



Announcement for a Master's thesis on

Agro-ecological approaches for fruit and vegetable production systems: opportunities and boundaries in Turkana, Kenya

in the framework of the project

Sustainable food environment for food and nutrition security in eastern African drylands – a case study of opportunities and boundaries in Turkana County, Kenya FEnDrylands

led by Georg-August-Universität Göttingen in collaboration with Egerton University, Nakuru, Kenya and the Alliance Bioversity International and CIAT, Nairobi, Kenya.

Background

This project will build on former Alliance and UGOE projects and provide evidence on the diversification and consumption of fruits and vegetables using garden/ farm and market data from an arid region. It will support future scale out of “best locally adapted” agro-ecological practices for drylands and will in particular focus on the role of indigenous vegetables as well as (fruit) trees to provide shade, organic matter for the soils and leaves or fruits to complement existing diets. This information is required to understand systemic interactions that lead to synergies or trade-offs in the local production systems. This will be done in a participatory approach using a mixed method study design with a focus on young farmers.

Responsibilities/research tasks

In consultation with the supervisors in Göttingen and at the Alliance Bioversity International and CIAT, and in close collaboration with a master student from Egerton University, Kenya, the master student will

- Conduct a **survey** using **focus group discussions** with agro-pastoralists/ pastoralists in one or two selected communities in Turkana, Kenya to **develop a catalogue** of alternative agronomic practices for fruit and vegetable production.
- **Apply a model** to evaluate the current management practices versus the suggested alternative fruit and vegetable production practices or alternative sources.
- Test and evaluate the alternative practices using “**Trial of Improved Practices (TIPs)**” with selected farming households, consisting of about three to five household visits during a period of about 3 months.
- **Work within an international project** and actively cooperate and communicate with the other team members in Göttingen and Kenya as appropriate.

Main research questions are

- What are agronomic, ecological and socio-economic boundaries (such as climate, soil and terrain conditions, storage, market and transport infrastructure) of fruit and vegetable production systems in eastern African drylands?
- What are promising alternatives to improve yields from local fruit and vegetable production (e.g. circular systems based on organic fertilizer and climate smart components, alternative water regimes)?
- What are the agronomic, ecological and social boundaries of the alternatives and how sustainable are these alternatives?

Educational qualifications, skills and experience

- At least 2 semester master studies in agricultural sciences or related fields
- Basic knowledge and high interest in field surveys, interviews and the TIPs approach
- Very good command of English spoken and written
- Team player; willingness to assume responsibility, work under harsh conditions and on own initiative
- Interest in development-oriented research in agriculture and nutrition, stay in Kenya for 6 months

Preferred timeline

Start in **February/ March 2023**

In cooperation with:

Contact: Dr. Gudrun Keding, gkeding@gwdg.de
Prof. Reimund Rötter, roette@gwdg.de

