Project II

BUILDING CAPACITY FOR TRANSFORMATIVE AGRI-FOOD SYSTEMS FOR RESILIENCE IN LAKE VICTORIA BASIN OF KENYA

Team Leaders:
1. Dr. Calleb Olweny, PhD
2. Prof. Marijke D’ Haese, PhD

Partners
Local Project Members

Dr. Calleb Olweny
Project Leader
PhD Plant Breeding & Biotechnology
Makerere University, Uganda

Prof. Stephen Agong’, FAAS
PhD – Horticulture

Prof. Bernard Muok
PhD Tropical Agriculture
Kyoto Prefectural University
Japan

Prof. Reuben Mosi
PhD Animal Breeding
Univ. of Wales
United Kingdom

Prof. Darius Andika
PhD Environmental Horticulture
Maseno University, Kenya / University of Hannover, Germany

Prof. Solomon Ogara
PhD CIS
University of North Texas
United States

Adj Prof. Chris Ojiewo
PhD Plant Breeding
Okayama University, Japan

Prof. Felix Ngetich
PhD Soil Science
Kenyatta University
Kenya

Dr. Mary Orinda
PhD Agribusiness Management
Jaramogi Oginga Odinga Univ
of Science and Technology
Kenya

Dr. Walter Akuno
PhD Agricultural Extension
Egerton University
Kenya

Dr. Peter Bulli
PhD Genetics
Kansas State University
United States

Dr. Matilda Ouma
PhD Extension
Egerton University
Kenya

Mr. Danstone Aboge
BSc Food Security
MSc. FSSA
Jaramogi Oginga Odinga Univ
of Science and Technology
Kenya

CPA. Nancy Muchai
Social innovations
Maseno University
Kenya
Understanding the local context

- Food systems remain vulnerable to economic, climatic, and geopolitical shocks.
- Globally, an estimated 811 million people still go hungry.
- In Kenya, an estimated 14 million children under the age of five suffer from severe acute malnutrition.
- 45% of deaths in children are attributed to undernourishment.
- Women, children and youth are the most vulnerable groups.
Understanding the local context
Project Objectives

Medium objectives (5 years)

i. To develop and promote climate resilient agri-food systems

ii. To strengthen collaborative learning, exchange programmes and outreach

Long-term objectives (10 years)

i. To promote gender sensitive resilient and diversified livelihoods

ii. To establish a dynamic and responsive breeding programme
Project Strategies/Activities

Mid-term objective 1. To develop and promote climate resilient Agri-food systems

• Develop and promote resilient crops (cereals) and micro-livestock
• Testing and characterization of crops
• Identify and promote transformative climate-smart approaches to maintain soil health, IPM and ICMP
• Identify and address socio-economic aspects of farming systems
• Address post-harvest losses and food wastage
• Diversify the current cropping and livestock systems with underutilized resources
• Strengthen local market system resilience through diversification of crop and livestock products and market intelligence
Mid-term objective 2: To strengthen collaborative learning, exchange programmes and outreach

- Develop student-faculty exchange programme framework
- Curriculum review and programme development (post-graduate)
- Postgraduate training in partnership with collaborating institutions
- Establish school of veterinary sciences
- Re-skilling the faculty/support staff on emerging issues
- Capacity building for local actors (farmers, CBOs, NGO, policy makers)
- Strengthen training/capacity building approaches
- Establish innovative/transformative extension framework involving integration of ICT
- Strengthen collaborations, inclusive partnerships and stakeholders linkages
Long-term objective 1: To promote gender sensitive resilient and diversified livelihoods

- Gender involvement; women, youths (gender equitable participation in decision-making, access to and control over resources)
- Promote gender-sensitive livelihoods
- Establish satellite egg hatchery in Western Kenya
- Promote social farming
- Strengthen training and capacity building approaches around CSA
- Promote value addition
- Promotion of micro livestock (chicken, rabbits and goats)
Long-term objective 2: To establish a dynamic and responsive breeding programme

- Promote sustainable collection, utilization, conservation and development of germplasm for resilient traits
- Develop a molecular laboratory for crop and livestock research (Molecule to landscape) for QTL and other genomic studies
- Establish seed production unit
- Develop a community driven seed distribution to small holder farmers
- Strengthen Intellectual property rights and patents
Link with the context analysis and the other projects

- **Project 1, 2 and 5** will form strong synergy with other institutions (KEMFRI, KALRO, LVBDA) to tackle the effects of climate and environment challenges.

- Synergies and experiences with Bahir Dar University, Ethiopia which is implementing projects on natural resource management and food security.

- **Project 2** will benefit from synergies with two ongoing research projects; i) Sustainable Use of Insects as Food and Feed and ii) Improving Maize productivity in Western Kenya through Breeding and Soil Carbon Augmentation.

- **Project 2 and 4** will form strong synergies in the areas of integration of ICT innovation and GIS

- **Project 2 and 3** will form strong synergies in the areas of building a resilient population through access to nutritious food and health services
Expertise/ Stakeholders needed for the successful Implementation

Expertise already present in the project team
• Crop improvement
• Livestock breeding and production
• Horticultural crop production
• Soil fertility and conservation
• Agricultural economics and agribusiness management
• Extension services and rural innovation
• Food science and nutrition

Expertise sought for at level of the Flemish HEIs
• Veterinary scientist
• Functional genomics
• Seed system specialist
• Systems modelling expert
• Crop health
• Entrepreneurship and value addition expert
• Sociologist
Interested in this project?

Contact:-

Local Project Team Leader:-
Dr. Calleb Olweny
Jaramogi Oginga Odinga University of Science and Technology
Department of Plant, Animal and Food Sciences
Email: callebolweny@yahoo.com
colweny@jooust.ac.ke

Flemish Project Team Leader:-
Dr. Marijke D’Haese
Ghent University
Department of Agricultural Economics
Email: Marijke.Dhaese@UGent.be