

## Kitchen Gardens as a pathway to Food Security, Nutrition, and Livelihoods in Karamoja

**Kitchen gardens have significant potential to improve food security, nutrition, incomes, and community cohesion in dryland areas. This policy brief highlights how kitchen gardens are organised and function in dryland settings, what they produce, their economic value, their strengths and limitations, and provides policy recommendations.**

### Background

Kitchen gardens are increasingly recognised as a vital household-level strategy for improving food security, nutrition, and resilience in dryland regions, such as Karamoja. The Karamoja region is predominantly pastoral and agro-pastoral, and faces persistent challenges of erratic rainfall, recurrent food insecurity and malnutrition [1], high poverty levels [2] and continued reliance on humanitarian aid [3, 4, 5].

In this context, kitchen gardens offer a practical and scalable approach to buffering local food systems against climate variability and shocks, while strengthening

### KEY MESSAGES

- Kitchen gardens are multifunctional livelihood platforms that strengthen food security and nutrition, boost incomes, and social cohesion in Karamoja's drylands.
- Kitchen gardens in Moroto are diverse, locally adapted systems, practised at both household (71%) and group levels (29%), and shaped by differences in location, objectives, labour, land access, management practices, and crop choices.
- Kitchen gardens increase food access and resilience but are constrained by limited access to water and agricultural inputs, weak soil fertility management, and pests, requiring targeted public investment.
- Kitchen gardens offer a strategic entry point for integrated development action, linking agriculture, nutrition, water management, livelihoods, and community development.



household and community resilience, and supporting the long-term sustainability of agriculture.

## Methods

The policy brief is based on field research conducted in Moroto district, Uganda, during the dry season [6]. Data were collected through household surveys, key informant interviews, and focus group discussions, complemented by field observation and documentation. The kitchen gardens were characterised using parameters such as production objectives and motivation for kitchen gardening, location (e.g. in relation to the homestead and water source), species diversity, source of planting material, harvest frequency, labour source and land ownership. Production was assessed in a sub-sample of the kitchen gardens to estimate fresh vegetable yields (kg/m<sup>2</sup>), and corresponding prices were recorded to assess their economic value at the time of the study.

## Findings

### A. How kitchen gardens are organised and function

Here, a kitchen garden refers to an area fenced with dry thorns, live enclosures, or other locally available materials, or to an open area where vegetables, fruits, and other crops are grown close to the homestead or near a water source for household consumption, sale, or both.

During the dry season when this study was conducted, kitchen gardening is practised both at the household (71%) and group levels through allotment gardens (29%), with larger households (more than eight members) more actively engaged. Kitchen garden sizes range from 4m<sup>2</sup>-5,000 m<sup>2</sup> and rely primarily on household labour. Households use a mix of knowledge and skills from training by different organisations (48%) and indigenous knowledge (46%). Most households are relatively recent adopters, with 62% having practised kitchen gardening for one to three years.

Kitchen gardens exhibit moderate crop diversity, with 37 plant species recorded across gardens. However, production is concentrated on a few crops, notably kale, eggplant, amaranthus, black-eyed peas, and Swiss chard, while indigenous vegetables remain under-represented.

Overall, eight parameters shape kitchen gardens in Moroto illustrated in figure 1 below.

Understanding the dynamics between these factors provides valuable insights for designing and implementing context-specific kitchen garden interventions that support food security, nutrition and livelihood outcomes, particularly in dryland and crisis-prone settings such as Moroto.

### B. Kitchen gardens' contribution to food security, nutrition and income

Kitchen gardens increase household access to food and generate disposable income for other essential



Figure 1. Illustration of characterisation of kitchen gardening in Moroto district, Uganda [modified from 6]

services. For instance,

*“From the kitchen garden, we sell the vegetables to get money to buy other foods or other things”*  
(Focus group discussion).

Kitchen gardens also serve as a key resilience and mitigation mechanism against food insecurity, drought, and related shocks.

After income, kitchen gardens strongly influence household food choices, followed by food availability. However, most households consume only three food groups (starchy foods, pulses, and dark green leafy vegetables), below the recommended minimum of five [7].

### C. Kitchen garden production

Dry-season kitchen gardening in Moroto depends heavily on water access, with 60% of households relying on irrigation. However, there is limited use of soil nutrient management practices, as 35% of households apply animal manure, and only 5% practise mulching. Crop choice is influenced by seasonality, maturity period, household preferences, profitability, and donations from development actors. Average fresh vegetable production is about 2 kg per m<sup>2</sup>, with vegetables selling for less than 1 USD per m<sup>2</sup>.

### D. Kitchen gardens as entry points to community and development

During the dry season, men and women are both equally engaged in kitchen gardening, indicating that interventions should be deliberately designed to engage both men and women. Beyond food and

income, kitchen gardening delivers important social benefits, including stronger community cohesion, increased youth engagement, and improved social status for participating households. These outcomes highlight the potential of kitchen gardens as a strategic entry point for community development.

*“We also have youth in our group; kitchen garden activities keep them busy and away from criminal activities and idleness”*

(Focus group discussion).

### E. Enabling factors of Kitchen gardening in Moroto

Kitchen gardening in Moroto is enabled by the adoption of diverse gardening practices and approaches to dryland conditions. Strong trust and collaboration between communities and development actors further support uptake. The sustained presence and investment of development agencies in kitchen gardening have strengthened skills, access to inputs, and local ownership, creating a foundation for scaling up successful interventions.

### F. Constraints to kitchen gardening

Kitchen gardening is constrained by limited access to water, agricultural services, inputs, and financial services, particularly during the dry season. Pests and diseases further reduce productivity, while indigenous vegetables and crops remain underrepresented. Government and development actors should prioritise investments in water access, extension services, affordable inputs, pest management, and the promotion of indigenous crops to strengthen resilience & nutrition outcomes.



## Conclusion

Kitchen gardens offer a high-impact, low-cost pathway to improve food security, nutrition, incomes, and social cohesion in Karamoja's drylands. By building on strong community uptake at both household and group levels, and addressing binding constraints in water, inputs, skills, and markets, government and development partners can support local people to transform kitchen gardens into a cornerstone of dryland resilience. Integrating nutrition, indigenous crops, and livestock, while embedding kitchen gardens in community development strategies, will ensure sustainable, long-term impact beyond project cycles.

### ACTION POINTS

- Design and implement context-specific kitchen garden interventions through co-creation with communities to reflect the diversity of practices in Moroto.
- Invest in sustainable water access near settlements, including water harvesting, conservation, and community-led management systems for year-round kitchen gardening.
- Promote integrated kitchen garden systems by combining crop production with poultry, livestock, indigenous crops, and improved access to inputs and pest management.
- Strengthen extension services and capacity building beyond production to include nutrition, post-harvest handling, marketing, and entrepreneurship.
- Leverage kitchen gardens as platforms for youth employment, social cohesion, and resilience-building, supported by pilot testing and long-term sustainability planning.

## References

1. Integrated Food Security Phase Classification (IPC) (2024). Uganda-Karamoja Acute Food Insecurity and Acute Malnutrition Analysis March 2024-February 2025.
2. Berrahmouni, N., Regato, P. & Parfondry, M. (2015). Global guidelines for the restoration of degraded forests and landscapes in drylands: building resilience and benefiting livelihoods. FAO Forestry Paper, Food and Agriculture Organisation of the United Nations, 148.
3. Gelsdorf, K., Maxwell, D. & Mazurana, D. (2012). Livelihoods, basic services and social protection in Northern Uganda and Karamoja. Working Paper.
4. Barrantes, A. & Caravani, M. (2021) Situational Analysis of Food, Nutrition and Income Security in Karamoja "A normalizing view of Karamoja" Working Paper, 2020 .
5. Schumann B, Turinawe A, Lindvall K, Lule Kyanjo J, Kuule DA, Kawira C, Mwangi A, Mwangi P, Hörnell A. 2025. Livelihood dynamics and challenges to wellbeing in the drylands of rural East Africa – the Drylands Transform study population in the Karamoja border region, *Global Health Action*, 18:1, 2490330, DOI: 10.1080/16549716.2025.2490330.
6. Ajal, M. T. (2024) Characterisation and production of kitchen gardens and their contribution to food security and livelihoods in Karamoja, northeastern Uganda. MSc. Thesis Uppsala: SLU, Dept. of Molecular Sciences. [https://stud.epsilon.slu.se/21091/1/ajal-m-t\\_250605.pdf](https://stud.epsilon.slu.se/21091/1/ajal-m-t_250605.pdf)
7. Blakstad, M.M., Bellows, A.L., Mosha, D., Canavan, C.R., Mlalama, K., Kinabo, J., Kruk, M.E., Masanja, H. & Fawzi, W.W. (2019). Neighbour home gardening predicts dietary diversity among rural Tanzanian women. *Public Health Nutrition*, 22 (9), 1646–1653. <https://doi.org/10.1017/S1368980018003798> .

**Author:** MSc Mary Theodorah Ajal

**Version:** 2026-February

**Institution:** Department of Molecular Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden.

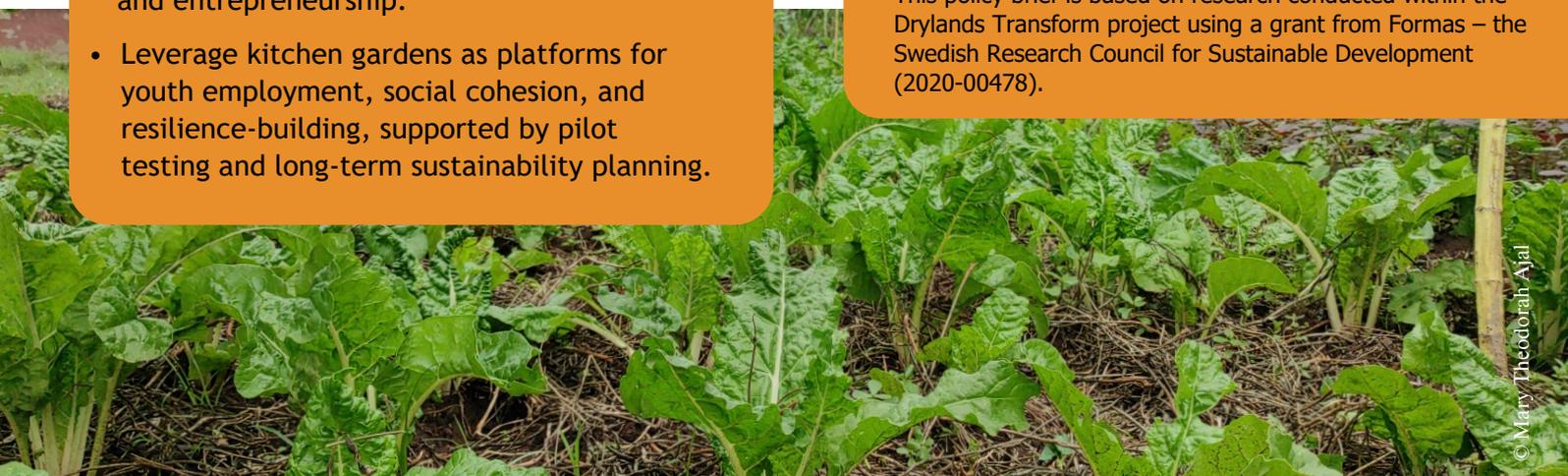


Prof. Ingrid Öborn (Ingrid.Oborn@slu.se)

Prof. Denis Mpairwe (denis.mpairwe@mak.ac.ug)

MSc Mary Theodorah Ajal  
(theodorahmaryne@gmail.com)

This policy brief is based on research conducted within the Drylands Transform project using a grant from Formas – the Swedish Research Council for Sustainable Development (2020-00478).



© Mary Theodorah Ajal