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# USAID KENYA HORTICULTURE COMPETITIVENESS PROJECT (USAID-KHCP) ANNUAL REPORT #4, 2013-2014



OCTOBER 2014

This publication was produced for review by the United States Agency for International Development.

# USAID KENYA HORTICULTURE COMPETITIVENESS PROJECT (USAID-KHCP) FY2014 ANNUAL REPORT

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Award No: AID-623-TO-10-00007

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## ACRONYMS AND ABBREVIATIONS

ACT	Act, Change, Transform
ADS	Anglican Development Services
AFFA	Agriculture, Fisheries and Food Authority
AGM	Annual General Meeting
AMREF	African Medical and Research Foundation
ASDSP	Agriculture Sector Development Support Program
ATC	Agricultural Training Center
ATL	Aberdare Technology Limited
BIATC	Bio Intensive Agriculture Training Centre
CIP	International Potato Centre
CURA	Center for User Research Africa
DQA	Data Quality Assessment
EAC	East African Community
EAGA	East African Growers Association
EU	European Union
FCI	Farm Concern International
FPEAK	Fresh Produce Exporters Association of Kenya
GAIN	Global Alliance for Improved Nutrition
GAP	Good Agricultural Practices
GDA	Global Development Alliance
HCD	Horticultural Crops Directorate
HCDA	Horticultural Crops Development Authority
JKIA	Jomo Kenyatta International Airport
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KALRO	Kenya Agricultural & Livestock Research Organization
KEBS	Kenya Bureau of Standards
KEPHIS	Kenya Plant Health Inspectorate Service
KENAFF	Kenya National Farmers Federation
KENAPOFA	Kenya National Potato Farmers Association
KFC	Kenya Flower Council
KHE	Kenya Horticulture Exporters
KPMC	Kenya Promotions and Marketing Company
M&E	Monitoring and Evaluation
MIS	Market Information Systems
MoALF	Ministry of Agriculture, Livestock and Fisheries
MoH	Ministry of Health

MoLSSS	Ministry of Labour, Services, and Social Security
MRL	Maximum Residue Level
MT	Metric Tonne
NaHMIS	National Horticulture Market Information System
NGOs	Non-Government Organizations
OFSP	Orange-flesh sweet potato
PCPB	Pesticides Control Products Board
PMP	Performance Monitoring Plan
QSM	Quality Systems Management
SA2	Semi-Arid Two
TC	Tissue Culture
TOTs	Training of Trainer's
USAID	United States Agency for International Development
USAID-FIRM	Financial Inclusion for Rural Microenterprise
USAID-KAVES	Kenya Agricultural Value Chains Enterprises
USAID-KFIE	Kenya Feed the Future Innovation Engine
USAID-KHCP	Kenya Horticulture Competitiveness Project
VAT	Value Added Tax
WDDS	Women Individual Dietary Diversity
WEAI	Women Empowerment in Agriculture Index

## I. EXECUTIVE SUMMARY

The Kenya Horticulture Competiveness Project (KHCP), funded by the United States Agency for International Development (USAID), is working to increase the food security and incomes of 200,000 smallholder farmers through enhanced productivity, crop diversification, and improved market access. This report details major achievements and activities for the period October 2013 to September 2014.

### Qualitative Impact

This year, USAID-KHCP's targeted interventions have led to sustainable results in crop production, market access, value-addition, and health and nutrition for project beneficiaries and their families. The combination of direct linkages to local traders and buyers and a range of technology demonstrations have maintained positive agribusiness growth and momentum on the core high-volume local market food crops including potato, banana, and tomato. A concentration on seed multiplication has increased the availability of high-quality planting material for farmers and has created business opportunities for nursery owners, especially in banana's and passion fruit. To address concerns with increased phytosanitary standards and compliance requirements for export vegetables and fruits delivered to EU countries, USAID-KHCP has played a key supporting role in addressing problems with farm-level compliance that lead to pesticide residue issues through a series of export forums to create awareness and encourage public-private action. Additionally, the focus on connecting agriculture to nutrition through USAID-KHCP's agri-nutrition initiative is gaining momentum through cooking demonstrations and the adoption of kitchen gardens and is now being rolled out from an original 16 counties to all 47 counties through collaboration with the Ministry of Agriculture, Livestock, and Fisheries, and the Ministry of Health.

Key highlights from the period include:

#### *Tropical Fruits*

- USAID-KHCP established 40 new mango demonstration sites where 3,733 farmers received training on soil analysis, use of sticky traps for pest control, tree fertilization, and a systematic program of pruning, grafting, and top working of mango trees to improve long term productivity.
- USAID-KHCP supported 26 passion fruit nurseries that produced a total of 720,000 passion fruit seedlings worth \$334,484 in seedling sales. USAID-KHCP supported farmers produced 5,021 MT of passion fruit from 437 ha of land generating \$3,263,939 in sales.
- The 27 USAID-KHCP-sponsored tissue culture banana nurseries sold more than \$655,580 of tissue culture banana's in FY2014, an investment in 582 ha of new plantations bringing the total are under TC banana production to 3,019 ha. In FY2014 the total value of sales of banana by USAID-KHCP farmers was \$6,081,745.

### *Food Crops*

- USAID-KHCP affiliated farmers established a total of 49 orange-flesh sweet potato multiplication sites in Homa Bay, Migori and Bungoma to provide over 7,350,000 cuttings with sufficient capacity to provide 196 ha of commercial crops in FY2014. USAID-KHCP farmers produced a total of 41,579,445 kg of sweet potato from all of the varieties for a total sales value of \$6,460,431. Gross margins for sweet potatoes have increased by 80 percent from the baseline of \$588 per ha in FY2010 to \$1,062 per ha in FY2014.
- Three thousand high performing farmers in Bomet County have realized a 65 percent increase in their best yields from 19.7 MT per ha to 32.6 MT per ha from FY2013 to FY2014. USAID-KHCP farmers produced a total of 45,246,828 kg of potato for a total sales value of \$7,564,464.

### *Domestic Market Vegetables*

- The gross margins for project-supported tomato farmers have increased by 126 percent from the baseline of \$1,856 per hectare in 2010 to \$4,192 per hectare in FY2014. In FY2014, USAID-KHCP farmers produced 34,172 MT of tomato from 2,784 hectares generating \$11,392,721 in sales.

### *Export Market Produce*

- USAID-KHCP-supported programs led to the installation of 300 small-scale drip irrigation systems by French bean outgrowers in Meru County in FY2014 contributing to the production of 2,497,310 kg of French beans resulting in \$1,380,913 in sales.

### *Nutrition*

- In FY2014, more than 4,653 county experts and trainers have reached 105,583 households with agri-nutrition messaging and cooking demonstrations. To support this, approximately 3,500 manuals and 850 training toolkits are currently in use. As a result, families have established more than 20,400 kitchen gardens in local communities.

## II. KEY ACHIEVEMENTS (QUALITATIVE IMPACT)

### 2.1 PRODUCTIVITY

#### 2.1.1 Tropical Fruits

##### *Mango*

Mango is ranked as the second most important fruit after banana in terms of production volumes with an estimated annual production of 581,290 MT in 2013, with a value of Ksh 7.4 billion (\$82,746,356) (HCDA 2013). Mango is an important perennial cash crop, particularly in the semi-arid eastern Kenya due to its drought tolerance. The crop is grown by more than 200,000 smallholders mainly from the Coast region extending through Kitui, Machakos, Makueni, Meru and Tharaka Nithi counties and into Central region. It is faced with a number of challenges including pest and diseases (fruit fly, mango weevil, and anthracnose), limited access to planting materials for key varieties, and poor agronomic practices. Postharvest losses, estimated at around 40 percent of the total crop, are recognized as a long-standing issue in the sector. In order to mitigate these post-harvest losses, USAID-KHCP activities for mangoes have focused on improving fruit quality through basic agronomy and in particular more effective spraying against pest and disease.



*Photo: USAID/Mwangi Kirubi*

*Mary Mutua, peels a mango in preparation for drying.*

In Nandi County, the 48 members of the Rip Kisarich farm group have been assisted by Equatorial Hortifresh Limited in putting up a commercial passion fruit nursery. Since December 2013, each group member has planted 190 seedlings at a cost of Ksh 30 each adding up to Ksh 273,600 (\$3,218) in nursery sales for the members. They have also sold 5,000 seedlings to non-group members at Ksh 40 per seedling totaling Ksh 200,000 (\$2,352).

Most exporters still face shortages of suitable quality fruit to satisfy the key markets such as Saudi and UAE. Sales to the EU are generally hampered by low commodity prices which are exacerbated for the key Keitt variety by inconsistent fruit quality in Kenya arising from a chaotic mix of various sub-varieties even within the same orchard. Fortunately Kenya does have a competitive advantage with mango exports to Saudi Arabia and the Gulf States for two reasons. The primary season for mango in Kenya in the November to March period coincides with the off season for mango production from other suppliers to the region including Pakistan and India. Secondly the indigenous Apple and Ngowe varieties are in high demand in the Middle East as they are suitable for fresh juice production. In partnership with key exporters USAID-KHCP has established 40 new demonstration sites in FY2014 within selected farmers plantations where 3,733 mango farmers



were trained on soil analysis, use of sticky traps which uses a pheromone bait to trap fruit flies, tree fertilization, and a systematic program of pruning, grafting, and top-working of mango trees to improve long-term productivity. A network of 24 bulking centers in Machakos County were established in 2014 to consolidate fruit supply to two large-scale grading and packing centers located in the adjacent Makueni and Kitui counties. Although the full impacts of these interventions will only be felt from the start of the coming season in November 2014, feedback from farmers to date on the bulking centers has been very positive. Farmers are encouraged by the exporter's commitment to invest in this type of infrastructure which improves their confidence with localized access to markets.

On-site training at the bulking centers is making a real difference to improve fruit quality, ensure traceability, and reduce costs of transportation to the main pack houses, as well as reinforcing contractual loyalty. Farm-gate fruit prices paid by the exporters and traders vary significantly during the season from an early-season (October) high of Ksh 380 per 4 kg carton to Ksh 300 per carton in mid-season which then plummets to around Ksh 60 per carton at peak production in December-January when there is a traditional surplus of fruit. Stronger linkages between exporters and outgrowers have seen a more stable seasonal pricing structure emerge based on a range of Ksh 100 to 80 per carton, which many farmers have welcomed compared to the inconsistent pricing offered by brokers.

The varietal preference for mango exports to the Gulf States is orientated to juicing varieties and is well illustrated from the breakdown of Keitt Exports Ltd shipments to Saudi Arabia and the UAE from October 2013 to March 2014 when they exported 3,308 MT of mangoes disaggregated as follows: - Apple –2,880MT, Ngowe –183MT, Tommy –75MT, Kent – 146MT, and Sabine – 22MT. Between October 2013 and March 2014 the 3,733 farmers contracted by Keitt Exporters, one of the USAID-KHCP partners, were able to increase the production volumes by 11.7 percent and sales value of mango fruit by 20.7 percent respectively compared to the previous year. Keitt Exporters alone bought 4,334,078 mango fruits from smallholders of which 13 percent were of grade 1 for export and 87 percent (grade 2) were absorbed in the local markets. The total value of mangoes marketed by Keitt Exporters alone in 2014 was Ksh 35,463,087 (\$417,212) up from Ksh 28,122,165 (\$330,849) in FY2012.

### ***Passion Fruit***

The demand for passion fruit is high both in local and regional markets as well as for the export market. The fruit has continued to exhibit significant growth in volumes sold. In 2011, Kenya produced 34,930 MT valued at Ksh 26.7 million (\$314,117). In 2013, passion fruit production increased to 62,210 MT valued at Ksh 220 million (\$2.6 million) (HCDA 2013). The regional market for passion fruit particularly Uganda has shown good growth for fresh fruit with consumption levels of up to 80 percent of fruit produced in Kenya.

During FY2014, USAID-KHCP's priority intervention in passion fruit concentrated on the provision of high-quality disease-free seedlings. A total of 720,000 passion fruit seedlings worth Ksh 28,800,000 (\$334,884) enough to plant 400 ha of land were sold to farmers from a total of 26 private-sector nurseries supported by USAID-KHCP in FY2014. The introduction of the grafted passion fruit seedlings,

in which the root stock is provided by the yellow passion fruit and the scion is provided from the purple passion fruit, has seen up to an 85 percent reduction in cases of Fusarium wilt and woodiness virus.

During FY2014, project-supported farmers have produced 5,021 MT of fruit from 437 hectares of crop production generating \$3,263,939 in sales. The 6,200 farmers who accessed clean seedlings were also trained on agronomy and agribusiness as part of an extension package. Passion fruit production has remained a premium value sector achieving a gross margin of \$6,242 per hectare per year.

**Table 1: Passion Fruit productivity for FY2014**

Description	Units	FY2014
<b>Area planted</b>	Hectares (ha)	437
<b>Total production</b>	Kilograms (kg)	5,021,883
<b>Quantities sold</b>	Kilograms (kg)	4,823,336
<b>Value of sales</b>	US \$	3,263,939
<b>Input Costs</b>	US \$	670,302
<b>Average Productivity</b>	Kg/ha	11,459
<b>Gross Margin</b>	US \$/ha	6,242
<b>Cost of Production</b>	US \$/kg	0.13
<b>Unit Price</b>	US \$/kg	0.68

### **Banana**

Banana is the leading fruit in Kenya accounting for 38.6 percent of the domestic value of all fruits. In Kenya in 2013, over 60,000 ha was planted with bananas in Bungoma, Kakamega, Kirinyaga, Kisii, Kiambu, Machakos, Muranga, Meru, Migori, and Taita Taveta counties where a total of 1,374,526 MT of banana fruit valued at Ksh 18.881 billion (\$190M) was realized (HCDA 2013). This was an increase of 19 percent over the 2012 sales of Ksh 16.2 billion (\$222M).

USAID-KHCP is supporting over 45,000 farmers in the banana sector in FY2014 through major partnerships with TC laboratories, Africa Harvest in Kisii, Meru Greens Horticulture in Meru, and three smaller NGO's in Western Kenya. The key interventions during FY2014 included;

- i) Commercializing and scaling up tissue culture (TC) banana technology, through establishment of hardening nurseries bringing planting materials closer to the rural farmers;
- ii) Training of farmers on good agronomic practices and value addition;



Photo: USAID/Amunga Eshuchi

Luckas Mukweyi, 38, shows off his banana plant at his farm in Shiongo Village, Kwisero Sub County, Kakamega

## iii) Collective marketing through the collection centers.

Farmer's awareness and confidence in the value of planting TC banana has increased over the last 18 months, encouraged by the dramatic improvements in yield with the combination of good land preparation, clean plantlets, and consistent agronomy. The 12 TC laboratories in Kenya have been unable to scale up production in time to respond to this surge in demand and farmers are still frustrated by long delays in accessing new planting material. USAID-KHCP interventions have provided a package of technical and business skills training to selected TC laboratories in Kisii and Thika to address this challenge.



Photo: USAID/Amunga Eshuchi

David Amin'ga, the Nyanhwa nursery superintendent in Kisii examines TC plantlets set for sale.

Investments in banana hardening nurseries are successful in providing TC planting materials from the laboratories into a form that is easily accessible to farmers. Twenty seven (27) hardening nurseries have been developed in 7 counties through USAID-KHCP intervention over the past two years. Out of the 27 hardening nurseries, nine were established in 2013 and 18 in 2014.

Farmers purchased over 557,243 TC banana plantlets valued at Ksh 55,724,300 (\$655,580) from the hardening nurseries in FY2014. Farmers utilized these hardened plantlets to invest in more than 582 ha of new plantations bringing the total area under TC banana production by project farmers to 3,019 ha.

In addition to focusing on establishment of hardening nurseries, USAID-KHCP focused on GAPs and value addition training for farmers. During the year, over 13,963 farmers from 738 groups comprising of 6,709 men, 7,278 women, and 2,544 youth were trained on banana GAP, effective group management, post-harvest handling and marketing.

**Table 2: Tissue Culture hardening nurseries**

County	No of TC nurseries	No of plantlets hardened and sold	Value Ksh
Kisii	8	250,000	25,000,000
Nyamira	7	100,000	10,000,000
Meru	2	36,297	3,629,700
Tharaka	1	35,082	3,508,200
Busia	1	100,000	10,000,000
Vihiga	5	25,000	2,500,000
Kakamega	2	10,000	1,000,000
Machakos	1	864	86,400
<b>Total</b>	<b>27</b>	<b>557,243</b>	<b>55,724,300</b>

In FY2014, banana crop production by target USAID-KHCP farmers reached 43,220 MT of fruit; valued at Ksh 516 million (\$6,081,745) as detailed in Table 3.

**Table 3: Banana productivity and gross margins for FY2014**

Description	Units	FY2014
<b>Area planted</b>	Hectares (ha)	3,019
<b>Total production</b>	Kilograms (kg)	43,220,322
<b>Quantities sold</b>	Kilograms (kg)	35,873,671
<b>Value of sales</b>	US \$	6,081,745
<b>Input Costs</b>	US \$	843,970
<b>Average Productivity</b>	Kg/ha	14,316
<b>Gross Margin</b>	US \$/ha	2,147
<b>Cost of Production</b>	US \$/kg	0.02
<b>Unit Price</b>	US \$/kg	0.17



*Photo: USAID/Amunga Eshuchi*

*Africa Harvest agronomist Eliud Mutahi (right) with the farmers at the collection center in Kisii.*

Collection centers improving conditions for banana farmers. The 150 members of the Moiunya Kimama group in Kisii County are now selling a kg of bananas at Ksh 15. Previously, they would sell a 40 kg bunch for around Ksh 200 (\$2.35) after bargaining with customers. With the same bunch now going for Ksh 600 (\$7), this means a 200 percent increase in revenue. Monthly, the group sells 9,000 kg making them Ksh 135,000 (\$1,588) in gross sales.

Executives from several leading banana marketing companies have predicted that the balance of supply and demand will reach a tipping point of surplus fruit within a few years. To prepare for a new low-cost high-volume sales environment USAID-KHCP has been working closely with county governments and local partners to set up collection centers. The first network of 16 such centers in Kisii, Nyamira, Tharaka Nithi, and Meru handled a total of 4,007 MT of green bananas with a gross value of Ksh 102,297,853 (\$1,203,504). The success of the collection center approach has attracted the attention of county governments and other development partners who have shown interest in investing more money into infrastructural support for collection centres.

## 2.1.2 Food crops

### Sweet potato

Within the sweet potato sector the white and yellow flesh varieties remain central to local marketing systems, accounting for more than 90 percent of the national crop (HCDA 2013). Farm Concern International is continuing to strengthen market linkages for 8,000 sweet potato farmers in four counties in Western Kenya through the “Commercial Village” approach which includes comprehensive training on marketing and book keeping. Other USAID-KHCP partnerships have continued providing a package of extension services to farmers throughout the year, demonstrating different types of ridge cultivation systems and fine tuning optimum plant population trials designed to improve consistency and quality of tuber shape. The improvements in crop performance and farm-gate sales this year have been encouraging with USAID-KHCP supported smallholder farmers total production of 41,579 MT valued at \$6,460,431 as summarized in Table 4.

**Table 4: Sweet potato productivity and gross margin for FY2014**

Description	Units	FY2014
<b>Area planted</b>	Hectares (ha)	6,408
<b>Total production</b>	Kilograms (kg)	41,579,445
<b>Quantities sold</b>	Kilograms (kg)	34,288,255
<b>Value of sales</b>	US \$	6,460,431
<b>Input Costs</b>	US \$	1,027,661
<b>Average Productivity</b>	Kg/ha	6,489
<b>Gross Margin</b>	US \$/ha	1.062
<b>Cost of Production</b>	US \$ / Kg	0.02
<b>Unit Price</b>	US \$/Kg	0.19

USAID-KHCP also promoted investment in drip and micro-sprinkler irrigation and water harvesting systems among client farmers to combat the challenges presented by the dry season. The vast majority of sweet potato production is entirely rain-fed, which can lead to low sales prices due to poor quality production during periods of dry weather. Levels of irrigation investment remain low because of the (perceived) high cost and reluctance to invest in a traditional low-input and low-output crop. Despite these challenges farmers have been able to consistently improve yields because of the use of clean planting material and improved agronomic practices thus the resulting gross margin improvements have been dramatic. The 2010 baseline gross margin of \$588 has increased to \$1,062 in FY2014.

A special focus of USAID-KHCP sweet potato resources has targeted the promotion and sustainability of orange-fleshed sweet potato (OFSP) varieties. OFSP are widely recognized as an important source of beta-carotene and key in reducing vitamin A deficiencies. Eating just a small quantity, e.g. 120g of a high beta-carotene variety is sufficient to provide the Recommended Daily Allowance (RDA) for a pre-school child.

During FY2014, USAID-KHCP has worked closely on scaling up OFSP production with a network of local NGO partners including the Anglican Development Services in Homabay (Kabondo area), C-MAD in Migori, CREADIS in Bungoma, the Anglican Church of Kenya in Kakamega and Vihiga, Christian Impact Mission in Machakos County, and ARDAP in Busia counties. As a result OFSP cultivation is now expanding to new areas such as Bomet and Yatta where the crop has not been commonly grown in the past. The main components of the OFSP focus are:

- Promotion of clean planting materials of OFSP vines through decentralized farmer-based rapid multiplication systems;
- A typical 0.2 ha vine multiplication site can produce 150 bags of sweet potato cuttings for planting. Each bag contains 1,000 cuttings each measuring 30 cm which are sold to neighboring farmers at 1 Ksh;
- A total of 49 vine multiplication sites were established (11 in Kabondo, 11 in Migori and 27 in Bungoma) giving a total of 9.8 ha in production. This is sufficient capacity to provide over 7,350,000 cuttings of planting materials valued at Ksh 7,350,000 (\$86,470) enough for 196 ha of commercial crop per season;
- 63 farmers (23 in Homa Bay and Migori, 11 in Busia, 10 in Kakamega and 19 in Bungoma) have been registered as specialized sweet potato planting material producers;
- Drip irrigation has been installed on all 11 sites in Kabondo as a pilot project to evaluate the cost-benefit of the infrastructure investment;
- Collaboration with the Kenya Agriculture and Livestock Research Organization (KALRO Kakamega) and the International Potato Center (CIP) has developed a pragmatic low-cost protocol scheme to improve compliance with vine production, which varies from the current approach of a more formalized inspection-based system that is prohibitively expensive for the dedicated vine multipliers.

Value-addition in the sweet potato sector reduces postharvest losses and increases smallholders' income, particularly from OFSP varieties. However, one of the key lessons learned indicate that, while farmers groups can be engaged and trained on production and marketing, value addition should be handled by dedicated private-sector entrepreneurs who will create stable markets for the farmers groups. This approach is being adopted by the project during the rehabilitation of a processing unit for OFSP in Kabondo. The unit is complete with a washing bay, solar dryer, and chipper to provide high-quality flour for local bakeries. Two local entrepreneurs who were identified to start baking pastries from OFSP are now undergoing intensive technical training in value addition and business management skills.

## Potato

Potato is second to maize in Kenya as a key food and nutritional security crop, involving approximately 500,000 potato growers. The area under potato production in 2013 was 139,532 ha yielding 2.06 million MT valued at Ksh 28.2 billion (\$331 million). In the last two years the production of maize has been affected by the outbreak of Maize Lethal Necrosis Disease (MLND) resulting in an increase in the area under potato production as farmers are substituting potato crops for maize crops. However, the production of potato has been limited by inconsistent supply of certified seeds of suitable varieties.

“Approximately 96 percent of producers use uncertified seed: either potato retained from previous harvest, potato sourced from neighbors, or potato purchased from local markets,” according to the USAID-KAVES Potato Value Chain Analysis report of March 2014.



Photo: USAID/Amunga Eshuchi

Potatoes for sale at a local market in Kisii County.

During FY2014, USAID-KHCP has worked in the potato sector primarily in partnership with the Kenya National Farmers Federation (KENAFF) in Bomet, Uasin Gishu, Elgeyo Marakwet, Nandi, and Meru counties. The project interventions in FY2014 impacted over 25,000 farmers through intensive field-based training on agronomy, clean seed production, and collective marketing. The continued adoption of production technologies using clean planting material, good agronomic practices and drip irrigation methods has maintained the average productivity of the farmers supported under USAID-KHCP at the level of 13.9 MT/ha in FY2014 (a 2 percent increase over FY2013).

**Table 5: Potato productivity and gross margin analysis for FY2014**

Description	Units	2014
<b>Area planted</b>	Hectares (ha)	3,253
<b>Total production</b>	Kilograms (kg)	45,246,828
<b>Quantities sold</b>	Kilograms (kg)	36,038,759
<b>Value of sales</b>	US \$	7,564,464
<b>Input Costs</b>	US \$	2,842,860
<b>Average Productivity</b>	Kg/ha	13,911
<b>Gross Margin</b>	US \$/ha	2,046
<b>Cost of Production</b>	US \$/ha	0.06

<b>Unit Price</b>	US \$/kg	0.21
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The key project interventions and impacts over FY2014 are highlighted below:

- 3,000 high performing farmers in Bomet County have realized a 65 percent increase in their best yields from 19.7 MT per ha to 32.6 MT per ha;
- In Meru County, nine groups harvested an average of 5.5 MT of seed from 0.2 ha (26.4 MT/ha) from demonstration plots of Mpya variety planted during March 2014. This was an increase of 50 percent per hectare from their previous harvests in the period of September 2013-December 2013;
- Specialized agronomic training has encouraged 29 seed growers to invest in 60 ha of new seed crops this season which are estimated to provide 400 MT of clean seed next quarter, sufficient for 600 hectares of new crop plantings;
- In May and June, 2014 a total of 217 farm group leaders (58 male, 159 female) were trained on seed selection, pest and disease control, and finance to enhance group sustainability;
- Farmer mobilization by KENAFF for two potato storage facilities has started with site identification in Buuri sub-county, Meru County;
- In Bomet, the county government plans to work closely with KENAFF to introduce more Dutch Robyn potato seed to farmers who have marketing contracts with leading crisps processors;
- 3,870 bags of potato (each weighing 110 kg) were sold at a contract price of Ksh 2,500/bag to Deepa Industries earning 500 farmers from Bomet County Ksh 9,675,000 (\$ 113,823) in gross sales;
- Over 6,400 farmers in Uasin Gishu County received training on GAPs, positive seed selection, and postharvest handling to complement seed multiplication interventions;
- In Meru, the county government is investing in large refrigerated stores to cushion farmers against losses or low prices during the harvesting periods.

The National Council of Governors announced in April 2014 that potato growing counties (which include Nyandarua, Nakuru, Bomet, Meru, Narok, Kakamega, Bungoma, Busia, Homabay, and Kisii) had agreed on new legislation to enforce the packing and sale of potato in 50 kg bags. This would have far-reaching implications for the sector as the current law, which required that the produce is sold in 110 kg bags have been ignored which has led to farmers being exploited by middlemen demanding that they offer an “extended bag” with weights varying from 150 kg to 210 kg. To date the new legislation has not been passed and therefore the regulations have not yet been enforced.

### 2.1.3 Local Market Vegetables

Tomato, capsicum, cabbage, onion, kale, spinach, and African leafy vegetables play a key role in providing dietary diversity to both rural and urban consumers as well as a source of quick income to the small and medium scale farmers in



Photo: USAID/Amunga Eshuchi

Syngenta agronomist in Meru County in a greenhouse with hybrid tomatoes.



Kenya. These crops also make good business sense for farmers- -with the ability to provide quick income from small areas of land this makes them particularly attractive to the youth who normally have access to smaller plots. The key challenges to production of local vegetables include poor agronomic practices, unreliable rainfall, and pest and disease damage.

More than 15 active partnerships under USAID-KHCP are providing extension and technical support to address these challenges. Some 24,527 farmers spread across 20 counties are implementing best practice recommendations and seeing the direct benefit of the knowledge gained in field days. Providing them with regular access to demonstration plots linked to private-sector business organizations has encouraged the adoption of the following types of technologies specific and relevant to the varying capabilities of the individuals and farm groups:

#### Low-cost technology

- Raised beds, timeliness of weeding and pest and disease control, mulching, good crop rotations integrating livestock fodder, effective application of well-rotted organic manure, and most importantly – basic record keeping;

#### Medium-cost / Agrovet-technology

- Hybrid seeds and/or use of professionally produced seedlings, soil analysis linked to increased use of cheap lime but reduced use of expensive fertilizers, mechanized land preparation, furrow or sprinkler irrigation, water harvesting ponds, seasonal lime and micro-nutrient application, agrochemical compliance and regular spray programs, monitored by an established system of farm management records;

#### High-cost / High-technology

- Pressurized drip irrigation systems with fertigation capacity
- Investment and management of greenhouses and advanced pot-based planting systems
- Diversification into high-intensity crops such as capsicums that require trellising structures
- Use of crop covers and floating mulches to reduce pest levels
- Comprehensive integrated pest management systems using biological controls
- GLOBALG.A.P. compliance and full traceability measures
- Formalized agribusiness financing and contracted marketing strategies



*Photo: USAID/Amunga Eshuchi*

20 year-old Collins Sigei from the 33 member Masaita Group is a cabbage farmer who has successfully adopted training from Syngenta in his own farm. "After completing high school in 2013, I immediately decided to use the information I gathered from the training sessions and invested a total of Ksh 3,150 (\$37) to buy 12,500 cabbage seeds," says Sigei. Since then he planted 30,000 cabbages on a two acre piece of land which traditionally grew maize. With an expected market price of Ksh 40 per cabbage, he hopes to earn Ksh 1,200,000 (\$14,117) after three months.

- Value addition and on-farm processing with solar drying
- Regular access to market information services and E-extension support

In FY2014, a total of 85 open-field drip irrigation kits and 11 greenhouses were installed covering 10.5 ha in Western Kenya for production of tomato and capsicum. Promotion of greenhouse technology nationally played a key role in influencing the Machakos and Bungoma County governments to invest in 50 and 56 greenhouses respectively within this year.

The USAID-KHCP partnership with Syngenta East Africa Ltd operates within the counties of Makueni, Machakos, Meru, Bomet, Bungoma, Kisii, Nyamira, and Eldoret. It has organized 37 demonstration plots to showcase advanced tomato and capsicum production technology for both greenhouse and open-field situations. In addition the same partnership has established 52 seedling nurseries across the country (known as Young Plant Raisers or YPRs) to ensure accessibility of high-quality hybrid vegetable seedlings to the farmers. During the year, vegetable seedlings worth Ksh 7,397,522 (\$87,029) have been sold.

In FY2014, the project extension activities for local market vegetables have impacted 24,527 farmers through field days, on-farm trainings, technical assistance and the eight established horticulture centers of excellence which act as sources of agricultural information to farmers and institutions. In Meru County, USAID-KHCP, in partnership with Bio-Intensive Agricultural Training Center, has also established six YPRs and one similar vegetable seedling unit under Green Zone Agencies in Kisumu County.

The green house technology has helped impact the cultivation of tomatoes in the target counties which generated more than \$11 million in sales during FY2014 as detailed in Table 6 below:

**Table 6: Tomato production and gross margins for FY2014**

Description	Units	FY2014
<b>Area planted</b>	Hectares (ha)	2,784
<b>Total production</b>	Kilograms (Kgs)	34,172,595
<b>Quantities sold</b>	Kilograms (Kgs)	26,725,377
<b>Value of sales</b>	US \$	11,392,721
<b>Input Costs</b>	US \$	2,896,457
<b>Average Productivity</b>	Kg/ha	12,277
<b>Gross Margin</b>	US \$/ha	4,192
<b>Cost of Production</b>	US \$ /kg	0.08
<b>Unit Price</b>	US \$/Kg	0.43

## 2.1.4 Export Market Vegetables/Produce

### *Peas and Beans*

The investment in production resources and the resulting growth of sales in pea and bean exports have been an outstanding Kenyan success story in the last 15 years. However a combination of challenges in the horticulture industry including stricter EU standards for pesticide residue levels, the delayed ratification of the Economic Partnership Agreement between the EU and the East African Community (EAC), and unreliable weather patterns are contributing to a very tough operational and business environment for farmers and exporters.

Export fine bean production involves some 30,000 smallholders contracted to exporters who have developed strong year-round sales programs with leading European supermarket chains. Compliance issues are driving major change in sourcing regions, traceability systems, centralized control over spray programs and pesticide applications, and a move towards more mechanized large-scale farming systems.

With regard to the above challenges, USAID-KHCP continued to work with smallholder farmers involved in export peas and beans production to empower them and enhance their competitiveness through the following interventions and impacts:

#### Increasing use of low-cost irrigation for bean production as a water management technique:

Results for the adoption of improved irrigation technology in Meru County within the bean outgrower programs supported by USAID-KHCP is encouraging with 300 small-scale drip systems installed in FY2014 that have contributed towards overall sales from Meru Green's outgrowers of 120 MT of beans worth Ksh 4.8 million (\$56,471) in farm-gate sales.

In FY2014, Keitt Exporters, operating in semi-arid Eastern Kenya, trained 380 bean farmers on climate smart agriculture. The training is meant to help farmers gain resilience against climate change that has meant fewer and more erratic rains over recent growing seasons.

Although in general the adoption rates of drip irrigation by smallholder growers of beans for export remain low, USAID-KHCP support through local partnerships with leading exporters include new variety trials, assessment of alternative low-cost irrigation technology, promotion of water harvesting infrastructure, and better soil management linked to scientific analysis and remedial applications of lime and specialized fertilizer blends. In total, 4,200 smallholders received regular extension services to deliver 2,497 MT of beans worth over Ksh 118 million (\$1,380,913) during FY2014 as shown in Table 7.

**Table 7: French beans production and gross margins for FY2014**

Description	Units	2014
<b>Area planted</b>	Hectares (ha)	390
<b>Total production</b>	Kilograms (kg)	2,497,310

Description	Units	2014
<b>Quantities sold</b>	Kilograms (kg)	2,191,816
<b>Value of sales</b>	US \$	1,380,913
<b>Input Costs</b>	US \$	362,464
<b>Average Productivity</b>	Kg/ha	6,408
<b>Gross Margin</b>	US \$/ha	3,107
<b>Cost of Production</b>	US \$/kg	0.15
<b>Unit Price</b>	US \$/kg	0.63

Expansion of low-cost tunnel technologies to enable farmers to grow peas during the rainy season:

USAID-KHCP entered into a partnership in July 2014 with Bio-Intensive Agricultural Training Centre (BIATC) in the Meru region to install 80 low cost tunnels to act as rain covers for smallholder pea production. The farmers provide the land, poles, timber, and unskilled labor while BIATC supports with polythene sheeting, skilled labor and other materials required to install the tunnels. The structures are 240 square meters (8m x 30m) which provides sufficient area for a single planting of 2 kg of seed. Four exporters have issued seasonal contracts that provide marketing and extension services to some 300 farmers involved in the tunnel program. These contractual agreements will be monitored by local officials from the Ministry of Agriculture, Livestock, and Fisheries and the Horticultural Crops Directorate.

The technology trial with tunnels is still only a very small proportion of the total pea crop grown by smallholder outgrowers. During FY2014, 963 farmers supported by USAID-KHCP planted 213 ha of peas for export realizing sales of 535,080 kg valued at Ksh 31,684,855 (\$372,763) as detailed in Table 8.

The USAID-KHCP collaboration with Meru Greens ensures continued farmer training in increasing productivity of processing beans. Farmers in Meru have raised their production levels of beans from 300 kgs (from every kg of seed) to over 800kgs. One such training was attended by 50 members of Nkunyo Self Help group and covered drip irrigation systems, recommendations from soil analysis, timely crop protection, record keeping, and the value of hybrid seeds. During the training, Mr Kalulu the lead farmer, shared his experience on the benefits of farming technologies introduced by Meru Greens which works with over 3,990 farmers to improved horticulture in the region. His harvests have improved by over 300% using the same amount of planting seeds. "From three quarters of a kilogram of seed, I have so far harvested 699 kgs while before I used to harvest 900 kgs from 3kgs of seeds," Kalulu explained. This season from a recent harvest of 800 kgs going for Ksh 30 per kilogram, Kalulu has earned Ksh 24,000 (\$282) and expects more returns as his productivity improves.

**Table 8: Production and sales of peas across the targeted counties during FY2014**

Description	Units	2014
<b>Area planted</b>	Hectares (ha)	213
<b>Total production</b>	Kgs	588,588
<b>Quantities sold</b>	Kgs	535,080
<b>Value of sales</b>	US \$	372,763
<b>Input Costs</b>	US \$	113,875
<b>Average Productivity</b>	Kg/ha	5800
<b>Gross Margin</b>	US \$/ha	1,215
<b>Cost of Production</b>	US \$ / Kg	0.30
<b>Unit Price</b>	US \$/Kg	0.69

Diversifying the production base into new non-traditional export crops:

The Kenyan horticulture export industry continues to invest through innovative or niche cropping systems such as spring onions for “high-care” mixed-vegetable packs, or “super foods” such as tender-stem broccoli or blueberries. However many of these high-technology crops are best-suited to large-scale farming systems. Recent developments with the USAID-KHCP partnership with Canken International have opened up regular markets for sea-freighted cabbages and carrots to the Seychelles and yellow passion fruit to the EU – all of which provide exciting new opportunities for smallholder farmers. Other examples supported by the project include Tea-tree and Chamomile essential oils grown in the Mount Kenya region, and dried chilies and African Leafy Vegetables (ALV) for export to Germany.

Diversifying the production base into non-traditional horticultural-export counties:

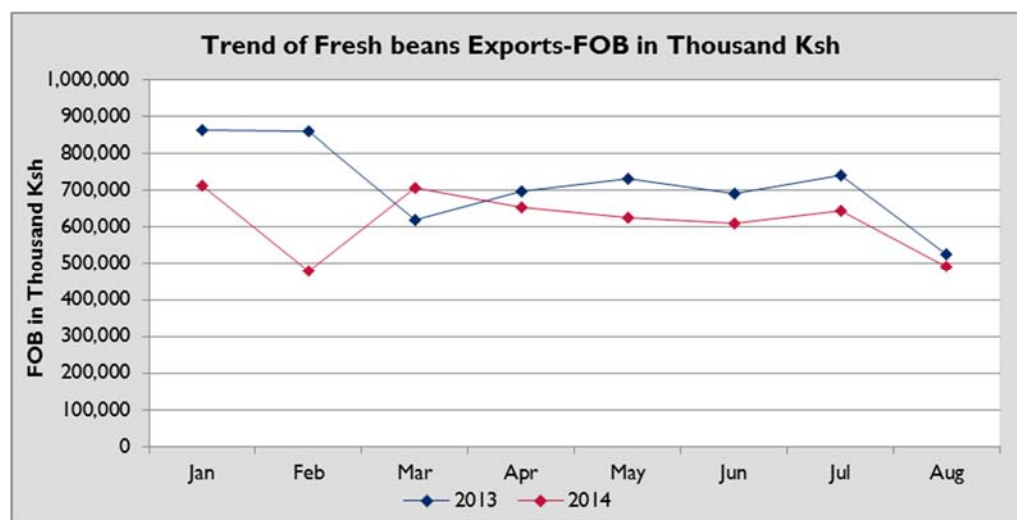
During 2014, USAID-KHCP partnered with more than 2,000 farmers to supply beans and peas to exporters from their farms located in several non-traditional export counties. These include East Africa Growers in Uasin Gishu and Bungoma, Woni Exporters in Makueni and Taita Taveta, KEITT Exporters and Meru Greens in Tharaka Nithi, Canken International in Uasin Gishu and Nandi, and Equatorial Hortifresh in Elgeyo Marakwet.

The new bean production zones in Bungoma and Nandi counties supported by USAID-KHCP involve 1,260 farmers who have harvested more than 129,000 kg during FY2014 with resulting farm-gate sales to exporters valued at Ksh 5,160,000 (\$60,706). Average yields have been encouraging at 6.0 MT/Ha, which compares very favorably with the more experienced bean cultivation clusters in counties such as Kirinyaga and Muranga where 8.0 MT/Ha is the average production level.

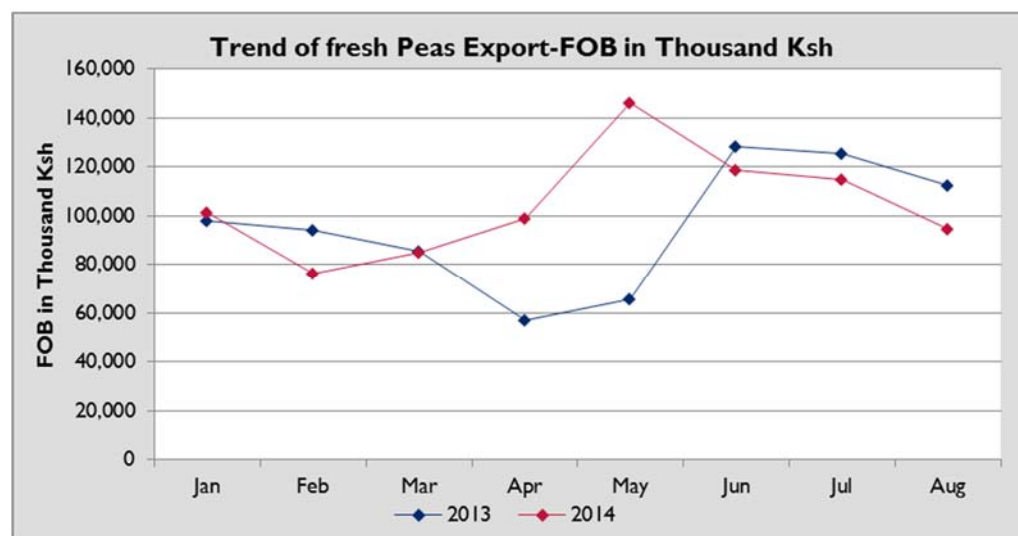
### Providing training on Good Agricultural Practices (GAPs):

The strategic partnership between USAID-KHCP and the Fresh Produce Exporters Association of Kenya (FPEAK) has prioritized training on GAPs to enable small-scale farmers to comply with market requirements. This national campaign is being coordinated by FPEAK from the horticulture PTC in Thika involving 449 training events in FY2014 that have engaged 21,440 participants. Farmers and service providers from the main horticultural production zones were equipped with knowledge on natural resource management, crop husbandry, and crop protection, safer use of pesticides, hygiene, and postharvest management. These initiatives are assisting horticultural industry to mitigate the adverse impact to customer confidence caused by the “Maximum Residue Level” (MRL) issues, and is maintaining consistent volumes and sales despite weather challenges. Figure 1 shows that according to the data from the Kenya National Bureau of Statistics (KNBS) the overall export value (FOB) of bean exports is stable compared to last year.

**Figure 1: Trend analysis of fresh bean exports**



USAID-KHCP interventions in the pea sector are contributing to the overall export value of peas. Figure 2 below shows the initial drop in export values in February 2014 as a result of exporters reacting to the new inspection regimes in the EU with a strong recovery mid-year and a stable position during the low-season period of July and August.

**Figure 2: Trend analysis of fresh pea exports**

## 2.2 CROSS-CUTTING THEMES

### 2.2.1 Gender

USAID-KHCP aims to empower and increase opportunities for women in agriculture to generate income and improve food security. During FY2014, the number of women reached by USAID-KHCP was 48,110 with the cumulative total of women reached by the project standing at 129,551, which represents 55.7 percent of total beneficiaries.

USAID-KHCP promotes technologies that help women increase production and income from sales, decrease workloads, and enhance the food and nutrition security of the entire household. These technologies include drip irrigation, seedling nurseries, and improved access to a reliable water supply for irrigation. Female farmers and entrepreneurs are also targeted with technologies to scale up value-added processing activities in order to meet local and export market demands. This training on value added processing, in turn, enables women to improve on product quality, gain access to new markets, and increase their household incomes. Micro-processing also provides a convenient entry-level opportunity for women to pool resources and invest in agribusiness.

To strengthen its gender intervention, the project finalized a gender subcontract with the Collaborative Centre for Gender and Development (CCGD). CCGD developed and distributed gender sensitive materials which included a range of posters and stickers that address specific issues and help the community change the retrogressive cultural behaviors and beliefs that affect women in agriculture. CCGD has so far trained more than 1,140 ToTs across the 16 counties of Makueni, Machakos, Meru, Kisii, Nyamira, Migori, Kisumu, Siaya, Homabay, Nandi, Bomet, Uasin Gishu, Bungoma, Busia, Vihiga, and Kakamega. The draft of an Agriculture Gender Trainers manual and Toolkit, that packages simplified gender messaging at the community level, has been submitted to the MoALF for ratification and

adoption as their official training resource. This collaboration with the MoALF will create sustainability and continued use of the materials after the end of the project.

USAID-KHCP partners Farm Concern International, AMREF, Christian Impact Mission, and Meru Greens Horticulture were also active in mainstreaming gender activities such as; leadership training, gender training within the horticulture value chain. Some of the issues that gender training address include women access to land, cultural prohibition to farming, women access to credit and farm inputs, use of technology that are women friendly, gender roles, labor distribution, leadership, decision making among others. The promotion of kitchen gardens proved to be an effective strategy in developing alternative income generating activities for women while

also providing a convenient and effective entry point for nutrition education. In FY2014, women supported by USAID-KHCP established 20,400 kitchen gardens. These kitchen gardens were supported by trained CHWs, CHVs and extension workers and received technical and extension support from the MoALF.



*Gender sensitive materials developed by CCGD.*

Below examples highlight some of the gender successes achieved through the project interventions in 2014.

### **Example I: Women access to land brings outstanding benefit to whole family.**



*Zaddock Otieno, a proud owner of a calf bought with income from passion fruit farming in God Jope, Migori.*

In November 2013, Zaddock Otieno Awuanda and his wife, Mary Anyango Atieno, a member of Manywa Fruit Growers, planted 80 seedlings of passion fruit on 1/8 acre of their of land. Mary has been regularly attending training from USAID-KHCP partner Anglican Development Services (ADS-Nyanza), who provided seedlings to her at a subsidized cost. Zaddock was not convinced that the purple passion fruit would provide any income for their family, but Mary persevered. Six months later, Mary was able to harvest more than 120 kg weekly. She immediately began selling the premium fruit at Ksh 80/kg to East African Growers Association (EAGA) and the Grade 2 fruit at Ksh 60/kg at the local market earning her more than Ksh 120,000 (\$1,412) in over a year. Zaddock, is now full of praise for his wife. "Because of this money from passion fruit my first born is now in



college, we can use this extra income to educate our children and better ourselves.” During the month, Mary and her husband were able to use their proceeds from passion fruit farming to buy a small calf at a cost of Ksh 6,500 (\$76) that will diversify their dietary needs and increase their income.

### Example 2: Women take the lead in agro-processing.

Sweet N’ Dried, in Tharaka Nithi County is women owned and managed agro-processor. They specialize in value addition of wellness and nutritional foods which is good for the family, using raw materials purchased from 60 local farmers. USAID-KHCP has provided processing equipment and a solar drier, technical support, and market linkages. By opening a dedicated sales outlet in the local Ndagani market this year, family nutrition is now constantly promoted to area residents. “We witnessed this model in Japan and Thailand during our marketing trips and are using it to add value to our area marketplaces,” says Mercy Mwende, Managing Director of Sweet N’ Dried. Sales moved from Ksh 16,000 (\$188) in January 2014 to Ksh 45,000 (\$529) in March 2014 with



Photo: USAID/Kenya

Sweet n’ Dried workers prepare sliced bananas for solar drying.

average customers per day rising from two to 15 in that period. Up to March this year, Sweet N’ Dried have sold Ksh 275,000 (\$3,235) of various packaged flour selections of pumpkin, sweet potatoes, arrowroots, bananas, maize, finger millet, and sorghum contributed to the growth. The company also uses some flour varieties to make cake sold to more than five other local markets.

### Example 3: Women adopting water harvesting technology.



Photo: USAID/Kenya

Nthanga Self Help Group farmers harvesting tomatoes.

The Kenya Rainwater Association (KRA) partnership with USAID-KHCP has established more than 80 water harvesting farm ponds in Makueni County. One example is the assistance provided to the 25 women members of Nthanga Self Help Group who depended on erratic rain fed farming in the drought prone Nguu location, leading to high crop failure rates.

The group got together in September 2013 to dig the dam, install a dam liner, and commission a drip kit. The inputs cost Ksh 125,000 (\$1,470) on their 1/8 acre demonstration plot. In November 2013, the group was able to plant tomatoes and during the harvest period from January to March 2014 they sold 55 crates of tomatoes each weighing 40Kg worth Ksh 80,000 (\$941) at the local market. Their success has generated interest

from neighboring farmers who are now excavating a similar structure.

#### Example 4: Women access financial services and credit in Bungoma

Farm Concern International is providing comprehensive business training to more than 20,000 farmers through a network of Commercial Villages; as well as linking them to sources of finance through partnerships with Equity Bank, Cooperative Bank, Wakenya-Pamoja, and the USAID-FIRM Credit Factory. One example of these linkages is the experience of 100 farmers (63 percent women) belonging to the Aringo Commercial Village and the LIDIP Commercial Village in Bungoma County. They have now accessed the largest concessionary loan ever received in the region by smallholder farmers, when they received equipment on credit worth Kshs. 2,413,107 (Aringo CV 1,206,981/= and LIDIP CV 1,206,126/=). The equipment included water pumps, ox-ploughs, pipes and water tanks, barbed wires and knapsack sprayers to be used for the dry-season production of water melon, tomato and kale. The payback period for the loan is 18 months at an interest rate of 8 percent (0.5 percent per month) inclusive of insurance cover and all other charges.



Photo: USAID/Kenya

Group members from the Aringo commercial Village showcasing their new equipment.

#### 2.2.2 Youth

USAID-KHCP prioritizes youth participation within their local farming communities as an important driver of sustainability and competitiveness, empowering them as entrepreneurs through trainings in leadership, marketing, and business skills. Technical assistance concentrates on building practical skills in commercial production, value addition and processing, and nursery management. During FY2014 the youth involved in the project increased steadily from 43,465 farmers to more than 48,871 young men and women in 2014, making up 21 percent of the total USAID-KHCP farmers.

The project, through its partners and business development service providers, has continued targeting youth-orientated agribusiness start-ups and skills training for new technologies that provide rapid returns on investment and quick-wins. Key interventions include modernizing and intensifying production on small plots through irrigation, greenhouses, seedling nurseries, sales and trading businesses, value addition, and micro-processing. USAID-KHCP is also integrating nutrition and business skill development within the youth-group empowerment activities. The stories below highlight a few examples of the youth who has been transformed through the project interventions.

### Example 1: Youths changed from fishing to agri-business



Photo: USAID/Kenya

*Mrs. Lucy Aketch, one of the members from the Madundu Support Youth Group (MSYG) displays their processed tomato.*

In Osiri Village, Homabay County, 16 male members of Madundu Support Youth Group (MSYG) had been relying heavily on fishing while the female members remained local vegetable traders. However, with the fishing trade becoming tougher due to climate changes around Lake Victoria, USAID-KHCP partner Animal Draft Power Program (ADPP) came in to support the group to find an alternative income, through training on vegetable production and extension services. A year later the situation has turned around positively for MSYG since they are now commercially planting tomatoes using drip irrigation. To further diversify their income from the products, ADPP in collaboration with the Ministry of Agriculture, Livestock and Fisheries, (MOALF) has introduced tomato sauce processing in the county which the group has wholeheartedly embraced. “As a fisherman I used to get a profit of Ksh 5,000 monthly after deducting all my expenses, now I make up to Ksh 86,000 a

month. I am even building a brick house that I never dreamed of owning before,” said Joseph Otieno, one of the group members. From his one acre plot, Joseph has been able to harvest 12 MT of tomatoes last quarter amounting to 185 crates at Ksh 1,400 per crate earning Ksh 259,000 (\$ 3,074 USD). MSYG are now receiving further value addition training to look into the processing of tomato jam and chili sauce.

### Example 2: Youth take up sustainable commercial farming.

In July 2013, Syngenta helped the 20 members of Tusuanie Vamwe Youth Group (TVG) in Ngelani, Machakos County in setting up a Young Plant Raisers nursery which holds up to 30,000 vegetable seedlings at full capacity. One seedling goes from Ksh 4-7 depending on the variety. From October 2013 to March 2014, the group has sold a total of 149,469 seedlings earning them approximately Ksh 597,876 (\$7,033).

Stephen Mutiso, TVG chairman, says the partnership with Syngenta enabled the group to unite youth in the villages in sharing interests. “Each member in the group has adopted some sort of commercial business practice,” states Syngenta agronomist Joseph Wambua Masela. Syngenta retails chemicals to the group at wholesale rates and TVG then sells them to farmers, and shows them how to use the same. The members have invested in cows, sheep, and goats, bought farms, built homes, paid college fees, and started other businesses.



Photo: USAID/Kenya

*Youth from the group planting seedlings.*

**Example 3: Greenhouse technology creates jobs in Meru:**

Mureithi, 29 years old from Meru County, was already thinking of tackling unemployment once he graduated Business College. He researched greenhouse vegetable production online and built his own 8m x 15m greenhouse with locally available materials. It cost him Ksh 5,000 (\$58). A similar greenhouse costs Ksh 200,000 (\$2,352) for installation with a 500 litre tank and a drip kit. Mureithi still didn't know about drip irrigation and plant feeding techniques. Although his first design was low in quality, he harvested greenhouse tomatoes worth Ksh 80,000 (\$941) over four months.



*Photo: USAID/Kenya*

*29 year old Eric Mureithi is now a consultant for the greenhouse builders in his area.*

Through partnering with Syngenta from early 2012, Mureithi learned and implemented a comprehensive package of crop agronomy, good farm practices, greenhouse and water management, and safer chemical use. He made a bigger greenhouse of 18m x 25m with drip, fertilizer and used hybrid seedlings in October 2013 costing Ksh 10,000 (\$117). In his October 2013 harvest, he got 19,000 Kgs in eight months from the new greenhouse. "I sold these at an average of Ksh 50 per kg making Ksh 950,000 (\$11,176)," Mureithi says. Since then, he has built six farmers greenhouses at an average of Ksh 45,000 (\$529) each. This includes the cost of labor and materials.

**2.2.3 Nutrition**

Micronutrients deficiencies in Kenya are a major public health problem exemplified by the fact that 76 percent of children under five are vitamin A deficient. The study commissioned by Action against Hunger international (ACF) in June 2013 indicated that over 10 million people in Kenya (around 32 percent of the total population) suffer from chronic food insecurity. Chronic malnutrition (stunting) affects 35 percent of children under the age of five years, and has seen little or no improvement since 2000 (KDHS, 2009). This situation calls for a multi-sectoral approach towards integrating and mainstreaming nutrition activities across the agricultural industry.

To strengthen its nutrition and gender intervention, USAID-KHCP completed a comprehensive dietary diversity and gender impact survey in August 2014 covering 20 counties, which is a follow-up to a similar baseline survey in 2013. The survey scope included the Household Dietary Diversity Score and the Women Individual Dietary Diversity Score. In addition to nutrition, the study also aimed to understand USAID-KHCP's impact on women's empowerment, gender sensitivity, and household gender roles (Women Empowerment in Agriculture Index, WEAI).

**Results from the survey**

The mean household size was found to be 4.9, with the average age of the household head as 47.9 years. The majority (85.1 percent) of the households was headed by a male and 86.5 percent of the 5,923 household members could read and write. These findings were comparable with those from the baseline survey.

The Household Dietary Diversity Score (HDDS) was assessed during two separate randomized surveys held in November 2013 and again in July 2014. They provided a measure of the household access to food. Twelve food groups were considered when computing this score. Overall households surveyed in July 2014 were found to have access to 6.99 out of the 12 food groups which include; Cereals, roots, Vitamin A- vegetables, Vitamin A- fruits, meats, eggs, fish, legumes, milk, oils, sweets, spices,<sup>1</sup> which was a slight reduction (2.9 percent) from the November 2013 survey value of 7.2. The correlation between

**Table 9: Household Dietary Diversity (HDDS) by county**

Meru	7.43
Kisii	7.28
Migori	7.22
Kisumu	7.16
Makueni	7.06
Kakamega	6.90
Nyamira	6.88
Homabay	6.79
Siaya	6.58
Busia	6.08
<b>Overall Mean</b>	<b>6.99</b>

Source: USAID-KHCP Survey Data, July 2014

cereals and roots; vegetables and fruits (excluding vitamin A rich vegetables and fruits) and milk. Conversely, the least consumed food groups by women were organ meats, eggs and vitamin A rich vegetables and fruits.

The major source of the vegetable was 'growing at home' reported by 65 percent of the sampled households, while 45 percent of the households reported that the major source of fruits was 'growing it at household'. This justifies the household level approach to both the agri-nutrition interventions focus and promotion of establishment of kitchen gardens.

<sup>1</sup> Sourced from the FAO 2013 FANTA household dietary source indicator guide- Swindale and Blinsky 2006

The multi-sectoral public-private partnership approach coordinated by the project is beginning to deliver national impact. A collaborative framework has been established between key NGOs, such as the African Medical Research Foundation (AMREF) and Farm Concern International, leading private-sector organizations including Meru Greens Horticulture, and national government represented through the Ministries of Agriculture, Health, and Social Services. As a result, 114,234 households to-date have been empowered through the dissemination of nutrition messages using the Applied Basic Agri-Nutrition Manual and toolkit; of which 105,583 new households were impacted during FY2014.

The village-based training included cooking demonstration using produce harvested from some of the 20,400 kitchen gardens that were established during the year. More than 3,500 manuals, 850 toolkits, and 500 M&E booklets, were distributed by AMREF in the 16 counties of Makueni, Machakos, Meru, Nandi, Uasin Gishu, Bomet, Bungoma, Kakamega, Vihiga, Busia, Kisumu, Siaya, Homabay, Migori, Kisii, and Nyamira to facilitate the Training of Trainers (TOTs). Since August 2014 the Agri-nutrition interventions have been widened to include Kericho, TransNzoia, and Elgeyo Marakwet counties. So far, more than 60 new specialists have been equipped through a TOTs process with skills to enable them train Community Health Volunteers in their respective counties.

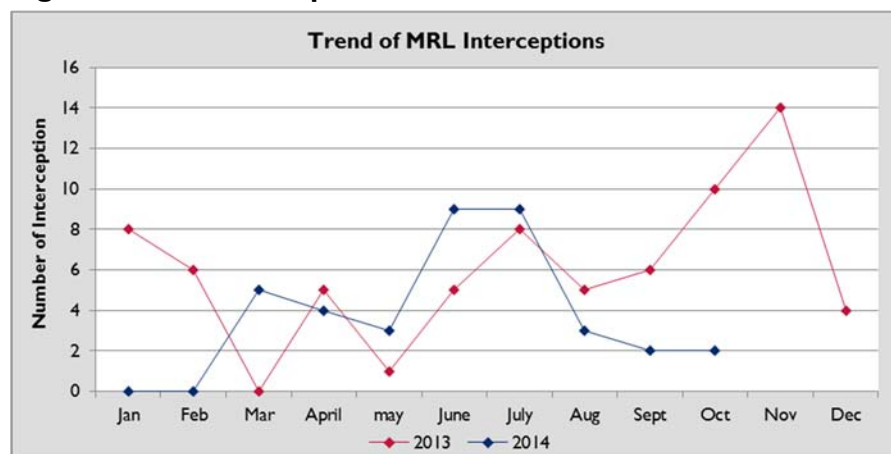
## **2.2.4 Marketing**

### **1) Standards and Compliance**

The Kenyan fruit and vegetable export sector generates some \$410 million in FOB sales per annum. It continues to face serious challenges with supplies to the key EU markets, mainly due to the issues of Maximum Residue Levels (MRLs) with pesticides which have been ongoing since early 2013. A more recent challenge since early July 2014 is the incidences of fruit fly in export consignments of fruits, vegetables and flowers to the EU. The export sector is the driver of change, innovation, and global competitiveness in the horticulture industry. It is of fundamental importance that lessons learned on export compliance are transferred across to the local market to provide an equal emphasis on food safety for the Kenyan consumers. An update of the industry's performance on standards and compliance is summarized below:

#### **Compliance with EU Maximum Residue Levels for Pesticides**

The EU imposed a higher level of phytosanitary inspections on incoming consignments of Kenyan peas and beans beginning in January 2013. Since then, numbers of formal notifications to KEPHIS (arising primarily from samples which exceed the MRL level) has been the barometer for measuring the level of compliance. The continuing trend of such notifications is summarized in Figure 3 below. The persistence of notifications undermines EU confidence in Kenyan control systems for export horticulture and demands a comprehensive approach to improving farming practices around applications of fertilizers and pesticides across the sector. The shortcomings in KEPHIS and HCD performance in terms of follow up to the action points recommended during the EU Audit of November 2013 have been of persistent concern to the industry. The replacement of the Managing Directors of both organizations by the government in August 2014 signaled a new emphasis on tackling the issues.

**Figure 3: MRL Interceptions**

Source: KEPHIS reports

There has been a significant drop on the notifications between July and October 2014 compared to the same period in 2013 as depicted in Figure 3. This may be attributed to a complex range of factors including the increasingly serious penalties imposed by Kenyan regulators on exporters whose shipments into the EU incur a notification. These include an export license suspension for at least one month for exporters who get three or more notifications and enforcement of regulations for destruction of produce that does not meet the requirements.

USAID-KHCP has played a key supporting role in addressing the underlying issues of farm-level compliance that lead to pesticide residue issues through a series of export forums to create awareness and encourage public-private action. The collaboration with FPEAK has delivered a total of 449 training events on standards and compliance targeting over 21,440 smallholder farmers during the year under review. New measures being implemented by FPEAK and its members include up-scaling traceability systems being enforced by HCD and greater emphasis on professional spray gangs under tighter management supervision.

### **Compliance with EU “harmful organisms” notifications for fruit fly**

In FY2014 Kenya also received an official warning from the EU on the notification of harmful organisms (fruit fly) identified in consignments of mangoes, Karella (a type of Asian vegetable), as well as Gypsophila and Eryngium flowers. This is significant because it indicates a well-known pest is having impact across all three export categories of fruit, vegetables, and flowers.

USAID-KHCP is continuing to scale up activities with smallholder mango farmers contracted to supply top quality fruit to East African Growers and KEITT exporters. The focus is on agronomic training and enforcing use of integrated pest management techniques such as fruit fly traps. The threat from fruit flies demands a higher level of response across the horticulture sector and the project is evaluating new collaborative efforts with PIP-COLEACP and leading exporters in the sector.

## **2) Policy and Industry**

### **Merger of key Parastatals**

The Kenya Agricultural and Livestock Research (KALR) Act 2013 (No. 17 of 2013) was enacted to establish the Kenya Agricultural and Livestock Research Organization (KALRO) to coordinate and facilitate all aspects of Agricultural, Livestock and Fisheries research and development. The Act consolidates all research organisations into one directorate with key objective of realizing efficient and effective service delivery to the industry.

Under the Agriculture, Fisheries and Food Authority (AFFA) Act 2013, a board has since been constituted. The functions of the Horticulture Crops Development Authority (HCDA) are now being coordinated within AFFA under the new mandate of the Horticultural Crops Directorate (HCD). However, the Pest Control Products Board (PCPB) and the Kenya Plant Health Inspectorate Services (KEPHIS) retain their autonomous regulatory status with global responsibilities.

### **Economic Partnership Agreement.**

The delay in signing the Economic Partnership Agreement (EPA) between the EU and the East African Community was only resolved in mid-October 2014 upon signature. This has triggered a “temporary” period of 3 to 6 months during which time EU importers of Kenyan flowers, fruits, vegetables, processed products, and fish will pay duties ranging from 5 percent to 20 percent. Kenyan exporters are consequently incurring extra costs of approximately 7.7 million U.S. dollars monthly after losing duty-free status; which will only resume once all the EAC and EU Governments have fully ratified the EPA agreement.

### **National Horticulture Task Force.**

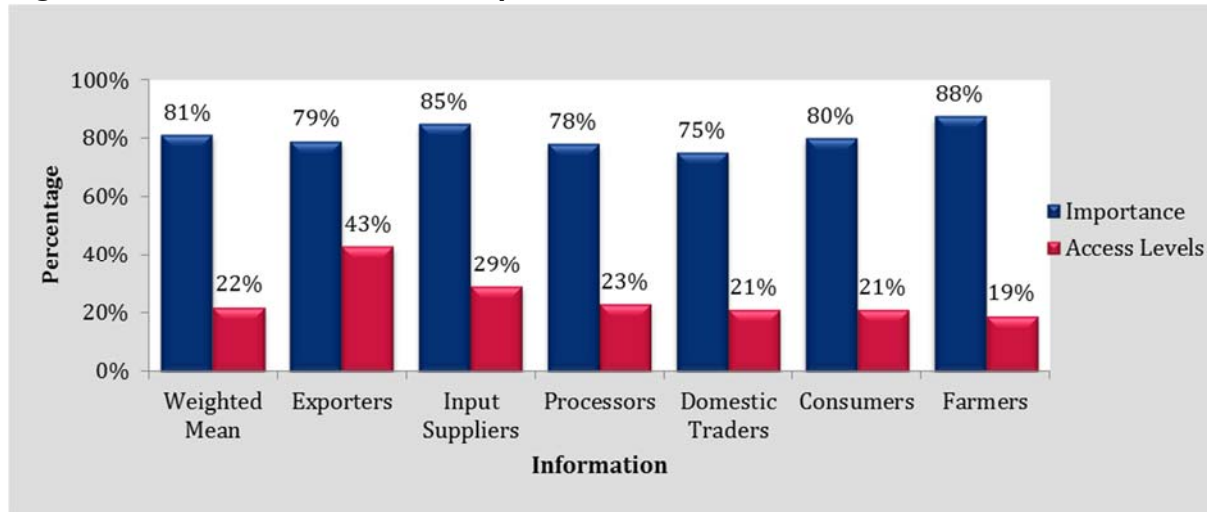
This consultative forum is currently inactive and has severely restricted USAID-KHCP interaction on policy matters during FY2014.

## **3) Market Information Systems**

### **NaHMIS**

USAID-KHCP facilitated the market information systems (MIS) baseline survey as part of the National Horticulture Market Information System (NaHMIS); a multi-stakeholder initiative to provide reliable information on crop prices to the Kenyan horticulture industry. Findings indicate that the level of horticulture information access stands at 22 percent, with 81 percent of respondents indicating that this information would be of importance to them. The report indicated that most farmers accessed information through radio and television programs at an average of 19 percent and 10 percent respectively.



**Figure 4: Overall Access Level & Importance**

Source: NaHMIS December 2013 Survey

Across the value chain actors, the level of access ranges from a low of 19 percent (farmers) to a high of 43 percent (exporters). HCD has since implemented the recommendations related to the purchase of IT equipment identified in the baseline survey.

### MIS bulletins

During the year, a total of ten market information analyses were disseminated by USAID-KHCP to a readership of more than 18,000 subscribers. These include: the commercial review of farm performance in pulses and passion fruit, bi-monthly domestic and export market bulletins, and three Gulf-market surveys covering Muscat, Dubai, and Jeddah.

### National crop data

USAID-KHCP facilitated printing of 550 copies of the National Horticulture Validated Report 2013, which have since been disseminated to national and county governments, development partners, and other industry players.

### County Government

USAID-KHCP under the FCI partnership, and in collaboration with county governments of Kisii, Migori, Bungoma, Kisumu, and Homa Bay, are putting up market information boards at the main wholesale markets. The boards will be used to provide information on wholesale prices of products and announcements from buyers.

## 4) Horticultural Export & Trade Promotion

### Horticulture Export Performance

Benchmark data from the Kenya National Bureau of Statistics for exports of fruits, vegetable and flowers to all international and regional markets over the eight month period of January to August 2014 are shown in Table 10. The overall volume remained stable at 320,000MT whilst the value increased by 10 percent in 2014 compared to a similar period in 2013.

**Table 10: Horticulture Export Results**

Period		JAN	FEB	MAR	APRI	MAY	JUNE	JULY	AUG	Total
2013	Quantity (MT)	40,014	43,041	39,595	40,087	42,574	38,486	39,785	37,261	320,843
	FOB (Million Ksh)	8,356	9,646	8,045	7,775	8,013	7,250	7,221	6,314	62,619
2014	Quantity (Mt)	39,439	38,654	43,619	38,328	39,901	39,408	42,593	38,517	320,459
	FOB (Million Ksh)	9,114	8,559	9,695	8,076	9,078	8,373	8,501	7,316	68,712

Source: Kenya National Bureau of Statistics (KNBS)

Looking in more detail at the key crop sectors as per Table 11 shows that over the eight month period of January to August 2014 flower exports have delivered strong growth of 21.8 percent in FOB value compared to last year, with fresh vegetables stable year on year. The successful mango season powered the 26.5 percent increase in fruit export values. Processed vegetables, mainly canned beans, have had a difficult start to the year.

**Table 11: Sector Analysis on Export Trend**

Type-2013	Jan-August* 2013		Jan-August* 2014		percent change	
	Quantity (MT)	FOB (Million Ksh)	Quantity (MT)	FOB (Million Ksh)	Quantity	FOB value
Flowers	82,478	30,571	89,208	37,242	8.2 %	21.8%
Fresh Vegetables	46,490	11,487	55,694	11,953	19.8%	4.1%
Fruits	34,112	2,859	37,919	3,617	11.2%	26.5%
Processed Vegetables	21,464	5,562	22,436	4,484	4.5%	-19.4%
Total	184,544	50,479	205,256	57,296	11.2%	13.5%

Source: Kenya National Bureau of Statistics (KNBS)

### Trade Promotion activities

USAID-KHCP continued to scale up trade promotion activities as summarized below:

#### **YALI**

Eric Muthomi, the CEO of Stawi Foods, a microprocessor supported by USAID-KHCP, participated in the Washington Fellowship for Young African Leaders, following his sterling performance in promoting banana value addition activities. Muthomi was awarded a grant by YALI of \$23,529 which will be issued out in December 2014, aimed at scaling up business operations.

#### **Hungary market**

Stawi Foods received its first significant international export opportunity with an order for 6 tons of banana flour from a buyer in Hungary. This order is currently being processed after the cold season

delayed the drying of the bananas. Successful delivery of this trial shipment will open up larger markets for banana smallholder farmers.

### **Anuga Trade Fair**

USAID-KHCP sponsored the participation of Mace Foods Ltd at the Anuga Fair held in Berlin in August 2013. Mace Foods has since established market connections in South Korea, Austria, Finland and Netherlands. A Dutch company, AHECO, has now placed a follow-up order with Mace Foods for one 20 foot full container load of 17 assorted locally processed Kenyan food products to be delivered in Q1 of FY2015.

### **France Value Chain tour**

Collaboration between USAID-KHCP and FAO organized a week-long study tour in France for 14 delegates from a mix of public and private sector organizations to evaluate market infrastructure and procurement systems.

### **Fruit Logistica Trade Fair**

USAID-KHCP participation at the 2014 Fruit Logistica set up linkages between Kenvado Exporters and Fairtrasa based in Switzerland. This linkage has resulted in ten 40 ft container shipments of avocado by sea with a total FOB value of \$194,304. This has opened up markets for over 350 smallholder farmers.

### **United Kingdom Passion fruit market**

Equatorial Hortifresh have been linked up to a major importer in the UK, who has issued a six months' contract of passion fruits. The first order is expected to be shipped on 30<sup>th</sup> of October 2014.

### **Ethiopian regional trade tour**

USAID-KHCP hosted three Ethiopian delegations composed of senior government officials from the Amhara National Regional State under the Government of Ethiopia, to learn value addition strategies



Azuri's new packaging now selling in Nakumatt and Chandarana branches and soon to be listed in Tusks



Nyangorora Banana Crips listed in Chandarana Supermarkets



Stawi's easy to cook porridge flour for family and junior selling in Nakumatt branches and other estate supermarkets



and other farming technologies.

### **Machakos County Trade Fair**

The USAID-KHCP booth with partners operating in SA2 was aligned with the theme of “*Enhanced productivity and sustainable market linkages for the fruit farmers*”. The Minister for Agriculture Machakos County applauded the partnership with USAID-KHCP for continued collaboration on mango postharvest losses through installation of solar dryers. The county government is keen on scaling up installing of more solar dryers to reduce the perennial losses of fruit and vegetable during peak seasons.

### **Nandi County Agricultural Trade Fair**

The Nandi Show themed “*Enhancing Technology in Agriculture and Industry for Food Security and National Growth*,” was supported by USAID-KHCP and USAID-KAVES in collaboration with six local partners who interacted with more than 1,000 people including farmers, students, and private and public investors in agriculture. From the 200 registered exhibitors, the stand emerged the 2nd best after the County Government, in supporting the show’s theme.

### **Market Development**

Product promotions were held for Azuri Ltd, Stawi Foods Ltd, and ICOBO Ltd covering a wide range of fortified flour mixes including OFSP, banana, pumpkin, amaranth, and selected African Leafy Vegetables. These consumer awareness campaigns have seen sales of all the micro-processors involved grow more than 100 percent after the exercise.

### **Passion fruit regional market research**

Close collaboration between the Export Promotion Council (EPC), Equatorial Hortifresh, and USAID-KHCP during a regional market survey on Kenya’s passion fruit trade in Uganda and Rwanda has provided insight into commercial marketing opportunities for Kenyan exports. The study identified new opportunities for export of fruit pulp (passion fruit, mango) into Rwanda which will in turn; service the expanding fruit juice market within the eastern regions of DRC.

### **Collaboration with COLEACP**

COLEACP under its Pesticide Initiative Program (PIP) is undertaking the sponsorship of 50 farmers under Equatorial Hortifresh for full certification of GLOBALGAP to support the start of passion fruit exports to the EU.

### **Collaboration with JICA**

JICA’s One Village One Product (OVOP) Project has benefited microprocessors under the USAID-KHCP support including Sweet n Dried, Christian Impact Mission (CIM), Huruma Women’s Group, and Nyangorora Banana Processors improving their business and processing competencies.

## **5) Value Addition**

The technology fund has had a huge transformational impact not only on the businesses of the microprocessors, but to smallholder farmers who can now supply a consistent market for their

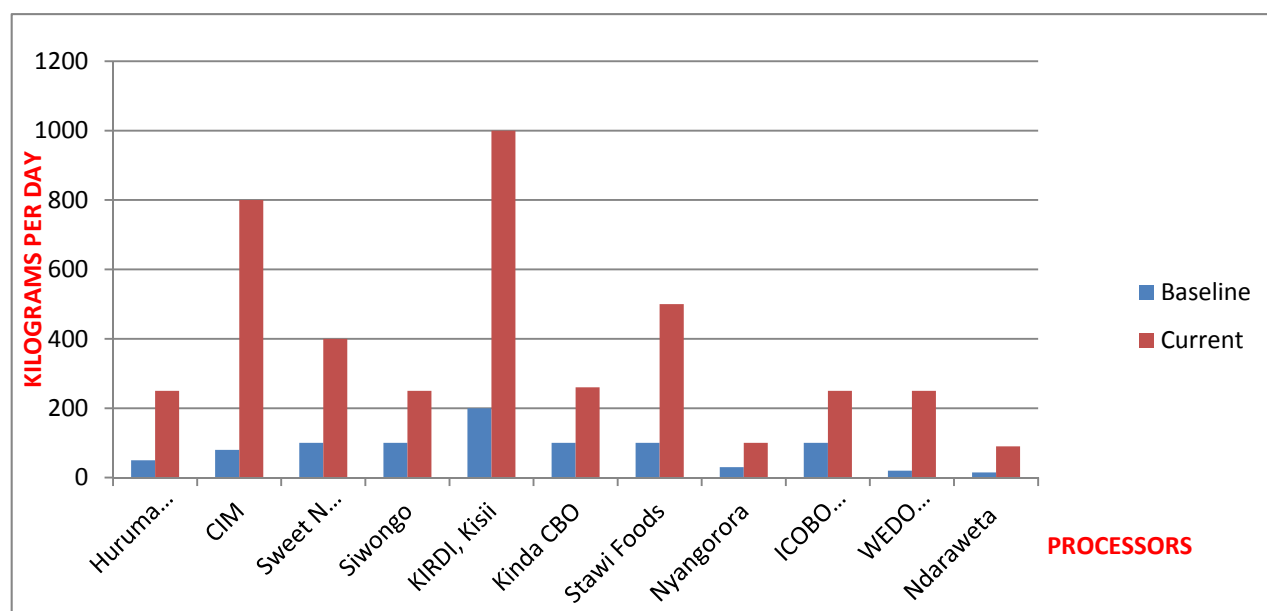
products. USAID-KHCP is working with the processors to ensure they have consistent plantings scheduled with the farmers. The farmers do not have to operate under market pressure on glut production as most of their products can now be dried, achieving the project's objectives on food security, nutrition and incomes. These dried products are feeding into bakeries, shops, local supermarkets and now venturing into the African ethnic shops in the international markets. The summary breakdown of the key value addition businesses, and their respective product range, which are being supported under USAID-KHCP is given in Table 12 below.

**Table 12: Sector Analysis on Export Trend**

PROCESSOR	COUNTY	USAID-KHCP Intervention	PRODUCTS
<b>Huruma women</b>	Makueni	Solar dryer, disc mill, tables, chippers, weighing machine	Composite flour, dried mangoes, OFSP flour, pumpkin flour, OFSP crisps
<b>CIM</b>	Machakos	Bakery equipment, Packaging, solar dryer	OFSP bread
<b>Sweet N Dried</b>	Tharaka Nithi	Hammer mill, solar dryer, market linkage, lab equipment	Dried mangoes, dried ripe bananas, green banana flour, arrowroot flour, pumpkin flour
<b>Siwongo</b>	Busia	Solar dryer, hammer mill, market linkage	OFSP flour
<b>KIRDI, Kisii</b>	Kisii	Solar dryer, equipment for the incubated processors	OFSP bread, OFSP flour, banana crisps, banana flour, dried leafy vegetables
<b>Kinda CBO</b>	Homabay	Solar dryer, bakery equipment	OFSP bread
<b>Stawi foods</b>	Nairobi	Mill, roaster, Lab equipment, sealer machine	Composite flour, banana flour
<b>Nyangorora processors</b>	Nyamira	Deep fryer, packaging, generator	Banana crisps, banana flour
<b>ICOBO Limited</b>	Meru	Market promotion, solar dryer, packaging	Banana flour, arrowroot flour, composite flour
<b>WEDO Foods</b>	Meru	Solar dryer	Banana flour
<b>Ndaraweta Limited</b>	Bomet	Deep fryer, slicer, curing chamber	Potato crisps

Figure 5 below depicts the processing trends before and after USAID-KHCP's intervention. The combination of technical support and provision of specialized processing equipment from USAID-KHCP interventions has been the catalyst for a rapid increase in processing output across each of the microprocessors since the start of the Technology Fund disbursement in February 2013. The graph in Figure 5 below shows the difference in output (measured in Kg/day of packed product ready for sale) of the various processors using the February 2013 manufacturing capacity as a baseline and September 2014 data as the current manufacturing capacity.

**Figure 5: Kilograms processed per day by Technology Fund recipients**



This growth in manufacturing output is reflected in the consolidated value of sales from all of the processors supported under USAID-KHCP which has increased from \$205,057 in FY 2013 to \$1,244,074 in FY2014. The main challenges USAID-KHCP has since identified from the exponential growth experienced by the processors, include business skills and access to finance to satisfy the high demand for their products. USAID-KHCP is addressing this in FY2015 by linking them to USAID-FIRM and USAID-KAVES for sustainable scale up, on the commercial foundation laid by USAID-KHCP.

### III. ACTIVITY PROGRESS (QUANTITATIVE IMPACT)

For the reporting period the key result areas are as follows:

- Since inception, the project has benefitted 232,722 rural farming households, 103,171 male (44 percent) and 129,551 female (56 percent) against the target of 190,000 households by end of FY2014 and the life of the project target of 200,000 households. This is an achievement of 22 percent above FY2014 target.
- In FY2014, 84,758 new rural farming households (36,648 male and 48,110 female, of which 17,799 are youth) were registered against the target of 50,000 new households, an achievement of 70 percent above FY2014 target.

Figure 6 below shows the cumulative trend of rural households benefiting targets to date, both male and female. Currently, the number of households achieved is 22 percent above target. Most of the new households registered during FY2014 are involved with agri-nutrition activities coordinated through AMREF, FCI, and other partners.

**Figure 6: Cumulative Households Achieved vs Target**

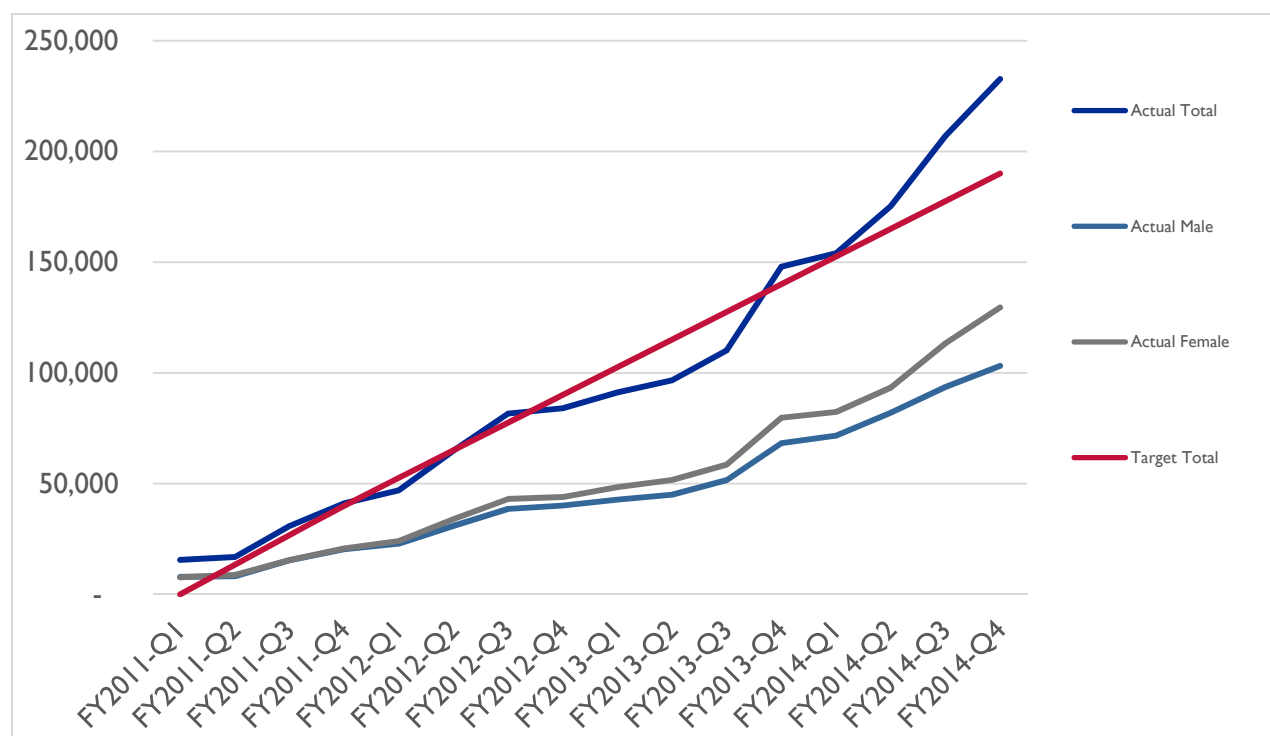
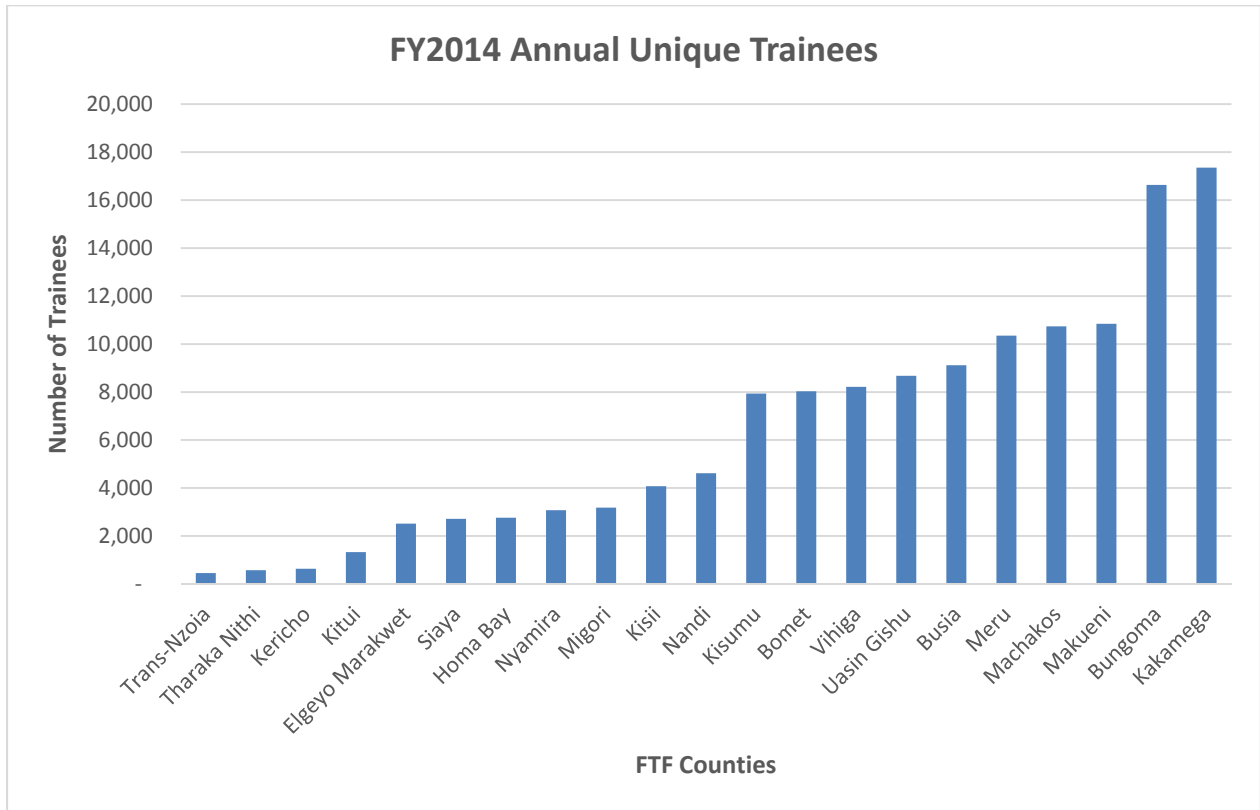


Figure 7 below shows the distribution of unique trainees among the 21 FTF counties where the project intervenes. In FY2014, the project reached 133,836 unique trainees (56 percent female and 44 percent male). The variation in levels of training activities is based on adjustments of partners' work plans with farming seasonality.

**Figure 7: FY2014 Annual unique trainees**





**Table 13: Summary of USAID-KHCP FY2014 Indicator Performance Data**

	Indicator	FY10	FY13	FY2014		Life of Project (LOP)	Unit of Measure	
		Baseline	Actual	Target	Actual	Target		
1	Number of rural households benefiting from USG interventions	N/A	147,964	190,000	232,722	200,000	Households	
	Males	N/A	68,219	87,593	103,171			
	Females	N/A	79,745	102,407	129,551			
2	Gross margin per unit of land, kilogram, or animal of selected product US\$/Hectare					14,000	US\$/Hectare	
	Passion Fruit (Purple)	5,734	6,983	7,120	6,242			
	Tomato	1,856	3,824	3,900	4,192			4,000
	Sweet Potato	588	983	1,100	1,062			2,000
3	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	0	104,453	157,700	149,353	180,000	Farmers	
	Males	0	51,644	82,170	83,584			
	Females	0	52,808	75,530	65,769			
4	Number of hectares under improved technologies or management practices as a result of USG assistance		24,642	27,682	34,776	29,139	Hectares	
5	Number of technologies or management practices in one of the following phases of development: Phase III: made available for transfer as a result of USG assistance		2	2	2	8	Technologies/ Management Practices	
6	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	N/A	62,471	75,000	133,836	200,000	Individuals	
	Males	N/A	28,726	33,750	59,062			
	Females	N/A	33,745	41,250	74,774			
7	Number of people implementing risk-reducing practices/actions to improve resilience to climate change as a result of USG assistance	N/A	103,288	152,000	148,129	160,000	Producers	
	Males	N/A	51,228	83,600	65,177			
	Females	N/A	52,060	68,400	82,952			
8	Value of incremental sales (collected at farm-level) attributed to FTF implementation	5.4	27	29.2	21.1	23.70	US Million	
	Passion Fruit (Purple)	9.4	7	10.3	3.3	8.40		
	Tomato	1.6	17	15.0	11.4	11.10		
	Sweet Potato		4	3.9	6.5	4.20		
9	Value and volume of exports of targeted agricultural commodities as a result of USG assistance		9,485	246	239	24,201.23	US Thousand	
			3,825	234	214	7,865.87	MT	
	Passion Fruit	33	188	73	193	438.43	US Thousand	

	Indicator	FY10	FY13	FY2014		Life of Project (LOP)	Unit of Measure
		155	156	124	154	383.22	MT
	Peas	3.04	1.07	1.78	1.06	3,397.65	US Thousand
		260	455	393	592	750.35	MT
	Beans	43.02	8.17	10.6	7.27	20,227.56	US Thousand
		23.19	3.15	3.5	3.28	6,623.33	MT
	Tomatoes	43.15	49	48.3	46.4	134.29	US Thousand
		61	58	68	57	105.59	MT
	Sweet Potatoes	4.5	5	4.9	7.9	3.29	US Thousand
		5.7	5	6.4	3.4	3.38	MT
10	Number of people trained in child health in nutrition		7,299	70,000	105,583	140,000	Individuals
11	Number of new fortified products introduced by commercial partners		6	4	6	8	Fortified Products
12	Volume and Value of processed ingredients for nutritionally enhanced products		164	1,260	1,077	1,680	MT
			205,057	650,837	1,244,074	964,203.93	USD
13	Percent change in Household Dietary Diversity Score (HDDS)		N/	15.1%	-	22.6%	Percent
14	Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation		3.83	4.5	4.04	7.21	US Million
15	Numbers of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case:						Policies
	Stage 1: Analyzed						
	Stage 2: Drafted and presented for public/stakeholder consultation		3	1	0	4	
16	Number of public-private partnerships formed as a result of FTF assistance		28	4	5	45	Partnerships
17	Average percent change in score on key areas of organization capacity amongst USG direct and indirect local implementing partners		64%	10%	-	20%	Percent
18	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		4,532	5,200	5,541	4,000	Private Enterprises, etc
19	Proportion change in number of women in leadership positions in partner producer groups		50%	48%	45.8%	50%	Percent
20	Number of women's organizations/associations assisted as a result of USG supported interventions		2,066	2000	2,830	2,000	Associations
21	Percentage change in the difference in mean scores of the Individual Dietary Diversity Score (IDDS) for reproductive aged women and the Household Dietary Diversity Score (HDDS from indicator 13)		N/	-5%	-16%	-10%	Percent

	Indicator	FY10	FY13	FY2014		Life of Project (LOP)	Unit of Measure
22	Proportion of female participants in USG-assisted programs designed to increase access to productive economic resources		54%	45%	55.7%	45%	Proportion
23	Proportion of target population reporting increased agreement with the concept that males and females should have equal access to social, economic and political opportunities		2.9 out of 5	N/A	3.7 out of 5	TBD	Proportion

## **FY2014 ANNUAL INDICATORS PERFORMANCE EXPLANATORY NOTES**

### **Indicator 1**

Annual target of 190,000 rural households benefitting was surpassed by 42,722 mainly due to agri-nutrition beneficiary households resulting from the partnership with AMREF.

### **Indicator 4**

FY2014 figure of 34,776 refers to hectares where one or more improved technologies or management practices have been undertaken within the financial year.

### **Indicator 6**

Annual target of 75,000 individuals who received short-term agricultural sector productivity or food security training was surpassed by a significant level of 58, 836 individuals mainly due to agri-nutrition trainees.

### **Indicator 9**

The data for the volume of national horticulture exports originates from the Kenya National Bureau of Statistics (KNBS). USAID-KHCP attributes 6 percent of FOB value of exports for five targeted crops (passion fruit, peas, beans, tomatoes, sweet potatoes) as a fair representation of the project impact on exports market as result of USG assistance to the project.

### **Indicator 13**

There has not been sufficient time frame in the project to realistically measure percent change in HDDS using the survey data from November 2013 and July 2014.

### **Indicator 17**

End-line data for the organization capacity assessment for this indicator has not been collected at the time of producing FY2014. However the end-line data will be collected during FY2015 Q1 and the indicator findings will be shared in the end of the project report in FY2015.

### **Indicator 21**

Percentage change in the difference in mean scores of the Individual Dietary Diversity Score (IDDS) for reproductive aged women and the Household Dietary Diversity Score (HDDS from indicator 13) shows, on average, 16% reduction in nutrition gap or deficiency between the whole household food

crops intake and food crops consumed by women in the same household.

## **IV. CONSTRAINTS AND OPPORTUNITIES**

Improvements in farm gross margins, and the expanding investment in new technology, provide a sustainable economic foundation for continuity of marketing and agribusiness linkages in future after the end of USAID-KHCP in February 2015. Key opportunities lie in the following areas:

- Passing the necessary legislation to standardize a 50kg bag weight for potato and sweet potato crops – this alone could improve farmers net return per kg by some 35%;
- Harmonizing and rationalizing the multiple County-based levies and taxes (known as “Cess”) that are imposed on horticultural produce. In particular to move away from a system based on a charge per bag to one based on kg;
- Widen the fertilizer subsidy program to include lime and make soil testing a mandatory requirement for farmers wishing to access subsidized inputs;
- Focus more resources on small-scale water harvesting programs targeting the ASAL areas – possibly through a low-interest credit scheme with the banking industry;
- Implement a modernized traceability system for the export sector within 18 months using a combination of bar coding and centralized grower databases;
- Strengthen the linkages between the Horticultural Practical Training Center in Thika and the key agricultural decision makers at County level to upgrade and incentivize the skills training on GAP compliance to extension officers.

More strategic constraints facing Kenya’s agricultural industry need to be resolved at County or National level. Key areas for improved implementation of the National Horticultural Policy would include effective extension delivery, infrastructure for wholesale markets, water resources, and irrigation schemes, harmonized trade agreements within the EAC, and improved transportation logistics.

## V. PERFORMANCE MONITORING

Monitoring and evaluation activities in the reporting period included:

- USAID-KHCP commissioned crop productivity surveys to evaluate performance of crops grown during short rains (October–December 2013) and long rains (March-May 2014) for 1,200 farmer households. The survey was conducted by USAID-KHCP M&E subcontractor, Center for User Research Africa (CURA)
- CURA enhanced support to all partners for capacity building of partner M&E systems
- USAID-KHCP M&E team undertook internal Data Quality Assessments (DQA) for graduating partners and continuing partners resulting in improved M&E data flow and accuracy into CIRIS.
- Enhanced technical capacity of the M&E team through workshop training with the new M&E specialists on CIRIS and cleaning data. The workshop provided interactive discussions with national partners where challenges were shared and recommendations made to improve data management, information flow, communication and reporting as the project nears the end date.
- Farm Concern International carried out a baseline survey for the new contract focusing on scaling up commercial villages business model targeting Kisumu, Homa Bay, Migori, Bomet, Vihiga, Bungoma, and Busia.
- End-term review of Phase I of agri-nutrition AMREF partnership with USAID-KHCP which informed scaling up of agri-nutrition in Phase 2 of the partnership with AMREF
- The project commissioned assessment of gender competencies, training and communication need of beneficiary famers and community level stakeholders (commercial organizations and CBOs). The assessment was conducted by Collaborative Centre for Gender and Development (CCGD)
- The project also supported and participated in various forums such as value chain trade fairs at county level, partners graduations ceremonies (KRA, CREADIS, C-MAD), KARI agri-nutrition exhibition in Embu County where the project disseminated agri-nutrition manual, CIM M&E workshop with ASA, County Investors Forum, Civil Society Scaling Up Nutrition (SUN) forum linking nutrition to horticulture, among many others.
- Finalized baseline and end-line dietary diversity and gender impact study. The study showed findings from 20 counties on access to food at household level (Household Dietary Diversity Score -HDDS), nutrient adequacy for women as individuals (Women Individual Dietary Diversity Score -WDDS) and impact on women’s empowerment, gender sensitivity and household gender roles (Women Empowerment in Agriculture Index, WEAI). The study was conducted by USAID-KHCP M&E subcontractor, Measure Africa.

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

During the reporting period, potential adverse impacts identified included soil erosion, disease and pest outbreaks leading to overuse of pesticides, and misuse of organic and inorganic fertilizers. On mitigation, 127 trainings on environmental management were conducted with 5,857 (49 percent women) farmers benefiting. An additional 136 training events were conducted with 5,896 participating farmers (male-3055, female 2841) covering waste and pollution management and safe use of pesticides. Five regional trainings on GAP related to environmental management were conducted in Machakos, Eldoret, Bungoma, Kisii and Busia involving 170 participants from local institutions, County officials, and private farmers.

To encourage environmental conservation, over 2,066,667 new trees were planted during the long rains from tree nurseries supported by USAID-KHCP partners. To avoid proliferation and distribution of infected or inappropriate planting material, nine nursery operators were trained on nursery management and another 513 farmers trained on use and importance of clean planting materials.

The fruit nursery at the FPEAK Horticultural Practical Training Center, Thika was inspected and certified by KEPHIS and is now one of the major fruits tree distributors in the country with a capacity of over 250,000 seedlings per year. USAID-KHCP were joint sponsors of a national workshop on how to control a “new” tomato pest known as *Tuta absoluta* with 361 stakeholders attending led by KARLO, State Department of Agriculture, agrochemical dealers, scientists and farmers with representation from all of the FTF counties.

## VII. PROGRESS ON LINKS TO OTHER USAID PROGRAMS

Highlights of specific linkages with the other USAID programs are as follows:

- The USAID-Aphia Plus programs in Western Kenya, World Vision, Kenya Red Cross Society, are the leading consortium partners using the Agri-Nutrition Training Manual developed by USAID-KHCP.
- APHIA Plus Imarisha programme was supported to train 19 ToTs and 88 Community Health Workers in Turkana who are expected to reach more than 10,560 local people with nutrition education. The project also trained 22 ToTs in Isiolo and Wajir to integrate agri-nutrition in their activities.
- USAID-KHCP presented the Agri-Nutrition manual and toolkit at the ABEO Chief of Party meeting in July 2014 thereby generating new dialogue with the REGAL IR project, ADESO, FIPS Africa, and KALRO on rolling out nutritional messaging particularly in the ASAL areas.
- Collaboration with the USAID-Farmer to Farmer program under Catholic Relief Services (CRS) was formed to provide new linkages to access international expertise for partners.
- Integration with the Kenya Feed the Future Innovative Engine (KFIE) continued with the USAID-KHCP Senior Capacity Building Manager co-opted as a member of the Investment Advisory Committee.
- The long-standing collaboration with USAID-FIRM has been targeting affordable credit resources to smallholders in Meru County and Western Kenya. In Migori, eight Commercial Producer Groups (CPGs) and 1 youth groups are benefitting from linkages to credit for farm inputs amounting to Kshs 2.6million.
- USAID-KHCP field staff shares offices with USAID-KAVES in Eldoret and Kisumu to facilitate synergies on work plans throughout HRI. More strategic liaison at management level between the two projects ensures that this collaboration extends across all counties.
- Collaboration with the Global Alliance for Improved Nutrition (GAIN) continued in two forums on Kenya Marketplace for Nutritious Foods and Strategies for transforming agriculture in Africa.

## VIII. PROGRESS ON LINKS WITH GOK AGENCIES

USAID-KHCP is working closely with the Government of Kenya, at both national and county level, in production, postharvest, nutrition, marketing, policy and export. Highlights of specific linkages with the GOK agencies are as follows:

- More than 310 staff members from the MoALF, MoH, and MoLSSS have been qualified as Trainer of Trainers status under the Applied Basic Agri-Nutrition rollout.
- Twenty five Machakos County government staff were trained on postharvest and value addition technologies to reduce losses on mango and African Leafy Vegetables.
- Supported 16 County Governments to roll out Agri-Nutrition at household level and provided the 3500 training manuals, 850 toolkits and 16,000 brochures and posters.
- Coordinated two export forums with the membership of FPEAK, KEPHIS, HCDA, and the Pest Control Products Board (PCPB) focusing on peas, beans and export compliance.
- Participated in two World Food Day forums in Meru and Makueni counties in conjunction with the MoALF.
- Supported and hosted two forums organized by FPEAK for the delegation of senior officials from the Amhara National Regional State under the Government of Ethiopia sponsored by the Programme for Agro-Business Induced Growth (AGRO-BIG) in Ethiopia.
- The project has supported the county government of Makueni and the Kenya National Irrigation Board through two farmer's forums to resolve issues hindering full utilization of the 800 acre drip irrigation scheme in Kibwezi. Final report was submitted to the Makueni County Governor.
- Supported the Mango processing forum organized by KEITT in conjunction with the Machakos County government.
- Supported the Meru potato forum where the Chief Officer, MoALF, Meru County appreciated the excellent job USAID-KHCP and KENAFF has done in the potato sector.
- Participated in the Market Trade Fair, organized by the Machakos County Government with the theme of: "Enhanced productivity and sustainable market linkages for fruit farmers."
- One hundred and thirty nine youths were trained on youth integration facilitated by the staff from the MoLSSS (Youth Division) at County level. As a result, the trained youths disseminated information to other youths from their groups totaling to 98 (males 35, Females 63).
- More than 129 (Males 69, Females 60) partners and stakeholders were trained on gender mainstreaming and empowerment in horticulture value chain facilitated by MoLSSS (Gender Division) at county level. The trainees disseminated information to 213 (94 males, 119 females) community members from their groups.



## IX. PROGRESS ON USAID FORWARD

USAID-KHCP continued to work with dedicated business development service companies to strengthen the organizational capacity of partners in four focus areas:

### ***Postharvest and processing technologies***

Experts from the University of Nairobi are providing commercial consultancy and technical services through the partnership with Quality Systems Management (QSM) to more than twenty local partners and agro-processing companies on postharvest technologies and value addition. During the year, QSM was able to build the skills of more than 40 partners and micro-processors and create a sustainable market for over 100,000 smallholder farmers.

To reduce the smallholders farmers post-harvest loses, QSM designed, fabricated and established 15 solar driers, 4 sweet potato curing chambers, 3 banana ripening chambers and 3 charcoal coolers in selected counties as learning center's for farmers. Through these initiatives, nutritious agro-products (Banana, Sweet potato, Mangoes, Passion, Vegetables, Tomatoes, Amaranth, Peas, and Pumpkins) have been developed, processed and are now available in the market.

### ***Organizational capacity***

The partnership with ACT! is strengthening the institutional management and governance systems for ten local partners. The trainings cover governance, leadership and team dynamics, administration, organization management, human resources, program/project management, and project sustainability. The joint workshops, onsite and online tailor-made mentoring and coaching exercises for each partner culminated in the following results:

- 5 Organizations now have approved Board manuals
- 3 Organizations have Resource Mobilization (RM) Strategies
- 6 Organizations have Human Resource policies and procedures manuals
- Enhanced supervisory skills for 6 managers with individual action plans on implementation of the supervisory skills.
- 1 partner now has a new operational M&E system and a Strategic Plan that is in the process of validation.
- 1 Business plan developed and is being implemented

### ***Marketing, commercialization and finance capacity***

As a result of FCI empowerment, Commercial Village leaders have signed business agreements with different financial institutions including Equity Bank, Wakenya Pamoja SACCO, SISDO, USAID-FIRM and Kenya Commercial Bank. FCI have also been able to link farmers with the market which has resulted in sales amounting to 1,104MT of horticulture produce worth KShs. 21,485,875 (\$244,157) benefiting 26,821 farmers.

Specialized services provided through Erastus and Company, an accredited chartered accounting firm, is strengthening the capacity of 16 USAID-KHCP partners in accounting systems and financial management to enhance proper funds utilization, cash accountability, commercial transparency, and business sustainability.

## X. SUSTAINABILITY AND EXIT STRATEGY

The project is preparing for close-out in February 2015 under the Task Order. A program of partnership “Graduation” events planned during Q1 of FY2015 provides the networking platforms to transition key support activities to a combination of self-financing NGO’s, private-sector business, USAID-KAVES, and County Governments for continued intervention in FY2015 and beyond.

The Global Competitiveness Study of the Kenyan Horticulture Industry will be circulated widely during Q1 of FY2015 as part of the build up to the Kenyan Horticulture Competitive Conference planned in Q2FY2015 which will act as the official handover of the project impacts to FPEAK, Kenya Flower Council, and to National and County Governments.

## XI. SUBSEQUENT QUARTER’S WORK PLAN

**Table 14: Subsequent Quarter’s Work Plan**

Planned Activities from Previous Quarter	Actual Status this Quarter	Explanations for Deviations
Global Competitiveness Report	Report completed, validation workshops are in preparation	
Gender case studies and messaging tool and County Stakeholder events	On-going with partner, CCGD- Validation workshop completed, gender manual completed and ready for distribution	
Communications Legacy messaging	On-going with partner, Verge Media	
County stakeholder events on youth development	Target achieved	

USAID-KHCP FY2014 ANNUAL WORK PLAN PERFORMANCE SUMMARY								
	Activity	FY2014 Target	Q 1	Q 2	Q 3	Q 4	FY2014 Results	Unit Of Measure
<b>1</b>	<b>Project Administrative Activities</b>							
	<b>Communications &amp; Reporting</b>							
1.1	Project Highlights and Newsletters	36	12	12	15	13	52	Publications
1.2	Success Stories Videos and Documentaries	4	1	2	8	1	12	Video features
1.3	Market News Information Services	9	5		2	3	10	Bulletins
1.4	Quarterly Reports	3	1	1	1	0	3	Report
1.5	Annual Reports	1	1	0	0	1	2	Report
1.6	Annual Work plan	1	1	0	0	0	1	Report
<b>2</b>	<b>Monitoring &amp; Evaluation</b>							
2.1	USAID Regional M&E/staff field visits	30	1	25	4	1	31	Itineraries & trip reports
2.2	M&E System developed installed and supported	17	16	1	2	0	19	Reports
2.3	Baseline Data report completed for new indicators	1	1	0	5	0	6	Analysis report
2.4	Crop productivity survey data collections	2	0	1	0	1	2	Analysis report
2.5	Nutrition Surveys Completed	2	1	1	0	0	2	Reports
2.6	Progress review with USAID	1	1	1	1	1	4	Minutes
2.6	External Data Quality Assessments	1	1	0	0	0	1	Analysis report
2.7	Partner trainings in M&E methodology	20	3	1	3	3	10	CIRIS Reports
2.8	Indicator data verification through RDQA	35	6	3	5	8	22	Analysis report
<b>3</b>	<b>Productivity Enhancement and Food Security</b>							
3.1	Partner sub-grant awards developed	5	2	4	3	0	9	Award documents
3.2	Participation in County Government/ASDSP agricultural coordination meetings and workshops	63	10	12	20	2	44	Reports/Minutes
3.3	Partner graduation linkages and events	13	4	1	3	3	11	CIRIS Reports
3.4	Demonstration plots operating	405	135	143	380	380	1,038	CIRIS Reports
3.5	Nurseries and seed multiplication sites	52	58	74	82	82	296	CIRIS Reports
3.6	Technical assistance field visits	4,100	1,286	853	980	80	3,199	CIRIS Reports
3.7	Agricultural productivity field days	80	57	56	60	11	184	CIRIS Reports
3.8	Crop production guides produced/updated	7	1		2	0	3	Manuals disseminated
3.9	Crop budget produced/updated	10			3	0	3	Budget analyses disseminated
3.10	Training workshop/TOTs held (GAPs, irrigation, technology)	24	4	5	6	8	23	CIRIS Reports
<b>4</b>	<b>Natural Resource Management</b>							
4.1	Capacity building for environmental monitoring and mitigation	6	3	1	11	1	16	Review Reports
4.2	PERSUAP review and/or Updates	1	1	0	1	0	2	Review Reports
4.3	Project support for agroforestry/tree planting	5	1	2	3	3	9	Tree nursery evaluation reports
4.4	Climate change analysis or workshop participation	3	1	1	1	0	3	Reports/Minutes
<b>5</b>	<b>Value-Addition &amp; Post Harvest Handling</b>							
5.1	Review of micro- and commercial processing activities	20	4	5	6	4	19	Processing Reviews
5.2	Processing/value-added feasibility studies	4	3	1	1	0	5	Feasibility Reports
5.3	Technical assistance visits at factory/client sites	60	12	16	15	11	54	CIRIS Reports
5.4	STTA assistance provided	1	1	0	0	0	1	Consultant Report
5.5	Training workshops held (standards, HACCP, etc.)	8	3	3	6	3	15	CIRIS Reports
5.6	Processing/value-added technical manuals	5	7	4	7	0	18	Manuals
5.7	Value-added/nutritional products developments	5	3	3	1	0	7	New products introduced
<b>6</b>	<b>Value Chain Coordination, Marketing and Trade Promotion</b>							
6.1	National Compliance Forums	3			1	1	2	Forum Reports
6.2	Support for Market Information Systems and market linkages	75			3,853	1	3854	Minutes/Reports
6.3	Marketing training /workshops/seminars held	10	3	4	5	1	13	Training Reports
6.4	Market analyses for crops/value added products	5		6	1	2	9	Minutes/Reports
6.5	Value chain studies	3				1	1	Policies in draft stages/passed
<b>7</b>	<b>Business Environment &amp; Institutional Capacity-Building</b>							
7.1	Participation in National Taskforce on Horticulture	3	1	0	1	1	3	CIRIS Reports
7.2	Horticulture Industry Competitiveness Forums/conference	3		1	1	1	3	CIRIS Reports
7.3	Support for wholesale marketing systems	2		1	1	0	2	Reports and specific tools
7.4	Capacity building in international & domestic standards	15	15	35	136	61	247	Minutes/Reports
7.5	Participation in workshops in standards compliance	10	10	35	83	61	189	Training manuals
7.7	Strategic analysis of industry policies and constraints	2			1	1	2	Survey report
<b>8</b>	<b>Gender</b>							
8.1	Gender training of trainer events	4	1	5	2	12	20	CIRIS Reports
8.2	Gender mainstreaming support for partnerships	12	0	9	9	1	19	CIRIS Reports
8.3	Gender case Studies and messaging tools	14	0	1	1	8	10	Reports and specific tools
8.4	County Stakeholder events on Gender	10	0	5	7	0	12	Minutes/Reports
8.5	Gender Training materials	4	0	0	1	1	2	Training manuals
8.6	Gender perceptions survey completed	2	0	0	1	1	2	Survey report
<b>9</b>	<b>Youth</b>							
9.1	Youth training materials (Technical and business skills)	12	1	0	2	5	8	Training Reports/Materials
9.2	Youth Capacity building forums with partners	4	1	5	6	0	12	Minutes/Reports
9.3	County Stakeholder events on youth development	12	1	9	3	0	13	Minutes/Reports
<b>10</b>	<b>Nutrition</b>							
10.1	Nutrition training of trainer events	16	23	0	3	6	32	Training Reports
10.2	Integrated Nutritional Framework developed	1	0	0	0	0	0	Framework report
10.3	Nutrition-related capacity building activities	16	48	48	48	15	159	Minutes/Reports
10.4	Strategic nutrition Partnership developed	4	0	0	1	0	1	Minutes/Reports
10.5	Nutrition manuals distributed				620	579	1199	Manuals

## **XIII. ACTIVITY ADMINISTRATION**

### **Personnel.**

Over the year a number of replacement staff has been successfully recruited for the positions of M&E Specialist, Grants Manager, Field Manager, and Field Secretary. Key personnel changes include the recruitment of a Deputy Chief of Party effective from January 2014.

### **Contract, Award or Cooperative Agreement Modifications and Amendments.**

- Mrs. Caroline Bertolin took over as the new Contracting Officer for USAID-KHCP effective in September 2014.

## ANNEX I: SUB-AWARD DETAILS

### New Sub-Award Details

Total Amount in the approved budget for sub-awards: \$18,175,000 (includes CCGD \$175,000)

Total Amount sub-awarded to date: \$17,787,721

#### Sub-award Summary:

**Name of Sub-Awardee: Anglican Church of Kenya Development Services (ADS) - Nyanza**

**Project Title: Partner Fund Award # 32**

**Agreement Performance Period:** October 2013 to December 2014

**Agreement Amount (Total Estimated Cost): \$200,567**

**Geographic Locations for Implementation:** *Homa bay County*

**Project Description:** *ADS have been working on sweet potato value chain development in Kabondo, Homa bay County and are responsible for the establishment of the sweet potato cooperative. Will align sweet potato marketing with the capacity of vine multiplication.*

**Name of Sub-Awardee: Christian Impact Mission**

**Project Title: Partner Fund Award # 33**

**Agreement Performance Period:** November 2013 to December 2014

**Agreement Amount (Total Estimated Cost): \$296,648**

**Geographic Locations for Implementation:** *Machakos County*

**Project Description:** *Horticulture production and water harvesting in Yatta district, Machakos*

**Name of Sub-Awardee: Africa Harvest Biotech Foundation International (AHBFI)**

**Project Title: Partner Fund Award # 18**

**Agreement Performance Period:** April 2011 to December 2014

**Agreement Amount (Total Estimated Cost): \$675,427** (Inclusive of a 3-month cost extension approved on 28th March, 2014 in the amount of \$235,000)

**Geographic Locations for Implementation:** *Nyamira & Kisii counties. Initially, in 2011, the partner had done some work in Nyeri county which was later declassified as a FtF county.*

**Project Description:** *AHBFI activities are geared towards promoting the production and marketing of tissue culture bananas.*

**Name of Sub-Awardee: Crop Nutrition Laboratory Services (CNLS)**

**Project Title: Partner Fund Award # 30**

**Agreement Performance Period:** March 2012 to December 2014

**Agreement Amount (Total Estimated Cost): \$552,269** (Inclusive of a 3-month cost extension approved on 28th March, 2014 in the amount of \$159,546)

**Geographic Locations for Implementation:** *Kisumu, Kisii, Uasin Gishu, Nandi, Elgeyo Marakwet & Bungoma*

**Project Description:** *CNLS promotes small holder farmer access to efficient soil testing services, and more detailed site*

and crop specific soil and fertilizer management recommendations which will increase their crop yields, and sustain their soil productivity

**Name of Sub-Awardee: Collaborative Center for Gender & Development (CCGD)**

**Project Title: Fixed Price Contract Award # 23**

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

**Agreement Amount (Total Estimated Cost): \$175,000**

**Geographic Locations for Implementation:** All FtF counties

**Project Description:** CCGD will mainstream gender in the project by: developing tools that enhance the capacity and skills of diverse stakeholders to tackle socio-gender issues; assist the target populations to understand gender dynamics that impinge upon their production and marketing, and impart skills to resolve them; ensure equitable access to project benefits by women and youth; highlight women and youth successes as a way of demonstrating project contribution to amelioration of prevalent gender inequities and inequalities.

**Name of Sub-Awardee: Farm Concern International (FCI)**

**Project Title: Fixed Price Contract Award # 24**

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

**Agreement Amount (Total Estimated Cost): \$200,648**

**Geographic Locations for Implementation:** Bomet, Bungoma, Busia, Kisumu, Migori, Homa Bay counties

**Project Description:** FCI will strengthen the Commercial Villages Model (CVM), through an integrated approach covering the following technical components: smallholder commercialization, market development and linkages, capacity development of CVs, Savings mobilization/financial management skills, sustainable household food-based solutions, all of which play a major role in the functioning of the economically clustered villages.

**Name of Sub-Awardee: Green Zone Agencies (GZA)**

**Project Title: Partner Fund Award # 28**

**Agreement Performance Period:** January 2012 to November 2014

**Agreement Amount (Total Estimated Cost): \$446,163** (Inclusive of a 9-month cost extension approved on 28th March, 2014 in the amount of \$99,782)

**Geographic Locations for Implementation:** Siaya and Kisumu counties.

**Project Description:** Soil and water management technologies for improved productivity and food security in Nyanza.

**Name of Sub-Awardee: Aberdare Technologies Limited (ATL)**

**Project Title: Partner Fund Award # 34**

**Agreement Performance Period:** July 2014 to January 2015

**Agreement Amount (Total Estimated Cost): \$74,990**

**Geographic Locations for Implementation:** Meru and Tharaka Nithi counties.

**Project Description:** Enhancing tissue culture banana competitiveness in Meru and Tharaka Nithi counties.

**Name of Sub-Awardee: Bio Intensive Agriculture Training Center (BIATC)**

**Project Title: Partner Fund Award # 35**

**Agreement Performance Period:** July 2014 to January 2015

**Agreement Amount (Total Estimated Cost): \$133,932**

**Geographic Locations for Implementation:** Meru and Tharaka Nithi counties.

**Project Description:** Enhancing export vegetable production through low cost tunnels and seedling nurseries.

**Name of Sub-Awardee: Keitt Exporters Ltd****Project Title: Fixed Price Contract Award # 25****Agreement Performance Period:** August 2014 to January 2015**Agreement Amount (Total Estimated Cost): \$99,447****Geographic Locations for Implementation:** *Makueni, Kitui counties***Project Description:** *Keitt will scale up progress in the mango sector, FCI will continue building the capacity of farmers in Makueni and Kitui counties along the mango value chain.***Name of Sub-Awardee: Kickstart International****Project Title: Fixed Price Contract Award # 26****Agreement Performance Period:** August 2014 to January 2015**Agreement Amount (Total Estimated Cost): \$53,829****Geographic Locations for Implementation:** *Busia, Siaya, Machakos and Kitui counties.***Project Description:** *Kickstart International will introduce affordable solar pump systems to the Kenyan market that will enhance the productivity of Kenyan horticultural farmers.***Name of Sub-Awardee: AMREF****Project Title: Fixed Price Contract Award # 27****Agreement Performance Period:** August 2014 to December 2014**Agreement Amount (Total Estimated Cost): \$147,839****Geographic Locations for Implementation:** *All FtF counties.***Project Description:** *AMREF will scale up and consolidate agri-nutrition activities in the FtF counties.***Name of Sub-Awardee: Verge Concepts****Project Title: Fixed Price Contract Award # 28****Agreement Performance Period:** September 2014 to February 2015**Agreement Amount (Total Estimated Cost): \$148,618****Geographic Locations for Implementation:** *All FtF counties.***Project Description:** *Verge will implement a USAID-KHCP communications strategy - a legacy tour with local and national journalists, radio spots, highlights in print media and promotional materials.*

## **Sub-Awards**

<b>Partner</b>	<b>Sub-Awardee Name</b>	<b>Sub-Awardee Start Date</b>	<b>Sub-Awardee End Date</b>	<b>Sub-Awardee Amount</b>	<b>Name of Counties of Implementation</b>
PF1	Wilmar Agro Flowers Ltd	01-Oct-10	30-Sep-13	477,808	Nandi, Bomet, Kisumu, Kiambu, Uasin Gishu
PF2	Pwani Projects Development Consultants	01-Oct-10	30-Sep-13	278,249	Kilifi
PF3	Sunripe 1976 Ltd	01-Oct-10	30-Sep-13	248,785	Makueni, Machakos
PF4	Dryland Seeds Company	01-Oct-10	30-Sep-13	165,347	Machakos, Makueni, Kitui
PF5	Business Initiatives for Survival and Eradication of Poverty	01-Oct-10	30-Sep-13	267,432	Makueni & Kitui
PF6	Ukamba Christian Community Service	01-Oct-10	30-Sep-13	213,176	Machakos, Makueni, Kitui
PF7	Agricultural Technologies & Information Program	01-Oct-10	30-Sep-13	78,575	Machakos
PF8	Animal Draft Power Programme	01-Oct-10	30-Sep-13	489,598	Homabay
PF9	KENGAP Horticulture	01-Oct-10	30-Sep-13	126,496	All Counties
PF10	Good Neighbours Community Programme	01-Oct-10	30-Sep-13	422,090	Uasin Gishu, Nandi, Trans Nzoia, Elgeyo Marakwet & Bungoma
PF11	Mace Foods	01-Apr-11	30-Nov-14	366,546	Uasin Gishu, Busia, Bungoma, Siaya, Nandi
PF12	Vision for Economic Empowerment in Africa	01-Apr-11	15-Oct-13	183,732	Kwale
PF13	Canken International	01-Apr-11	31-Aug-14	388,705	Nandi, Uasin Gishu, Elgeyo Marakwet, Trans Nzoia
PF14	Blue Rhino Consult Ltd	01-Apr-11	31-Mar-13	341,618	All FtF Counties
PF15	KENFAP -KENAFF	01-Apr-11	30-Nov-14	485,305	Meru, Bomet, Uasin Gishu
PF16	Kenya Rainwater Association	01-Apr-11	31-Jul-14	507,240	Makueni, Kitui
PF17	Community Research in Environment & Devt Initiatives	01-Apr-11	31-May-14	440,469	Bungoma
PF18	Africa Harvest	01-Apr-11	31-Dec-14	675,427	Kisii, Nyamira
PF19	WONI Vegetable & Fruit Exporters & Importers Ltd	01-Apr-11	30-Sep-14	270,840	Makueni, Taita Taveta
PF20	Vegpro (K) Ltd	01-Apr-11	31-Mar-13	250,898	Meru
PF21	Syngenta East Africa Ltd	01-Sep-11	31-Dec-14	588,744	Makueni, Machakos, Tharaka Nithi, Meru, Bungoma, Kericho, Kisii, Uasin Gishu
PF22	Anglican Church of Kenya Western Region Christian Community Services	01-Sep-11	31-Dec-14	466,795	Kakamega, Vihiga
PF23	Appropriate Rural Development Program	01-Sep-11	31-Dec-14	565,484	Busia
PF24	Siboti Foods Ltd	01-Sep-11	31-Jan-13	2,617	Bungoma
PF25	Earth Oil Kenya	01-Sep-11	30-Sep-13	263,100	Laikipia
PF26	Fresh Produce & Exporters Association of Kenya	01-May-12	31-Dec-14	950,183	All FtF Counties



PF28	Green Zone Agencies	01-Jan-12	30-Nov-14	446,163	Siaya, Kisumu
PF29	Community Mobilization Against Desertification	01-Feb-12	31-Jan-14	315,037	Migori
PF30	Crop Nutrition Laboratory Services Ltd	01-Mar-12	31-Dec-14	552,269	Kisumu, Kisii, Uasin Gishu, Nandi, Elgeyo Marakwet, Bungoma
PF32	Anglican Development Services	10-Oct-13	31-Dec-14	200,567	Homabay
PF33	Christian Impact Mission	01-Nov-13	31-Dec-14	296,648	Machakos
PF34	Aberdare Technologies Ltd	01-Jul-14	31-Jan-15	74,990	Meru, Tharaka Nithi
PF35	Bio Intensive Agriculture Training Center	01-Jul-14	31-Jan-15	133,932	Meru, Tharaka Nithi
TF1	Real Impact	01-Apr-11	31-Mar-13	296,531	Kiambu
TF2	Private Public Partnership	01-Apr-13	31-Oct-14	261,965	All FtF Counties
TF3	Micro Processor	01-Jan-13	31-Oct-14	338,592	All FtF Counties
FPC1	Analysis, Strategies & Associates 1	01-Nov-10	31-Oct-11	46,121	All FtF Counties
FPC2	TNS Research International	17-Mar-11	16-Mar-12	175,058	All FtF Counties
FPC3	Dr. Alice Mboganie Mwangi	03-May-11	31-Aug-11	39,068	All FtF Counties
FPC4	Streamlined Systems Ltd	01-Sep-11	31-Dec-11	72,110	All FtF Counties
FPC5	QSM & Associates Ltd	01-Sep-11	30-Sep-14	470,735	All FtF Counties
FPC6	Analysis, Strategies & Associates 2	01-Sep-11	29-Feb-12	158,035	All FtF Counties
FPC7	Farm Concern International	01-Sep-11	17-Mar-14	598,580	Bungoma, Busia, Kakamega, Vihiga, Homabay, Kisii, Kisumu, Migori, Nyamira
FPC8	Monsanto Kenya Ltd	01-Sep-12	30-Nov-13	0	Machakos, Uasin Gishu, Nandi, Bungoma, Migori, Elgeyo Marawet
FPC9	East African Growers Ltd	12-Feb-13	11-Feb-14	431,777	Kitui, Machakos, Makueni, Tharaka Nithi
FPC11	Keitt Exporters Ltd	01-Feb-13	31-Jul-14	205,890	Meru, Tharaka Nithi, Machakos
FPC12	Meru Greens Horticulture	01-Feb-13	30-Sep-14	351,204	Nandi, Uasin Gishu, Elgeyo Marakwet, Kericho
FPC13	Equatorial Hortifresh Ltd	01-Feb-13	31-Dec-14	305,806	All FtF Counties
FPC14	Act Change Transform	01-Apr-13	31-Jul-14	266,746	All FtF Counties
FPC15	AMREF	01-May-13	31-Jul-14	620,954	All FtF Counties
FPC16	Erastus & Co.	05-Aug-13	31-Dec-14	180,039	All FtF Counties
FPC17	Measure Africa	01-Aug-13	30-Sep-14	232,417	All FtF Counties
FPC18	Centre for User Research Africa	20-Sep-13	19-Aug-14	310,697	Kitui, Machakos, Makueni
FPC19	Ukamba Christian Community Service2	02-Aug-13	02-Oct-13	18,456	All FtF Counties
FPC20	Fingalee, LLC	01-Aug-13	30-Nov-13	90,270	All FtF Counties
FPC21	Borasoft Ltd	18-Sep-13	17-Dec-13	81,412	All FtF Counties

FPC22	Resource Mgt & Policy Analysis Inst	18-Sep-13	31-Dec-13	75,890	Bungoma, Busia, Kakamega, Vihiga, Homabay, Kisii, Kisumu, Migori, Nyamira
FPC24	Farm Concern International2	01-Apr-14	31-Dec-14	200,648	Bomet, Bungoma, Busia, Kisumu, Migori, Homa Bay
FPC25	Keitt Exporters Ltd2	15-Aug-14	31-Jan-15	99,447	Makueni, Kitui
FPC26	KickStart International	01-Aug-14	31-Jan-15	53,829	Busia, Siaya, Machakos, Kitui
FPC27	AMREF2	15-Aug-14	31-Dec-14	147,839	All FtF Counties
FPC28	Verge Concepts	05-Sep-14	13-Feb-15	148,618	All FtF Counties
	<b>Totals to date</b>			<b>17,813,600</b>	
FPC23	Collaborative Centre for Gender & Development	01-Apr-14	31-Jan-15	175,000	All FtF Counties

## ANNEX II: LIST OF DELIVERABLE PRODUCTS

Reports submitted to USAID:

- Dubai, Muscat and Jeddah market bulletins
- Post-harvest and processing manuals on sweet potatoes, African leafy vegetables, tomatoes, pigeon peas, legumes, pulses, mangoes and chilies
- Berlin Fruit Logistica report
- National horticulture market information system baseline survey report
- Kenya horticulture industry/global competitiveness study: Enabling environment for improving competitiveness of Kenyan horticulture

## ANNEX III: SUCCESS STORY



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### SNAPSHOT

## Communities Acquire Skills to Enhance Family Nutrition

**The Agri-Nutrition Resource Manual and Toolkit for trainers is enhancing nutrition**



*Photo by USAID/Mwangi Kirubi*

3 year old Michele Onyango enjoys a meal of ugali, traditional leafy vegetables, groundnut sauce, and watermelon in Homa Bay County. Families are now using knowledge from nutrition lessons to implement balanced diets in their own homes.

**“Through the tools and the manual, we are going to strengthen the linkages between health and agriculture to work together with the agriculture extension workers and the health extension workers.”**

- Rosemary Ngaruro, Chief Nutritionist at the Ministry of Health

Margaret Mataa, 44, from Tigania, Meru County, constantly struggled with high blood pressure. After attending a series of agri-nutrition training sessions led by USAID-KHCP partner Meru Greens Horticulture (MGH), Mataa made some changes to her diet that has led to an end to her high blood pressure. After her training, Mataa removed all the flowers in her small farm and planted *managu* (Black nightshade), *terere* (Amaranth), spinach, kale, and pumpkin. Thanks to her new crops, some of which are in her kitchen garden, Mataa can use ingredients such as pumpkin flour to make porridge for herself and her seven children.

Integrating nutrition and agriculture is one way of transforming food security to food and nutrition security. Through a joint effort with the Ministry of Agriculture, Livestock and Fisheries (MoALF) and the Ministry of Health (MoH), USAID-KHCP helped develop the Applied Basic Agri-Nutrition Resource Manual and Toolkit which combines both the aspects and improves focus on nutrition. The manual is used as a resource by trainers and the toolkit helps pass key nutritional messages to households and communities. The toolkit provides information in easy-to-follow steps that link nutrition, agriculture, and healthy living. The objective is to change household behavior and attitudes on food choices with improved awareness about the nutritional values of crops and the linkages to healthy lifestyles.

Partners such as African Medical Research Foundation (AMREF), Farm Concern International (FCI), Appropriate Rural Development Agriculture Program (ARDAP), Christian Impact Mission (CIM), and MGH are supporting the development of Training of Trainers programs. The organizations work with Community Health Workers (CHWs), agriculture extension officers, and community resource personnel to deliver training sessions focused on transforming household nutritional behavior to reduce lifestyle diseases such as diabetes, high blood pressure, obesity, heart diseases among others. 4,653 CHWs and officers have been trained to utilize the information provided within the Agri-Nutrition Manual and Toolkit. Other individuals receiving training have included community leaders and USAID-KHCP staff.

Phase one of the agri-nutrition intervention was rolled out in 16 counties in Kenya with full support of the MoH, MoALF, and Ministry of Labour, Social Security and Services (MoLSSS). USAID-KHCP partners and other industry stakeholders helped launch the initiative. Since July 2013, more than 4,653 county experts and trainers have reached 745,000 people from 98,218 households with agri-nutrition messaging and cooking demonstrations. To support this, some 3,600 manuals and 750 training toolkits are currently in use. As a result, families have established more than 20,400 kitchen gardens in local communities.

In April 2014, the MoALF launched the agri-nutrition program to all of the 47 counties in Kenya and has devolved the implementation responsibility to county governments. “Through the tools and the manual, we are going to strengthen the linkages between health and agriculture to work together with the agriculture extension workers and the health extension workers towards improving the knowledge on nutrition and the utilization of local foods so that we can reduce mortality, especially infant mortality and morbidity,” explained Rosemary Ngaruro, Chief Nutritionist at the Ministry of Health. The county approach is multi-sectoral and provides long-term resources to scale up agri-nutrition interventions to millions of Kenyans.

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## ANNEX IV: SCHEDULE OF FUTURE EVENTS

USAID-KHCP timetable for Partnership graduations: November 2014 - January 2015			
Name of partner	Date for graduation	Graduation event	Venue
<b>Syngenta East Africa Ltd</b>	5-Nov-14	National workshop on vegetable seedling technology	Nairobi
<b>East Africa Growers Association (EAGA)</b>	7-Nov-14	Scaling up export vegetables in North Rift	Kitale
<b>EAGA</b>	14-Nov-14	Farmer Field Day on mangoes	Matuu
<b>Technology Fund for Microprocessors</b>	18-Nov-14	Value addition presentations to key Buyers	Nairobi
<b>KENAFF &amp; Crop Nutrition Lab Services</b>	20-Nov-14	Breakfast meeting	Nairobi
<b>MACE Foods</b>	21-Nov-14	Workshop with regional stakeholders	Eldoret
<b>Green Zone Agency</b>	26-Nov-14	Breakfast meeting on irrigation technologies	Kisumu
<b>Anglican Development Services Nyanza</b>	26-Nov-14	Sweet Potato workshop with regional stakeholders	Oriang' Kabondo
<b>Africa Harvest</b>	27-Nov-14	Farmer Field Day on Tissue Culture banana	Kisii ATC
<b>Farm Concern International (FCI)</b>	28-Nov-14	Commercial Villages field day	Nyanza
<b>WONI Exporters Ltd</b>	4-Dec-14	Pack-house launch	Kiboko
<b>Christian Impact Mission (CIM) &amp; KickStart</b>	5-Dec-14	Farmer Field Day and Training center launch	CIM YATTA
<b>Keitt Exporters Ltd</b>	9-Dec-14	Launch of mango packing center	Kilili Makueni
<b>Bio-Intensive Agricultural Training Center (BIATC)</b>	14-Jan-15	Farmer Field Day with low-cost greenhouses	Meru
<b>Aberdare Technologies Ltd</b>	15-Jan-15	Banana nursery field day	Meru
<b>FPEAK &amp; Kenya Flower Council &amp; KHCP</b>	21-Jan-15	Kenya Horticulture Competitiveness Conference	Nairobi
<b>AMREF</b>	TBC		

## **ANNEX V: M&E INDICATORS**

Included as a separate annex.