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## KENYA AGRICULTURAL VALUE CHAIN ENTERPRISES

### ANNUAL PERFORMANCE REPORT FY 2



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# USAID KENYA KAVES

## (KENYA AGRICULTURAL VALUE CHAIN ENTERPRISES)

### FY 2014 ANNUAL REPORT

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Front cover caption:

Elizabeth Kimote, is one of 5,000 farmers boosting their incomes through commercialization of yellow passion fruit in Makueni. *(Photo credit: USAID/Kenya)*

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The authors' views expressed in this report do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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## ACRONYMS AND ABBREVIATIONS

AI	Artificial Insemination
AMREF	African Medical and Research Foundation
CARD	Community Action for Rural Development
CLTS	Community Led Total Sanitation
EAML	East African Malting's Limited
EMMP	Environmental Management and Mitigation Plan
FFS	Farmer Field School
GAP	Good Agricultural Practices
HCDA	Horticultural Crops Development Authority
ICIPE	International Centre of Insect Physiology and Ecology
IFDC	International Fertilizer Development Centre
IGAs	Income Generating Activities
IR	Imazapyr Maize
ISFM	Integrated soil fertility management
KARI	Kenya Agricultural Research Institute
KDB	Kenya Dairy Board
KEBS	Kenya Bureau of Standards
KEPHIS	Kenya Plant Health Inspectorate Services
KHE	Kenya Horticultural Exporters
KPMC	Kenya Promotions and Marketing Company
MLND	Maize Lethal Necrosis Disease
MoAL&F	Ministries of Agriculture, Livestock, and Fisheries
OCA	Organizational Capacity Assessment
UCCS	Ukamba Christian Community Services
USAID	United States Agency for International Development
USAID-FIRM	Financial Inclusion for Rural Microenterprises
USAID-KAVES	Kenya Agricultural Value Chains Enterprises
USAID-KDSCP	Kenya Dairy Sector Competitiveness Program
USAID-KHCP	Kenya Horticulture Competitiveness Project
WASH	Water, Sanitation, and Hygiene

## I. EXECUTIVE SUMMARY

The United States Agency for International Development (USAID) and Fintrac Inc. signed the contract to implement the USAID-Kenya Agricultural Value Chains Enterprises (KAVES) project on January 16, 2013. This second annual report covers the period of October 01, 2013 to September 30, 2014.

During the reporting period, high levels of engagement were maintained, diversified, and strengthened with county agricultural departments and national Ministries of Agriculture, Livestock, and Fisheries (MoAL&F). New commercial partnerships were established on a continuous basis and more than 50 agribusiness companies, NGOs, trade organizations, and public sector agencies are contributing substantially to the impact of KAVES.

### Qualitative Impact

KAVES held field days and other participatory events with smallholders, traders, and local extension staff, throughout the 22 target counties, to introduce new technologies, provide specialized training, initiate new market relationships, and discuss perceptions and needs for generating higher income from farming. The KAVES approach of focusing on increasing competitiveness, trade, and productivity (project components 1 and 2) to raise household incomes was explained and found to address the general constraints identified by farmers, buyers, and other stakeholders.

Five value chain and market studies for maize, dairy, potato, green bean, and mango were completed and validated in cooperation with panels of agricultural sector experts. The current strategic interventions being implemented by KAVES were validated and new interventions identified. Analyses of net returns for milk and the four crops confirmed the KAVES development hypothesis that: *Smallholders will achieve optimum income benefit by producing higher yields of staple crops on smaller areas and releasing land for higher value horticultural crops and dairy cows.*

Dairy farming interventions focused on improving animal health and nutrition, and increasing herd genetic potential through artificial insemination (AI). Commercializing forage and fodder crops as a new component of the dairy value chain was a key activity that had immediate impact and rapid adoption by both dairy and crop farmers. An estimated 750 acres were planted with improved fodder in 2014 and 9,000 bales (135 MT) of hay produced with a farm gate sales value of KES 2.25 million (USD 225,176). Farmers have also learned how to conserve and enhance the nutritional value of fodder through silage production. As a result of increased fodder availability, milk marketed by KAVES partner groups increased by more than 35 percent compared to FY 2013.

Interventions on maize and other staple crops focused on introduction and adoption of higher-yielding varieties, soil fertility management, product aggregation by groups for marketing, and reduction of postharvest losses. A typical partnership with the African Agricultural Technology Foundation (AATF) was implemented to promote “Water Efficient Maize for Africa” (WEMA) varieties of maize, and involving a range of other partners including YARA fertilizers, Syngenta, NCPB, MoAL&F, and Kenya Seed Co. The new varieties out-performed traditional varieties and are now in demand for 2015 by progressive farmers. Since most households intercrop beans and maize, alternative bean varieties with drought tolerance and high yield potential were also introduced through partnerships with seed companies and through on-farm commercial trials with lead farmers.

Maize farmers were trained on grain harvesting, drying, and storage to reduce postharvest losses through collaborations with suppliers of equipment for shelling; measurement of moisture content; and hermetic bags and metal silos for longer term grain storage. A commercial partner supplying hermetic storage bags increased sales of the bags by more than 50,000 over the previous year following joint promotion of the new technology with KAVES.

Sorghum adoption as a drought tolerant staple crop for household consumption increased during the year. As a result, millers bought more sorghum, especially white varieties, for flour production and food processors incorporated more sorghum flour into commercial products. KAVES partner Community Action for Rural Development (CARD) worked with more than 10,000 new sorghum growers to supply East African Breweries with sorghum as a raw material for beer production.

Horticulture activities focused on increasing productivity of banana and potato; diversifying and increasing production of export vegetables; and training farmers to achieve pesticide and traceability standards for domestic and export markets. As a result, farmers in north Rift Valley counties planted 595 new acres of potato and harvested 3,789 MT with a farm gate sales value of KES 55 million (USD 588,235). With technical support from KAVES the farmers selected and set aside 7,328 bags for storage, to be utilized for seed potato next season. A banana commercialization and expansion strategy had immediate impact in Taita Taveta with two new banana collection centers established and selling more than 150 MTs of banana per month for a total sales value of KES 1.4 million (USD 16,000).

The persistent failure of some Kenyan farmers to meet the European Union (EU) pesticide requirements is regarded as a major problem by European buyers and consumer groups. Increased “interceptions” of export shipments with pesticide residue levels (MRLs) above the legal limit has reduced market confidence and increased costs to all export companies who now have to pay for a higher level of sampling when their shipments arrive at EU air and sea ports. To counteract this problem KAVES provided training and compliance audits to smallholders to meet standards set by the market and meet EU legal requirements. The combined impact of standards compliance, farmer registration and a national traceability system pioneered by KAVES in 2014, will increase the

### **Quantitative Impact**

An estimated 135,079 new beneficiaries were reached in the second financial year of the project bringing the total number of farmers participating directly in KAVES to 151,284. The number of beneficiaries surpassed the FY2 target by nine percent. A total of 136,600 partnered with the project in agricultural specific interventions and 14,684 benefited from nutrition-related activities. On average 56 percent of all beneficiaries participating directly in project interventions are women although there is considerable variation between counties.

As a result of KAVES interventions, farmers achieved annual gross margins of USD 433 per hectare for maize, USD 844 per dairy cow, and USD 2,431 per hectare of for French beans, equivalent to a 43 percent annual increase for maize and more than 100 percent for French beans and dairy. The significant increase in milk gross margins was attributable to improved productivity. Milk production per cow for KAVES beneficiaries increased 67 percent to nine liters per day from the baseline level of 5.4 liters, largely due to better animal management and improved feeding practices including locally grown fodder crops.

The value of produce sold by beneficiaries increased, largely due to new marketing agreements between buyers and farmers which were facilitated by KAVES. An estimated 9 1,999 MT of French beans, valued at USD 1.42 million, was marketed through export companies. In addition, 11,943 MT of maize valued at USD 3.2 million and 40,616,000 liters of milk valued at USD 15.7 million was marketed during the year

Five of the six counties which received nutrition interventions had dietary diversity scores of 10-30 percent above baseline with the exception of Meru where the score was three percent above.

### **Next Quarter’s Work Plan**

No significant deviations from the 2014 work plan occurred. Activities to be carried over into 2015 are: final value chain analyses reports; documentation of the KAVES gender strategy; and award of a second nutrition subcontract. These activities will be completed in the next quarter.

## II. KEY ACHIEVEMENTS (Qualitative Impact)

### I. Dairy

KAVES is working with smallholder farmers in the 22 target counties to increase milk productivity and as a result improve farmer income and nutrition at the household level. According to the KAVES value chain study, key challenges facing dairy farmers include low milk productivity due lack of sufficient and quality feeds, poor quality breeds coupled with high cost of AI, informal raw milk marketing, and low value addition among others (KAVES, 2013). To address these challenges, interventions focused on three main strategic objectives:

- Increasing the incomes of small-scale dairy farmers by raising milk productivity and production levels in non-traditional dairy areas.
- Improving milk quality through establishment of more efficient collection and marketing systems.
- Increasing value addition and product diversification through milk processing.

During the period under review, 31,605 smallholder dairy farmers in 505 dairy groups were reached with interventions on these strategic objectives across the 22 target counties.

#### I.1 Increasing milk productivity and production

Specific interventions included increasing fodder establishment and conservation, introducing dairy cows in the non-traditional dairy areas, improving feed nutrition, scaling up adoption of AI to improve the local breeds and disease control. These interventions have had an immediate impact on milk yields and incomes in all target counties. Below are the specific intervention activities and achievements.

##### *1.1.1 Fodder establishment and conservation*

A total of 2,433 acres of land were planted with fodder (433 acres in the short rains and 2,000 acres in the long rains) in Nandi, Uasin Gishu, Elgeyo Marakwet, Homa Bay, Migori, Siaya, Bungoma, Kisii, Makueni, Machakos, Kitui, Meru, Tharaka Nithi, Taita Taveta, Homa Bay, Kisii, Bungoma, and Kisumu by individual smallholder farmers planting an average of 0.25 acres. In Meru county 200 trees of Calliandra were planted.

This followed 60 demonstrations centers that were set up in various locations in the target counties training farmers on fodder establishment and management covering fodder variety selection, land preparation and planting, and management of fodder crops. The fodder varieties planted include Boma Rhodes, sorghum, and Sudan grass, Napier grass spp Kakamega I, Napier South Africa, Mulato (Brachiaria), Masaai love grass, and Sudan grass. Leguminous fodder crops including Desmodium, sunflower and Leucaena spp, and Calliandra were also planted. Technologies suitable for semi-arid areas with water scarcity were also demonstrated. In Western Kenya, KAVES partnered with the International Centre of Insect Physiology and Ecology (ICIPE) and the Kenya Agricultural Research Institute (KARI) for supply of planting materials to farmers which further enhanced adoption.

KAVES introduced hydroponic fodder farming in various counties. Hydroponics is the process of growing crops including fodder for livestock, without the use of soil. It's a more affordable method of feeding dairy cows as opposed to use of dairy meal supplements. Farmers who adopted the technology reported an increase in milk productivity by 4 litres per cow per day. Farmers were receptive to the technology. For instance in Kericho county, the county government partnered with KAVES to introduce the technology in 20 wards.

On fodder conservation, farmers were trained on hay bailing and silage making, initiatives that were also supported by the county governments. For instance, in Makueni the county government procured bailing machines for farmers to use for fodder harvesting and bailing. Additionally, sheds for strategic fodder reserves were established in various sites in the county including agricultural centers and stocked with 4,000 bales. Overall, an estimated 9,569 bales (143,555 kgs) worth KES 2.4 million (USD 28,235) of hay were produced in Homa Bay, Migori, Taita Taveta, Makueni, Bomet, Kisumu, and

Machakos counties by individual farmers and dairy groups working with KAVES which was commercially traded and 21 tons of silage were produced. The conserved feeds were used during the dry season of July – September reducing the annual fluctuation in milk production during the dry spell as shown in figure 1 below. Commercial hay production is expected to increase in the coming seasons with increasing demand. Mseto dairy in Taita Taveta County for example received an order of 500 bales of hay from the large scale farms in the area.

#### *1.1.2 Improving the nutritional content of dairy feeds*

To address the nutritional content in animal feeds, farmers were trained on the need to raise dry matter content in feeds. This was particularly emphasized in the traditional dairy areas that receive relatively higher rainfalls and cows receive high levels of green pasture grass. Farmers were trained on harvesting and drying of fodder grasses before feeding the animals. This practice significantly reduces the water intake by the cow and hence increases milk productivity. In North Rift farmers were trained to improve the value of low nutrient crop residues, such as maize stovers and rice husks, and increase palatability, digestibility and utilization of their feed by grinding and blending with nutritious ingredients such as sunflower and molasses. KAVES also trained farmers of feed choppers to enhance uptake and proper feed utilization.

Following these intervention which increased in feeds availability, milk productivity in the target counties increased to 9.3 liters per cow per day by end of September 2014 representing a 70.3 percent increment from the baseline of 5.46 liters per cow per day reported in June 2013. This growth has been steady over the period as farmers adopted improved feeding practices.

#### *1.1.3 Strengthening the Animal Feeds Regulatory Framework*

Still on feeds, KAVES partnered with key government agencies that regulate the animal feeds industry (the State Departments of Livestock production, Kenya Bureau of Standards (KEBS) and department of Veterinary Services) to develop a Code of Practice for animal feeds manufacture. KAVES worked with the Animal Feeds technical committee which has 16 members drawn from the private sector, government regulators, dairy producer groups, and academia to draft the Animal Feeds Industry – Code of Practice KS-2543-201. The Code was circulated for two months of public review that ended in July



*Photo: USAID*

KAVES is helping to create a new feed industry that is sustainable and will have a major impact on milk productivity and incomes.

2014. The committee has since considered and incorporated comments received from the public and the standard is now under publication before the same is gazetted as a Kenya standard.

The Code was lauded by the private sector stating that complete, it will provide guidelines for good manufacturing practices in animal feeds as required in both the local and international markets and hence weed out unscrupulous feed dealers who manufacture poor quality and unsafe animal feeds.

#### *1.1.4 Improving the Quality of Dairy Breeds and Cow registration*

To improve milk production in the long term KAVES increased AI uptake particularly in non-traditional dairy areas. This was done by addressing the constraints facing AI adoption among them low conception rate and high cost. Specific interventions included conducting refresher courses for practising AI service providers, farmer training on heat detection, and linkage of farmer groups to qualified AI service providers. 60 A.I service providers were trained on the technical skills and ethics

of service provision and their performance tracked over the period. A total of 1,364 successful inseminations were provided with a conception rate of 92 percent. Nationally AI conception rate stands at 60 percent.

To reduce the cost of AI services, KAVES set up farmer group managed AI services in several counties particularly in the non-traditional dairy areas which include Kisumu, Machakos, Makueni, Nyamira, Elgeyo Marakwet, and Taita Taveta.

A strategic intervention was initiated with the Kenya Livestock Breeders Organization to register dairy cattle owned by smallholder farmers benefiting from KAVES dairy interventions. A total of 788 cows were registered in Uasin Gishu, Nandi, Homa Bay, Meru, and Tharaka Nithi counties. Until now, animal registration has been a preserve of medium and large scale dairy farmers who keep records of cow performance and genetic history. The farmers have been trained on record keeping. The registration provides farmers with collateral for credit and also increase the value of the animals.

#### *1.1.5 Introducing dairy in non-traditional dairy areas*

To increase the number of dairy farmers particularly in non-traditional dairy areas, KAVES sensitised farmers on the benefits of dairy farming in barazas, field days and exchange visits. In western Kenya, KAVES partnered with *Send a Cow*, a UK based organization to provide dairy cows to members of 15 women groups whom KAVES has trained on animal husbandry. Further, in Kisumu County, KAVES has partnered with Kenya National Union of Teachers to introduce dairying to over 1000 teachers in the 7 sub counties. In Uasin Gishu County, KAVES partnered with women Saccos to train 3000 women on animal husbandry. The women will get loans from the Saccos to buy dairy cows. This will be a significant effort in women empowerment since even though traditionally cows belong to men, culturally men do not involve themselves with cows bought by women thus leaving women to control income generated from the cows. Following these initiatives, 237 farmers started dairy farming in Nyamira, Kericho, Kisumu, Kisii, Uasin Gishu, Machakos, and Taita Taveta. Out of which 140 are women.

#### *1.1.6 Disease control*

KAVES partnered with the Veterinary Departments of the county governments and private companies e.g. Coopers Kenya Ltd, Bimeda, and Galvmed, to promote vaccination and deworming in order to control pests and diseases such as Foot and Mouth Disease (FMD), contagious bovine pleuropneumonia (CBPP), lumpy skin disease, mastitis, and control ticks and worms. Following the interventions, 12,500 doses of vaccine each for lumpy skin disease and FMD were provided in Makueni county.

In Nandi, Uasin Gishu, and Elgeyo Marakwet, the county governments worked with KAVES to rehabilitate 20, 30, and 40 community cattle dips respectively. 22 dairy groups comprising of 623 members, are now using the dips to control ticks for cows that are open grazed. KAVES is working with the groups to manage and maintain of the dips as well as oversee the implementation of the PERSUAP conditions.

## **1.2 Improving milk quality by strengthening collection centers**

### *1.2.1 Establishing milk marketing groups*

15 milk marketing groups and collection centers were established in Bomet, Kakamega, Kisumu, and Siaya counties. The centers enabled the farmers who previously marketed their milk individually through the informal sector, to sell their milk through a reorganized and collective milk marketing system and hence access the formal market.

### *1.2.2 Strengthening milk marketing groups*

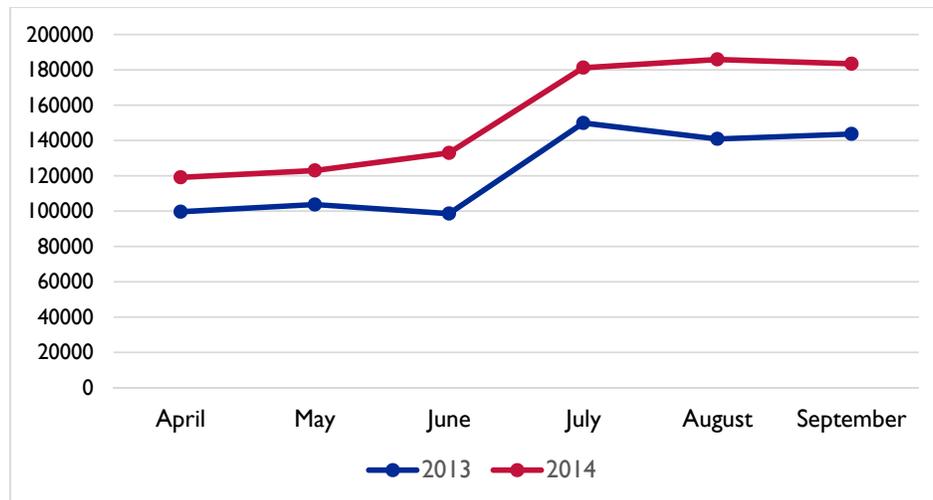
A total of 10 dairy groups in Makueni, Machakos, and Kitui were supplied with electronic milk weighing machines to control and promote transparency in volume measurement, a challenge that has been threatening the sustainability of dairy groups in the region. Following farmer trainings on the benefits of collective milk marketing, there was increased membership to the groups and cases of member dropouts declined.

### 1.2.3 Increase in milk marketed through collection centers and farmer incomes

This combined with increase in milk productivity led to an increase in the amount of milk delivered to the milk collection centers from 30 percent at baseline to 34 percent for all the dairy groups that KAVES has been working with according to the KAVES panel survey. However, the increment was much higher in some of the dairy groups such as Peri-urban dairy in Nyamira County, Chekalual in Bomet County, Naitiri in Trans Nzoia County, Kwisero in Kakamega County, Yala in Siaya, Kilala in Makueni and Nawiri dairy in Kisii County amongst others. Comparing the period April – September 2014 and same period in 2014 milk collected at the dairies increased by an average of 25 percent from 736.2 thousand liters to 925.4 thousand liters while income to the farmers increased by an average of 38 percent from KES 24.5 million (USD 288,236) to KES 33.87 million (USD 397,847). The higher increment to farmer incomes was as a result of increase in raw milk producer prices during the period under review due to linkages with better paying buyers and value addition. For instance in Nawiri dairy, raw milk prices increased from KES 50 to 60 following KAVES training on value addition. This enabled the group to start making yoghurt which earned the dairy better returns and hence passed on the benefit to farmers by increasing the producer prices. The group has opened seven milk outlets in Kisii town.

The figure below shows milk increment in the above mentioned seven dairies over the period comparing with same period in year 2014.

**Figure 1: Growth in Milk intake for sample dairy groups**



## 1.3 Value addition and processing

### 1.3.1 Training on milk value addition

In collaboration with Kenya Dairy Board (KDB), KAVES trained 10 dairy groups and private companies on milk value addition and quality testing in Taita Taveta, Bungoma, Kericho, Kakamega, Makueni, Kisii, and Kisumu counties. All the groups trained started value addition. However, Nawiri dairy also started packaging for the market. In addition, Nawiri dairy in Kisii, acquired the standardization mark (s-mark) by the Kenya Bureau of Standards that allowed the group to venture into the wider market with their value added products.

### 1.3.2 Processed Milk consumption Campaign

During the reporting period, KAVES partnered with the Kenya Dairy Processors Association (KDPA) and KDB amongst other stakeholders in a campaign dubbed “dairy has it all”. The campaign is aimed at enhancing milk consumption by various categories of consumers, increasing milk production as well as nutrition. Messages to consumers and farmers are passed through media both print and electronic, billboards, and roadshows. The campaign which will run for six months ending February 2015 is expected to increase the volume of processed milk by 30 percent.

## 1.4 Other Interventions

### 1.4.1 Facilitating access to credit and finance

100 farmers for Nawiri dairy obtained loans to purchase dairy cows from Juhudi Kilimo of KES 50,000 (USD 588) each with the total money disbursed totaling to KES 5,000,000 (USD 58,824). Meanwhile, Chiptiret dairy farmers company based in Uasin Gishu County received a loan facility of KES 6.1 million (USD 71,764) from the Co-operative Bank of Kenya for purchase of a milk cooler with a capacity of 5,000 liters per day. The 200 farmers who form the company are currently collecting 3,000 liters per day and delivering to nearby New Kenya Corporative Creameries milk cooler.

## 1.5 The dairy value chain study

During the period under review, KAVES dairy value chain analysis was completed and reviewed by a team of dairy stakeholders drawn from the private and public sector. According to the report, while Kenya experiences milk deficits during the dry season particularly in drought years, these deficits will increase in the coming years with demand outstripping supply in year 2017. The per capita consumption which is driven by increasing urbanization and population will increase from 109 in 2012 to 137 in 2022. Imports will play an increasingly significant role due to demand for specialized products and improved competitiveness in other East African Community (EAC) countries. The report also found that dairy herd sizes were not growing significantly due to high cost of animal feeds and health services. The results present opportunities for yield improvement and reproduction through animal breed improvement, better animal husbandry practices, and greater availability of water and feed/fodder. There is also an opportunity in reducing post-harvest milk losses which currently stands at 7.3 percent, and promote dairy goats and camels which are important in the arid and semi-arid lands areas. Available data on cattle population, milk production, and consumption is inconsistent and presents a challenge in decision making. Input and service providers in target areas are often limited in ability to provide appropriate services to farmers due to inadequate finance, technical expertise, low farmers purchasing power, and logistical issues.

On milk collection, the study recommends minimum operational capacity of 6,000 liters per day, being the breakeven level. Given that most smallholder farmers delivers less than five liters of milk per day, there will be need to mobilize farmers to form large dairy groups to attain the minimum daily capacity. Further, high cost of labor and other operational expenses are impacting negatively on the net incomes. Some of the dairy groups had negative gross margins. Capacity building of the dairy groups in aspects of operations, governance and business management is therefore critical. On milk processing, the concept of milk dispensing has emerged as a popular alternative providing low-income consumers with affordable milk. However, its penetration is limited and the safety of dispensed milk requires greater attention. There is therefore need to address the safety issues and facilitate investments in more dispensing units especially in small urban areas.

## 2. Staples

Erratic and below-normal (50-80 percent of normal) rainfall performance was observed during the 2013 October – December season especially in SA2 region with most of the rain received in the month of November and cessation in the second week of December which was earlier than the normal third week. Yields and production of all crops declined significantly in SA2 due to the poor rainfall performance with maize production at 36 percent of the long term average while sorghum and green grams production declined by 40 and 30 percent respectively.

Likewise, below-average long rains resulted in below-average crop development in the high and medium potential areas in western Kenya and the Rift Valley and as a result below-average harvest is expected. Yields could fall even further due to extended changes in rainfall patterns and the emergence of new diseases such as the recent outbreak of Maize Lethal Necrosis Disease (MLND) that has devastated crops mainly the Rift Valley region.

The activities during this year focused on addressing the key constraints of competitiveness and on-farm productivity for maize, sorghum, rice, green grams, and groundnuts and increased productivity was measured through increased yields/unit area and increased income or gross margin per hectare.

In order to understand the areas of intervention of the five value chains, end market value chain analyses were conducted and concluded in 2013/4. The studies indicated that markets for staple crops are strong and growing, with farm gate prices to increase in future if farmers organize themselves into aggregation units and with increased availability, access, and adoption of improved inputs and good agricultural practices, farmers can increase productivity and have a positive impact on income.

Based on these dynamics, KAVES specific interventions focused on three key areas:

- Increasing productivity of selected staple food crops – primarily to meet household food needs and release land for higher value, income-generating enterprises.
- Creating more efficient aggregation and marketing systems.
- Reducing postharvest losses through cost-effective handling and storage systems.

## 2.1 Increasing productivity of selected food crops to release land for higher value enterprises.

Better variety and seed selection was promoted in partnerships with seed companies and international development organizations establishing demonstrations to stimulate adoption of appropriate variety and seed selection. 250 demonstration sites were set up in partnership with Pannar Seed, Agro-Seed Co, Kenya Seed Company, Olerai, Dryland Seeds, and Western Seed Company for on-farm testing of the new, high-yielding maize varieties.

Through a MoU between the AATF and KAVES, AATF provided 1.2 tons of WEMA and striga-tolerant (IR) maize seed, for demonstration at lead farmers' fields while KAVES provided extension services and established 400 demonstration sites at lead farmers' fields. Farmers were also trained on how to select and plant varieties that can survive low water availability and tolerate the invasive weed "striga" which devastates crops in some areas.



Photo: USAID

Mrs Muthira at her farm in Ntamaru, Kuria East, Migori County. She's one of the lead farmers for the WEMA 1101 maize variety.

WEMA seeds named Drought Tego (WE1101) performed better than the improved varieties out yielding DH02 doubling DH02 yields e.g. 6 bags compared to DH02 1.8 bags/acre in Kitui County. In Tharaka/Nithi, which is also in SA2, the yields ranged from 12 bags to 18 bags/acre.

In HRI, the yields from demonstration plots set in lead farmers' field performed very well with yields ranging from 15 to 18 bags/acre which is good performance. Striga tolerant maize - Imazapyr maize (IR) were also demonstrated in lead farmers' fields and decreases the level of direct Striga attacks and the maize field virtually clear of Striga weeds. The yields on harvested fields increased to 10 bags/acre as compared from non IR improved varieties that normally yields meagre 3 bags/acre.

### 2.1.1 Integrated soil fertility management (ISFM)

To address the declining yields due to soil fertility issues in many target counties, interventions focused on promotion of sustainable soil fertility management practices and targeted, precise use of fertilizers. KAVES partnered with soil testing companies Crop Nutrition Laboratories (CropNuts) and Soil Care Initiatives to demonstrate the value of soil analysis and inform farmers on the type of fertilizer to apply and 3,200 farmers had their soils tested in target counties in SA2 and HRI. Soil Care Initiatives

operates a mobile soil laboratory charging KES 1,300 (USD 15.30) per soil test, however, require a minimum of 30 samples from farmer groups for the service to be cost effective. Over 2,500 farmers had their soils tested in Uasin Gishu County alone. Crop Nutrition lowered soil sampling and testing prices down to KES 2,000 (USD 23.50) per sample from the standard market price of KES 3,000 (USD 35.30).

KAVES signed a MoU with International Fertilizer Development Centre (IFDC), with a broad aim of introducing 'best agricultural practices' such as ISFM and cropping systems that increase soil fertility, specifically conduct soil testing and mapping for potatoes and maize fertilizer blending. Through the MoU fertilizer companies will be involved in blending activity targeting 2,000 maize and rice farmers.

### *2.1.2 Labor saving technologies for smallholder farmers*

Land preparation, weeding, and harvesting are the most costly, laborious, and time consuming activities for smallholder farmers. To address this, KAVES continued to partner with companies to promote soil tillage services, herbicide use, mechanized harvesting equipment, motorized threshers, and mobile shellers. KAVES collaborated with Monsanto and Syngenta and established 57 demonstrations on the use of herbicides for zero tillage technology and showing their cost effectiveness.

Sorghum farmers benefited from labor saving technologies like the mechanical threshers provided and promoted by buying agents in the sorghum growing regions to hasten the threshing of their produce. The threshers significantly reduced their threshing costs from KES 350 to 200 per bag thus increasing the farmers' margins.

Introduction and promotion the labor saving technologies are on a rapid increase in the number of motorized maize shellers with a capacity of 10 bags/hour transported by rural entrepreneurs from farm to farm on a motor bike. The service providers provide the shelling services at a cost of KES 100 per 90kg bag thus reducing time and drudgery to farmers.

KAVES partnered with BrazAfric Ltd, a supplier of range of small-scale mechanized equipment with a broad aim expanding the distribution network and also support introduction, demonstration, and promotion for adoption small-scale mechanized and motorized technologies to the farmers and groups.

## **2.2 Creating more efficient aggregation and marketing systems**

In order to create more efficient aggregation and marketing systems, KAVES formed partnerships with local village grain traders, buyers, and processors/millers to buy grains from farmer groups that are aggregating produce. Farmer groups established 31 new aggregation centers, 13 in Siaya and Kisumu, 13 in eastern Kenya and 5 in North Rift. Buying agreements were made with Korokwony Maize Millers in Bomet, Afya Millers, Mwanga Millers in Meru, and Grits Grain Millers in Kitui.

Community Action for Rural Development (CARD) worked with TRANSU Co., and purchased sorghum grain in western counties for East African Malting's Limited (EAML). The organization has purchased 750MT of sorghum from aggregation centers. Another 500MT of sorghum was also purchased in eastern Kenya by Smart Logistics and Mwilu Enterprises for EAML.

## **2.3 Improving on-farm storage in order to reduce postharvest losses**

To improve the on-farm storage in order to reduce postharvest losses, KAVES demonstrated financial benefits of using new storage technologies by working with suppliers of hermetic systems such as low-cost metal silos and Purdue Improved Crop Storage (PICS) bags for maize and other grains at the farmer, group, and trader level in 2014, with high impact and adoption rates achieved. Close to 2,000 trial units were set up after training on good postharvest practices. The hermetic bags were found not only technically efficient storage method that protect the maize from insect damage without need for pesticides to control the insect pests but are cost effective in terms providing required quality to grains.

The PICS bag was found to be superior to Polypropylene (PP) with Actellic bag. The PICS bag keep the grain much longer than the 3 months while the PP with Actellic require changing and re-dusting after three months. Storage system is cost-effective as the B/C ratio is above 1.0 and the ratio rises as the duration of storage continues.

KAVES worked with Bell Industries, local agent of the PICS bags, and with local artisans/fabricators of metal silo technologies to promote adoption of the hermetic technologies to the farmers. As a result, sales of PICS bags in particular increased through sales in the outlets of agro dealers and Bell Industries Ltd reported over 52,000 units sold cross all target counties since initiating the demonstration and promotional initiative with KAVES.



*Photo: USAID*

H.E. Jack Ranguma, Governor of Kisumu being introduced to metallic silo and hermetic bags both on-farm grain storage structures during field day by KAVES.

Likewise, for increased availability and demand for silos, 50 local metal silo fabricators were trained on fabrication by KAVES 45 metal silos were fabricated for demonstration and testing with lead farmers. Training will continue in order to have a critical mass of trained artisans to fabricate in commercial quantities.

KAVES also concluded a MoU with Vestergaard Frandsen – a supplier and distributor of ZeroFly bag technologies, to promote insecticide impregnated polypropylene bags for other effective storage systems. The goal is to accelerate adoption through a market pull effect, generate competition to reduce prices, and compare the different systems to find out which is the most effective.

## 2.4 Progress with other staple crops

In order to reduce pressure on maize demand for both human consumption and animal feed and respond to varied regional agro-economic zones in the 22 counties, and to generate income, sorghum, green gram, rice and groundnuts were included in KAVES staples activities.

1. KAVES promoted the sorghum production in both the SA2 and HRI not only to build on the efforts already done by others to exploit the EAML industrial market but also find new markets and products for the commodity. KAVES intervention were on market preferred seed varieties and labour saving technologies for increased productivity. For linkage to markets the focus was on encouraging farmers to come together for more efficient aggregation and marketing systems. In Kisumu county the take up was supported greatly by the county government.
2. KAVES engaged with Greenfields Foods Limited, food processing company dealing in peanuts, through co-investment a sub-contract arrangement in which the company invested in groundnut processing equipment including labor saving machines while KAVES support, aggregation, and training to produce for the increased supply of groundnuts to handle increased capacity. Close to 1,500 farmers have been recruited and contracted to farm 750 acres under peanut in Machakos, Makueni and Kitui.
3. Rice is an important cash and staple crop in some of the counties in western Kenya and through special requests from the county governments KAVES is working with counties to increase the production of the rice crop especially in Kisumu and Siaya and next planning season in Busia. Focus is on productivity intervention with better seeds and varieties, labour saving technologies and aggregation for efficient marketing. KAVES, with seed companies, Bayer CropScience EA, has set up 20 demonstration plots at lead farmers' fields to show case Hybrids rice seeds KEH 0004 and KEH 0005 in Usonga rice scheme and Anyiko Ujwanga rice scheme in Siaya county, Gem Rae,

Nyachoda, West Kano and Ahero rice schemes in Kisumu county, while also working on Urea deep placement (UDP) fertilizer on seeds from NIB (MIAD) in collaboration with IFDC. KAVES is also promoting the System of Rice Intensification (SRI) (field wetting and drying) through on-farm trainings to farmers as an efficient water use approach for high yields.

## 2.5 Key findings of the value chain studies

### Maize:

1. **Consumption and Demand Analysis** - Per capita maize consumption on steady downward trend from 90kgs in 2003 to 67.5kgs in 2012 with a further projected decline to 56.3 kgs by 2022. Therefore, market for maize is there; due to the increase in aggregate demand by the increasing population.
2. **Supply Analysis and Production Potential** - Kenyan maize yields are relatively fair (90 percent) to global average, therefore maize self-sufficiency can be achieved just by modest increases in yields (from 1.8MT/ha to 2.0 MT/ha) and reductions in postharvest losses. Projected supply to 5.7m tons by 2022. This can be achieved through interventions that target **higher farm yields and lower postharvest losses** with likely increased returns for farmers and traders.
3. The maize value chain is complex, with a high number of interconnected actors, however, the farmers are the main actor as they have high degree of centrality as they have high frequency and level of engagement with those actors. There is the opportunity of reaching farmers through multiple potential “entry points” and designing specific partnerships and interventions.

To improve the maize value chain, focus on total farm productivity packages, reduction of postharvest losses through improved storage technology and aggregation for efficient marketing by better-organized farmer groups’ way forward.

### Rice:

1. **Consumption and Demand Analysis** - The annual per capita consumption of milled rice will increase from 12.4kgs in 2012 to 15.5kgs by 2022, due to increasing urban population and incomes. The overall increase in aggregate rice demand will thus rise from 516,233 MT in 2012 to 848,347 MT in 2022. Therefore, market for rice is not a problem; however, supplies from domestic production at 18 percent.

To capture larger shares of the local market, interventions required **include increase in production, increase yields, lower pre- and post-harvest losses, improve rice quality, and better market organization by developing sustainable linkages.**

2. **Supply Analysis and Production Potential** – this to be achieved through addressing technology and management gaps in the face of area expansion and increased climatic variability as a priority for all interventions including expansion of suitable lands for rain-fed paddy rice production.

Interventions focus on increase productivity and strengthen marketing. Better use of soil fertility improvements and water management techniques and increased adoption of labor-saving technologies offer the greatest opportunity for increasing smallholder yields and incomes.

Studies for sorghum, green grams and groundnuts are progressing well and will soon be concluded.

## 3. Horticulture

Horticultural interventions and achievements during the year focused on the three strategic objectives.

- Increasing incomes of smallholders from production of selected horticultural crops with large domestic and export markets;
- Increasing horticultural crop competitiveness and compliance with market requirements; and

- Increasing value addition and product diversification through agro-processing.

### 3.1 Increasing production of high volume crops

During the year under review, KAVES support focused on export vegetables, potato, banana, and mango.

#### 3.1.1 Export crops

There were two main activities towards increasing vegetable exports in non-traditional counties during the reporting year:

- Signing of new co-investments with export companies
- Establishing new production in western and eastern Kenya.

##### *New co-investments with export companies*

Based on the conclusions of the value chain analysis, KAVES entered into co-investments with Carolina Fresh Produce Exporters and Kenya Fresh Produce Exporters Ltd., to promote fruit and vegetable export in western Kenya. The partnership with Carolina is promoting fruit and vegetable exports from Migori County; while that with Kenya Fresh is to promote production of fruit and vegetable for exports from Trans Nzoia and Bungoma Counties.

**Table I: Production and sales of export vegetables**

Partner	County	Crop	Area Plants (Acre)	Produce sales (kg) by farmers	No. of farmers contracted
Carolina Fresh Produce Exporters	Migori	French beans	67.85	252,441	240
		Chilies	12	12,200	10
		Baby corn	6	9,900	4
KHE	Homa Bay	French beans	76	13,000	865
Agro-Victoria	Homa Bay	French beans	24	690	96
Kenya Fresh	Trans Nzoia	Sugar snap	23	15,404	176
		Snow peas	65	35,492	421
		Passion fruit	13	-	174
	Bungoma	French beans	43	-	52
Kandia Ltd & Criven Enterprises	Machakos & Makueni	French beans	442	1,732,634	724
<b>Total</b>			<b>771.85</b>	<b>2,071,761</b>	<b>2762</b>

##### *Expanding production in western and eastern Kenya*

A total of 329.85 acres of French beans, Sugar snap, Snow peas, Chilies, and Baby corn were established in Migori, Homa Bay, Bungoma, and Trans Nzoia counties through co-investment and partnership with four export companies that contracted 2,038 farmers. A further 442 acres of French beans were established in Machakos and Makueni counties by 724 farmers receiving KAVES technical support and supplying the produce to Kandia limited among other exports (Table I).

Production in the new counties was mainly in irrigation schemes such as Kimira Oluoch in Homa Bay, Kamusinga Kamutiong in Bungoma, and Kabaa in Machakos county. French bean growing in Machakos and Makueni has been declining in recent years due to export companies withdrawing input credit to farmers as a consequence of farmer's side selling their produce. However, French bean production in the two counties was the highest among KAVES target counties with sales of 1,733 MT compared with 339 MT of assorted fruit and vegetables from Homa Bay, Migori, Bungoma, and Trans Nzoia counties combined (Table I). This is attributed to capacity building on contract farming and resumption of input credit to farmers by the export companies partnering with KAVES in promoting exports.

Lack of skilled labor in French bean picking was a main threat to the new export operations in Homa Bay and Migori counties, with up to 64 percent of the yield failing to be harvested in some cases. KAVES organized capacity building internship training for 60 women farmers aspiring to take up French bean picking as a profession. The internship trainings were conducted at Mboga Tuu exporter's farm in Isiya and Kenya Fresh farms in Mbooni, Kirinyaga, and Ngoliba. Three batches of 20 women each from Homa Bay, Migori, and Bungoma were trained. The women were trained on specifications (produce conformity) for various bean categories and the hygiene practices.

### 3.1.2 Banana

Activities focused on establishment of new orchards to increase production; partnership with International Centre for Research in Sustainable Development (ICRSD) for adoption of tissue cultured planting material and improved agronomy; and formation of new market relationships.

#### *Establishment of new orchards*

1,201 acres of banana were established in eight counties. 794 acres of Tissue Culture banana were established in seven counties as follows: 277 acres (Kisii), 151 (Siaya), 103 acres (Nyamira), 80 acres (Migori), 79 acres (Vihiga), 55 acres (Kisumu), and 49 acres (Homa bay).

The high number of suckers planted resulted from a “buy one get one” promotion strategy implemented by Animal Draft Power Program ADPP and CARD, KAVES partners in the seven counties. The main varieties planted were: Ngombe, Fhia 17, Gr and 9, and Williams. A partnership was also initiated with the international Centre for Research in Sustainability Development (ICRSD) to promoting use of tissue cultured plants material in Kisii county. ICRSD has established a commercial tissue culture facility for propagation of banana suckers. The laboratory has the capacity to propagate 3 million suckers per year. A further 271 acres and 136 acres of banana were established in Meru and Taita Taveta, respectively following improved farm get price attributed mainly to introduction of banana buying companies by KAVES.

#### *Aggregation for more efficient marketing*

KAVES provided technical collaboration for construct of Kimorigo and Kiria banana collection center in Taveta and Imenti north sub-counties, respectively. Kimorigo aggregated 164.8MT of banana while a total of 120.8MT of banana were aggregated at Kiria collection center. The centers which are equipped with stores use digital weighing machines and market bananas on the basis of weight as opposed to conventional marketing on the basis of a bunch; the aggregation of banana improved prices which ranged from KES 10–14 per kilo. Other than the brokers Telem limited and Twiga limited were the major buyers of banana at Kimorigo and Kiria collection centers, respectively.

### 3.1.4 Potato

Potato activities focused on: multiplication of clean seed; raising productivity of ware potato; trials on Biox 5000 organic pesticide; and market development.

#### *Preliminary analysis of Irish potato value chain*

The analysis indicates that national consumption will grow at an annual average rate of 5.2 percent for the next 10 years with Kenyans expected to consume approximately 37 kg of potato per capita by 2017 and 41 kg by 2022. The urban demand is growing at 7 percent annually as a result of increased population and changing tastes. Total urban potato consumption will surpass rural consumption by



*Photo: USAID*  
A banana farmer selling her produce at the market in Taveta.

2017, when urban households will account for about 50 percent of the total consumption. Kenya will maintain its current self-sufficiency and even increase surpluses in potatoes over the next 10 years with a projected production of 3.57 million MT in 2017 and 4.2 million MT in 2022. With postharvest losses of 18 percent and seed retention of 10 percent of total production, 2.57 million MT and 3.04 million MT of potato will be available from production in 2017 and 2022, respectively. The total available surpluses will rise to 741,000 MT and 739,000 MT in 2017 and 2022, respectively. Producers earn the highest margins at 51 percent compared to brokers and wholesalers at 25 and 15 percent, respectively. Despite the high margin, the magnitude and duration of investment make the producer's income the second lowest among value chain actors.

Potato producers earn an equivalent of KES 5,194 (USD 61) per month, or KES 20,775 (USD 244) per crop cycle. In comparison, over the same period, a broker could earn approx. KES 337,000 (USD 3,960) and a wholesaler could earn KES 415,200 (USD 4,885). The analysis identified opportunities for enhancing the competitiveness of potato farmers through improved agronomic and crop management practices, soil fertility management, better farm organization and planning, proper use of inputs, and improved seed selection to improve potato quality and yields. Strengthening the capacity of informal seed systems through small seed plots and positive selection techniques was also highlighted. These recommendations informed the development of KAVES interventions during the quarter.

#### *Multiplication of clean seed*

312.3 MT of various seed potato varieties was multiplied from 67.7 acres across the project target counties. The area was established using the first generation seed that farmers produced during the first half of the year. Overall, farmer groups retained 68.3 percent of the seed multiplied for sharing among the members. This is partly because seed constitute about 30 percent of the production cost of ware potato (Table 2). Other than in Meru which had unfavorable weather for most part of the reporting period, production in the remaining counties exceed the average seed yield ration of 1:3. The 16.5 – 44 percent increase in productivity of ware potato among KAVES beneficiaries is attributed partly to use clean seed.

#### *Ware potato production and marketing*

1843 acres of Irish potato were established by farmers receiving technical support from KAVES. In Kericho, 350 acres mainly planted with Shanghi variety produced 2773.5MT at an average production of 19.5MT per Ha; a 449 percent increase compared to the county average of 13.6MT per Ha. In Bomet, 595.4 acres mainly planted with Dutch Robyjin variety produced 3788.9MT at an average production of 15.7MT per Ha; a 44 percent increase compared to the county average of 10.9MT per Ha. In Meru, 244 acres mainly planted with Asante variety produced 1259.2MT at an average production of 12.7MT per Ha; a 16.5 percent increase compared to the county average of 10.9MT per Ha. A cumulative area of 456 acres mainly planted with Tigoni variety was established in Bungoma, Trans-Nzoia, Elgeyo Marakwet, and Nandi counties produced 3611.5MT at an average production of 19.6MT per Ha; a 20.2 percent increase compared to the counties' average of 16.3MT per Ha. The increase in productivity among the project beneficiaries was due to adoption of recommended agronomic practices and use of own multiplied clean seed produced through small seed plots and positive selection technologies.

**Table 2. Variety, area and quantity of seed potato produced by KAVES farmers**

County	Potato (Variety)	Area (acres) under seed multiplication	Seed produced (kg)	Seed sold (kg)
Meru	Asante	11	24750	22,250
Kericho	Shanghi	7.75	34,100	22,000
Bomet	Desiree	7.40	19500	-
Bungoma	Asante & Tigoni	9.4	30,350	-
Trans-Nzoia	Tigoni	21.16	53,980	26,850
Elgeyo Marakwet	Tigoni	4	11,990	2,450

Nandi	Sherekea	0.25	1,700	-
Uasin-Gishu	Asante & Sherekea	3.75	29,040	25,300
Taita Taveta	Desiree	3	8000	-
<b>Total</b>		<b>67.7</b>	<b>213,410</b>	<b>98,850</b>

KES 148,744,936 (USD 1,749,940) was earned by the project beneficiaries from sales of ware potato. Potatoes in Bomet were sold to Tropical Heat Limited (Deepa Industries) at a premium price of KES 18.50 per kilo earning farmers farm gate sales of KES 70,094,150 (USD 8,246,637). In Kericho, potato retailed at KES 13.20 per kilo earning farmers farm gate sales of KES 36,610,200 (USD 4,307,082). Farmers in western Kenya retained 1068MT as seed but earned KES 22,648,906.70 (USD 266,458) from farm gate sales of potato while farmers in Meru earned KES 19,391,680 (USD 228,137) retailing potato at KES 15.40 per kilo.

#### *Technology trials*

Trials on Biox 5000 for control of bacterial wilt were concluded in Taita Taveta through a collaboration between KAVES and Lachlan Kenya. No incidence of bacterial wilt was reported in any of the 13 trial sites selected because of previous heavy bacterial wilt infestation. The results offered relief to farmers in Taita Taveta who had abandoned potato production due to low productivity associated with prevalence of wilt in the county.

Deepa Industries (Tropical Heat) provided the project team with a trial protocol for Dutch Robyjin variety. The trials are on the viability of Dutch Robyjin production in Taita Taveta with a view of procuring 9.6MT per week from the county. The protocol trials are currently on-going.

Results of trials on use of plantmate (Wanda organic); an organic fertilizer and soil additive as a yield enhancer in French bean indicate that a combination of Wanda Organic and NPK (10:26:10+10CaO+4MgO+1S fertilizer) increases bean production by 20 percent compared to planting with DAP.

Trials on passion fruit growing using Belsap—a super absorbent polymer (SAP) for efficient utilization of water and fertilizer to enable seedling and crop establishment, particularly in water-stress environments—in Kitui, Machakos, and Makueni was concluded. The results from the collaborative trials between KAVES and Bell Industries indicate that use of Belsap contributed to vigorous growth with vines attaining fruits bearing stage at week 18 contrary to week 28, there was a 250 percent increase in fruit productivity, and larger fruits with an average of four fruits per kilogram compared to seven fruits obtained from conventionally grown vines.

### **3.2 Increasing horticultural crop compliance with market requirements**

There were three main activities geared towards increasing compliance with market requirements; capacity building; support for cold chain system; and preliminary work for developing a national horticulture produce traceability system.

36000 horticulture beneficiaries were trained on Good Agricultural Practices (GAP) and KAVES PERSUAP as minimum requirements for complying with local and export market requirements. The training focused on integrated crop and pest management programs to mitigate dependence on pesticides and safe use of pesticides with regard to personal and environmental protection. In addition to GAP training, 2762 beneficiaries contracted for production of export produce were trained and implemented Globalgap requirements. In addition, the beneficiaries were trained and implemented the respective export companies produce Quality Management Systems (QMS). The project further supported water, soil, and MRL testing as part of internal controls to guarantee the produce quality. These trainings proved useful as no incidence of interception was reported for produce delivered by KAVES beneficiaries. A total of 2071.8MT of assorted produce produced by the beneficiaries was exported during this reporting period.

In order to guarantee export horticulture take-off in the non-traditional export regions, KAVES co-invested with export companies in establishing cold chain systems to guarantee produce quality

conformity. In this regard, three produce collection centers were constructed in Homa Bay (Bwogi mac Bwogi) and Migori (Sori and Oyugis) to service new export growers. The collection centres were used for sorting, grading, and pre-cooling of the produce. The centers were constructed based on GLOBALGAP specifications and each is equipped with a charcoal cooler with a capacity of 5MT. Export companies working with KAVES also invested in cold chain compliance by operating with refrigerated trucks from Homa Bay and Migori to the airport for final processing. Cold-rooms at the airport completed the cold chain system. KAVES further collaborated with University of Nairobi in testing Coolbolt technology cold rooms in Homa bay and Migori; work on the technology is on-going.

In 2013, USAID-KAVES supported the Horticulture Crops Directorate (HCD) formally Horticultural Crops Development Authority (HCDA) to collect, collate, and catalogue details for all smallholders producing French bean and peas for export. This support was geared at improving produce traceability and restoring market confidence in Kenyan produce. During the year under review, KAVES in consultation with the government and the industry developed a sub-contract to support the industry develop a web-based traceability system with capacity to perform a trace request quickly and aid investigations using batch number on consumer unit or case or pallet through a single window for tracing produce from farm to fork. In addition, KAVES and the traceability sub-contractor, Tracesoft Ltd, briefed members of the Horticulture Competent Authority Structure on the scope of the proposed national horticulture produce traceability system. It will take 18 months to develop a pilot traceability system with data base of 1000 smallholder farmers working with 10 leading export firms.

### 3.3 Increasing value addition and product diversification through agro-processing

#### *Increasing production of yellow passion fruit for juice processing*

Growing of yellow passion fruit which was traditionally done mainly in coastal Kenya, Homa, Simba Hills, and Taita Taveta, has now extended from the project county, Makueni, to other counties mainly Kitui and Tharaka Nithi offering opportunity to 700 smallholder farmers in the two counties to increase their income. The impact of the yellow passion fruit project in export market is validated by retailing of yellow passion fruit from Kenya in some of the leading supermarkets in UK. KAVES bi-weekly market survey, by Food Surveys Ltd, in the UK has reported continuous retailing of fresh yellow passion fruit from Kenya in ASDA supermarket since February 2014. The yellow passion fruit was also notably among the most expensive products from Kenya, retailing up to £15.00 per kilo.

Commercial planting of yellow passion fruits, which was pioneered in Kenya through a co-investment between USAID-KAVES and Allfruit EPZ Ltd in Makueni county in 2013, expanded to Machakos, Kitui, Tharaka Nithi, and Meru counties.

During the year under review, 518.25 acres of yellow passion fruit were established in Kavatini, Kitise, and Liani locations of Makueni county. The number of farmers who established the yellow passion fruit in Makueni surpassed the target by 32 percent from 3000 to 3965 farmers; a fact that is attributed to increased demand for fruits for processing and for fresh market in the local and export markets, respectively. This combination of demand for fresh fruit and for processing increased the average prices obtained by farmers.



*Photo: USAID*

Yellow passion fruit is the most expensive product from Kenya in UK supermarkets, priced up to £15.00 per kilo (Food Surveys, 2014)

During the reporting period, 100.8MT of yellow passion fruits was delivered from Makueni to Allfruit EPZ Ltd for juice processing earning farmer's farm gate sales of KES 1,411,200 (USD 16,602). Allfruit main markets for the yellow passion fruit juice were France, Germany, Netherlands, Tanzania, and Rwanda. Despite the contract between Allfruit and farmers, the company has estimated that 10 percent of the harvest, 10,800kg, was sold to brokers for export market earning farmers an additional KES 864,000 (USD 10,165) from sales of fruits.

### 3.4 Analysis of value chain studies

#### 3.5.1. French bean

A value chain study by KAVES indicated that demand for Kenyan-grown French bean on Kenya's export markets will increasingly exceed supply in the near and medium terms. The gap between projected supply and demand will grow at 7.5 percent per year between 2012 and 2022, with projected export demand outstripping available supply by 8 percent in 2022. In view of this, Kenya will have to expand the area under French bean production and/or enhance productivity to meet demand. This scenario presents opportunities for KAVES to make significant market-driven and smallholder-focused interventions. The margin analysis showed that producers earn USD 1.34 for every dollar invested in production, exporters USD 1.22 and importers USD 1.07. Importers earn the highest gross margins, estimated at USD 5.93 per kilo compared to USD 1.33 and USD 0.34 for exporters and producers, respectively. However, the average smallholder producer's earnings cover 69 percent of annual household requirements, making French bean production strategically important for increasing income and food security. The analysis identified the following as areas with major growth opportunities for enhancing the competitiveness of the Kenya French bean value chain: increasing production, enhancing standards compliance, and produce traceability, and reducing postharvest losses.

#### 3.5.2. Mango

The mango value chain analysis was completed and showed that local market demand for fresh mango is projected to grow from 610,000 MT in 2014 to 955,000 MT in 2022, mainly driven by income and population growth. The analysis further indicated that demand for processing into juice products will grow from 50,000 MT to 250,000 MT over the same period, driven by increased demand in both the local and regional markets. In addition, global export market demand for fresh mango is expected to grow from 13,900 MT in 2014 to 51,000 MT in 2022, driven by seasonal production advantages. Subsequently, the total demand for mango in the three markets is expected to increase from 623,900 MT in 2014 to 768,600 MT in 2017 and 1,006,000 MT in 2022.

The supply and production analysis indicates that there will be sustained production growth up to 2022 attributed mainly to increased area under production, increasing yields from newly established orchards, investment in good orchard management technologies, and production from non-traditional mango producing areas. Production is expected to reach 878,000 MT in 2017 and 1,415,000 MT in 2022. There will be a potential supply deficit of 154,600 MT in 2017 but this will change as production increases to give a surplus of 51,000 MT in 2022, which will likely open up further opportunities for processing and export. The value of a kilo of mango increases by KES 21 from the farm gate to retail markets. The analysis indicates that retailers receive the highest margin at 44 percent while producers, wholesalers, and rural assemblers receive 24, 20, and 12 percent of the margin, respectively. For every KES 1.00 invested in mango production, a further KES 6.25 is created in added value. This is a significant multiplier effect, indicating the value of the mango industry to rural and urban economic growth.

#### 3.5.3. Potato

The analysis indicates that national consumption will grow at an annual average rate of 5.2 percent for the next 10 years with Kenyans expected to consume approximately 37 kg of potato per capita by 2017 and 41 kg by 2022. The urban demand is growing at 7 percent annually as a result of increased population and changing tastes. Total urban potato consumption will surpass rural consumption by 2017, when urban households will account for about 50 percent of the total consumption. Kenya will maintain its current self-sufficiency and even increase surpluses in potatoes over the next 10 years

with a projected production of 3.57 million MT in 2017 and 4.2 million MT in 2022. With postharvest losses of 18 percent and seed retention of 10 percent of total production, 2.57 million MT and 3.04 million MT of potato will be available from production in 2017 and 2022, respectively. The total available surpluses will rise to 741,000 MT and 739,000 MT in 2017 and 2022, respectively. Producers earn the highest margins at 51 percent compared to brokers and wholesalers at 25 and 15 percent, respectively. Despite the high margin, the magnitude and duration of investment make the producer's income the second lowest among value chain actors.

Potato producers earn an equivalent of KES 5,194 (USD 61) per month, or KES 20,775 (USD 244) per crop cycle. In comparison, over the same period, a broker could earn approx. KES 337,000 (USD 3,960) and a wholesaler could earn KES 415,200 (USD 4,885). The analysis identified opportunities for enhancing the competitiveness of potato farmers through improved agronomic and crop management practices, soil fertility management, better farm organization and planning, proper use of inputs, and improved seed.

### 3.5 Other achievements and interventions

The co-investment has introduced and is promoting three best farming practices to increase productivity of yellow passion fruit: ultra-density plant population; manual flower pollination; and minimum pruning of the vines. The best practices are part of the lessons learnt during successful exchange visits in Kenya and Brazil for passion fruit experts from the two countries. In addition, the co-investment is supporting farmers to access water for irrigation.

In order to mitigate the effect of low productivity due to shorten life span of orchards resulting from the woodiness virus disease, the co-investment has introduced ultra-density plant population among yellow passion fruit farmers. The ultra-density plant population provides an additional 324 vines per acre yielding 5,184 kg of fruits thus earning a farmer KES 72,576 (USD 854) that is usually lost due to inability of keeping the orchard for up to three years. A total of 74.5 acres are under ultra-density population. The co-investment has also introduced the concept of hand pollination with a view of increasing production. Hand pollination is reported to increase production by 20 – 30 percent among passion fruit farmers in Brazil. Moreover, hand pollination offers employment opportunity to rural women with one 'man-day' required for hand pollination per acre. With an establishment of 775 acre of passion fruit per year under the project, adoption of hand pollination will not only enhance productivity but also provide significant employment opportunities. Lastly, the co-investment is promoting the concept of bare minimum pruning and intertwining of the vines from different plants a practice that has observed to increase production of fruits. The observation collaborate experience reported by farmers in Brazil. Literature attributes increased fruit setting and production under bare minimum pruning of vines to increased pollination resulting from intertwining of vines from different plants. The co-investment supported farmers to access water for irrigation through credit for construction of 250 water pans each with a capacity 10,000 liters. 23.3 percent (121 acre) of the production under the co-investment is under irrigation.

Collaborative trials between KAVES and Bell Industries Limited on the use of Belsap, a super absorbent polymer that absorbs and releases water to plant roots, gave promising results for better utilization of water. The results indicated that use of Belsap on passion fruit increased plant growth rates with vines attaining fruit bearing at week 18 as opposed to week 28. There was a 250 percent increase in fruit productivity with larger fruits with an average of four fruits per kilogram compared to seven fruits per kilogram from conventionally grown vines.

Following successful studies, KAVES identified key intervention areas for French beans, Mango, and Irish potato value chains that are outlined in the appropriate sections above. In order to provide a full coverage of interventions for the remaining three horticulture value chain; KAVES will undertake value chain studies on avocado, passion fruit, and banana in 2014-2015. The project will further facilitate preparation of a national mango development strategy which is expected to address the perennial marketing challenges facing the mango subsector. In addition, the project will complete the on-going market surveys on Irish potato and banana in order to determine the market segments for the two products that provide smallholder farmers with greatest opportunities for increasing household income.

The 16 – 44 percent increase in productivity of Irish potato among KAVES beneficiaries in potato growing counties provides optimism that the project can surpass the more than 100 percent target increase in productivity. In this regard, KAVES will partner with IFDC in developing soil maps in major potato growing areas; and with fertilizer companies in developing and promoting adoption of fertilizer blends in accordance with the results of the soil maps.

## 4. Improved Nutrition-Related Behaviors and Access to Diverse and Quality Food

KAVES focuses on fostering innovative and adaptive technologies and techniques that improve nutritional outcomes for rural households and sustainably reduce chronic under-nutrition. During the period, KAVES through the implementing partner African Medical and Research Foundation (AMREF) partnered with the government (both county and sub county level) and different stakeholders to respond to the wanting nutritional and sanitation status in six counties, Taita Taveta, Machakos, Makueni, Kitui, Meru, and Tharaka Nithi. AMREF employed a two pronged community based approach in its implementation in nutrition which included Basic Applied Nutrition and Positive Deviance-Hearth approaches. In WASH the activity utilized Community Led Total Sanitation (CLTS) and household health promotion approaches.

### 4.1 Nutrition

Malnutrition in children is attributed to a variety of factors including poor infant and young child feeding practices, poor maternal nutrition, low access to adequate and diversified diets, childhood illnesses including WASH related diseases and inadequate access to health and nutrition services. The main causes of malnutrition among Women of Reproductive Age (WRA) include sub-optimal feeding practices especially during pregnancy, heavy workload, and low micronutrient intake during pregnancy. To achieve the objectives of the project, a rapid assessment of the nutrition status in the target counties was undertaken. Further, training was done of Public Health Officers (PHOs), Community Health Extension Workers (CHWEs) and CHWs to undertake the interventions.

#### Specific achievements include:

*Technical capacity building of public health officers.*

A total of 90 (55 Male, 35 Female) Public Health officers (PHOs) on community Led Total Sanitation (CLTS). The PHOs were drawn from all the six counties. Further, 36 (28 Male, 8 Female) Trainer of Trainers were trained on Applied Nutrition and data management. Through the trained PHOs and TOTs, the project trained a total of 600 (158 Male, 442 Female) Community Health workers (CHWs). Training content was tailored to impart knowledge and skills on balanced diet using locally available foods, conducting nutrition education including demonstration on safe food preparation.

#### *Cooking Demonstrations*

Cooking demonstrations were conducted in the six counties targeting thirty six (36) Community Health Units. A total of 280 CHWs were supported to carry out the cooking demonstrations following which 30,005 women of reproductive age (WRA) were sensitized on proper nutrition

Groups of WRA were placed in support groups to continue training on another in Taita Taveta. 15 mother to Mother support groups were established in Taita Taveta. KAVES supported Malezi Bora week sensitizing communities on proper nutrition 'Lessos' with nutrition messages were distributed in the six counties.

### 4.2 WASH

*The Community-Led Total Sanitation approach*

In line with the Government's Open Defecation Free (ODF) KAVES facilitated the roll out of CLTS in four counties, Kitui, Makueni, Machakos, and Taita Taveta. CLTS is an innovative methodology for

mobilizing communities to completely eliminate open defecation (OD). Communities were facilitated to conduct their own appraisal and analysis of OD and took their own action to become ODF. A total of 308 villages were triggered reaching 46,750 people in the four counties. Following the triggering, 571 new toilets were constructed after which 71 villages claimed ODF status (52 in Kitui and 20 in Taita Taveta).

#### *Hand washing*

1,790 households were visited and house hold members sensitized on water and hygienic issues. Following sensitization on hand washing, 8,160 households had installed new hand washing facilities with soap. KAVES supported Global Hand Washing Day activities held on October 15, 2013 in Makueni and Machakos counties in which primary schools participated reaching 18,816 children.

#### Best practices

- The training of PHOs, TOTs and CHWs was instrumental in reaching out to most of the communities through mobilization and sensitization. In addition, through household visits to in Meru and Tharaka Nithi Counties, PHOs, TOTs and CHWs took the opportunity to provide health education to community members on other issues such as water, sanitation, and hygiene and nutrition. This has led to an increase in the number of households treating drinking water and increased the coverage of latrines and leaky tins for hand washing in the communities as well as people practicing dietary diversity.
- Targeting women of reproductive age and placing them in mother to mother support groups establishes a system for peer learning through which mothers learn from each other and through cooking demonstrations, nutritionally-sound indigenous knowledge and skills are acquired and strengthened to promote and facilitate dietary diversification and adoption of improved family feeding practices by communities

#### **Intervention**

The Community Units in Taita Taveta County under the support of the Ministry of Health and guidance of CHEWs analysed the situation. They resorted to engage in income generating activities (IGAs) to improve the socio-economic situations of the communities with the assistance of the KAVES partner KPMC. These IGAs are:

- CHWs and CUs where engaged in small scale farming involving bananas, cassava, Yams, beans and maize farming planted in the marshy pads left wet from the flooding. The crops had a local market and enabled communities to diversify on the foods consumed at household level.
- Five mother to mother support groups were established to scale up IGAs and better the lives of the communities within the CUs.

### **CASE STUDY**

#### **Transform lives through income generating activities (IGAs) in Taita Taveta**

Taita Taveta County has for many years has been characterised with perennial flooding. This made communities in flood prone areas adopt a life of nomadism due to the floods and destruction of farm produce, given subsistence farming and small scale livestock is the major source of livelihood. Nothing much has been done to ease the situation in the past. Food production and animal rearing have been affected and common water borne infections have been a normal occurrence and impacting negatively on the health of the communities further aggravated by collapse of latrines and contamination of water sources during floods.

Constantly faced with poverty, illiteracy and other socio economic setbacks, the Community Health Workers serving in the area were not able to effectively serve the region on voluntary basis since they were equally affected by the floods and all its effects leaving both the community and CHWs in a vulnerable position.

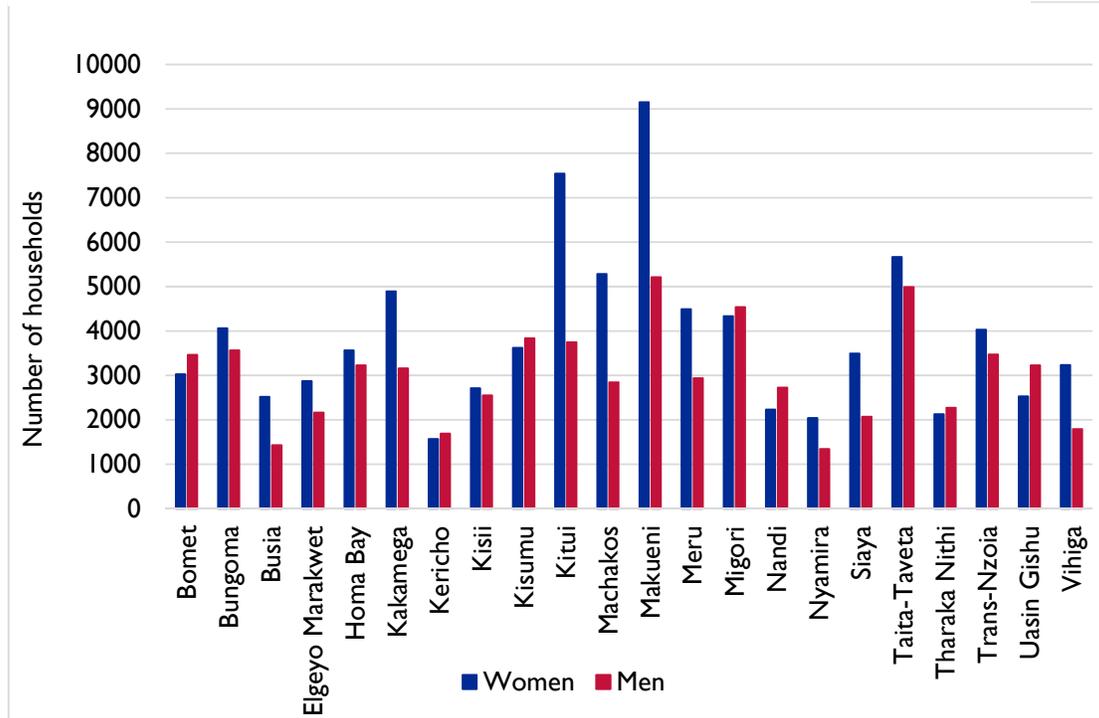
## 5. Lessons Learned

- **Income potential:** KAVES is primarily a market-led, income generation project focused on commercialization of smallholder farming. While horticultural crops and dairy cows offer relatively high income potential from small areas of land, most smallholders in KAVES target counties have traditionally grown maize and other staple food crops which have low income generation potential per unit area. The KAVES strategy for smallholder maize and other staple crop production is therefore to increase productivity per unit area for household consumption as a means to release land for production of milk and higher value crops.
- **Credit remains a critical constraint** for small-scale growers, despite many years of project implementation. Lending at microfinance rates is high risk for smallholders. Embedding input costs in marketing agreements may be the best alternative for many smallholders.
- **Compliance to quality and safety standards.** This is a challenge in all the value chains. Therefore there is need to address compliance and quality constraints to improve competitiveness of small holders.
- **Technology adoption.** Technology adoption is critical for all the value chains for enhanced productivity. KAVES has realized that adoption of technologies which are already existing remains low due to constraints of availability and access, including knowledge. This has necessitated investments in time and resources which had not been anticipated. For instance KAVES investment in the promotion of PICS bags triggered widespread adoption. Therefore it is imperative for the project to intensify investments, collaborations and linkages to enhance technology adoption.
- **Technology trials and adoption in Horticulture:** KAVES undertook successful trials on a number of technologies such as use of Belsap and Wanda organic (plantmate) which are soil ameliorating inputs. Despite the desire of farmers to adopt the two technologies that were promising, lack of smaller packaging that would significantly lower the cost of the technologies limited wide spread adoption. In view of this, companies promoting technologies need to consider the appropriateness of packaging with regard to smallholder farm holdings and affordability.
- **Improved cow feeding results to immediate impact on milk productivity** hence need to continue investing in fodder establishment, conservation, nutrition and related technologies.
- **Low conception rate** in use of AI is highly constraining its adoption. Sourcing of quality dairy animals is a challenge to the new farmers who want to take up dairying.
- **Trials, adoption and use of Technology:** KAVES undertook successful trials on storage technologies such as use of hermetic bags. The desire by farmers to use the storage systems were high, however, this was hindered more by availability of the bags due to limited distribution networks. It is therefore important that promotion of technologies consider not only the affordability but availability networks within the reach of buyers. This also applies to rapid adoption of labor saving technologies e.g. shelling and threshing being adopted by service providers.
- **Scarcity of efficient, low-medium scale on-farm Infrastructure** and market level storage and bulking facilities is a major constraint in the current handling system. This leads farmers to sell immediately after harvest and not to wait and sell when prices are better. Farmers also require immediate payment i.e. cash on delivery. Traders are also constrained by both adequate storage space and finances and hold low levels of produce at any given time. The net result is that farmers and first-level traders sell immediately after harvest, creating gluts and bringing down prices.
- **Improving productivity** of the maize and other staple crops through yield enhancing technologies and use of labor saving technologies impacts positively as smallholder farmers and producers as they focus on reliable markets rather than complaining about low price offered relative to their local markets, e.g. Sorghum farmers aggregate the white sorghum and receive price which is relatively lower than the prices in their local markets.

### III. ACTIVITY PROGRESS (Quantitative Impact)

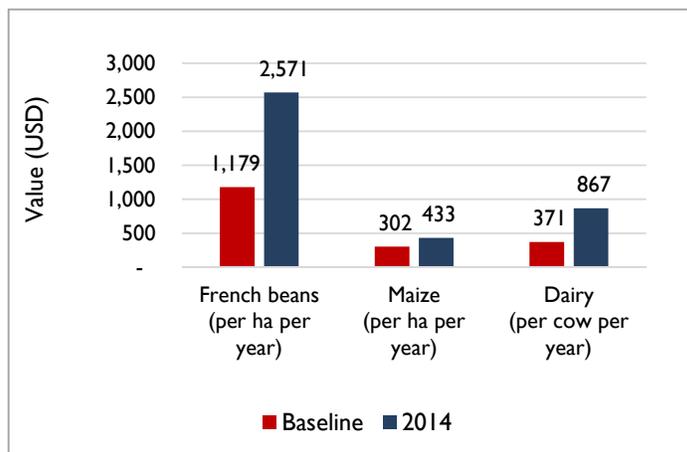
An estimated 135,079 new beneficiaries were reached in the second financial year (FY) of the project bringing the total number of beneficiaries reached so far to 151,284 rural households. The number of beneficiaries reached surpassed FY2 target by nine percent and included a total of 136,600 and 14,684 who received agricultural specific and nutrition interventions, respectively. Figure 2 shows the distribution of beneficiaries reached so far by sex.

**Figure 2: Number of households participating in KAVES, September 2014**



On average 56 percent of all beneficiaries reached are women. However, women constitute less than 50 percent of all beneficiaries in Bomet, Kericho, Kisumu, Migori, Nandi, Tharaka Nithi, and Uasin Gishu, mainly due to cultural issues (See figure 2). 70 percent of all women, either individually or jointly, constitute the main decision makers with regard to agricultural production decisions including crops and technologies being used by the households.

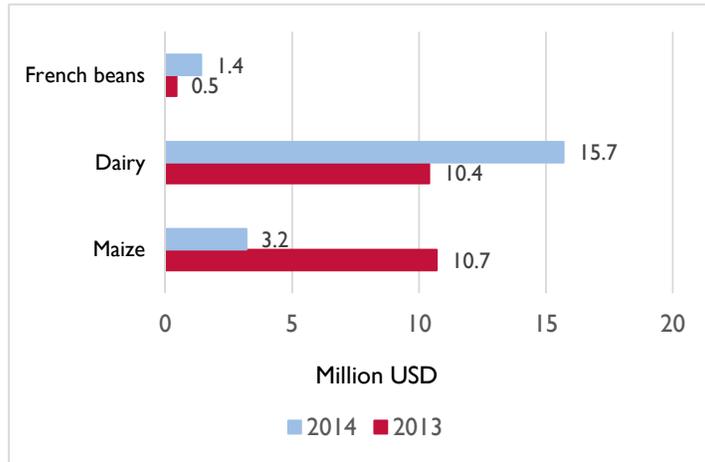
**Figure 3: Gross margins for maize, horticulture, and dairy**



During the year, significant improvements in agricultural productivity occurred in the target value chains across all counties. As a result gross margins significantly increased from the baseline levels by 43 percent for maize, 118 percent for green beans and 134 percent for dairy. As figure 3 show, farmers achieved annual gross margins of USD 433 per hectare of maize, USD 867 per dairy animal per year and USD 2,571 per hectare of French beans.

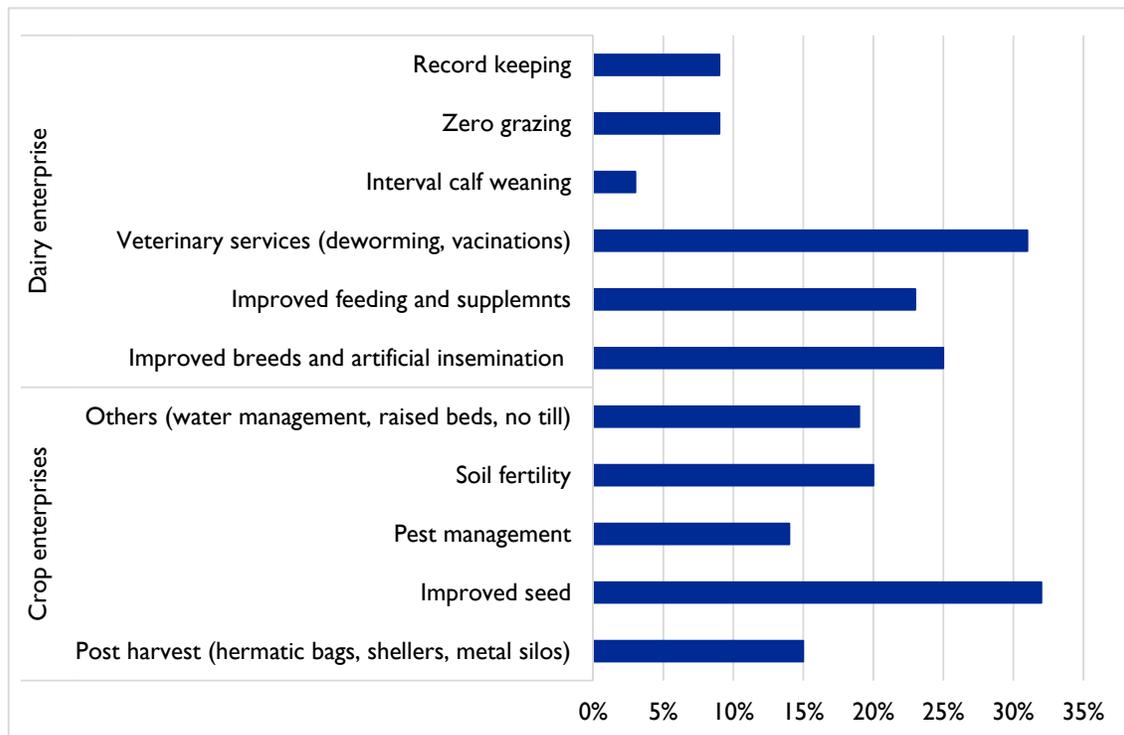
The value of sales of French beans and dairy increased by agricultural produce improved across the value chains with the exception of maize where value of sales shrank increase in milk gross margins is attributable to improved value 216 and 51 percent respectively while that of maize shrank by 70 percent. Lower value of maize sales is attributed to the below normal rainfall which characterized the production season leading to reduced harvests. Maize farmers constitute the majority of farmers in the project which amplifies any shock. On the other hand the significant improvements in value of sales of milk and French beans may be attributed to the positive impact of interventions and the generally very low starting points since the enterprises have been introduced in nontraditional production areas.

**Figure 4: Comparative value of sales by value chain**



Improvements in agricultural produce marketing also occurred in most areas of the project activities, largely due to marketing agreements between buyers and farmers which were facilitated by KAVES. For instance, an estimated 90 percent of all the French beans, 1,999 MT valued at USD 1.42 million was marketed through export companies. In addition, 11,943 MT of maize valued at USD 3.2 and 40,616,000 liters of milk valued at USD 15.7 million was marketed during the year.

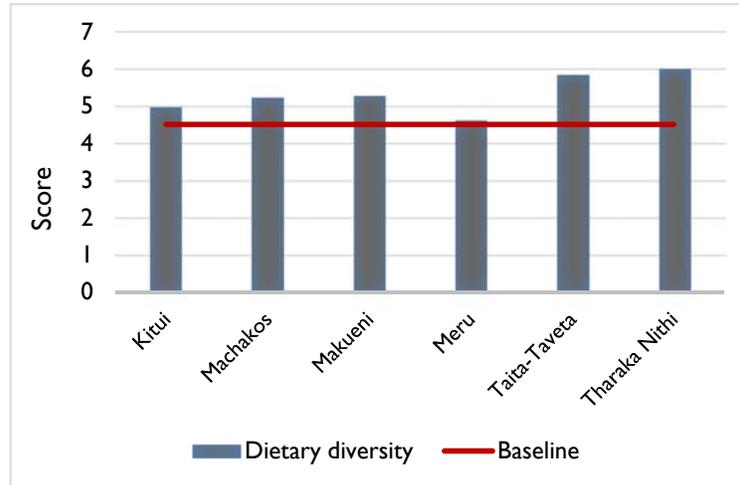
**Figure 5: Various technologies being applied by farmers benefiting from KAVES**



An estimated 91 percent of all the farmers reached by the project applied at least one new technology or management practices. 51 percent of the farmers applied the technologies for the first time while 49 percent had previously used the technologies. Figure 5 shows the various technologies being

applied by the reached farmers. The most widely applied technologies are improved seed in crops, and appropriate veterinary services including regular deworming and vaccinations. Meanwhile, the least applied technologies are interval calf weaning in dairy and water management in crops.

**Figure 6: Dietary diversity of KAVES beneficiaries**



The dietary diversity of the beneficiaries who received nutrition interventions has significantly improved across all counties with the exception of Meru where the improvement was marginal. As figure 6 shows, all the counties which received nutrition interventions reported dietary diversity score which was 10-30 percent above the baseline with the exception of Meru where the score was only three percent above baseline.

## IV. CONSTRAINTS AND OPPORTUNITIES

Specific technical constraints encountered in the target value chains were listed above in section II since they relate closely to lessons learned. Cross-cutting constraints and opportunities common to many aspects of project implementation are listed below:

- Inadequate sub-contractor capacity:** The implementation design of KAVES assumed that a pool of private, public, and civil society organizations exists at the local level to provide value chain services to smallholders. The project has a \$19 million sub-contract fund to co-finance activities with these organizations as a means of achieving its goals and objectives. In practice however, very few potential sub-contractors have the financial, management or technical capacity to manage large sub-contracts effectively. The size of this capacity gap was unforeseen and consequently the two full-time staff budgeted for contract identification, preparation, management and capacity-building is insufficient to meet the objectives or ensure compliance with USAID requirements. A contracts team of at least four professionals and support staff for monitoring and training is needed.
- Consultative Approach:** The successful implementation of the KAVES project depends on close collaboration with implementing partners, national and county governments, and the Agriculture Sector Development Support Program (ASDSP), which is mandated to transform Kenya's agricultural sector into an innovative, commercially-oriented, competitive, and modern industry. These players all have competing priorities and therefore require a time-consuming consultative approach in order to achieve synergies and ensure stakeholder buy-in, which is key for the success of the project within the counties.
- Devolution:** Devolution of agriculture to the counties sparked a lot of fear and questions as to whether there is sufficient capacity to establish mechanisms to spur agricultural growth within the counties. As much as this is a genuine concern, KAVES, through meetings with the stakeholders, has realized that there is a lot of political goodwill and untapped capacity to stimulate and manage agricultural growth at county level. Working with counties is proving to be fast and relatively low on bureaucracy. However, close collaboration between the players is required (see point above)

- **Public-private partnerships can be difficult to achieve** since many public officials tend to see the private sector as the enemy of smallholders, or simply do not trust business leaders. Calls to “eliminate the middle man who is exploiting farmers” are still common. In addition to this instinctive antipathy, there is often a disconnect between public and private players regarding the role of Government in providing an enabling environment for business to grow. This is a major problem for the horticulture export industry at the moment since government is taking a hard-line, confrontational approach with export companies regarding compliance with food safety and traceability regulations and creating tensions with major overseas buyers who could threaten long-term market growth.
- **Data and information.** Existing agricultural sector data lacks consistency. This makes the process of consensus building on reports among stakeholders arduous thus delaying the finalization of documents required for program decisions and interventions.
- **Financing of infrastructure:** Over the years, most development programs have been shunning supporting infrastructure facilities with a bias towards capacity building. Successful marketing of farmers’ produce such as French beans, Banana, potato, and Mango through community collection centers supported by KAVES suggest that there is need to rethink about negative attitude towards supporting infrastructure to be used as facility for a farming community; instead development programs need to explore involvement of farmers for purposes of ownership when supporting farming infrastructures for a community.
- **Appropriate roles for sub-contractor:** It was apparent that export and processing companies had limited skills on community mobilization compared to sub-contractors that specialize in providing extension services. This delayed rolling out of project activities and in most cases sub-contractors providing extension services ended up mobilizing farmers for the companies. In view of this, when co-investing with an export or processing company, it is necessary to consider awarding a separate sub-contractor to community mobilizer to avoid the later feeling undertaking work outside the contract and to expedite project implementation.

## V. PERFORMANCE MONITORING

All the KAVES partners have improved their data management processes and are able to provide significant volumes of performance monitoring data. However, a significant proportion of the data is often unusable for analysis because of gaps and inconsistencies. In addition, the data collection process has not been uniform across the partners with some using census approach while others preferring surveys. To build the capacity of partners in M&E reporting, performance monitoring activities conducted during the year aimed at improving the quality of all reports, but focusing on production and sales data to enhance the estimation of value of incremental sales and gross margins.

The specific data issues identified during the data quality assessments included:

- Overreliance on qualitative measurements or information with no documentations by partner. This results to poor data management at the partners’ M&E level.
- Lack of national identification numbers and in some instances people share same names in the same groups, significantly results to duplication. Some farmers are also have registered themselves in more than one group.
- Branding and visibility of KAVES tend to be very minimal at the groups/farmers level. This complicate the validation and verification exercises.
- Partners have experienced difficulty collecting sales and productivity data leading to inconsistency between their reported numbers and survey data.

Actions undertaken to address the identified data issues were;

- Reviewed and improved data collection and reporting templates and harmonized the data collection process through the development of a sampling process which ensures that each partner is able to identify a representative panel sample of respondents in each value chain per county
- Creating a learning culture for the subcontractors' Monitoring and evaluation staff and Reconciling different agendas with partners and the staff concerned.
- Overcoming a lack of capacity by training M&E data analysis skills, Excel basics, collating and validation basics and tracking project indicators.
- Provided the partners with customized MS Excel formats to facilitate data analysis
- Refined the seasonal calendars for all the crops under the project
- Enhance the partners' capacity to capture, handle, process, and archive production and sales data through a participatory approach.

Impact of actions on the quality of data.

- Creating a learning culture has enhanced partners' validation and verification of data. Partners' M&E staff has enormously increased timeliness and quality of data submitted.
- Robust training on project indicators, and monitoring and evaluations skills has trickled down at the partners' level.
- As a result of the actions taken, there was a significant improvement in the quality of production and sales data being provided by the partners. Overall, fewer data points are being dropped from the analysis implying that the accuracy of results has improved. In addition, the lessons learned are informing new contracts which are being developed for the new partners.

Outstanding challenges

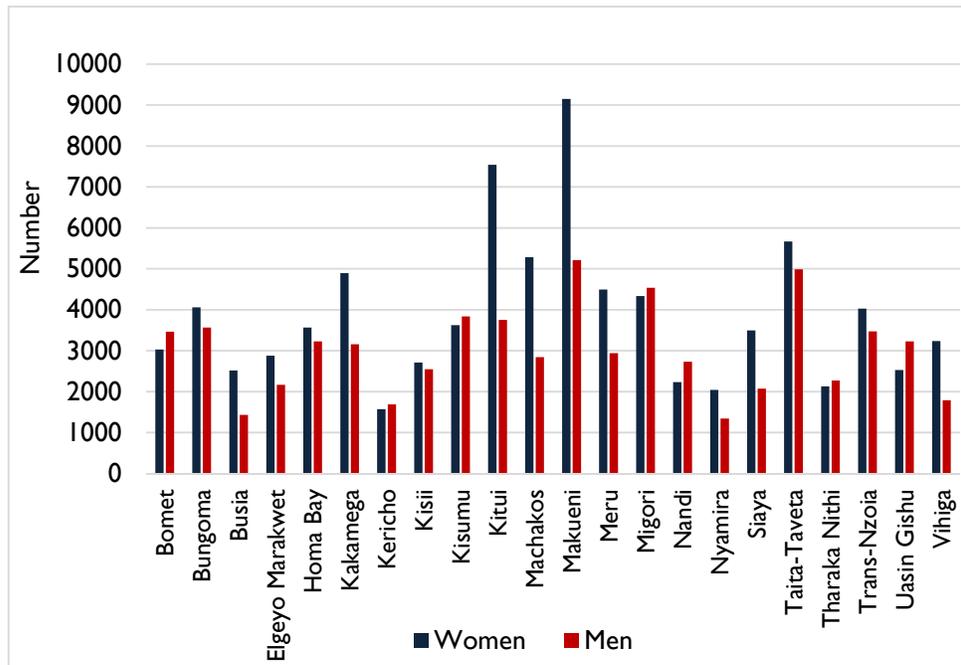
- Perception of monitoring as a policing exercise by some of the partners' Field staff.
- Low priority by partners on monitoring systems. For example Individuals expected to carry out data collection especially sales and productivity are expected to carry this exercise as an additional role to be carried out, risking compromising data if not verified well.
- Capacity in monitoring/data analysis. Partners M&Es often don't analyze data on their end, giving unverified and unanalyzed data. This causes "Back forth" situation ending up to perceiving monitoring and evaluation as "faultfinding" exercise.
- Interventions approaches among the partners. Most partners profile farmers groups and engage them after a while, but sometimes when engaging them, the farmers in the group profiled tend to be different from the ones being engaged. In addition, a farmers might not have provided the correct identification number or did not provide at all, and names are given interchangeably during engagement causes a lot of duplication in CIRIS Database.

## VI. PROGRESS ON GENDER STRATEGY

The project followed Fintrac's company-wide gender mainstreaming policy, which closely follows USAID's guidelines. It emphasizes the participation of women in program activities by building leadership among women in client producer groups, encouraging the growth of women-owned farms and enterprises, designing and delivering gender-appropriate training, and introducing crops and products tailored to the strengths and abilities of each member of the household.

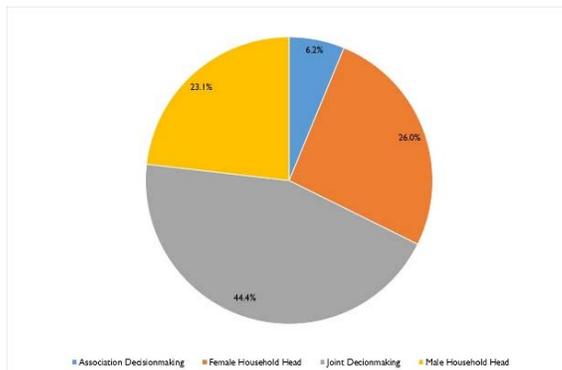
Women accounted for 56 percent of all recorded project beneficiaries. In most counties women accounted for more than 50 percent of farmers partnering with KAVES. The lowest levels were in Bomet, Homa Bay, Nandi, Meru, Migori, and Tharaka Nithi where women constitute 40-49 percent of beneficiaries as indicated in Figure 7 below.

**Figure 7: Men and women participants by county**



Since women are responsible for providing most farm labor, a significant proportion of household income; and feeding the family, the focus of gender-based interventions was related to these three areas. KAVES aims at achieving a 62 percent women and youth participation. Youth participation currently stands at 5.7 percent.

**Figure 8: Proportion of women in decision making**



The participating women formed the majority of the primary decision makers in agricultural production. As figure 8 shows, 70 percent of those making agricultural decisions within the project zone of influence are women, either individually or jointly with their spouses.

During this period, the project integrated gender awareness among all partners and applied a practical gender approach to all interventions that included:

- Providing gender appropriate training that involved both men and women
- Introducing new technologies to women based on their area of involvement
- Creating and encouraging microenterprise activities with women and women’s groups
- Improving health and nutrition for whole families.

**a. Introducing new technologies to women**

Under staples, 59 percent of the beneficiaries were women. The production of staple crops such as sorghum and maize are labor intensive thus denying women time to participate in other productive work. KAVES is collaborating with private machinery dealers and local entrepreneurs to introduce small motor-driven shellers and threshers that local youth carry from farm to farm for a fee. These technologies help lessen the labor burden on women farmers while creating employment for youth.

**b. Creating and encouraging microenterprises with major women involvement**

53 percent of the beneficiaries reached in this value chain were women. Horticulture is labor intensive and provide an opportunity for improving the incomes and nutrition status of the rural households. Horticulture activities such as harvesting, sorting and grading provide a unique employment opportunities for women. In addition women have also ventured into horticultural farming being a high value crop. During the reporting period KAVES organized capacity building internship training for 60 women farmers drawn from non-traditional counties in western Kenya who were aspiring to take up French bean picking as a profession. This is geared towards increasing women incomes thereby empowering them to participate in economic activities.

The dairy value chain had the lowest representation at 47 percent women, a factor associated with cultural beliefs that cows belong to men. KAVES is however working with NGOs such as 'Send a Cow' and women SACCOs and banks to enhance the number of women owning cows. More than 3,000 women will be benefiting in Siaya and Uasin Gishu counties by obtaining loans to buy dairy cows from the county women's SACCO. KAVES is training the women on husbandry practices to ensure survival of the cows. KAVES is also assisting women to get insurance policies to guard against risks such as crop failure and death of high value dairy animals, an effort that is now bearing fruit. This will be a significant effort in women empowerment in an area where culturally men have no control over cows bought by women.

**c. Improving health and nutrition for whole families**

Nutrition enhancement intervention focused almost exclusively on women of reproductive age to enhance food diversity and hence health of women and children. Education on health and nutrition was given as well as cooking demonstration reaching more than 14,000 women.

## **VII. PROGRESS ON ENVIRONMENTAL MITIGATION AND MONITORING**

The guiding principle of the KAVES approach to environmental management, climate change and smallholder agriculture is that good agricultural practices (GAPs), income, and environment are directly linked. Adoption of GAPs increases productivity and income and allows farmers to re-invest in technologies that add both to their incomes and climate change mitigation practices. Interventions that contributed to good environmental management and climate change mitigation included the establishment of 14,000 ha under water efficient maize varieties and drought tolerant crops like sorghum, 15,000 ha under raised beds and minimum tillage, and planting of fruit tree crops, 950 ha under irrigated crop production, 950 ha under soil and water conservation activities and 450 ha under improved banana crop to regulate the micro climate for production of export vegetables. In addition, KAVES also introduced hydroponic fodder production in Kericho, Meru and Nandi counties. This is a technology which is not rainfall dependent and is expected to mitigate the fluctuation in milk production caused by seasonality.

During the period under review, KAVES received final clearance of the project's Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP). A detailed Environmental Management and Mitigation Plan (EMMP), based on the recommendations of the PERSUAP, was prepared and submitted to USAID and approved. All KAVES implementing partners were familiarized with the PERSUAP and continued implementing the project activities in line with the PERSUAP recommendations.

## VIII. PROGRESS ON LINKS TO OTHER USAID PROGRAMS

KAVES worked in various ways and shared knowledge during the year under review with the following USAID-supported projects and organizations:

**Table 3: KAVES links to USAID programs**

USAID Project/Organization	Area of collaboration/linkage
USAID-Innovation Engine	Undertook trials on Biox 5000 for control of bacterial wilt, use of plantmate in French bean production, and preservation of perishable produce using cold rooms constructed on Coldbolt technology.
USAID-FIRM	Developed a credit factory from where farmers access financial services.
USAID-KHCP	Building a strategy on transition from KHCP work and scaling up on horticulture and nutrition interventions; management of data on beneficiaries.
USAID-KDSCP	Building on the Kenya Dairy Master Plan developed under the Kenya Dairy Sector Competitiveness programme (KDSCP).
WEMA	Collaborated with AATF on promotion of water efficient and striga resistant maize varieties.
TEGEMEO	Tracked the achievement of the high level feed the future indicators.

## IX. PROGRESS ON LINKS WITH GOK AGENCIES

Strong relationships were established with the agricultural Ministers and technical committees in all 22 target counties through formal meetings and regular interaction and sharing of knowledge in the field.

**Table 4: KAVES links to GOK agencies**

Institution	Area of collaboration/linkage
County Governments and KDB	Incorporated the Kenya Dairy Master Plan developed under the KDSCP into the county dairy development strategic plans.
Horticulture Competent Authority Structure	Collaborated on implementing the national produce traceability system.
Kenya Food Security Steering Group	Conducted national food and nutrition situation analysis with members which comprise of GoK, UN agencies, NGOs, USAID activities, Development agencies
22 county governments	Improved productivity in target value chains - dairy, horticulture and staples.
ASDSP	Collaborated in agricultural and coordination issues.
KARI	Revised maize and dairy value chain reports.

## **X. PROGRESS ON USAID FORWARD**

The USAID Forward reform agenda focuses delivery of meaningfully scalable results, promotion of sustainable development through high-impact partnerships with local institutions, and scaling up of breakthrough innovations. KAVES has laid down the structures to address each of these USAID Forward principles.

Three local organizational capacity firms – Matengo and Associates, Upbeat Communications, and Global Leadership Institute, were sub-contracted within the reporting period to build the capacity of KAVES producer groups and local implementing partners with the goal of improving their sustainability and profitability as agribusiness entities. An average of 2-3 producer groups were selected per county, specializing on different value chains. A total of 60 groups assessed in the reporting period.

A preliminary capacity needs assessment tool was developed by each of the subcontractors to assess the producer groups' strengths and weakness. The key thematic areas assessed included governance, business management, member services and business delivery, accounting and financial management, marketing and external relationships, storage and processing. From these needs assessments, the main capacity challenges facing the groups include lack of sufficient working capital, poor access to market information, poor market penetration, little or no consistent buyer/supplier contracts, poor governance structures, lack of membership commitment, lack of adequate storage facilities, fear of borrowing loans, poor accounting and financial management capacity. Additionally, most of the groups assessed were found to have little or no formal management and/or governance structures and were struggling financially. The farmer groups and associations assessed attained the following average Organizational Capacity Assessment (OCA) scores for respective KAVES regions; Kisumu 43 percent, Eldoret 42 percent and eastern region 44 percent.

Based on the results from these needs assessments, the three subcontractors are currently preparing detailed institutional strengthening plans that are simple to understand with immediate priorities focusing on governance, finance and marketing before addressing other thematic areas. Capacity building workshops and training sessions for the selected 60 producer groups will be taking place in the October - December 2014 quarter. These capacity building interventions target a 60 percent OCA score by end of FY3.

The average OCA score for implementing partners for FY2 was 68 percent. This higher score is because some of the partners had received capacity building interventions through the USAID-KHCP project. KAVES will continue to support the local partners through the three capacity building subcontractors to ensure the projects' activities are sustained in the long-term.

## **XI. SUSTAINABILITY AND EXIT STRATEGY**

KAVES approach to sustainability is to design and implement interventions that can be taken over within a finite time by the partner, and paid for subsequently as a manageable cost of doing business. In the case of smallholders, the main partners in KAVES, the project concentrates on raising their yields and productivity of marketable crops and products to levels that are globally competitive. For smallholders and other commercial partners, KAVES avoid subsidizing any recurrent costs, including inputs, except for field trials, and demonstrations where non-commercial risks or training costs are involved. The project does not pay for equipment or facilities except where there is a realistic business plan showing clearly that maintenance and replacement costs can be covered by the partners. All interventions involve relationship building between farmers and buyers that will continue after the project ends. The project is placing a strong emphasis on developing and testing business models that enable companies to buy profitably from smallholder farmers. This requires higher productivity and quality awareness by the farmers, clustering of farmers for delivery of services and consolidation of product, and more efficient means of aggregation and storage.

## XII. GLOBAL DEVELOPMENT ALLIANCE

No GDA implemented so far.

## XIII. NEXT QUARTER'S WORK PLAN

A full list of activities and interventions planned for the next reporting year is given in Annex III. These were submitted to USAID in September 2014. No significant deviations from the 2015 work plan are anticipated.

The activities and interventions listed below were planned for the previous quarter but not completed. They will be addressed in the subsequent quarter as indicated.

**Table 5: Activities deviated from previous quarter**

Planned Activities from Previous Quarter	Actual Status this Quarter	Explanations for Deviations
Value chain studies	Revised versions being prepared	Experts were invited to review the studies after which they will be submitted to USAID for final approval.
Improve capacity for water use management	Partners identified	Subcontract being prepared for submission to USAID

## New Subcontract Details

**Table 8: KAVES Subcontract Details**

<p><b>Name of Sub-Contract:</b> Fingalee LLC  <b>Project Title:</b> #2013-KAVES-20  <b>Agreement Performance Period:</b> <u>Oct. 15, 2013 to Jan. 31, 2014</u>  <b>Geographic Locations for Implementation:</b> All 22 FTF Counties  <b>Project Description:</b> Provision of in-depth analysis on five priority agricultural value chains to guide the design of cost effective project interventions for the KAVES project.</p>
<p><b>Name of Sub-Contract:</b> Allfruit EPZ  <b>Project Title:</b> #2013-KAVES-15  <b>Agreement Performance Period:</b> <u>November 2013 to December 2016</u>  <b>Geographic Locations for Implementation:</b> Makeni  <b>Project Description:</b> Establish a long-term marketing relationship between ALLFRUIT EPZ Ltd, a major Kenyan vegetable and fruit processing company, and yellow passion fruit growers in Makeni county.</p>
<p><b>Name of Sub-Contract:</b> Community Action for Rural Development (CARD)  <b>Project Title:</b> #2013-KAVES-16  <b>Agreement Performance Period:</b> <u>November 2013 to October, 2014</u>  <b>Geographic Locations for Implementation:</b> Kisumu, Siaya and Vihiga counties  <b>Project Description:</b> Increase productivity and incomes of 13,700 smallholder farmers in Kisumu, Siaya and Vihiga counties by providing on-farm training and extension support amongst other related services. The subcontractor will provide services related to on-farm training and extension support to smallholder farmers along with other value chain actors to increase their productivity and incomes.</p>
<p><b>Name of Sub-Awardee:</b> Kilimo Biashara Promoters Consultancy  <b>Project Title:</b> #2013-KAVES-17  <b>Agreement Performance Period:</b> <u>Dec. 2013 to Nov. 2014</u>  <b>Geographic Locations for Implementation:</b> Meru and Tharaka Nithi  <b>Project Description:</b> Targeting 10,000 beneficiaries to receive training and extension services on new technologies and management practices in Meru and Tharaka Nithi counties over a twelve month period. The beneficiaries will increase the value of incremental sales, gross margins, volume of processed goods from target value chains, and volume of produce marketed through collection centers by ten percent by the end of the 12 month period.</p>
<p><b>Name of Sub-Contract:</b> Kenya Promotions &amp; Marketing Company Ltd (KPMC)  <b>Project Title:</b> #2013-KAVES-18  <b>Agreement Performance Period:</b> <u>Dec. 2013 to Nov. 2014</u>  <b>Geographic Locations for Implementation:</b> Taita Taveta County  <b>Project Description:</b> The main activities being carried out by KPMC are: introduce new technologies; reduce post-harvest losses; strengthen the management structures of farmer producer groups; establish market access through assisting producers to enter into contracts with top of supply chain buyers; build the capacity of inputs and services suppliers; demonstrate post-harvest handling standards and aggregation through establishment of produce collection sheds; and link farmers with financial service providers to access contract based credit services.</p>
<p><b>Name of Sub-Contract:</b> East Africa Market Development Associates (EAMD)  <b>Project Title:</b> #2013-KAVES-19  <b>Agreement Performance Period:</b> <u>Dec. 2013 to Nov. 2014</u>  <b>Geographic Locations for Implementation:</b> Bomet, Kericho and Nyamira Counties  <b>Project Description:</b> The main activities are: introduce new technologies; reduce post-harvest losses; strengthen the</p>

management structures of farmer producer groups; establish market access through assisting producers to enter into contracts with buyers; build the capacity of inputs and services suppliers; demonstrate post-harvest handling standards and aggregation through establishment of produce collection sheds; and link farmers with financial service providers to access contract based credit services.

**Name of Sub-Contract:** Matengo & Associates

**Project Title:** #2014-KAVES-21

**Agreement Performance Period:** April 2014 to March 2015

**Geographic Locations for Implementation:** Kisumu, Kericho, Bomet, Kisii, Migori, Homa Bay, Siaya and Nyamira.

**Project Description:** Provide organizational capacity building services to 20 local agribusiness entities in the Kisumu region. The businesses will benefit from organizational needs assessments, and the creation of unique institutional strengthening plans with tailor-made interventions to meet their critical business needs so as to achieve profitability and sustainability.

**Name of Sub-Contract:** Greenforest Foods Ltd

**Project Title:** #2014-KAVES-22

**Agreement Performance Period:** April 2014 to May 2015

**Geographic Locations for Implementation:** Machakos, Makueni & Kitui

**Project Description:** Introduce best agricultural practices and provide a guaranteed market, on agreed terms, for all groundnut production from farmers through 3 collection centers. The approach aims to enhance production through use of GAPs with expertise from specialized agronomists both on-site and at 9 different demo sites in Machakos, Makueni, and Kitui.

**Name of Sub-Contract:** Carolina Fresh Produce Ltd

**Project Title:** #2014-KAVES-023

**Agreement Performance Period:** April 2014 to April 2015

**Geographic Locations for Implementation:** Migori County

**Project Description:** Build capacity for 4,768 smallholder farmers in Migori County. Carry out a performance trial to determine the appropriate French bean varieties for the region. Training and extension activities will take place at 12 commercial demonstration plots in strategic locations that will facilitate the adoption of improved practices and technologies by smallholder growers. Produce will be aggregated through 5 collection centers and marketed through Carolina's cold chain system; long term market linkages will be established to provide opportunities for smallholder horticulture farmers to meet product requirements in order to participate in export markets.

**Name of Sub-Contract:** Upbeat Communications Ltd

**Project Title:** #2014-KAVES-24

**Agreement Performance Period:** April 2014 to March 2015

**Geographic Locations for Implementation:** Kakamega, Bungoma, Busia, Elgeyo Marakwet, Uasin-Gishu, Nandi, Trans-Nzoia, and Vihiga.

**Project Description:** The partner is providing organizational capacity building services to 20 local agribusiness entities in the Eldoret region. The businesses will benefit from organizational needs assessments; the creation of unique institutional strengthening plans with tailor-made interventions; and training to meet identified critical business needs to achieve profitability and sustainability.

**Name of Sub-Contract:** Global Leadership Institute

**Project Title:** #2014-KAVES-25

**Agreement Performance Period:** April 2014 to March 2015

**Geographic Locations for Implementation:** Machakos, Makueni, Kitui, Meru, Tharaka Nithi and Taita Taveta

**Project Description:** The partner is providing organizational capacity building services to 20 local agribusiness entities in the eastern region. The businesses will benefit from organizational needs assessments; the creation of unique institutional strengthening plans with tailor-made interventions; and training to meet identified critical business needs to achieve profitability and sustainability.

**Name of Sub-Contract:** Kenya Fresh Produce Exporters  
**Project Title:** #2014-KAVES-29  
**Agreement Performance Period:** May 2014 to April 2015  
**Geographic Locations for Implementation:** *Bungoma and Trans Nzoia counties*  
**Project Description:** *The partner is building long-term market relationships to at least 6,125 smallholder horticulture farmers (1,185 growing French beans, 2,370 snow peas, 2,370 sugar snaps and 200 passion fruit) in Bungoma and Trans Nzoia to meet product requirements and participate in higher-end markets. Appropriate varieties for each region and value chain, particularly French beans, will be determined through performance trials. Produce will be transported and aggregated through collection centers.*

**Name of Sub-Contract:** ETC East Africa Ltd  
**Project Title:** #2014-KAVES-28  
**Agreement Performance Period:** May 2014 to April, 2015  
**Geographic Locations for Implementation:** *(As defined in Section XIII.D.)*  
**Project Description:** *Providing specialist consulting services from an agricultural economist and statistician on sampling methodology and data collection tools developed by the KAVES team. ETC is coordinating with the KAVES M&E teams, farmer's groups' leaders, community leaders and partner agronomists to locate panel sample participants. The partner is tasked to; review data, data cleaning and send the final data file to KAVES M&E and technical team.*

**Name of Sub-Contract:** Community Development Consultants (CODEC)  
**Project Title:** #2014-KAVES-26  
**Agreement Performance Period:** June 2014 to June 2015  
**Geographic Locations for Implementation:** *Machakos, Kitui, Makueni, Taita Taveta, Tharaka-Nithi, and Meru*  
**Project Description:** *CODEC is providing dairy related technical support services to at least 20,000 dairy farmers, training them on productivity enhancing technologies, milk bulking, cooling, value addition, facilitate links to sustainable markets and credit facilities, facilitate training and certification of AI service providers, improve the milk quality produced, train farmers on good animal husbandry practices, maximize value addition opportunities etc..*

**Name of Sub-Contract:** Eldorift Dairy Technology Consultants  
**Project Title:** #2014-KAVES-27  
**Agreement Performance Period:** June 2014 to June 2015  
**Geographic Locations for Implementation:** *Nandi, Uasin Gishu, Elgeyo-Marakwet, Trans-Nzoia, Bungoma, Kakamega, Busia, and Vihiga counties.*  
**Project Description:** *Eldorift is providing dairy related technical support services to at least 20,000 dairy farmers/beneficiaries, training them on productivity enhancing technologies, encourage and facilitate milk bulking, cooling, value addition, provide links to sustainable markets and credit facilities, facilitate training and certification of AI service providers, improve the milk quality produced, and train farmers on good animal husbandry practices, maximize value addition opportunities etc...*

**Name of Sub-Contract:** Cereal Growers Association (CGA)  
**Project Title:** #2014-KAVES-31  
**Agreement Performance Period:** August 2014 to August 2017  
**Geographic Locations for Implementation:** *Migori, Bomet, Nandi, Kericho, Uasin Gishu, Trans Nzoia, Kakamega, Bungoma, Elgeyo Marakwet, Tharaka Nithi, Meru, Kitui, Machakos and Makueni counties*  
**Project Description:** *CGA is increasing maize and sorghum productivity through new strategic partnerships with smallholder farmers, local companies, and organizations along the value chain. CGA activities focuses on commercializing cereal production and increase the incomes of 60,000 smallholder farmers in the counties mentioned above. The main focus is to build the capacity of smallholder farmers to increase cereal productivity and release more land for high value enterprises, reduce their post-harvest losses and access structured markets through aggregation of surplus production.*

**Name of Sub-Contract:** Lengo Agricultural Demonstration and Training Center  
**Project Title:** #2014-KAVES-30  
**Agreement Performance Period:** July 2014 to August 2015  
**Geographic Locations for Implementation:** *Kisumu, Homa-Bay, Kisii, Migori, Nyamira, Bomet, Kericho and Siaya counties.*

**Project Description:** *Lengo is providing dairy technical support services to at least 20,000 dairy farmers, training them on productivity enhancing technologies, enhance bulking, cooling, value addition, provide links to sustainable markets and credit facilities, facilitate training and certification of AI service providers, improve the milk quality produced, train farmers on good animal husbandry practices etc.*

**Name of Sub-Contract:** National Potato Council of Kenya

**Project Title:** #2014-KAVES-32

**Agreement Performance Period:** Sept. 2014 to Nov. 2014

**Geographic Locations for Implementation:** *As defined in Section XIII.D.)*

**Project Description:** *NPCK will produce a detailed market analysis of future demand for frozen chips and crisps, drawing both on recent studies and through market surveys across the country to fill gaps in the existing information and data. The study will review the current market status of potato chips and crisps. It will analyze the farm-to-consumer value chain to identify inefficiencies such as those that lead to importation of potatoes to meet processing demand, or quality assurance issues reported frequently by processors.*

**Name of Sub-Contract:** Kenya Dairy Processors Association

**Project Title:** #2014-KAVES-32

**Agreement Performance Period:** Sept. 2014 to Feb. 2015

**Geographic Locations for Implementation:** *Western and eastern regions*

**Project Description:** *KDPA is running a national marketing campaign 'Dairy has it all' to encourage consumers change attitudes towards milk and milk products. The campaign will also create a market for rural smallholder dairy farmers while improving nutrition.*

## **XV. ACTIVITY ADMINISTRATION**

### **Constraints and Critical Issues**

No constraints or critical issues were encountered in project administration. All administrative and personnel activities listed in the 2014 annual work plan were completed successfully:

- Four project offices remained fully operational in Nairobi, Kitui, Eldoret and Kisumu
- Obligated funds were sufficient to support all planned activities
- Excellent working relationships were maintained with USAID, national and county level Government agencies and other implementing partners.

No major changes in project management, implementation, or approach are anticipated for the coming year.

### **Personnel**

All key personnel and most non-key technical and support staff remained in post. One M&E specialist and the capacity-building manager were replaced. Candidates have been shortlisted for the post of Nutrition Specialist to manage nutrition and WASH activities.

## C: Subcontracts

**Table 12: KAVES implementing partners**

Partner Name	Subcontractor Name	Start Date	End Date		Counties	Focal Value Chains
Fintrac Inc.	Ukamba Christian Community Services (UCCS)	July 15, 2013	September 30 2014		Kitui, Makueni, Machakos.	Dairy, Staples, and Horticulture
	Animal Draft Power Programme (ADPP)	May 15, 2013	September 30, 2014		Homa Bay, Kisii, and Migori	Dairy, Staples, and Horticulture
	Western Region Christian Community Services (WRCCS)	July 15, 2013	September 30, 2014		Busia, Bungoma, and Kakamega	Dairy, Staples, and Horticulture
	Kenya National Federation of Agricultural Producers (KENFAP)	July 15, 2013	December 31, 2014		Elgeyo Marakwet, Nandi, Trans Nzoia, and Uasin-Gishu	Dairy, Staples, and Horticulture
	African Medical Research Foundation (AMREF)	July 15, 2013	September 30, 2014		Kitui, Machakos, Makueni, Tharaka Nithi, Taita Taveta, and Meru.	Nutrition and Wash
	Kenya Horticulture Exporters (KHE)	October 01, 2013	Sept. 30, 2014		Homa Bay	Horticulture
	Allfruit EPZ Ltd	October 01, 2013	December 31, 2016		Makueni	Horticulture
	Community Action for Rural Development (CARD)	October 01, 2013	October 31, 2014		Kisumu, Siaya, and Vihiga.	Dairy, Staples and Horticulture
	Kilimo Biashara	November 01, 2013	October 2014		Meru and Tharaka Nithi	Dairy, Staples and Horticulture
	Kenya Promoters and Marketing Company (KPMC)	November 01, 2013	October 2014		Taita Taveta	Dairy, Staples and Horticulture
	East Africa Market Development Associates	November 01, 2013	October 2014		Nyamira, Kericho, and Bomet	Dairy, Staples and Horticulture
	Support to Development Communications	May 22, 2013	June 2014		Kitui, Kisumu, Eldoret	
	Fingalee LLC	Oct. 15 <sup>th</sup> 2013	Jan 31, 2014		All 22 Counties	Provision of in-depth analysis on five priority value chains
	Silverlining Consulting Ltd	Aug. 19, 2013	Sept 30, 2013		All 22 Counties	
	Consumer Insight	May 14, 2013	July 31, 2013		All 22 counties	Conduct a baseline survey in all the USAID-KAVES 22 counties

	FCI	May 21, 2013	July 16, 2013		All 22 Counties	Carry out value chain analyses on 13 crops and products
	KLPA	May 1, 2013	July 31, 2013		All 22 Counties	Dairy
	SOLS Inclinations	June 7 <sup>th</sup> , 2013	June 16, 2013		All 22 Counties	
	Real IPM	March 15, 2013	April 15, 2013		All 22 Counties	Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP)
	Matengo & Associates	Apr. 2014	Mar. 2015		Kisumu, Kericho, Bomet, Kisii, Migori, Homa Bay, Siaya and Nyamira	Provision of capacity building services to 20 agribusiness groups in the Kisumu region.
	Greenforest Foods LTD	Apr. 2014	Mar. 2015		Machakos, Makueni, and Kitui	Establishment of groundnut production in Eastern Kenya, and creation of marketing linkages for all produce.
	Carolina Fresh Produce LTD	Apr. 2014	Mar. 2015		Migori County	French beans
	Upbeat Communications Ltd	Apr. 2014	Mar. 2015		Kakamega, Bungoma, Busia, Elgeyo-Marakwet, Uasin-Gishu, Nandi, Trans-Nzoia, and Vihiga.	
	Global Leadership Institute	Apr. 2014	Mar. 2015		Machakos, Makueni, Kitui, Meru, Tharaka-Nithi and Taita-Taveta	
	Community Development Consultants	June 2014	June 2015		Machakos, Kitui, Makueni, Taita Taveta, Tharaka-Nithi, and Meru	Dairy
	Eldorift Dairy Technologies	June 2014	June 2015		Nandi, Uasin Gishu, Elgeyo-Marakwet, Trans-Nzoia, Bungoma, Kakamega, Busia, and Vihiga counties.	Dairy
	ETC East Africa LTD	May 2014	April 2015		All 22 Counties	Provision of technical support services in monitoring and evaluation of the impact and results of KAVES' interventions including county level disaggregation of data.
	Kenya Fresh Produce Ltd	May 2014	April 2015		Bungoma and Trans Nzoia Counties.	French beans
	Lengo Agricultural Center	July 2014	August 2015		Kisumu, Homa-Bay, Kisii, Migori, Nyamira, Bomet, Kericho and Siaya counties	Dairy
	Cereal Growers Association	August 2014	August 2017		Migori, Bomet, Nandi, Kericho, Uasin Gishu, Trans Nzoia, Kakamega, Bungoma, Elgeyo Marakwet, Tharaka/Nithi, Meru, Kitui, Machakos and Makueni counties.	Maize and sorghum.
	National Potato Council of Kenya	September 2014	November 2014		All 22 Counties	Potato
	KDPA	September 2014	February 2015		Eldoret, Kisumu, Meru, Machakos, and Bungoma	Dairy

## **D. List of Deliverables**

The publications produced and disseminated during this year were:

18 Bi weekly reports

8 Monthly reports

4 Quarterly Reports

2015 work plans

Performance Monitoring Plan

Value Chain Analysis (Maize /French bean /Potato /Mango and Dairy)

4 quarterly financial reports

Since these have all been provided to USAID in soft copy, none are attached here. However all are available to the reader by contacting [gndungu@fintrac.com](mailto:gndungu@fintrac.com)

## XVIII. SUCCESS STORIES



**USAID | KENYA**  
FROM THE AMERICAN PEOPLE

### SNAPSHOT

#### Hydroponics Technology Heightens Milk Yield in Kericho

**Dairy farmer benefits from quality feeds and inspires others to adopt soilless fodder-growing technology**



*Photo by Fintrac Inc.*

*Rose Chelang'at, one of the smallholder farmers pioneering Hydroponic technology, adds a mineral solution to the hydroponic fodder grown from barley seeds at her farm located in Ngesumin, Kericho County.*

**“Two of my dairy cows now produce 4 more liters per day increasing their daily milk production from 11 to 15 liters. I get an additional 12 liters per day from my third cow!”**

*—Rose Chelang'at, Dairy Farmer from Kericho County*

**Telling Our Story**  
U.S. Agency for International Development  
Washington, DC 20523-1000  
<http://stories.usaid.gov>

Just two months ago, Rose Chelang'at decided to take up hydroponics farming at her dairy farm in Kericho county. This is after she received training by a representative from Hydroponics Kenya referred to her by the East Africa Market Development Associates (EAMDA), USAID-KAVES implementing partner in Kericho.

Hydroponics is the process of growing crops including fodder for livestock, without the use of soil. The technology which is fast gaining ground in Kenya speeds up growth while eliminating soil-borne diseases. USAID-KAVES is on the forefront encouraging farmers to adopt hydroponics farming to ensure more nutrition for their livestock hence raising milk productivity.

After the training, Rose bought the required material for setting up the structure required and embarked on the exciting journey. During a recent visit, she attested that her farm's milk production had increased by 4 liters for each of her two dairy cows and by three liters for her third cow, registering a total daily increase from 11 liters and 9 liters to 15 liters and 12 liters per day respectively.

Many farmers keen to know how the system works have already been drawn to Rose's farm. Recently, 174 farmers and service providers from Kericho, Bomet, and Nyamira counties attended a field day at her farm to learn first-hand. The field day was organized by USAID-KAVES in collaboration with the three county governments and the Agricultural Sector Development Support Programme (ASDSP). As a result, two farmers are now adopting the fodder technology after the visit.

So far, the major challenge facing most farmers willing to try it out in western Kenya is the availability of barley seed, which is the most preferred seed for fodder as it contains all the required nutrients for animal nutrition. The farmers are currently sourcing the seeds from Narok county which escalates the cost but USAID-KAVES is in discussions with county governments and the farmers on how they can produce their own barley seeds.

Although hydroponic farming is not a new concept, it's relatively new in Kenya and farmers especially the youth are becoming more and more receptive to the technology.

The technology is a major boost to the dairy sector and has created job opportunities for youths who are now fabricating the aluminum trays for sale to local farmers. It's also cheap to adopt and suitable for small-scale farming.

Rose is also a member of Ngesumin Dairy Group which has embarked on production of value added products as a result of increased milk production. They are currently producing Mala (fermented milk) for sale.

USAID-KAVES • Snapshot • October 2014



**USAID**  
FROM THE AMERICAN PEOPLE

**KENYA**

## SNAPSHOT

### Teacher Retires Fighting Poverty through French bean Farming

**French bean Farming  
Delivers Sustainable  
Income for 130 Households**



*Photo by Fintrac, Inc.*

*Joshua Okundi demonstrates how the Microclimate technology works at his 0.125 acre French bean farm in Homa Bay County.*

**“Before I used to grow maize in my small farm and returns were dismal. Now I can make KES. 35,000 from my 0.125 acres every 2 months and earn KES. 105,000 per year, enough to send my daughter to college!”**

*– Joseph Okundi, French bean farmer and initiator of Bwogi Mac Bwogi Farmer Group, Homa Bay County*

Telling Our Story  
U.S. Agency for International Development  
Washington, DC 20523-1000  
<http://stories.usaid.gov>

Joshua Okundi, a member of the Kenya National Council for Persons with Disability, was one of the farmers from Homa Bay County that travelled to Kirinyaga County for a farmers field exchange visit on French bean farming. Soon after, Okundi decided to take up this farming for export, supported through a co-investment between USAID-KAVES and Kenya Horticultural Exporters (KHE). This lucrative opportunity saw Okundi, who worked as a deputy headmaster at Yala Primary School, opt for early retirement at the age 56 even though the minimum retirement age for Persons with Disability was 65 years.

The enterprising farmer's farm is slightly less than an acre and he has subdivided it to plant various local crops like maize, paw paws, oranges, and mangoes, with a small portion of 0.125 acres under French beans. Okundi's block of beans has produced 700 kilograms, surpassing the expected volumes of 500 kilograms. The good performance is attributed to adoption of the "Microclimate" strategy by KAVES that involves growing of banana stools around the bean blocks that help reduce the rate of transpiration from the crops and in turn increase the quality and quantity of yield per plant.

"I used to grow local maize which matured in four months and the returns were dismal fetching only KES. 30,000 per year. Now I can make KES 35,000 from my 1/8 of an acre every 2 months and earn about KES 105,000 per year, enough to send my daughter to college!" a jovial Okundi explains.

Former idling village youths are now busy picking beans in the various small blocks and earn at least KES 150 for every crate harvested. One Edith Akinyi Okoko's life has also been transformed; by helping Okundi in harvesting, she has been earning KES 300 a day and now comfortably feeds and clothes her three children.

Okundi is especially proud of establishing the Bwogi Mac Bwogi Farmers Group with a membership of 130 households who now enjoy a regular income from the sale of French beans. The local community is inspired by this successful project that continues to draw visitors; on average 10 farmers per day and groups of farmers and students from universities with the latest visits from Bondo, Maseno, and Egerton universities.

Bwogi Mac Bwogi Farmers Group is among seven other groups growing beans in Homa Bay County for export through KHE. KHE focuses to export at least 30 MT per week from small scale growers like Okundi that has a farm gate value of KES. 1,500,000 per week. Okundi is being taken through global food safety requirements standards that has seen his community trained on hygiene and basic food handling skills. In addition, his group has benefited from construction of a produce collection center that is co-funded by KAVES and the community. The produce collection center is in the process of GAP certification to the EU food standard known as "Global GAP", an essential food safety standard for produce grown for the EU market.

USAID-KAVES • Snapshot • October 2014

## ANNEX I. SCHEDULE OF FUTURE EVENTS

**Table 14: 2014 – 2015 scheduled events**

Date	Location	Activity	Organizers
<b>2014 – 2015</b>			
27–29 October 2014	Abu Dhabi, UAE	GLOBALG.A.P. Summit	Conference to deliberate on the role of farmers in production of more food, safe and nutritious food, and in very large quantities to enhance food security. Kenya's initiative on developing a national traceability system will be presented at the summit courtesy of USAID-KAVES support
27–30 October 2014	Nairobi	6 <sup>th</sup> all African Conference on Animal Agriculture	Animal Production Society of Kenya (APSK), Ministry of Agriculture, Livestock and Fisheries (MoALF) in conjunction with the All Africa Society for Animal Production (AASAP).
27th – 31st October 2014	Early warning conference	Nairobi	A conference to discuss early warning/rapid alert system for food security organized by FAO & Africa Union
4–6 February 2015	Berlin, Germany	Fruit Logistica	A global Trade exhibition for detailers in fruit and vegetables
24–27 April 2015	Nairobi	8 <sup>th</sup> African Dairy Conference and Exhibition	Eastern and Southern Africa Dairy Association (ESADA)

## ANNEX II: PLANNED ACTIVITIES FOR QUARTER I, 2015

Table 15: Quarter I, 2015 work plan

	Activity	2014			NOTES
		O	N	D	
<b>1</b>	<b>Management, Communications &amp; Project Administration</b>				
1.1	Biweekly reports				For USAID internal use
1.2	Monthly reports				Wider dissemination
1.3	Annual report				2015 report due October 31 <sup>st</sup> , 2015.
1.4	Annual work plan				2015 plan due September 1 <sup>st</sup> 2014
1.5	Snap shots				To be included in quarterly reports
1.6	Quarterly report				Due last days of Oct, Jan, April and July
1.7	Deliverable reports from partners				Capacity building to improve quality of reporting
1.8	Financial reports				With quarterly reports
1.9	Staffing				Maintain and obtain approval for new staffing as activities increase
1.10	Budgeting				Increase burn rate to match five-year projected budget
<b>2</b>	<b>Monitoring &amp; Evaluation</b>				
2.1	Review of PMP indicators and targets				In concurrence with USAID
2.2	M&E specialists meetings				To review and strengthen performance
2.3	Partners training in M&E systems				Continuous activity
2.4	Sample Survey				Mid-term impact evaluation
2.5	Data validation				Continuous activity to ensure data integrity and reliability
2.6	M&E data receipt and management				For all activities
2.7	Updating of M&E systems and roll out of Web CIRIS				Involvement of partners to enhance data entry
<b>3</b>	<b>Productivity – Components 1&amp;2, Increased competitiveness, trade, and productivity</b>				
3.1	Award and renewal of year 2014 subcontracts and partnership agreements				UCCS, WRCCS, ADPP, AMREF, and for implementation of WASH.
3.2	Establishment of demonstration plots and farmer learning sites				Demo sites on staples, dairy (fodder), and horticultural activities. These will include lead farmer activities and FFS groups.
3.3	county planning workshops and participation				This will include planning and quarterly review meetings.
3.4	TOT trainings farmer field days and exchange visits				Lead farmer trainings, exchange visits, field days.
3.5	Establishment of Farmer Field schools				Includes fodder establishment, TMR formulations, calf rearing, animal husbandry.
3.6	A.I service training and distribution and KLBO support for cow registration				Training of new A.I service providers, refresher courses and linkage to groups.

	Activity	2014			NOTES
		O	N	D	
3.7	Training on hygienic milk handling practices				Training on animal disease control, zero fly, vaccinations, mastitis and hygienic milk handling practices.
3.8	Development of soil maps and recommendations for soil fertility enhancement				In collaboration with IFDC.
3.9	Promotion of technologies to enhance horticultural productivity				Including Plantmate, Biofix 500, Biox and Belsap.
3.10	Promotion of labor saving technologies				Partner with firms such as BizAfric to avail smallholder farm equipment such as motorized threshers and rotavators.
3.11	Training on use of clean planting materials and appropriate seeds				In horticulture and staples.
3.12	Training in KAVES Pesticide Evaluation Report Safer Use Action Plan (PERSUAP)				Sensitization trainings, and implementation of Environmental Monitoring and Mitigation Plan.
3.13	Create co-investments, collaborations and conduct trainings for compliance to Globalgap requirements				Enhancing cold storage capacity and working with USAID-Innovation Engine project.
3.14	Start-up and maintain internship program				New graduates to gain experience in commercial agriculture
3.15	Recruit and utilize farmer consultants for specific crops and products				Select successful smallholders who have been early adopters of commercial practices.
<b>4</b>	<b>Market Development - Components 1&amp;2, Increased competitiveness, trade and market access</b>				
4.1	Award new sub contracts				Kenya Dairy Processors Association (KDPA).
4.2	Development of campaign messages and launch of Milk promotion campaign.				Messages developed for radio, billboards, posters on nutritional importance of milk and farmers among others.
4.3	Promotion of dairy through bill board placements and road shows and school activations.				Billboards will be installed in November and remain up for six months. Roadshows held in Eldoret, Kisumu, Meru, Machakos, Bungoma, and Kericho targeting farmers to enhance milk collection.
4.4	Development of mango marketing strategy				Multi-stakeholder activity to improve marketing of fresh and processed mango.
4.6	New product development initiatives				Particularly for value added dairy and horticulture products.
4.7	Market competitiveness analysis				Analysis of trends in market demand and changes in market expectations particularly for French beans, passion fruit and dairy.
4.8	Trainings in agricultural marketing				In business skills, costing, standards, quality assurance, storage and systems etc.
4.9	Refurbishment/ establishment of milk collection centres				Workshop linking groups to equipment suppliers, financiers and establishment of collection centers.
4.10	Market linkage activities along the key value chains.				Through co-investments involving farmers, agro-dealers, processors and small and micro enterprises including during trade fairs and pre-harvest market linkages.

	Activity	2014			NOTES
		O	N	D	
4.1.1	Develop and test a pilot national horticultural traceability system.				Will involve 1,000 smallholder farmers and 10 vegetable exporting companies.
<b>5</b>	<b>Nutrition – Component 3, Improved nutrition-related behaviors</b>				
5.1	Award new subcontracts and other partnerships				With companies supplying nutrition interventions.
5.2	Orientation meetings for county heads				Targeting 6 per county in 22 counties.
5.3	Technical support to KAVES partners on nutrition				Implemented by subcontractor
5.4	Rapid assessment of nutrition status				Covering 14 counties not covered in 2014.
5.5	Training of TOTs on nutrition approaches				Implemented by subcontractor
5.6	Training of CHWs				1224 CHWs targeted (18 per CU in 68 CUs).
5.7	Facilitate quarterly evaluation meetings for CHMTs				To ensure uniformity in implementation.
5.8	Support to data collection and printing of reporting booklets				On nutrition messages.
<b>6</b>	<b>Water, Sanitation and Hygiene (WASH) – Component 3, Improved sanitation and hygiene</b>				
6.1	Award or renew subcontracts and other partnerships				With companies supplying WASH inputs and services.
6.2	Development/rehabilitation/improvement of communal water supply schemes				Including boreholes and water tanks each able to reach 500 households initially in Tharaka Nithi, Machakos and Busia.
6.3	Establishing Open defecation free villages				Villages triggered and declared ODF Budget estimate:
<b>7</b>	<b>Capacity-Building – Component 4, Building sustainable local organizations</b>				
7.1	Award subcontract to build capacity of implementing partners and hold initial meetings				Identify suppliers of various services to private and public partner organizations
7.2	Facilitate preliminary meetings with 10 implementing partners				Introductory meetings will be held to highlight objectives of the 2 year exercise and gauge interest and commitment.
7.3	Customize OCA tools and conduct desk reviews of partners resources				Familiarization of partner characteristics, resources and personnel backgrounds
7.4	Group workshop trainings for 60 producer groups				Trainings on areas such as governance, finance, and marketing will be facilitated.
7.5	Creation of priority planning documents for producer groups				Subcontractor will facilitate creation of strategic, business and marketing plans as applicable for producer groups.
7.6	One on consultations and site visits with producer groups				Subcontractor will visit producer groups regularly to monitor commercial skills uptake.
7.7	Financial services and marketing linkages, peer reviews and exchange visits				Producer groups will be facilitated to obtain credit facilities, create contracts with large buyers of producer

	Activity	2014			NOTES
		O	N	D	
7.8	Award subcontract to build capacity on gender mainstreaming				
7.9	Review of existing policies and strategies and undertake evidence based approach in identifying gender gaps in the three value chains				
7.10	Develop a gender mainstreaming strategy for KAVES				

## ANNEX III. ACTIVITY PROGRESS (Quantitative Impact)

Table 16: 2014 Annual Report PMP Table

Number of rural households benefiting directly from USG interventions														
FTF 4.5.2-13														
UNIT  Number	DISAGGREGATE BY: GENDER and COUNTY													
	Geographic Location		Activity Title				Disaggregation				Subtotal			
	Feed the Future ZOI (22 counties)		Improving productivity of selected value chains				Male And Female (M&F)				145,940			
			Improving the enabling environment for agriculture				Male No Female (MNF)				2,177			
							Female No Male (FNM)				3,167			
						Child No Adult (CAN)				0				
Totals												151,284		
Results: Continuing and new rural households benefiting directly from USG interventions														
County	Baseline		Results Achieved 2013		This Reporting Period Oct 2013-Sep 2014				FY 2015		FY 2016		End of Activity	
			Continuing		Achieved-New		Achieved-Cumulative		Target		Target		Target	
	W	M	W	M	W	M	W	M	W	M	W	M	W	M
	-	-	9,156	7,049	75,854	59,225	85,010	66,274	216,320	121,680	295,515	152,235	340,000	160,000
Bomet	0	0	94	111	2,936	3,353	3,030	3,464	8,276	4,655	11,306	5,825	13,008	6,122
Bungoma	0	0	1473	1261	2,590	2,303	4,063	3,564	15,587	8,768	21,293	10,969	24,499	11,529
Busia	0	0	1458	751	1,061	682	2,519	1,433	8,433	4,744	11,520	5,935	13,255	6,237
Elgeyo Marakwet	0	0	74	48	2,801	2,118	2,875	2,166	4,194	2,359	5,730	2,952	6,592	3,102
Homa Bay	0	0	1416	1570	2,147	1,657	3,563	3,227	10,925	6,145	14,925	7,689	17,171	8,081
Kakamega	0	0	1937	883	2,958	2,277	4,895	3,160	18,824	10,589	25,716	13,248	29,587	13,923
Kericho	0	0	61	36	1,509	1,654	1570	1690	8,529	4,797	11,651	6,002	13,405	6,308
Kisii	0	0	7	28	2,706	2,521	2,713	2549	13,062	7,347	17,844	9,192	20,530	9,661
Kisumu	0	0	122	143	3,500	3,695	3,622	3,838	10,983	6,178	15,004	7,729	17,263	8,124
Kitui	0	0	262	105	7,280	3,645	7,542	3,750	11,480	6,457	15,682	8,079	18,043	8,491
Machakos	0	0	373	259	4,910	2,586	5,283	2,845	12,453	7,005	17,012	8,764	19,573	9,211

Makueni	0	0	175	142	8,974	5,070	9,149	5,212	10,027	5,640	13,697	7,056	15,759	7,416
Meru	0	0	29	15	4,464	2,923	4,493	2,938	15,374	8,648	21,003	10,820	24,165	11,372
Migori	0	0	262	457	4,074	4,080	4,336	4,537	10,397	5,848	14,203	7,317	16,341	7,690
Nandi	0	0	45	80	2,190	2,649	2,235	2,729	8,535	4,801	11,660	6,007	13,415	6,313
Nyamira	0	0	58	41	1,985	1,304	2043	1345	6,782	3,815	9,264	4,772	10,659	5,016
Siaya	0	0	19	17	3,474	2,054	3,493	2,071	9,197	5,173	12,564	6,472	14,455	6,802
Taita-Taveta	0	0	164	15	5,502	4,833	5,666	4,989	3,417	1,922	4,669	2,405	5,371	2,528
Tharaka Nithi	0	0	169	173	1,959	2,100	2,128	2,273	4,141	2,329	5,657	2,914	6,509	3,063
Trans-Nzoia	0	0	788	633	3,240	2,840	4,028	3,473	9,281	5,221	12,679	6,532	14,587	6,865
Uasin Gishu	0	0	107	99	2,422	3,130	2,529	3,229	10,136	5,701	13,847	7,133	15,931	7,497
Vihiga	0	0	63	38	3,172	1,754	3,235	1792	6,287	3,536	8,589	4,424	9,882	4,650

## Results: Male and Female (M&amp;F)

County	Baseline	Results Achieved Prior Periods	This Reporting Period Oct 2013-sep 2014				FY 2015	FY 2016	End of Activity
		2013	2014 Target	Achieved-New	Achieved-2014	Target	Target	Target	
		14,106	120,564	131,834	145,940	294,231	389,769	435,251	
Bomet	0	179	6,369	5,233	5,412	11,257	14,912	16,653	
Bungoma	0	2,380	5,820	5,085	7,466	21,201	28,085	31,362	
Busia	0	1,922	3,521	2,008	3,930	11,470	15,195	16,968	
Elgeyo Marakwet	0	106	4,671	4,750	4,856	5,705	7,557	8,439	
Homa Bay	0	2,600	6,164	4,066	6,666	14,860	19,685	21,982	
Kakamega	0	2,455	3,496	5,178	7,633	25,604	33,918	37,876	
Kericho	0	84	5,340	2,850	2,934	11,601	15,367	17,161	
Kisii	0	30	4,529	5,167	5,198	17,766	23,535	26,281	
Kisumu	0	231	5,063	7,042	7,274	14,939	19,789	22,099	
Kitui	0	320	3,260	10,625	10,945	15,614	20,684	23,098	
Machakos	0	550	5,098	7,443	7,993	16,938	22,438	25,056	
Makueni	0	277	6,851	13,974	14,251	13,638	18,066	20,174	
Meru	0	39	7,848	7,145	7,183	20,912	27,702	30,934	

Migori	0	626	4,582	8,080	8,707	14,141	18,733	20,919
Nandi	0	109	8,023	4,592	4,701	11,609	15,379	17,174
Nyamira	0	86	3,001	3,302	3,388	9,224	12,219	13,645
Siaya	0	32	4,366	5,309	5,341	12,509	16,571	18,504
Taita-Taveta	0	278	7,413	9,903	10,181	4,648	6,158	6,876
Tharaka Nithi	0	298	4,628	4,103	4,401	5,633	7,462	8,332
Trans-Nzoia	0	1,238	8,654	6,104	7,342	12,624	16,723	18,674
Uasin Gishu	0	179	9,611	5,302	5,481	13,787	18,263	20,394
Vihiga	0	88	2,256	4,571	4,659	8,551	11,328	12,650
Results: Male No Female (MNF)								
	Baseline	Results Achieved Prior Periods	This Reporting Period Oct 2013-Sep 2014			FY 2015	FY 2016	End of Activity
County		<b>2013</b>	<b>FY 2014 Targets</b>	<b>Achieved-New</b>	<b>Achieved FY 2014</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
		635	5,429	1,542	2,177	13,250	17,550	19,598
Bomet	0	8	287	641	649	507	672	750
Bungoma	0	107	262	-107	0	955	1,265	1,412
Busia	0	87	159	-87	0	517	684	764
Elgeyo Marakwet	0	5	210	88	92	257	340	380
Homa Bay	0	117	278	-34	83	669	886	990
Kakamega	0	111	157	5	115	1,153	1,527	1,706
Kericho	0	4	240	-4	0	522	692	773
Kisii	0	1	204	-1	0	800	1,060	1,183
Kisumu	0	10	228	129	140	673	891	995
Kitui	0	14	147	72	87	703	931	1,040
Machakos	0	25	230	-25	0	763	1,010	1,128
Makueni	0	12	309	-12	0	614	814	908
Meru	0	2	353	122	124	942	1,247	1,393

Migori	0	28	206	27	55	637	844	942
Nandi	0	5	361	-5	0	523	693	773
Nyamira	0	4	135	-4	0	415	550	614
Siaya	0	1	197	110	111	563	746	833
Taita-Taveta	0	13	334	106	118	209	277	310
Tharaka Nithi	0	13	208	-13	0	254	336	375
Trans-Nzoia	0	56	390	24	79	568	753	841
Uasin Gishu	0	8	433	269	277	621	822	918
Vihiga	0	4	102	241	245	385	510	570

Results: Female No Male (FNM)								
County	Baseline	Results Achieved Prior Periods	This Reporting Period Oct 2013-Sep 2014			FY 2015	FY 2016	End of Activity
		2013	Target	Achieved-New	Achieved - 2014	Target	Target	Target
		1,436	12,271	1,731	3,167	29,945	39,671	44,301
Bomet	0	18	648	415	433	1,146	1,518	1,695
Bungoma	0	242	592	-81	161	2,158	2,858	3,192
Busia	0	196	358	-174	22	1,167	1,547	1,727
Elgeyo Marakwet	0	11	475	82	92	581	769	859
Homa Bay	0	265	627	-223	41	1,512	2,004	2,237
Kakamega	0	250	356	57	307	2,606	3,452	3,855
Kericho	0	9	543	317	326	1,181	1,564	1,747
Kisii	0	3	461	61	64	1,808	2,395	2,675
Kisumu	0	24	515	23	47	1,520	2,014	2,249
Kitui	0	33	332	228	261	1,589	2,105	2,351
Machakos	0	56	519	80	135	1,724	2,284	2,550
Makueni	0	28	697	82	110	1,388	1,839	2,053

Meru	0	4	799	120	124	2,128	2,819	3,149
Migori	0	64	466	47	111	1,439	1,907	2,129
Nandi	0	11	817	252	263	1,182	1,565	1,748
Nyamira	0	9	305	-9	0	939	1,244	1,389
Siaya	0	3	444	108	111	1,273	1,687	1,883
Taita-Taveta	0	28	755	327	355	473	627	700
Tharaka Nithi	0	30	471	-30	0	573	759	848
Trans-Nzoia	0	126	881	-47	79	1,285	1,702	1,901
Uasin Gishu	0	18	978	-18	0	1,403	1,859	2,076
Vihiga	0	9	230	114	123	870	1,153	1,288

Value of incremental sales (collected at farm-level) attributed to FTF implementation						
FTF 4.5.2-23						
Geographic Location						
Feed the Future ZOI (22 counties)						
	Baseline			FY 2015	FY 2016	End of Activity Target
<b>Results: French Beans</b>						
Additional Criteria	Achieved			Target	Target	Target
If other criteria are important, add lines for setting targets and tracking	FY 2013	Target – FY 2014	FY 2014			
<b>USD (M)</b>		<b>0.44</b>		<b>2.33</b>	<b>1.22</b>	<b>0.58</b>
Value USD(M)'000		0.54	1.37	2.87	4.09	4.67
Volume (MT)'000		1,180	1,998.77	6,240	8,902	10,155
Number of Beneficiaries			1,925	3,380	4,478	4,768
<b>Homa Bay</b>						
<b>USD (M)</b>						
Value USD(M)'000			0.01			
Volume (MT)'000			14			
Number of Beneficiaries			961			

<b>Machakos</b>							
<b>USD (M)</b>							
Value USD(M)'000				0.52			
Volume (MT)'000				797			
Number of Beneficiaries				333			
<b>Makueni</b>							
<b>USD (M)</b>							
Value USD(M)'000				0.73			
Volume (MT)'000				936			
Number of Beneficiaries				391			
<b>Migori</b>							
<b>USD (M)</b>							
Value USD(M)'000				0.11			
Volume (MT)'000				252			
Number of Beneficiaries				240			
<b>Results: Maize</b>							
	Baseline	Results Achieved Prior Periods	This Reporting Oct 2013-Sep 2014		FY 2015	FY 2016	End of Activity
Additional Criteria		<b>Achieved (FY 2013)</b>	Target		Target	Target	Target
If other criteria are important, add lines for setting targets and tracking		Achieved	FY 2014 Target	2014			
<b>USD(M)</b>			<b>8.7</b>				
Value USD(M)		3.53	10.7	3.11	27.6	39.3	44.9
Volume L ('000)		10,477	29,798	11,600.41	78,779	112,387	128,213
Number of Beneficiaries		15,719	31,768.09	169,000	223,875	238,375	
<b>Bomet</b>							
<b>USD</b>							
Value USD(M)				0.10			
Volume Kgs (MT)				305			
Number of Beneficiaries				1,742			
<b>Bungoma</b>							
<b>USD</b>							
Value USD(M)				0.14			

Volume Kgs (MT)				457			
Number of Beneficiaries				2,346			
<b>Busia</b>							
<b>USD</b>							
Value USD(M)				0.002			
Volume Kgs (MT)				7.36			
Number of Beneficiaries				264			
<b>Elgeyo Marakwet</b>							
<b>USD</b>							
Value USD(M)				0.56			
Volume Kgs (MT)				1,724			
Number of Beneficiaries				1,691			
<b>Homa Bay</b>							
<b>USD</b>							
Value USD(M)				0.08			
Volume Kgs (MT)				200			
Number of Beneficiaries				2,743			
<b>Kakamega</b>							
<b>USD</b>							
Value USD(M)				0.13			
Volume Kgs (MT)				1,898			
Number of Beneficiaries				3,294			
<b>Kericho</b>							
<b>USD</b>							
Value USD(M)				0.16			
Volume Kgs (MT)				512			
Number of Beneficiaries				661			
<b>Kisii</b>							
<b>USD</b>							
Value USD(M)				0.05			
Volume Kgs (MT)				873			

Number of Beneficiaries				792			
<b>Kisumu</b>							
<b>USD</b>							
Value USD(M)				0.07			
Volume Kgs (MT)				199			
Number of Beneficiaries				2,143			
<b>Migori</b>							
<b>USD</b>							
Value USD(M)				0.35			
Volume Kgs (MT)				785			
Number of Beneficiaries				5,224			
<b>Nandi</b>							
<b>USD</b>							
Value USD(M)				0.22			
Volume Kgs (MT)				613			
Number of Beneficiaries				729			
<b>Nyamira</b>							
<b>USD</b>							
Value USD(M)				0.02			
Volume Kgs (MT)				40.46			
Number of Beneficiaries				375			
<b>Siaya</b>							
<b>USD</b>							
Value USD(M)				0.005			
Volume Kgs (MT)				16.13			
Number of Beneficiaries				2,005			
<b>Trans Nzoia</b>							
<b>USD</b>							
Value USD(M)				0.76			
Volume Kgs (MT)				2,480			
Number of Beneficiaries				2,268			
<b>Uasin- Gishu</b>							

<b>USD</b>							
Value USD(M)				0.19			
Volume Kgs (MT)				564			
Number of Beneficiaries				570			
<b>Vihiga</b>							
<b>USD</b>							
Value USD(M)				0.001			
Volume Kgs (MT)				7.31			
Number of Beneficiaries				881			
<b>Kitui</b>							
<b>USD</b>							
Value USD(M)				0.015			
Volume Kgs (MT)				78.01			
Number of Beneficiaries				230			
<b>Machakos</b>							
<b>USD</b>							
Value USD(M)				0.018			
Volume Kgs (MT)				48.57			
Number of Beneficiaries				826			
<b>Makueni</b>							
<b>USD</b>							
Value USD(M)				0.024			
Volume Kgs (MT)				53.74			
Number of Beneficiaries				261			
<b>Meru</b>							
<b>USD</b>							
Value USD(M)				0.208			
Volume Kgs (MT)				482.60			
Number of Beneficiaries				1,205			
<b>Taita Taveta</b>							
<b>USD</b>							
Value USD(M)				0.001			
Volume Kgs (MT)				249.84			

Number of Beneficiaries				1,261		
<b>Tharaka Nithi</b>						
<b>USD</b>						
Value USD(M)				0.003		
Volume Kgs (MT)				7.37		
Number of Beneficiaries				261		

<b>Results: Dairy</b>							
Additional Criteria	Baseline	Results Achieved Prior Periods	This Reporting Period FY 2014		FY 2015	FY 2016	End of Activity
			Achieved (FY 2013)	Target	Achieved – FY 2014	Target	Target
If other criteria are important, add lines for setting targets and tracking		Achieved					
<b>USD(M)</b>	0	<b>6.70</b>	<b>8.35</b>				
Value USD(M)	0	6.70	10.4		28.7	41	48.7
Volume L ('000)	0	14,454	22,647		59,875	85,418	97,447
Number of Beneficiaries		3,565			38,870	51,491	54,826
<b>Bomet</b>							
<b>USD</b>	0						
Value USD(M)	0			0.76			
Volume L ('000)				2,449			
Number of Beneficiaries	0			1,879			
<b>Bungoma</b>							
<b>USD</b>							
Value USD(M)	0			0.35			
Volume L ('000)	0			894			
Number of Beneficiaries				684			
<b>Busia</b>							
<b>USD</b>	0						

Value USD(M)				0			
Volume L ('000)				-			
Number of Beneficiaries				-			
<b>Elgeyo Marakwet</b>							
<b>USD</b>							
Value USD(M)				0.40			
Volume L ('000)				914			
Number of Beneficiaries				1,025			
<b>Homa Bay</b>							
<b>USD</b>							
Value USD(M)				0.00			
Volume L ('000)				0.04			
Number of Beneficiaries				10			
<b>Kakamega</b>							
<b>USD</b>							
Value USD(M)				0.01			
Volume L ('000)				26			
Number of Beneficiaries				227			
<b>Kericho</b>							
<b>USD</b>							
Value USD(M)				0.79			
Volume L ('000)				1,865			
Number of Beneficiaries				840			
<b>Kisii</b>							
<b>USD</b>							
Value USD(M)				0.45			
Volume L ('000)				909			
Number of Beneficiaries				1,195			
<b>Kisumu</b>							
<b>USD</b>							

Value USD(M)				0.06			
Volume L ('000)				120			
Number of Beneficiaries				337			
<b>Kitui</b>							
<b>USD</b>							
Value USD(M)				0.00			
Volume L ('000)				8			
Number of Beneficiaries				58			
<b>Machakos</b>							
<b>USD</b>							
Value USD(M)				2.17			
Volume L ('000)				4,750			
Number of Beneficiaries				1,410			
<b>Makueni</b>							
<b>USD</b>							
Value USD(M)				0.46			
Volume L ('000)				1			
Number of Beneficiaries				744			
<b>Meru</b>							
<b>USD</b>							
Value USD(M)				2.17			
Volume L ('000)				5,565			
Number of Beneficiaries				2,462			
<b>Migori</b>							
<b>USD</b>							
Value USD(M)				0.04			
Volume L ('000)				69			

Number of Beneficiaries				135			
<b>Nandi</b>							
<b>USD</b>							
Value USD(M)				1.71			
Volume L ('000)				5,152			
Number of Beneficiaries				1,006			
<b>Nyamira</b>							
<b>USD</b>							
Value USD(M)				0.01			
Volume L ('000)				14			
Number of Beneficiaries				474			
<b>Siaya</b>							
<b>USD</b>							
Value USD(M)				0.03			
Volume L ('000)				35			
Number of Beneficiaries				226			
<b>Taita-Taveta</b>							
<b>USD</b>							
Value USD(M)				1.42			
Volume L ('000)				3,502			
Number of Beneficiaries				2,243			
<b>Tharaka Nithi</b>							
<b>USD</b>							
Value USD(M)				0.81			
Volume L ('000)				1,723			
Number of Beneficiaries				1,393			
<b>Trans Nzoia</b>							
<b>USD</b>							
Value USD(M)				0.39			

Volume L ('000)				1,126			
Number of Beneficiaries				787			
<b>Uasin Gishu</b>							
<b>USD</b>							
Value USD(M)				0.65			
Volume L ('000)				1,962			
Number of Beneficiaries				2,121			
<b>Vihiga</b>							
<b>USD</b>							
Value USD(M)				0.00			
Volume L ('000)				5			
Number of Beneficiaries				775			

<b>Gross margin per unit of land, kilogram, or animal of selected product</b>							
<b>FTF 4.5-16</b>							
	Baseline	Results Achieved Prior Periods	This Reporting Period FY 2014		FY 2015	FY 2016	End of Activity
<b>Results: Dairy</b>							
Additional Criteria		Achieved	Target	Achieved	Target	Target	Target
If other criteria are important, add lines for setting targets and tracking		FY1(2013)	2014	2014			
<b>Dairy</b>			<b>517</b>	<b>867</b>	<b>639</b>	<b>704</b>	<b>836</b>
Bomet				821			
Bungoma				961			
Busia				-			
Elgeyo Marakwet				1,058			
Homa Bay				213			
Kakamega				72			
Kericho				368			
Kisii				666			
Kisumu				598			

Kitui				525				
Machakos				1,734				
Makueni				1,087				
Meru				999				
Migori				1,203				
Nandi				858				
Nyamira				1,160				
Siaya				293				
Taita Taveta				432				
Tharaka Nithi				2,276				
Trans-Nzoia				745				
Uasin-Gishu				594				
Vihiga				386				

	Baseline		Results Achieved Prior Periods	This Reporting Period FY 2014		FY 2015	FY 2016	End of Activity
<b>Results: Maize</b>								
Additional Criteria			Achieved	Target	Achieved	Target	Target	Target
If other criteria are important, add lines for setting targets and tracking	M	F	FY1(2013)	2014	2014			
<b>Maize</b>	<b>305</b>	<b>299</b>	<b>423</b>	<b>423</b>	<b>433</b>	<b>437</b>	<b>490</b>	<b>543</b>
Bomet					297			
Bungoma					709			
Busia					304			
Elgeyo Marakwet					830			
Homa Bay					307			
Kakamega					52			
Kericho					1,470			

Kisii					3			
Kisumu					690			
Kitui					119			
Machakos					212			
Makueni					412			
Meru					848			
Migori					540			
Nandi					1,565			
Nyamira					608			
Siaya					390			
Taita Taveta					211			
Tharaka Nithi					311			
Trans-Nzoia					931			
Uasin-Gishu					1,059			
Vihiga					16			
<b>Results: French Beans</b>								
Additional Criteria	Baseline		Results Achieved Prior Periods	This Reporting Period FY 2014		FY 2015	FY 2016	End of Activity
			Achieved	Target	Achieved	Target	Target	Target
If other criteria are important, add lines for setting targets and tracking	M	F	FYI (2013)	FY 2014	FY 2014			
<b>French Beans UNIT: USD/Ha</b>	<b>1,088</b>	<b>1,356</b>	<b>0</b>	<b>1,414</b>	<b>2,267</b>	<b>1,532</b>	<b>1,670</b>	<b>1,768</b>
Homa Bay			0		838			
Machakos			0		2,325			
Makueni			0		4,526			
Migori			0		1,025			

Percent change in volume of processed products in selected value chains							
Contract							
UNIT Percent	DISAGGREGATE BY: VALUE CHAIN and COUNTY						
	Geographic Location	Activity Title	Date	Subtotal			
	Feed the Future ZOI (22 counties)	Improving productivity and market access for selected value chains	FY 2014		Dairy		
					Maize		
					French Beans		
Totals							

Results:							
	Baseline	Results Achieved Prior Periods	This Reporting Period FY 2014		FY 2015	FY 2016	End of Activity
		Achieved-FY 2013	Target	Achieved	Target	Target	Target
<b>Overall</b>					<b>10%</b>	<b>20%</b>	<b>30%</b>
<b>Dairy</b>	0%	-	-	-			
<b>Maize</b>	6%	-	-	-			
<b>French Beans</b>	0%	-	-	-			
Homa Bay							
Makueni							
Machakos							

Average percent change in total volume of production of selected value chains marketed through collection centers or other aggregators							
Contract							
UNIT Percent	DISAGGREGATE BY: VALUE CHAIN AND COUNTY						
	Geographic Location	Activity Title	Date	Subtotal			
	Feed the Future ZOI (22 counties)	Improving productivity and market access for selected value chains	FY 2014		Dairy		
					Maize		
					French Beans		
Total							

Results:

	Baseline	Results Achieved Prior Periods	This Reporting Period FY 2014		FY 2015	FY 2016	End of Activity
			Target	Achieved			
		Achieved-FY 2013					
<b>Overall</b>	13%			<b>34%</b>	<b>30%</b>	<b>50%</b>	<b>70%</b>
<b>Dairy</b>	30%			<b>4%</b>	<b>60%</b>	<b>80%</b>	<b>100%</b>
<b>Maize</b>	6%			<b>16%</b>	<b>36%</b>	<b>56%</b>	<b>76%</b>
<b>French Beans</b>	0			<b>84%</b>	<b>30%</b>	<b>50%</b>	<b>70%</b>
Homa Bay	0			65%			
Migori	0			90%			
Machakos	0			90%			
Makueni	0			90%			

Number of individuals receiving short-term agricultural sector productivity or food security training															
FTF 4.5.2-7															
DISAGGREGATE BY: GENDER,COUNTY															
UNIT	Geographic Location														
	Feed the Future ZOI (22 counties)														
	Producers														
	People in government														
	People in private sector firms														
	People in civil society														
	<b>Totals</b>														
Results:															
Additional Criteria		Baseline		Results Achieved FY1 (2013)		This Reporting Period FY2 (2014)				FY 2015		FY 2016		End of Activity	
If other criteria are important, add lines for setting targets and tracking															
		Achieved FY1 (2013)		Target		Achieved (cumulative)		Target		Target		Target			
		W	M	W	M	W	M	W	M	W	M	W	M		
Sex*:				-	-	<b>79,800</b>	<b>60,200</b>	<b>40,077</b>	<b>35,760</b>	<b>196,650</b>	<b>148,350</b>	<b>265,050</b>	<b>199,950</b>	<b>285,000</b>	<b>215,000</b>
Women (W), Men (M)															
Bomet		0	0					2,635	3,266	12,137	13,063	16,359	17,607	17,590	18,932
Bungoma		0	0					2,059	2,103	15,326	12,651	20,657	17,052	22,212	18,335
Busia		0	0					1,623	828	11,203	4,192	15,099	5,651	16,236	6,076

Elgeyo Marakwet	0	0				1,869	873	18,551	6,832	25,003	9,209	26,885	9,902
Homa Bay	0	0				2,040	1,714	9,626	7,888	12,974	10,632	13,950	11,433
Kakamega	0	0				2,233	2,116	12,394	8,628	16,705	11,629	17,963	12,504
Kericho	0	0				1,230	1,304	5,432	6,473	7,321	8,725	7,872	9,382
Kisii	0	0				1,913	2,086	9,100	5,069	12,265	6,832	13,188	7,346
Kisumu	0	0				1,343	1,771	6,997	7,646	9,431	10,305	10,141	11,081
Kitui	0	0				2,092	1,094	11,074	5,069	14,926	6,832	16,050	7,346
Machakos	0	0				1,847	1,323	9,380	6,399	12,643	8,625	13,595	9,275
Makueni	0	0				2,832	1,873	15,011	10,127	20,232	13,650	21,755	14,677
Meru	0	0				2,116	1,355	5,479	3,886	7,384	5,238	7,940	5,632
Migori	0	0				2,509	2,718	8,376	7,540	11,289	10,163	12,139	10,928
Nandi	0	0				725	1,186	6,039	8,395	8,140	11,316	8,753	12,167
Nyamira	0	0				1,805	1,176	10,420	5,650	14,044	7,615	15,102	8,188
Siaya	0	0				1,379	896	4,205	2,872	5,668	3,871	6,095	4,163
Taita Taveta	0	0				1,905	2,376	3,294	2,598	4,440	3,501	4,774	3,765
Tharaka Nithi	0	0				1,109	1,258	1,998	1,753	2,692	2,363	2,895	2,541
Trans-Nzoia	0	0				1,494	1,710	10,922	11,236	14,722	15,144	15,830	16,284
Uasin-Gishu	0	0				1,284	1,481	7,453	9,399	10,045	12,668	10,801	13,621
Vihiga	0	0				2,035	1,253	2,231	982	3,007	1,324	3,234	1,423

Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance				
FTF 4.5.2-5(7)				
Unit	Disaggregated By:			
	Geographic Location	Disaggregate	Date	Subtotal
Number of Beneficiaries		Crop Genetics	Oct 2013 - Sep 2014	40,840
		Livestock Management		35,108
		Pest Management		17,963
		Soil Related		27,082
		Water Management		2,457
		Climate Mitigation		43,298
		Post-Harvest Handling and Storage		25,553

		Totals											123,997	
Results:														
	Baseline		Results Achieved Prior Periods		This Reporting Period FY 2014				FY 2015		FY 2016		End of Activity	
	W	M	Achieved -2013		Target		Achieved		Target		Target		Target	
Sex*:	W	M	W	M	W	M	W	M	W	M	W	M	W	M
<b>Total</b>	<b>0</b>	<b>0</b>	<b>5,942</b>	<b>8,238</b>	<b>77,283</b>	<b>47,367</b>	<b>59,895</b>	<b>64,102</b>	<b>194,688</b>	<b>109,512</b>	<b>265,964</b>	<b>137,012</b>	<b>306,000</b>	<b>144,000</b>
Bomet	0	0			4,082	2,502	1,529	1,693	7,449	4,190	10,176	5,242	11,708	5,509
Bungoma	0	0			3,731	2,287	4,586	4,914	14,028	7,891	19,164	9,872	22,049	10,376
Busia	0	0			2,258	1,384	4,368	3,167	7,590	4,269	10,368	5,341	11,929	5,614
Elgeyo Marakwet	0	0			2,994	1,835	2,730	3,167	3,775	2,123	5,157	2,656	5,933	2,792
Homa Bay	0	0			3,951	2,422	3,276	4,805	9,833	5,531	13,432	6,920	15,454	7,273
Kakamega	0	0			2,241	1,373	7,644	3,167	16,942	9,530	23,144	11,923	26,628	12,531
Kericho	0	0			3,423	2,098	491	1092	7,676	4,318	10,486	5,402	12,065	5,677
Kisii	0	0			2,903	1,779	2,457	1966	11,756	6,612	16,059	8,273	18,477	8,695
Kisumu	0	0			3,245	1,989	2,621	5,023	9,885	5,560	13,504	6,956	15,536	7,311
Kitui	0	0			2,090	1,281	3,931	3003	10,332	5,812	14,114	7,271	16,239	7,642
Machakos	0	0			3,268	2,003	2,020	2,075	11,208	6,304	15,311	7,887	17,616	8,290
Makueni	0	0			4,391	2,692	3,385	3,658	9,024	5,076	12,328	6,351	14,183	6,674
Meru	0	0			5,031	3,083	1,583	1,693	13,837	7,783	18,903	9,738	21,748	10,234
Migori	0	0			2,937	1,800	4,095	4,423	9,357	5,263	12,783	6,585	14,707	6,921
Nandi	0	0			5,142	3,152	2,894	4,204	7,682	4,321	10,494	5,406	12,074	5,682
Nyamira	0	0			1,924	1,179	218	764	6,103	3,433	8,338	4,295	9,593	4,514
Siaya	0	0			2,799	1,715	2,075	1,802	8,277	4,656	11,307	5,825	13,009	6,122
Taita-Taveta	0	0			4,752	2,912	1,638	2,402	3,076	1,730	4,202	2,165	4,834	2,275
Tharaka Nithi	0	0			2,966	1,818	710	1,474	3,727	2,097	5,092	2,623	5,858	2,757
Trans-Nzoia	0	0			5,547	3,400	5,187	4,805	8,353	4,699	11,411	5,878	13,129	6,178
Uasin Gishu	0	0			6,161	3,776	1,693	3,331	9,122	5,131	12,462	6,420	14,338	6,747
Vihiga	0	0			1,446	886	764	1474	5,658	3,183	7,730	3,982	8,893	4,185

Number of hectares under improved technologies or management practices as a result of USG assistance									
FTF 4.5.2-2									
Hectares	Disaggregated By: Technology Type								
	Geographic Location			Activity			Date	Subtotal	
	Feed the Future ZOI (22 counties)			Improving productivity of selected value chains			Oct 2013 - Sep 2014		
Totals									
Results:									
	Baseline		Results Achieved Prior Periods	This Reporting Period Oct 2013-Sep 2014		FY 2015	FY 2016	End of Activity	
			FY1 (2013)	Target	Achieved	Target	Target	Target	
Total with one or more improved technology	0	0	7,877	21,420	24,000	52,785	71,145	76,500	
Crop genetics	0	0	4,745	17,136	14,109	42,228	56,916	61,200	
Cultural Practices	0	0	0	0	0	0	0	0	
Pest Management	0	0	3,268	5,569	4,091	13,724	18,498	19,890	
Disease Management	0	0	0	0	0	0	0	0	
Soil-related	0	0	7,135	16,065	10,401	39,589	53,359	57,375	
Irrigation	0	0	552	2,570	955	6,334	8,537	9,180	
Water Management	0	0			955				
Climate Mitigation	0	0			15,340				
Other	0	0	6,758	13,531	0	33,175	44,313	47,407	
Total with one or more improved technology	0	0	7,877	21,420	24,000	52,785	71,145	76,500	

Value of new private sector investment in the agricultural sector or food chain leveraged by FTF implementation							
FTF 4.5.2-38							
UNIT USD Million	DISAGGREGATE BY:						
	Geographic Location	Activity Title	Date			Subtotal	
	Feed the Future ZOI (22 counties)	New private sector investment in agriculture sector	Oct 2014-Sept 2014				0.4
<b>Results:</b>							
	Baseline	Results Achieved Prior Periods	This Reporting Period Oct 2013-Sept 2014		FY 2015	FY 2016	End of Activity
		FY I (2013)	Target	Achieved	Target	Target	Target
All Counties combined	0	7.1	6.27	0.4	30.46	45.46	62.75

Number of people with a savings account or insurance policy as a result of USG assistance							
FTF 4.5.2-25							
Unit	Disaggregate by: Savings/Insurance, County, Sex						
Number of people	Geographic Location	Disaggregate			Date	Subtotal	
	Feed the Future ZOI (22 counties) Savings	Savings - Female				Oct 2013 - Sep 2014	30,641
		Savings - Male					25,381
		Insurance - Female					431
		Insurance - Male					879
Total							
<b>Results: Savings Account</b>							
Sex*:	Baseline	Results Achieved Prior Periods	This Reporting Period FY2014	FY 2015	FY 2016	End of Activity	

			Achieved		Target		Achieved		Target		Target		Target	
	W	M	W	M	W	M	W	M	W	M	W	M	W	M
Bomet	0	0					1,082	866						
Bungoma	0	0					1,686	1,538						
Busia	0	0					218	151						
Elgeyo Marakwet	0	0					1,917	1,830						
Homa Bay	0	0					2,645	2,503						
Kakamega	0	0					3,286	2,518						
Kericho	0	0					349	322						
Kisii	0	0					2,592	2,480						
Kisumu	0	0					1,610	1,448						
Kitui	0	0					748	601						
Machakos	0	0					-	57						
Makueni	0	0					2,965	1,207						
Meru	0	0					2,031	1,628						
Migori	0	0					2,054	1,458						
Nandi	0	0					41	350						
Nyamira	0	0					1,634	1,076						
Siaya	0	0					1,302	657						
Taita-Taveta	0	0					658	882						
Tharaka Nithi	0	0					137	308						
Trans-Nzoia	0	0					2,296	1,951						
Uasin Gishu	0	0					70	142						
Vihiga	0	0					1,318	1,408						
<b>Results: Insurance</b>														
Sex*:	Baseline		This Reporting Period FY2014				FY 2015		FY 2016		End of Activity			

			Results Achieved Prior Periods											
			Achieved		Target		Achieved		Target		Target		Target	
	W	M	W	M	W	M	W	M	W	M	W	M	W	M
Bomet							0	0						
Bungoma	0	0					0	75						
Busia	0	0					24	38						
Elgeyo Marakwet	0	0					56	0						
Homa Bay	0	0					0	99						
Kakamega	0	0					0	0						
Kericho	0	0					0	0						
Kisii	0	0					60	207						
Kisumu	0	0					0	145						
Kitui	0	0					150	60						
Machakos	0	0					0	57						
Makueni	0	0					0	0						
Meru	0	0					0	0						
Migori	0	0					0	0						
Nandi	0	0					0	35						
Nyamira	0	0					0	0						
Siaya	0	0					0	0						
Taita-Taveta	0	0					0	0						
Tharaka Nithi	0	0					0	77						
Trans-Nzoia	0	0					0	39						
Uasin Gishu	0	0					141	47						
Vihiga	0	0					0	0						

Number of people in target areas with access to improved drinking water supply													
Contract													
UNIT	DISAGGREGATE BY:												
	Geographic Location				W		M		Subtotal				
	Feed the Future ZOI (22 counties)								82,920				
	Totals												
Results:													
Additional Criteria	Baseline		Results Achieved FYI (2013)		This Reporting Period (FY2-2014)			FY 2015		FY 2016		End of Activity	
If other criteria are important, add lines for setting targets and tracking			Achieved(FYI)		Target		Achieved	Target		Target		Target	
	W	M	W	M	W	M		W	M	W	M	M	M
Sex*:	0	0	0	0	195,000		82,920	340,000		480,000		550,000	
Women (W), Men (M)													
Kitui	0	0	0	0	8,864	31,395		15455		21818		25000	
Machakos	0	0	0	0	8,864	5,310		15455		21818		25000	
Makueni	0	0	0	0	8,864	16,115		15455		21818		25000	
Taita Taveta	0	0	0	0	8,864	12,100		15455		21818		25000	
Tharaka Nithi	0	0	0	0	8,864	12,370		15455		21818		25000	
Meru	0	0	0	0	8,864	5,630		15455		21818		25000	

Number of people trained in child health and nutrition through USG-supported health area programs												
FTF 3.1.9-1												
UNIT	DISAGGREGATE BY:											
	Geographic Location				W		M		Subtotal			
	Feed the Future ZOI (22 counties)								14,649			
Totals												

Totals														
Results:														
Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline		Results Achieved FY1 (2013)		This Reporting Period (FY2-2014)				FY 2015		FY 2016		End of Activity	
	W	M	W	M	W	M	W	M	W	M	W	M	W	M
Sex*:									102,600	77,400	145,350	109,650	171,000	129,000
<b>Women (W), Men (M)</b>					59,850	45,150	<b>10,491</b>	<b>4,158</b>						
Kitui							3846	2063						
Machakos							883	146						
Makueni							2476	721						
Taita Taveta							1936	500						
Tharaka Nithi							327	196						
Meru							1023	532						

Number of children under five reached by USG-supported nutrition programs						
FTF 3.1.9-15						
UNIT	DISAGGREGATE BY:					
	Geographic Location		Activity Title		M	Subtotal
	Feed the Future ZOI (22 counties)					
	Totals					
Results:						
Additional Criteria	Baseline	Results Achieved FY1 (2013)	This Reporting Period (FY2-2014)	FY 2015	FY 2016	End of Activity
If other criteria are important, add lines for						

setting targets and tracking													
		Achieved		Target		Achieved		Target		Target		Target	
		W	M	W	M	W	M	W	M	W	M	W	M
Sex*:						<b>105,000</b>	<b>5,019</b>	<b>4,843</b>	<b>180,000</b>	<b>225,000</b>			<b>300,000</b>
Women (W), Men (M)													
Kitui							1861	1856					
Machakos							340	316					
Makueni							1006	866					
Taita Taveta							850	786					
Tharaka Nithi							176	130					
Meru							786	889					

## Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age

## FTF 3.1.9.1-2

UNIT				W	M	Sub total	
		Activity Title	Date				
			Oct 2013-Sep 2014				
Results:							
Additional Criteria	Baseline	Results Achieved FY1 (2013)	This Reporting Period (FY2-2014)		FY 2015	FY 2016	End of Activity
If other criteria are important, add lines for setting targets and tracking		Achieved	Target	Achieved	Target	Target	Target
	W	W	W	W	W	W	W
Sex*:	<b>4.5</b>	<b>4.5</b>		<b>5.50</b>	<b>5</b>	<b>5.5</b>	<b>6</b>
Kitui				5.0			
Machakos				5.2			
Makueni				5.3			
Taita Taveta				5.9			

Tharaka Nithi				6.0			
Meru				4.6			

Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance								
FTF 4.5.2-11								
UNIT	DISAGGREGATE BY: TYPE							
						Subtotal		
	Community Based Organization						662	
	Private Enterprise						5	
	Producer's Association						1,387	
	Producer's Organizations						147	
	Trade and Business Associations						12	
	Water Users Associations						9	
	Youth Association						187	
	Cooperative						46	
	Women's Groups						461	
	<b>Totals</b>						<b>2,916</b>	
<b>Results:</b>								
Additional Criteria	Baseline	Results Achieved FYI (2013)	This Reporting Period (FY2-2014)		FY 2015	FY 2016	End of activity	
If other criteria are important, add lines for setting targets and tracking		Achieved FYI (2013)	Target	Achieved	Target	Target	Target	
		<b>961</b>	<b>45</b>	<b>2,916</b>	<b>80</b>	<b>100</b>	<b>120</b>	
Bomet	0	9		159				
Bungoma	0	120		220				
Busia	0	82		123				
Homa Bay	0	75		137				
Kakamega	0	192		288				

Kisii	0	1		37				
Kisumu	0	6		137				
Kitui	0	15		175				
Machakos	0	96		169				
Makueni	0	82		203				
Meru	0	115		100				
Migori	0	8		146				
Nyamira	0	29		78				
Siaya	0	11		75				
Elgeyo Marakwet	0	11		173				
Kericho	0	1		87				
Nandi	0	12		58				
Trans-Nzoia	0	83		271				
Taita-Taveta	0	1		80				
Tharaka Nithi	0	4		54				
Vihiga	0	1		36				
Uasin Gishu	0	7		110				
Number of local organizations strengthened and able to sustainably undertake agricultural value chain activities								
Contract								
UNIT Number of organizations	DISAGGREGATE BY: NONE							
	Geographic Location	Activity Title	W	M	Subtotal			
	Feed the Future ZOI - 22 counties	Building sustainable local organizations						
Results:								
Additional Criteria	Baseline	Results Achieved Prior Periods	This Reporting Period – Oct 2013-Sept 2014		Reporting Period	FY 2015	FY 2016	End of Activity
If other criteria are important, add lines for setting targets and tracking			Target	Achieved	Target			
		Achieved	Target	Achieved	Target	Target	Target	Target

		0		0	8	12	20	30
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Number of public-private partnerships formed as a result of FTF assistance										
FTF 4.5.2-12										
UNIT	DISAGGREGATE BY:									
	Geographic Location	Public-Private partnership					Subtotal			
	ALL	Agricultural production							16	
	None	Agricultural post-harvest transformation							0	
	Makueni, Taita Taveta, Kitui, Meru, Machakos, Tharaka Nithi	Nutrition							1	
		Other (Capacity building, M&E, Dairy)							4	
		Multi-focus							0	
	Totals								21	
Results:										
Additional Criteria	Baseline	Results Achieved Prior Periods	This Reporting Period			FY 2015	FY 2016	End of Activity		
			Achieved	Target	Achieved				Target	Target
					New	Continuing	Cumulative			
			<b>5</b>					<b>8</b>	<b>5</b>	<b>25</b>
Bomet	0	0		1	1		2			
Bungoma	0	1		3	1		4			
Busia	0	1		2	1		3			
Elgeyo Marakwet	0	1		2	1		3			
Homa Bay	0	1		1	2		3			
Kakamega	0	1		2	1		3			
Kericho	0	0		1	1		2			

Kisii	0	1		1	1	2		
Kisumu	0	0		1	1	2		
Kitui	0	2		3	2	5		
Machakos	0	2		3	2	5		
Makueni	0	2		3	2	5		
Meru	0	2		2	2	4		
Migori	0	1		2	1	3		
Nandi	0	1		2	1	3		
Nyamira	0	1		1	1	2		
Siaya	0	0		1	1	2		
Taita Taveta	0	2		2	2	4		
Tharaka Nithi	0	2		2	2	4		
Trans-Nzoia	0	1		2	1	3		
Uasin-Gishu	0	1		2	1	3		
Vihiga	0	0		2	1	3		

**Score, in percent, of combined key areas of organization capacity amongst USG direct and indirect local implementing partners**

Contract							
UNIT CBLD-5	DISAGGREGATE BY: NONE						
	Geographic Location	Activity Title	Date	W	M	Subtotal	
	Feed the Future ZOI - 22 counties	Building sustainable local organizations					
Results:							
	Baseline	Results Achieved Prior Periods	This Reporting Period FY 2014		FY 2015	FY 2016	End of Activity
		Achieved	Target	Achieved	Target	Target	Target
National Overall	0	0		0	60	70	80

Proportion of female participants in USG-assisted programs designed to increase access to productive economic resources								
Contract (19)								
UNIT Percent	DISAGGREGATE BY: GENDER and COUNTY							
	Geographic Location	Activity Title						Sub total
	Feed the Future ZOI (22 counties)	Involvement of female participants						
Totals								
Results:								
	Baseline	Results Achieved Prior Periods	This Reporting Period Oct 2013-Sept 2014		FY 2015Target	FY 2016	End of Activity	
		2013	Target	Achieved-2014	Target	Target	Target	
		55%	62%	55%	64%	66%	68%	
Bomet	0	46%	62%	47%	64%	66%	68%	
Bungoma	0	52%	62%	53%	64%	66%	68%	
Busia	0	66%	62%	64%	64%	66%	68%	
Elgeyo Marakwet	0	56%	62%	57%	64%	66%	68%	
Homa Bay	0	48%	62%	52%	64%	66%	68%	
Kakamega	0	66%	62%	61%	64%	66%	68%	
Kericho	0	60%	62%	48%	64%	66%	68%	
Kisii	0	55%	62%	52%	64%	66%	68%	
Kisumu	0	52%	62%	49%	64%	66%	68%	
Kitui	0	74%	62%	67%	64%	66%	68%	
Machakos	0	66%	62%	65%	64%	66%	68%	
Makueni	0	59%	62%	64%	64%	66%	68%	
Meru	0	40%	62%	60%	64%	66%	68%	

Migori	0	48%	62%	49%	64%	66%	68%
Nandi	0	49%	62%	45%	64%	66%	68%
Nyamira	0	57%	62%	60%	64%	66%	68%
Siaya	0	66%	62%	63%	64%	66%	68%
Taita-Taveta	0	51%	62%	53%	64%	66%	68%
Tharaka Nithi	0	46%	62%	48%	64%	66%	68%
Trans-Nzoia	0	57%	62%	54%	64%	66%	68%
Uasin Gishu	0	51%	62%	44%	64%	66%	68%
Vihiga	0	55%	62%	64%	64%	66%	68%

