Innovative, Market-Driven Solutions for Food Security & Better Livelihoods
Feed the Future Kenya Innovation Engine identifies, fosters and brings to scale innovative, market-driven solutions to persistent food insecurity and poverty.
WHO WE ARE

Feed the Future Kenya Innovation Engine is a five-year program that identifies, nurtures and brings to scale innovative, private sector-oriented solutions to food insecurity, under-nutrition, and poverty. The Innovation Engine partners with entrepreneurs who design new concepts, products and services to maximize their commercial potential, as well as nutritional and livelihoods benefits to the targeted communities.

WHAT WE DO

In a manner similar to a venture capital fund, the Innovation Engine supports experimentation and rewards proven success, seeking projects that represent game-changing methodologies and approaches that have the potential to benefit a significant number of Kenyan households.

Implemented by:

[Image of LAND O’LAKES, INC.]

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Weighing produce using a Bluetooth-enabled digital scale that automatically transmits the reading to the farmer’s mobile phone for easy tracking and records management under Virtual City’s Agrimanagr™ proof-of-concept innovation.
**PROGRAM OBJECTIVES**

- Enhance adoption of innovative agricultural technologies and practices
- Improve agricultural productivity and markets
- Increase private sector investment in agriculture and nutrition-related activities

*Photo: Makueni County lead farmers in Machakos County during a peer-to-peer exchange visit for farmers working with Wanda Organic Ltd.'s innovation*

**HOW THE INNOVATION ENGINE WORKS**

1. Innovation solicitation
2. In-depth review and scoring
3. Review by Investment Advisory Committee
4. Innovator Pitches to Investment Advisory Committee
5. Due diligence
6. USAID approval of Stage 1 awardees
7. Award & Implementation
8. Coaching, Mentoring, M&E & Rigorous Assessment
9. Close out & possible recommendation for stage progression
PORTFOLIO OF INNOVATIONS

Proof-of-Concept (Stage 1)

Wanda Organic Limited

**Organic fertilizers for smallholder farmers**

Wanda Organic is marketing *Plantmate Organic Fertilizer* and with the aim of setting up local production facilities in the East Africa region. The product - a breakthrough result of over 40 years in biotechnological research, increases crop yield by improving ability to resist diseases, and restore soil health by unlocking nutrients and improving water retention capacity.

MFarm Limited

**Linking smallholder farmers to wholesale markets through an agent network utilizing mobile technologies**

MFarm’s mobile technology links smallholder farmers to markets by providing real-time pricing data. By negotiating for farmers to grow produce under contract and harnessing the power of collective crop-selling, MFarm enables farmers to plan production patterns with the assurance of getting the best possible price for their produce in the market.

Real IPM Kenya Limited

**Biological control of fruit fly in mango**

Following successful trials, Real IPM (Kenya) Ltd and International Centre of Insect Physiology and Ecology are marketing an isolate of *Metarhizium anisopliae* - ICIPE 69 - a fungus which kills fruit fly. The fungus is applied to the soil and also sprayed on the leaves of the crop. Specially-designed devices which attract the fruit flies and attach the fungus to them for auto-dissemination make the innovation unique.

Virtual City Limited

**Automated supply chain management at horticultural producer, aggregator and processor levels using AgriManagr™**

Agrimanager is a produce-purchasing innovation aimed at providing transparency and integrity in the supply chain. The technology accurately tracks production and quality for individual farmers, ensuring that they are properly paid and rewarded for exactly what they deliver. It provides buyers with complete visibility into the supply chain, quick electronic reconciliations, and a powerful platform to efficiently provide extension services, mobile money payments, among others.

University of Nairobi (Horticulture Department)

**Innovative cold storage option (CoolBot) for smallholder farmers to reduce postharvest losses**

The CoolBot is a relatively inexpensive electronic gadget that works with an air conditioner to provide optimum temperatures for storage of perishable produce. When applied in a well-insulated room constructed from locally-available
materials, this system makes cold storage a viable option for smallholder farmers thus extending the shelf life to enable them negotiate better prices for produce, access new markets and increase their income.

**Arid Lands Information Network (ALIN)**

*Arid lands information network (ALIN) Farm records management information system for enhanced access to financial and other services for improved food and nutritional security*

FARMIS (Farm Records Management Information System) is an online record-keeping service designed to enable farmers to access current data on a 24-hour basis at the touch of a button. Using FARMIS, ALIN worked with over 5,000 farmers in Meru County to generate on-demand customized reports on the status of their enterprises, produce seasonal profit/loss statements, develop a farm activity calendar, and link with other farmers for bulk sale of produce, among others.

**iProcure**

*Last mile distribution of farming inputs.*

iProcure’s innovation leverages existing telecommunications platforms as well as social and physical infrastructure to ensure supply of inputs to smallholder farmers in an affordable and timely manner unlike conventional distribution methods. The innovation aims to help suppliers avoid the costs associated with getting their products to smallholder farmers, thus contributing to lower prices for inputs. At the same time, the innovation will help agents maintain sufficient stock levels to ensure a convenient supply for farms in a particular region.

**Kenya Medical Research Institute (KEMRI)**

*Design and clinical evaluation of a school meal with deworming properties.*

KEMRI is working with Homeland Dairy Foods Ltd. to design and clinically evaluate a school meal with deworming properties as an innovative solution to intestinal parasites, which are among the world’s most neglected. The porridge flour is fortified with local fruit (paw paw) extracts that have demonstrated deworming properties, and has added Zinc, Iron and Vitamin A to make it even more nutritious.

**Kenya Livestock Marketing Council (KLMC)**

*Strengthening the dry land economy for pastoralist communities through livestock identification and traceability mechanisms.*

KLMC innovation entails developing a Livestock identification and traceability system (LITS) initially targeted for cattle. Through this innovation, KLMC will create a Turkana County database of cattle and cattle owners and tag animals with tamper-proof tags and other recognized branding methods. By enabling improved surveillance, this innovation aims to enhance livestock production and trade, and support efforts towards containing cattle rustling in Turkana County before scaling up.

**Maseno University**

*Enhancing capacity of Maseno University Seed Unit to deliver to market resilient new maize varieties in western Kenya.*

Through the development and introduction of new, resilient maize varieties which have genetic mechanisms for resistance to foliar diseases and striga weed, Maseno University is working to improve productivity, raise household incomes and boost food security in western Kenya. Maseno EH10 maize variety has resistance to foliar diseases, while Maseno EH12 and Maseno EH14 have resistance to striga weed. The varieties are more affordable than those with chemically-induced resistance.
University of Nairobi (Department of Plant Science and Crop Protection)

**Low-cost optical sorting to remove mycotoxins from maize in local Kenyan mills.**

The University of Nairobi is developing a single-kernel sorting technology that rejects highly-contaminated kernels in bulk maize. The base sorter model is a simplified infrared grain sorter developed in the US, which has been adapted for use in mycotoxin-sorting for the first time by calibrating the device specifically to Kenyan maize. The innovation is initially targeted at local hammer mills, which are a focal point in the value chain and where approximately 60% of maize consumed in Kenya is processed.

AMTECH

**Scale up of EASYMA milk weighing system.**

EASYMA 6.0 is a software-driven innovation synchronized with digital weighing scales for milk, and real time transmission of data to farmers’ phones. A robust, flexible and scalable web-based solution, EASYMA 6.0 allows dairy farmers to weigh milk at designated buyer collection centers, and get a receipt for the delivery, which is immediately reflected at the buyers’ main office, as well as at the farmers’ SACCO. The SACCO is linked to the buyer database thus allowing the farmer to access advance payments on a Know-Your-Customer basis.

Kenya Biologics Limited

**Combating Tuta absoluta in tomatoes for smallholders**

Kenya Biologics is testing its Tutrack, a pheromone-based mass-trapping system for *Tuta absoluta* consisting of a lure and a trap. The innovation is unique since the lure is specifically designed for the Kenyan market, and is currently being developed on the request of, and together with, Kenyan smallholder farmers.

Caytree Partners Limited

**Financial Empowerment and Loan Assistance Program**

Caytree Partners is developing a simple, powerful cloud-based financial management tool that allows individual farmers and small businesses to track revenues and expenditures using the internet or SMS messaging, as part of helping farmers and small agri-businesses to access finance. A unique feature is tracking financial transactions from the field to provide proper financial reports that are instrumental in applying for financing.

KENDAT

**Agricultural mechanization hubs to boost youth-attractive commercial farming ventures**

KENDAT’s agricultural mechanization hubs serve as one-stop-shop entry points to agronomic and other technology transfer value chains. The hubs aim to increase the operational farm power available at farm level, and offering platforms where trust in business relations can be built so as to attract women and youth while lowering the cost of business transactions between smallholders and their business supporters.

Pilot Rollout (Stage 2)

Lachlan Kenya Limited

**Viazi Power fusion farming technology for Irish potato production.**

*Viazi Power* ("Viazi" is Swahili for potato) is a fusion-farming technology aimed at improving productivity while ensuring allowable residue levels for food safety. The innovation combines the best of synthetic chemical and fertilizer products, with the best "bio-control" products, in a holistic fusion of seed treatment and leaf application. The technology preserves soil fertility and is financially sustainable.
Indicus Kenya Limited

High-tech artificial insemination training

Indicus will establish a high-tech training facility to train and equip inseminators who will increase access to quality and affordable genetics for smallholder farmers. This will help address the breeding challenges in the dairy value chain particularly quality distribution of dairy in Kenya’s currently underserved North/South Rift regions.

Takaful Insurance of Africa Limited

Index-based livestock Takaful

Takaful will scale up an index-based livestock insurance product to protect against drought-related livestock mortality. The index is calculated using the Normalised Difference Vegetation Index - a measure of pasture recorded every 15 days by satellite. The vegetation measure is fed into a response function that relates pasture availability with livestock mortality to analyze whether it constitutes the trigger and therefore payment to communities.

Value Farms Kenya Limited

Land consolidation through public-private partnership for commercial agriculture

Value Farms will scale up this innovation through which it persuades land owners to consolidate land and then lease it for commercial agriculture. This approach is unprecedented in western, and many other parts of Kenya, for cultural reasons. Many such farms were previously-unutilized for farming due to poor rainfall and lack of irrigation capacity, despite being near a permanent water resource.

Pupils at Mosine Primary School - one of KEMRI’s innovation implementation sites - enjoy porridge during break time as part of the clinical trials for a school meal with deworming properties.