LEAP-Agri

A **L**ong term **E**U- **A**frica research and innovation **P**artnership
on food and nutrition security and sustainable **Agr**iculture
ERA-NET Cofund (LEAP-Agri)

Federal Ministry of Food and Agriculture

EaTSANE: Education and Training for Sustainable Agriculture and Nutrition in East Africa

country/countries	Kenya and Uganda
funding agency	Federal Ministry of Food and Agriculture - BMEL
project management	Federal Office for Agriculture and Food – BLE
project coordinator	Prof. Dr. Cadisch
project partner(s)	Egerton University (EGU), Kenya, Justus-Liebig-University (JLU), Germany, Makerere University (MAK), Uganda, Mango Tree Education Enterprise LTD, Uganda, Royal Tropical Institut (K.I.T.), The Netherlands, University of Hohenheim (UHOH), Germany
project budget	UHOH: 329.231 Euro; JLU: 288.132 Euro; EaTSANE total budget: 1.074.999 Euro
project duration	01.09.2018 to 31.8.2022
key words	Agriculture, co-creation, diversified farming, educational and training media, extension service, gender, nutrition and farming, nutrition education, participatory action research, sustainability, value chains, youth

background	Nutrition sensitive agriculture and diverse diets have been identified as strategies for improving nutrition. Little is known about the interlinkages between consumption and production strategies and required pre-conditions and incentives for farmers to engage in diversified crop production. The EaTSANE project (Education and Training for Sustainable Agriculture and Nutrition in East Africa) followed an integrated approach to promote a holistic change in the food system through innovation and capacity building. The intention was to implement sustainable farming practices and improved diets in households in Kenya and Uganda through a participatory learning and action approach.
	The understanding of crop diversity and nutrition requires a food system approach that acknowledges these dependencies and the role of the entire value chain.
	In the EaTSANE study area, smallholders experienced yield losses that can be attributed to the general decline in soil fertility and are further accelerated by inappropriate cultivation methods. Furthermore, access to nutritional crops is hampered by weak coordination of the value chain. As a result, low-income consumers have limited access to these crops or cannot afford such food. Less than 45% of women and men consume food from more than five food groups, which is considered the minimum for adequate diets.
	The results of the HealthyLAND project, a former project funded by BMEL/BLE, showed how important crop diversification is for food security and soil health. However, there are obstacles to crop and food diversification:
	• Ignorance of the positive environmental and nutritional impacts of crop diversification; • fragmentation of actors in the food system, which prevents coordination of the value chain; • Socio-cultural factors affecting the household food environment.
	These obstacles result in low dietary diversity, low energy intake and affect farmers' ability to improve the production of nutrient-rich foods.
objective	EaTSANE aims to implement sustainable farming practices and improve diets of households in Kenya and Uganda by diversifying the food system with a participatory action learning approach. This approach is based on advancing applied knowledge across value chains and disseminating findings widely, in particular towards youth and women. Specific objectives are:
	1. Enabling farm families to produce nutrient-rich crops by using conservation agriculture and novel farm management practices to increase the quantity of nutrient-rich foods for both food security and income generation. Measuring nutrient flows through the soil will elucidate the importance of sustaining farmers' natural resource base through nutrient-smart crop diversification and production.
	2. Creating the right contextual conditions and behavioural incentives for farmers and other actors to engage in diversified production and value chains of nutrient-dense crops. Through action-research, the project will improve value chain practices, coordination mechanisms and service provision.

	The project will also identify improved practices in post-harvest handling, storage and processing to preserve the nutrient content of food along these chains. 3. Understanding and enhancing consumers' food culture, resulting in healthier diets and more equitable distribution of food in the household. At farm-household level, gender dynamics and food culture will be assessed (by a comprehensive analysis with Trials of Improved Practices (TIPs)) in regard to aspects of e.g. kitchen environment, intra-household decision making, food preparation and feeding practices.
results	The following key findings and results were generated in the project: **Production systems** • Knowledge acquired on sustainable cropping systems and improved cropping practices including feasible opportunity for crop diversification; • Vertical gardening systems and innovative vegetable production systems for the region developed and successfully tested; • Newly acquired knowledge and results of the tested cultivation systems were established as a basis for teaching and training material in the school and farming environment; • Farmers and students trained in the use of improved farming systems, vertical gardening systems and soil conservation farming methods; • Teachers, scientific staff and students sensitised on the use of soil conservation farming methods and sustainable farming systems; **Market system** • Market potential of nutritionally important leafy vegetables evaluated; • Networking of actors along the value chain evaluated and improved; • Knowledge of how to motivate farmers for diversified production acquired; • Critical stages for post-harvest losses in bush bean and black nightshade value chains in Uganda identified; • Established platforms for value chains of dark green leafy vegetables and pulses; • Knowledge on impact pathways created through participatory research and communication strategies. **Nutrition** • Key messages developed in nutrition education aimed at improving dietary diversity, food practices and meal preparation; • Published findings on determinants of fruit consumption among children under eight from households in Teso South, Kenya; • Increased empowerment of participating households to make better food choices; • Knowledge on the dynamics of nutrition among smallholder households in the project regions is available. **Governance** • Policy dialogue conducted at local level as part of a co-creation process; basis for the development of educational materials.

	• Various educational materials for sustainable cultivation, processing and nutrition as well as marketing of nutritionally important plants are available.
recommendations	Within the framework of the project, the following core statements and policy recommendations can be made: • Action research facilitates farmers' behaviour change towards more sustainable farming, crop diversification and improved diets. Data from the participatory research activities closes knowledge gaps. • Training and educational materials developed foster capacity building on diversified farming, value chains enabling environments for diversified food systems, and an improved food culture and nutrition. • Policy dialogue with decision-makers on multiple levels contributed to enabling environments for farmers to engage in diversified farming practices and nutrition. • Dialogue with male and female farmers on innovative farming systems is an entry point for improved nutrition • Using participatory developed training materials can lead to diversified agricultural production, participation in value chains, and improved diets. • Facilitated multi-stakeholder processes can help create spaces and opportunities to jointly identify local solutions for local problems in improving productivity of nutrient dense food value chains.
photos	