate change, overexploitation, and other threats the availability of these important plant resources is declining.

Sequential exploratory mixed methods study was designed to explore the practices, challenges, and potential conservation strategies for WEPs in Turkana. From an initial list of 58 documented WEPs, participatory community workshops were conducted to prioritise WEPs with high potential for food security and nutrition improvement, and develop community conservation plans, followed by expert interviews. The research answers the following questions: Which WEP species are conservation priorities for communities in Turkana? What are the main barriers? And what actions are needed for effective WEP conservation?

Results showed that communities prioritised their WEP differently, reflecting local ecological conditions and preferences. Overall, *Acacia tortillis* (Forssk.) Hayne, *Balanites rotundifolia* (Tiegh.) Blatt. and *Salvadora persica* L. were most preferred. Drought resistance, fast growth, high yields, and use versatility were among the key criteria for prioritisation. Main barriers to conservation mentioned by the communities were intergenerational gap in WEP knowledge, lack of policy implementation, and tradeoffs between conservation and immediate livelihood needs. In response, communities developed action plans focused on capacity building, awareness creation, establishment of community nurseries, *ex situ* conservation of prioritised WEPs in home gardens, and development of community-level policies and enforcement mechanisms. Collaborative roles were identified for communities, NGOs, and government actors in providing training, resources, and technical support to implement the action plans. Additionally, communities emphasised the need for incentivisation through programmes such as food/cash-for-work, and grants for small businesses to promote alternative livelihoods, along with youth engagement and addressing climate change impacts.

This study contributes to the sparse knowledge on WEP conservation strategies critical for enhancing food security and climate resilience in vulnerable regions. It highlights the

need for a holistic approach integrating policy interventions, alternative livelihood options, and community-driven initiatives while addressing complex socio-economic dynamics and balancing short-term food security needs with long-term ecological sustainability.

**Keywords:** Climate change, community-based conservation, conservation, Turkana, wild edible plants