



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Kenya Crops and Dairy Market Systems Activity

Building competitive, inclusive, resilient, and self-reliant market systems



Annual Report

FY
2021



USAID
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FEED THE FUTURE KENYA CROPS AND DAIRY MARKET SYSTEMS ACTIVITY

FY 2021 ANNUAL REPORT

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Prepared for

Harrigan Mukhongo
AOR
United States Agency for International Development/Kenya
C/O American Embassy
United Nations Avenue, Gigiri
P.O. Box 629, Village Market 00621
Nairobi, Kenya

Prepared by:

RTI International
P.O. Box 12194
Research Triangle Park,
NC
27709-2194
www.rti.org

The Kenya Crops and Dairy Market Systems Activity
Westwood Office Building, 8th Floor- Westlands.
P.O. Box 1181 Village Market, 00621
Nairobi, Kenya

Cover Photo Captions:

Front Cover:

1. Left: [REDACTED] packing yogurt in [REDACTED] new premises in Makindu town, Makeni County for delivery to customers.
2. Top right: Biofarms workers sorting and grading avocados purchased from [REDACTED] in Kakamega County. KCDMS co-invested with Biofarms to acquire a four-line avocado grading and sorting line and a 150 MT cold storage facility.
3. Bottom right: [REDACTED], Asst Chairperson of Young Kondigo VSLA feeds her chicken in Siaya County. KCDMS, through the social inclusion component, trained [REDACTED] on poultry production and management

Back Cover: [REDACTED], a member of Green Field Women Group, in her passion fruit farm. [REDACTED], a fresh juice processor based in Kisumu County is working towards expanding and strengthening markets for passion fruit, mangos and avocados and foster the inclusion of 3,000 smallholder farmers into competitive market systems.

Photo credits: USAID KCDMS

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Acronyms and Abbreviations

AAK	Agrochemical Association of Kenya
AFC	Agriculture Finance Corporation
AI	Artificial Insemination
AISP	Artificial Insemination Service Providers
ALV	African Leafy Vegetables
AMIS	Agriculture Management Information System
ASDSP	Agricultural Sector Development Support Program
ASNET	Agriculture Sector Network
AVCD	Agriculture Value Chain Development
B2B	Business-to-Business
BCG	Boston Consulting Group
BDS	Business Development Services
CASSCOM	County Agricultural Sector Steering Committees
CBO	Community-Based Organizations
CCSA	Climate and Conservation Smart Agriculture
CECM	County Executive Committee Member
CETZ	Certified Export Trade Zone
DFA	Dairy Farmer Assistant
DLEC	Developing Local Extension Capacity
EMMP	Environmental Mitigation and Monitoring Plan
ERS	Economic Recovery Strategy
FAO	Food and Agriculture Organization
FAW	Fall Army Worm
FI	Financial Institution
FIPS	Farm Inputs Promotions Africa
FPC-K	Fresh Produce Consortium of Kenya
FPEAK	Fresh Produce Exporters Association of Kenya
FTAI	Fixed-Time Artificial Insemination
FTF	Feed the Future
GAP	Good Agricultural Practices
GFSS	Global Food Security Strategy
HCD	Horticulture Crops Directorate
HH	Household
HST	Hermetic Storage Technology
IAA	Institutional Architecture Assessment
ICT	Information and Communications Technology
IP	Implementing Partners
IPM	Integrated Pest Management
J2SR	Journey to Self-Reliance
KCDMS	Kenya Crops and Dairy Market Systems
KDA	KREP Development Agency
KDB	Kenya Dairy Board
KEPHIS	Kenya Plant Health Inspectorate Service
KFC	Kenya Flower Council
KIM	USAID Kenya Investment Mechanism
KIWASH	Kenya Integrated Water, Sanitation, and Hygiene
K-YES	Kenya Youth Employment and Skills
LOP	Life of Project
LREB	Lake Region Economic Bloc
MCA	Members of the County Assembly
MFI	Microfinance Institution
MoALF	Ministry of Agriculture, Livestock, and Fisheries
MOALFC	Ministry of Agriculture, Livestock, Fisheries, and Cooperatives

MSME	Micro, Small, and Medium Enterprise
MSR	Market Systems Resilience
MT	Metric Ton
NAFTWG	National Animal Feed Technical Working Group
NARIGP	National Agricultural and Rural Inclusive Growth Project
NHTS	National Horticulture Traceability System
NHTTC	National Horticulture Transformation Technical Committee
OEGI	Office of Economic Growth and Integration
PERSUAP	Pesticide Evaluation Report and Safer Use Action Plan
PFA	Pest-Free Area
PIF	Partnership and Innovation Fund
PPDs	Public-Private Dialogues
PTWG	Policy Technical Working Group
REB	Regional Economic Bloc
RFA	Request for Application
RLA	Resilience Learning Activity
SEK	South-Eastern Kenya
SEKEB	South Eastern Kenya Economic Bloc
SI	Social Inclusion
SMS	Short Message Service
SOC	Seeds of Change
SSP	Spray Service Provider
TA	Technical Assistance
ToT	Training of Trainers
TWG	Technical Working Group
US\$	United States Dollars
USG	United States Government
VBA	Village Based Advisors
VC	Value Chain
VSLA	Village Savings and Loans Associations
WHH	Welthungerhilfe
ZOI	Zone of Influence

KCDMS AT A GLANCE

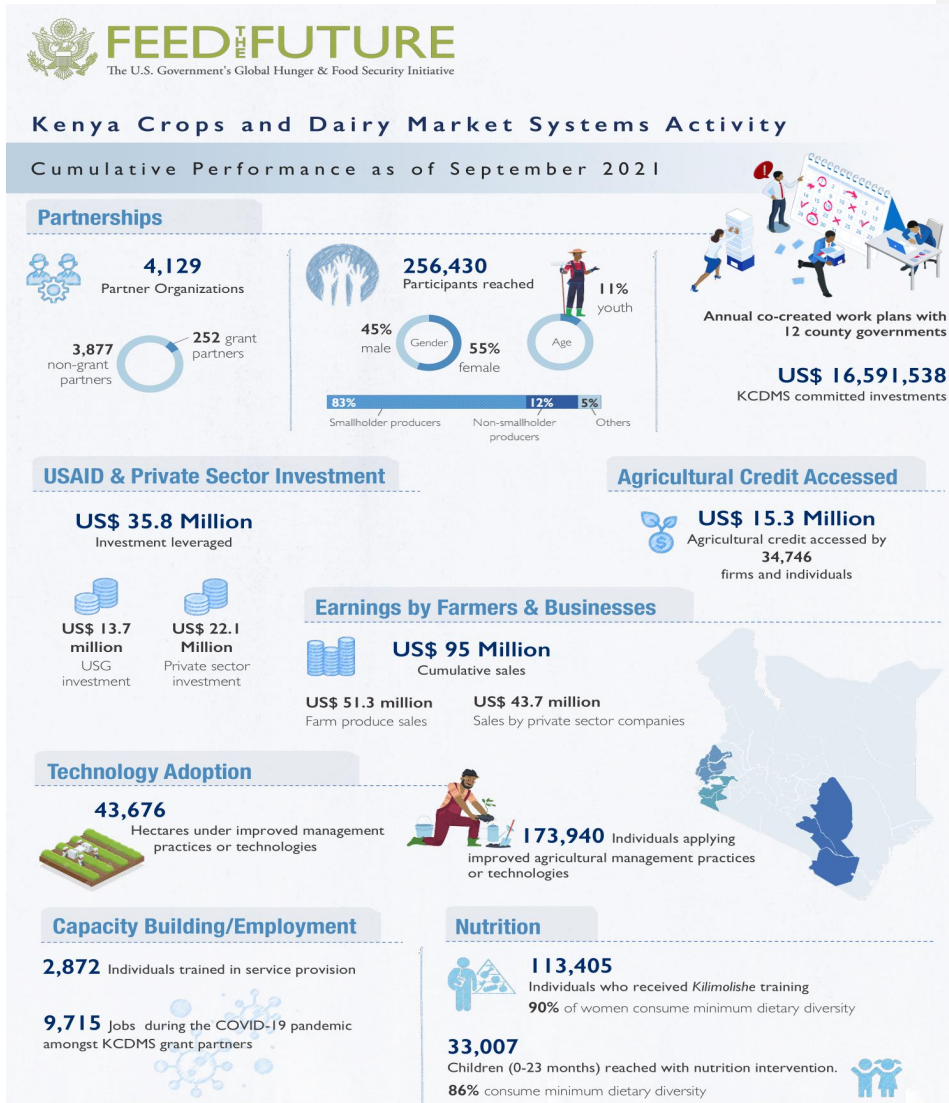


Figure 1 KCDMS at a glance

EXECUTIVE SUMMARY

Feed the Future (FTF) Kenya Crops and Dairy Market Systems Activity (KCDMS) is a five-year (October 2017– September 2022) activity of the United States Agency for International Development (USAID), funded as part of the U.S. Government's Global Food Security initiative. As a market systems facilitation activity, KCDMS is designed to spur competitive, inclusive, and resilient market systems and to improve productivity, incomes, nutrition, and resilience for 310,820 individuals, unlock \$32,000,000 worth of investment, and generate \$134,000,000 in sales of dairy and horticulture commodities, inputs, and services. In addition, the activity aligns with the four objectives¹ of the USAID Kenya Country Development Cooperation Strategy (CDCS) 2020– 2025, which seeks to promote Kenyan-led, Kenyan-owned, and Kenyan-managed programming to stimulate change and growth across multiple sectors. The activity is implemented by RTI International in partnership with East Africa Market Development Associates (EAMDA), Farm Inputs Promotions (FIPS) Africa, Making Cents International, Busara Center for Behavioral Economics, and International Livestock Research Institute (ILRI).

KCDMS focuses on dairy (including feed and fodder), mango, avocado, passion fruit, and banana. Sweet potato and African leafy vegetables (ALVs) value chains are included as they are important for nutrition outcomes and social inclusion. Implementation is done through grant partners, and these partnerships help to sustainably grow market systems. This report provides an account of the KCDMS activity's performance during FY 2021 (activity Year 4), covering October 1, 2020, to September 30, 2021. The data presented in this report is from the activity M&E system and the Annual Outcome Survey (AOS) 2021.

Key Achievements in FY 2021

To date, KCDMS has partnered with 4,129 private-sector partners and farmer organizations cutting across various market system functions, 252 of whom are grant partners. The partners include processors, exporters, aggregators, and producer organizations, including cooperatives, village savings and loan associations (VSLAs), and informal farmer groups. Support services providers include input and technology suppliers, finance institutions, women- and youth-led service provision enterprises, and information and communications technology (ICT) providers. KCDMS also co-created and implemented annual work plans with the 12 partner county governments to help build an enabling environment for private sector investments. KCDMS contracted 82 firms and individual consultants to provide capacity strengthening and coaching to both private and public sector partners. Through its partnerships, KCDMS facilitated the following achievements during FY 2021:

- **KCDMS economic growth initiatives reached 217,970 individuals** (95 percent were producers, 11 percent were youth (15-29 years), and 55 percent were women). Of this group, 93,610 were new additions this year, while the rest continued from previous years. Most participants benefited from interventions including agricultural productivity, nutrition awareness, VSLA strengthening, and market linkages.
- The 2021 annual outcome survey revealed that **173,940 individuals (80 percent of the participants) affiliated with partner firms adopted improved technologies and management practices** on 43,676 hectares of land.
- **Partners and beneficiaries achieved \$51.9 million in sales (54 percent producer sales and 46 percent firm sales)**. These sales include milk and dairy products, feed and fodder, horticultural products, green grams, poultry, inputs and services such as artificial insemination (AI), East Coast Fever (ECF) vaccination, and ICT.
- **23,223 MSMEs accessed agricultural credit worth \$8.8 million**. The loans primarily supported producer and firm investments in inputs, seeds, fertilizer, and equipment for horticultural crops, dairy, and fodder production.
- **KCDMS contributed to significantly increased farmer resilience and poverty reduction through two main pathways.** (i) **Intensification** by adopting multiple technology and management practices

¹ Development Objective (DO) 1: Key systems such as health, governance, and markets improved, DO 2: Resilience of vulnerable populations and environments improved, DO 3: Economic growth opportunities, especially for young men and young women, catalyzed, and DO 4: Kenya's regional opportunities leveraged, and external risks mitigated.

leading to increased production per unit area. The FY 2021 AOS revealed that of the 173,940 adopters, 75 percent intensified VC production and 85 percent adopted two or more technologies and practices. (ii) **Diversification** by engaging in multiple agricultural VCs, marketing options, and off-farm income-generating activities. The FY 2021 AOS revealed 126,310 individuals (61 percent of participants) diversified their income streams, with 59 percent commercializing existing VCs, 39 percent expanding into two to four new VCs, and 23 percent expanding into other income-generating activities. Among farmers who diversified their incomes, 74 percent earned additional income of up to US\$ 500 per year, and the rest up more than US\$ 500. Farmers reported alternative marketing channels reducing vulnerability related to reliance on one market. Farmers sold 24 percent of their produce to KCDMS partners, and 76 percent was sold through other market channels. Participating farmers sell an average of 72 percent of their produce, consume and gift 15 percent, with post-harvest loss accounting for 13 percent of production.

- US\$ 18.4 million leveraged in private sector investment (74 percent) and USG commitment through grants (26 percent) was leveraged.
- **15,658 individuals were empowered and integrated into market systems activities** through the KCDMS village savings and lending strengthening program. To date, 786 VSLA groups have saved and borrowed a total of US\$ 712,658. The 2021 survey revealed that VSLA members borrowed for family needs like school fees and investment in production and agri-business.
- **Nutritional outcomes:** A total of 97,299 individuals (82 percent women) received agri-nutrition behavior change communication following the completion of 10 of the 14 nutrition training modules. A total of 24,967 children aged 0-23 months were reached by proxy through training their caregivers. The 2021 annual outcome survey revealed that 90 percent of women consumed a diet of minimum diversity of 5/10 food groups, and 86 percent of children aged 6-23 months consumed a diet of minimum diversity of at least 4/7 food groups.
- **Employment:** KCDMS' partner agri-businesses have engaged a total of 7,896 employees to date, 424 of whom are new permanent staff and 7,472 seasonal workers. An additional 1,819 individuals are involved in service provision as dairy farmer assistants (DFAs), village-based advisors (VBAs), artificial insemination service providers (AISPs), spray service providers (SSPs), and village agents.
- **Collaboration:** Activities and outcomes of note from KCDMS' strategic partnerships with USAID implementing partners (IPs) include:
 - KCDMS and FTF Kenya Investment Mechanism (KIM) collaborated on blended finance (grant and commercial credit), partner graduation from grant to commercial finance, and training on VC financing. KCDMS is also leveraging KIM's business advisory service providers (BASPs) toward raising financing. A joint finance technical committee coordinates the activities. To date, KCDMS and KIM have a pipeline of 14 deals amounting to over US\$ 4 million, with US\$ 700,000 secured.
 - USAID-Accelerated Value Chain Developments Activity (AVCD) has been a long-standing partner working in similar counties on dairy. Joint interventions include roll out of AVCD-developed private sector extension models (DFA and service provider enterprise [SPE]), technical leadership on animal health, AI and fixed-time AI (FTAI) activities that support county government breeding programs as well as development of county-level dairy strategies.
 - KCDMS worked closely with all IPs in the South-Eastern Kenya (SEK) region under the leadership of the USAID-Resilience Learning Activity (RLA) on joint planning, budgeting, coordination, and reporting. KCDMS provided leadership support in the SEK county coordination committees through chairing the Makueni County Committee and deputizing the Kitui County Committee leadership. This coordination resulted in layered activities in the dairy, pulses, and fodder VCs with USAID IPs such as AVCD with whom KCDMS supported the initiatives to operationalize the Makueni Cooperatives Creameries.
 - KCDMS held discussion with East Africa Market Systems (EAMS) on potential collaboration opportunities on banana and mango export.

Key KCDMS Transformational Interventions

Boosting dairy commercialization in KCDMS ZOIs: KCDMS partnered with county governments and the private sector in their zones of influence (ZOIs) to establish i) AI infrastructure and scale up breeding services, ii) fodder commercialization, including increased access to seeds and seedlings for nutrient-dense fodder varieties among smallholder farmers, iii) animal health (including ECF vaccination) and nutrition capacity building, iv) capacity strengthening and co-investing in value addition equipment for dairy co-ops and SMEs to avail reliable markets for farmers, and v) facilitate the development of national-level policies, strategies, and standards for enhanced performance of the sector.

Revitalizing mango exports through the multi-stakeholder *Komesha Fruit Fly Campaign*: To address the endemic fruit fly pest challenge and boost the quality and volume of mango exports, KCDMS facilitated an integrated initiative involving key market actors (Makueni County Government, Kenya Plant Health Inspectorate Service (KEPHIS), Horticultural Crops Directorate (HCD), Integrated Pest Management (IPM) technology providers, exporters, and farmer cooperatives) to establish pest-free zones covering 4,233 ha belonging to 1,749 households (HHs). KCDMS partnered with i) KEPHIS to develop a mango export protocol for exporter use and to monitor implementation, and ii) the Makueni County Government to develop the Makueni Fruit Development and Marketing Regulations 2020 to enhance enforcement and sustainability of pest-free and low pest prevalence zones and support sector investment.

Improving access to finance through innovative financial products: KCDMS supported the development of new mechanisms for collateral provision and credit scoring to enhance access to credit among smallholder farmers. These mechanisms proved to be very useful for financing VC-specific needs and for enabling financial institutions (FIs) to supply credit even during COVID-19 pandemic. Key examples are the use of fruit tree numbers to determine loan value and the use of productive assets such as in-calf heifers as collateral.

Increasing resilience and improving incomes through expanded agro-processing KCDMS has promoted four main diversification strategies: (i) different products (e.g., organic, dried and juices), (ii) use of by-products/waste to produce new high-value products (e.g., oil pressing from over-ripe and aesthetically unappealing avocado), (iii) market expansion (new domestic and export markets), and (iv) market segmentation targeting different cadres of clients with different product packages. These business strategies enhance market system-level resilience and, by extension, farmers' resilience.

Strengthening Partnerships to Elevate Private Sector Voice

KCDMS fostered an inclusive and responsive enabling environment by increasing private sector involvement in policy development and reform. Some of the efforts are presented below.

- KCDMS engages national-level associations (CGA, EAGC, AAK, Fresh Produce Exporters Association of Kenya [FPEAK], FPC, ASNET, and KDFP), and several county-level associations² in market system coordination, food safety enhancement, and promotion of quality standards. KCDMS also supports representatives of these associations and ownership of industry to hold or attend meetings (workshops and conferences) to influence the discussions on their businesses. KCDMS is working with ASNET to pilot the formation of two county-based agri-business chapters and with EAMDA to explore the formation of two more agri-business associations within the Prosper Counties.
- KCDMS facilitates public-private dialogues (PPDs) and mobilizes the participation of private sector players in PPDs toward an improved business enabling environment. Slightly over 40 percent of the 165 surveyed firms indicated participation in PPDs, and 67 percent reported that county governments considered their opinions in decision-making.
- Facilitating the operations of the County Agriculture Sector Steering Committees (CASSCOMs): KCDMS supported active participation of the private sector in setting the county agenda on agricultural development through participation in County Agriculture Sector Steering Committees

² Kakamega Agro-dealers Association, Kibuye Traders Association, Bungoma Agro-dealers Association, Makueni Creameries Cooperative, MAFRUTS - Association of fruits cooperatives in Makueni County, and MAGGAVA - Association of grains cooperatives in Makueni County.

(CASSCOMs). To date, several KCDMS grant partners (SMEs) form part of the membership of CASSCOMs.

- Institutional architecture strengthening: KCDMS strengthens institutional architecture in regard to inclusivity and stakeholder policy input by supporting county governments to develop policy processes and systems that include public and private sector participation. KCDMS provides the space and mobilizes businesses to effectively participate in policymaking and implementation processes.
- In FY 2021, KCDMS supported the development of the National Animal Feed Development Strategy, the National Dairy Industry Strategy, the revision of the Kenya Dairy Industry Regulations, and the review of the Animal Feed Standards.
- KCDMS strengthens the capacities of farmer cooperatives to improve business performance, operational efficiency, and ability to bargain for best business deals as well as advocate for an enabling environment.
- KCDMS empowers farmers to leverage market information systems to make informed choices and to use strategies such as aggregation to bargain for better pricing.

Linkages with Other Stakeholders

KCDMS continued co-implementing co-designed interventions with the 12 partnering county governments. One visible success was leveraging media and digital platforms to enhance public-sector extension services especially during the COVID 19 pandemic when field activities were minimal. The KCDMS model links county teams with private sector actors and supports extension services through (i) radio and call centers, (ii) agricultural information systems, and (iii) use of bulk SMS. For instance, during the COVID-19 pandemic KCDMS supported a call center in Kisumu, which continued to operate to date. Farmers call in real time and receive direct technical advice, extension messaging, market information, and market linkages. The Kisumu County Government allocated approximately US\$ [REDACTED] in its 2021/22 budget to sustain the call center operations. KCDMS also supported radio extension programs in Homa Bay, Kisumu, Siaya, Migori, Kisii, Busia, Vihiga, and South-Eastern Kenya (SEK) Counties. In Kakamega County, KCDMS co-created an agricultural management information system with a database of 5,330 farmers to disseminate extension information through a two-way SMS module. The project is scaling up in Bungoma, Busia, and Vihiga counties to reach 12,000 farmers by the end of October 2021. Other collaborative efforts with USAID OEGI IPs are detailed in Chapter 4 of this report.

Collaborative Action and Learning for Market Systems Change

In addition to collaborative efforts with like-minded USAID IPs, counties, and private sector partners discussed above, KCDMS has made efforts to document and share lessons learned or successful tactics to encourage investments in systems transformation interventions. Several success stories and communication pieces have been shared with the DOC for review, published on Agrilinks and amplified through social media. Chapter 12 of this report details the CLA plans for FY 2022. Some completed activities include:

- “Private Horticulture Seedling Nurseries in Kenya” - A story documenting how KCDMS has co-invested in partnerships to expand seedling nurseries using various business models: <https://agrilinks.org/post/private-horticulture-seedling-nurseries-kenya>
- “CLA in Scaling up Agri-Nutrition BCC: The Kenya Crops and Dairy Journey” - Behavior change communication piece on scaling agri-nutrition submitted for the 2021 CLA case competition and to the Ministry of Agriculture, Livestock, Fisheries and Cooperatives (MoALF&C) agri-nutrition TWG: <https://usaidlearninglab.org/library/cla-scaling-agri-nutrition-bcc-kenya-crops-and-dairy-journey>
- “Helping Local Farmers Work, Export Goods and Support Their Families During the COVID-19 Pandemic” - A KCDMS avocado grant partner’s Agrilinks story: <https://agrilinks.org/post/helping-local-farmers-work-export-goods-and-support-their-families-during-covid-19-pandemic>
- “Contributing to Food Security Through Agro-Processing: The Story of Stawi Foods and Fruits Limited” - A KCDMS banana grant partner’s Agrilinks story:

<https://agrilinks.org/post/contributing-food-security-through-agro-processing-story-stawi-foods-and-fruits-limited>

- “USAID Uses Innovative Model to Reach Rural Kenyan Farmers During the Pandemic” - A KCDMS learning piece on how KCDMS partnered with agro-dealers to ensure last-mile distribution of critical agricultural inputs that farmers needed to maintain their production during the pandemic: <https://agrilinks.org/post/usaids-uses-innovative-model-reach-rural-kenyan-farmers-during-pandemic>
- Webinar on financing Kenya’s agribusinesses amid COVID-19: On September 29, 2021, KCDMS and Microsave Consulting (MSC) hosted a webinar for stakeholders to discuss the challenges, coping mechanisms and share information on the impact of COVID-19 in the agriculture finance sector. The webinar was attended by 154 participants from a cross-section of market actors, including financial service providers, agribusiness entrepreneurs, consultants, and development actors. Due to the prolonged pandemic and related restrictions, finance actors continue to be impacted but have devised adaptive strategies and innovative mechanisms to keep business afloat. Overall, investments in technology and automation, business and operational model innovations, and agile strategies for resilience were some of the major adaptations.

Video on revitalizing the Kenyan mango sector: KCDMS is working with the Mission to develop a video on our collaboration with local partners in the mango VC to improve the quality of Kenya’s mangos for export (see this link to a summary of video development: <https://docs.google.com/document/d/12CSNAaA0gkBSx9mYT900qplvi6G1RwTjpl1hNHh-nHU/edit>).

Mitigating the Effects of COVID-19 and Climate Change

Grants and grant partner performance (cost share and burn rate)

As of the end of FY 2021, the total grants obligated amount was US\$ 12.7 million, but the burn rate has been very slow at only 40 percent. The total cost share committed by the grant partners is US\$ 5.7 million and the activity realized only 45 percent in reported cost share by mid-FY 2021. Since the beginning of the COVID-19 pandemic in Q2 of FY 2020, into the first half of FY 2021, KCDMS grant partners have struggled to spend their obligated grants awards as well as meet their operations and committed cost share. Due to COVID-19 restrictions, lockdowns, and the resulting economic downturn, most partners are operating at 50–75 percent of their normal capacity. The economic situation has resulted in lower sales performance, averaging only 50 percent of anticipated targets. To support grant partners, KCDMS has (i) extended award periods to provide more time to complete activities, (ii) rescheduled milestones for increased operational flexibility, and (iii) supported grant partners technically with increased BDS services. This has led to reported increased sales and cost share increases to 71 percent (about US\$ 4 million).

KCDMS is supporting the economic recovery of the private sector and county governments by:

- Co-investing with county governments to develop radio programs and establish call centers, information management systems, and bulk SMS platforms to virtually provide extension services to farmers. KCDMS also provided *Kilimo Lishe* (agri-nutrition) behavior change messaging and training in local dialects in partnership with 13 local radio stations.
- Rolling out the county economic recovery roadmap developed by RTI International during the height of the pandemic to guide county governments in developing economic revitalization strategies. Kisii and Homabay Counties are utilizing the roadmap to develop their respective economic recovery strategies.
- Providing no-cost extensions to grant partners to complete planned activities and achieve expected growth.
- Facilitating VSLA-strengthening adaptations to ensure continued operations during the pandemic. Some groups for instance were supported to adopt ICT for savings and lending activities instead of the paper-based system utilized before the pandemic.
- Supporting last-mile input distribution using agents and service providers to address travel and movement restrictions.

KCDMS is mitigating climate change by improving local stakeholder knowledge and application of climate-smart agriculture and technologies. The activity is facilitating training and implementation of PERSUAP among 133 grant partners, including but not limited to climate-smart agriculture, cleaner production technologies such as solar drying, and safe use of agrochemicals. KCDMS is also promoting IPM technologies among 43,220 mango farmers and, across a cumulative total of 37,195 acres, supporting increased vegetation cover with improved varieties of fodder, mango, sweet potatoes, ALV, passion fruit, bananas, and avocados.

Challenges and Lessons

- Private sector investors did not invest in initially prioritized value chains (e.g., pineapple and passion fruit) as expected due to thin markets and significant fragmentation. KCDMS addressed these challenges by re-focusing its priority VCs based on evolving market information.
- The original strategy to integrate agri-nutrition messaging with private sector extension work did not work as planned because extension agents did not have the necessary incentives and capacity to include nutrition messaging. KCDMS shifted to a contract-based agri-nutrition initiative with qualified institutions, which allowed layering with private sector partners.
- A planned co-investment with cooperatives was curtailed by weak governance and financial systems in the target cooperatives. KCDMS provided BDS to those cooperatives to address systemic issues and develop strategic plans before investing in system upgrades.
- KCDMS originally employed a cost-reimbursable grant mechanism which was a challenge for private sector players due to limited staff capacity to provide support documentation in a timely manner. This was further exacerbated by a high turnover among grant partner accountants who were trained on the mechanism. In response, KCDMS gradually transitioned to fixed amount awards and in-kind grants.

1. INTRODUCTION

1.1 Background

This document covers FY 2021 (October 2020 – September 2021) of the FIF Kenya Crops and Dairy Market Systems Activity (KCDMS). KCDMS seeks to contribute to the Global Food Security Strategy (GFSS) goals of poverty reduction, enhanced nutrition, social inclusion, and resilience in Kenya. KCDMS also seeks to contribute to Kenya's Country Development Strategy 2020- 2025 with four key Development Objectives (DOs) 1: Key systems such as health, governance, and markets improved, 2: Resilience of vulnerable populations and environments improved, 3: Economic growth opportunities, especially for young men and young women, catalyzed, and 4: Kenya's regional opportunities leveraged, and external risks mitigated. KCDMS's core approach strengthens market systems through local partners, enabling farmers to intensify and diversify into higher-value crops and building capacity for value addition, off-farm employment, and agricultural enterprises. The activity applies a facilitative approach, working through committed public and private market actors best positioned to drive positive change and self-reliance that will reverberate throughout the system.

The activity aims to improve the overall agricultural landscape in Kenya for horticulture and dairy, with a focus on five priority areas:

- Priority Area 1:** Competitive, Inclusive, and Resilient Agricultural Market Systems
- Priority Area 2:** Diverse Agricultural Production and Improved Productivity
- Priority Area 3:** Policy Environment for Market Systems Development
- Priority Area 4:** Integration of Youth and Women into Agricultural Market Systems
- Priority Area 5:** Collaborative Action and Learning for Market Systems Change

KCDMS targets on the 12 counties with the highest poverty index scores: Kitui, Makueni, Taita Taveta, Homa Bay, Migori, Kisii, Kisumu, Siaya, Kakamega, Bungoma, Busia, and Vihiga. The activity focuses on VCs that are under-commercialized but show high growth potential, including dairy and fodder, avocado, banana, mango, and passion fruit. Other VCs include poultry, green grams, pineapple, sweet potato, ALVs, and sorghum. Recently, KCDMS supported a grant partner working with pyrethrum because pyrethrum is increasingly re-emerging as important in the economic growth of Kenya and the need to develop businesses that are creating an entry into the US markets.

2. PROGRESS AGAINST INDICATOR TARGETS

Table 2 shows FY 2021 progress against overall KCDMS indicator targets.³

Table 1 FY 2021 progress against overall KCDMS indicator targets

Color codes		Exceeded expectation		Met expectation		Average performance		Below expectation		
No	Indicator Source	Indicator Listing	Indicator	Cumulative Results 2020	2021 Targets	2021 Results	% Achieved 2021	LOP Targets	Cumulative Results To-Date	% Achieved vs LOP
1	1.(2,3), 2.(1,2,3), 4, 4.1	EG.3-2	Number of individuals participating in USG food security programs	162,820	73,400	93,614	128%	310,822	256,434	83%
			(New + continuing)	139,190	156,914	217,970	139%			
2	4.1	YOUTH-3	Percentage of participants in USG assisted programs designed to increase access to productive economic resources who are youth (15-29)	18%	18%	11%	61%	19%	11%	58%
3	1.3,1.4,4, 4.1	GNDR-2	Percentage of female participants in USG-assisted programs designed to increase access to productive economic resources [IM-level]	57%	56%	70%	125%	56%	70%	125%
4		Custom 1	Estimated number and percentage of FTF beneficiaries holding 5 hectares or less of arable land or equivalent units of livestock (smallholders) [IM Level]	99%	95%	97%	102%	95%	97%	102%
5	1.(1,2,3), 2.(2,3), 3.2	KCDMS custom 2	Number of organizations participating in USG food security programs	4,040	222	89	40%	4,418	4,129	93%
			(New+ Cont.)		1,502	1,369	91%			
6	1.4	EG.3.2-27	Value of agriculture related financing accessed as result of USG assistance[IM-Level]	6,450,501	4,337,765	8,869,447	204%	14,480,435	15,319,948	106%
7	1.4	KCDMS Custom 3	Number of micro, small, and medium enterprises (MSMEs), including farmers, receiving agricultural-related credit as a result of USG assistance	11,523	9,876	23,223	235%	28,370	34,746	122%

³ The indicator figures in the table below represent all the results recorded from all KCDMS activities up to End of FY 2021. Most of the data quoted in the narrative cumulates to the aggregate figures in this table. Summative data by grant partner is provided in the annex named *grant partners performance matrix*.

8	1.4, 4, 4.1	EG.4.2-7	Number of individuals participating in group-based savings, micro-finance or lending programs with USG assistance [IM-level]	11,826	9,248	3,832	41%	25,998	15,658	60%
			New + Continuing	11,826	19,892	15,658	79%			
9	1.4	EG.3.1-14	Value of new USG commitment and private sector investment leveraged by the USG to support food security and nutrition.	17,375,592	10,269,682	18,451,842	180%	32,061,334	35,827,434	112%
10	1.5,2.1,1.2, 2.2	EG.3.2-26	Value of annual sales of farms and firms receiving USG assistance [IM-level]	43,124,500	44,706,416	51,935,310	116%	134,769,683	95,059,810	71%
11a	2.2, 1.(1,2,3),	CBLD-9	Percent of USG-assisted organizations with improved performance [IM-level]	30%	32%	42%	130%	26%	42%	161%
11b		KCDMS Custom 4	Number of organizations adopting improved management practices or technologies or any other organization improvement with USG assistance	214	290	316	109%	754	530	70%
12	2.(1,2,3), 1.(1,2,3),	EG.3.2-24	Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance [IM-level]	82,010	56,694	74,704	132%	199,506	156,714	79%
			New + Continuing	99,709	116,520	173,939	149%			
13	2.1, 2.3	EG.3.2-25	Number of hectares under improved management practices or technologies with USG assistance [IM-level]	30,947	23,257	18,758	81%	72,969	49,705	68%
			New+ Continuing	30,947	41,825	43,685	104%			
14	2.1, 2.3	EG. 3-10, -11, -12	Yields of targeted agricultural commodities among program participants with USG assistance - Dairy Yields	10.4	11.4	8.1	71%	12.3	8.1	65%
			Mango yields	10.7	11.5	10.6	93%	13	10.6	82%
			Avocado yields	11.1	9.0	11.1	123%	12.5	11.1	88%
15		KCDMS Custom 5	Number of individuals engaged in VC services provision as result of USG assistance	1,486	343	311	91%	2,069	1,797	87%
			New + Continuing	1,486	1,532	1,819	119%			
16		KCDMS Custom 6	Number of individuals diversification into other VCs or into off-farm activities as result of USG assistance	28,585	36,700	57,064	155%	102,586	85,649	83%
			New + continuing	69,595	78,457	103,949	132%			

17	2.3	EG.3.3-10	Percentage of female participants of USG nutrition-sensitive agriculture activities consuming a diet of minimum diversity [IM-level]	92.6%	70%	90%	129%	70%	90%	128%
18		HL.9-2	Number of children (0-23months) reached with community level nutrition interventions through USG supported programs	8,040	14,000	24,967	178%	22,040	33,007	150%
19	2.3	Custom 7	Percentage of children (6-23 months) receiving diet of Minimum Diversity.	92.8%	60%	86%	143%	60%	86%	143%
20	4,	KCDMS Custom 8	Number of women who report improved participation in HH decision-making on VC-investment/expenditure as a result of USG assistance.	14,587	33,221	65,767	198%	66,506	65,767	98%
21	3.1, 3.2, 3.3	EG.3.1-d	Milestones in improved institutional architecture for food security policy achieved with USG support [National-Level]	109	60	66	110%	199	175	88%
22	3.1, 3.2, 3.3	KCDMS Custom 9	Number of agricultural and nutritional enabling environment policies/regulations/processes/ norms analyzed, consulted on, drafted or revised, approved, and implemented/ altered with USG assistance	56	30	29	96%	106	85	80%
23		KCDMS Custom 10	Number of people employed in the target market system as a result of USG support	N/A	N/A	7,472	N/A	11,822	7,472	63%

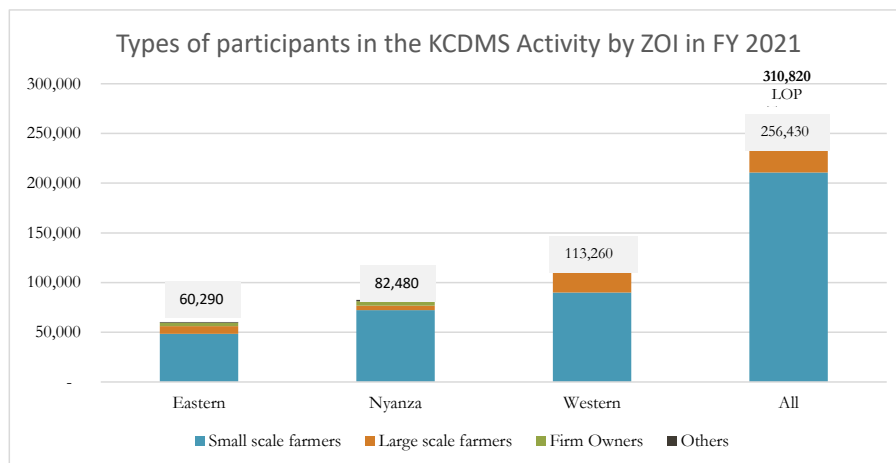
2.2 General Performance on Key Indicators

Individuals and organizations participating in USG funded food security programs

KCDMS worked through 4,129 organizations (businesses, associations, cooperatives, community-based organizations (CBOs), FIs, VSLAs) reaching 93 percent of the LOP target to reach these beneficiaries. Of these, 252 are grant partners and the rest are non-grant partners. KCDMS has partnered with 54 contracted companies and organizations and 28 individual consultants in capacity-building or layering interventions contributing to multiple benefits to the VC players. These include *Kilimo-lishe* (agri-nutrition), VSLAs, BDS, ICT, extension via radio, and policy support to the national and county governments.

The number of individuals who have participated in KCDMS programs has grown to 256,430 (reaching about 80 percent of the LOP target) by the end of FY 2021. Of these, 207,070 are either new or ongoing participants in FY21. As shown in Figure 1, most of the participants are in Western and Nyanza counties and most are farmers linked to markets or serviced by grant partners of the KCDMS Activity.

Figure 2: Types of participants in the KCDMS Activity by ZOI in FY 2021



Of the participants in KCDMS programs, 11 percent are youth, and 55 percent are women. KCDMS SI activities have targeted youth and women to incentivize them to engage in high-value market activities.

KCDMS performance resulted from: a) new grant partners (37 cooperatives) who previously received light touch facilitation and did not have to report on their numbers of affiliate farmers. On becoming grantees in Y4 these cooperatives reported more than 6,000 new participants, higher than expected, b) One of our partners (FIPs) saw an opportunity for unplanned expansion into new regions in western and eastern, which increase reach by 12,000 farmers, c) COVID-19 impacted the implementing environment resulting in a larger-than-expected (+) discrepancy in target achievement. More participants (40% more) than expected from previous years continued participating since several grant partners had their one-year contracts extended to enable completion of pending deliverables. Most also continued benefiting from layering onto market systems activities like *kilimo-lishe* training, and VSLA strengthening.

Value of financing accessed and leveraged by KCDMS

As shown in the figure below, the amount of financing accessed by micro, small, and medium enterprises (MSMEs) and farmers has reached US\$ 15.3 million (106 percent of the LOP target), of which US\$ 8.8 million (over 50 percent) was accessed in Y4 alone. The number of farmers and MSMEs accessing this finance has grown by 170 percent since the beginning of FY 2021 (from 12,846 to 34,746). The percentage of the youth accessing agricultural finance has remained below 15 percent and KCDMS is working with counties to entice youth to participate in high-value agricultural VCs.

KCDMS registered huge success in agricultural credit accessed from formal institutions. Few of the partnering lending institutions adopted strategies that enable them to expand their loaning portfolio unexpectedly. For example, two of KCDMS MFI partners, BIMAS and Musoni, launched their program to reach more rural areas, targeted informal groups, customized their credit rating to include farming assets, and use a mobile loan platform. These innovations were not anticipated to happen during Y4, but increased the number of individual borrowers, and the total value of loans by \$4.3 million. In addition, KCDMS co-invest larger amounts in at least 5 businesses that borrowed over \$1.4 million loans for their cost share - this was made possible because of new partnerships KCDMS had with the KIM Activity.

The value of new USG commitments and private-sector investments leveraged by KCDMS to support food security and nutrition is currently estimated at US\$ 35.8 million (109 percent of the LOP), of which over US\$ 14 million has been reported during FY 2021. US\$ 4.8 million is USG commitment, US \$13.6 million is cost share, and the rest is other private-sector investment, including MSME and farmer investments from formal agriculture finance accessed through KCDMS facilitation, as well as other farmer investment from informal lending systems.

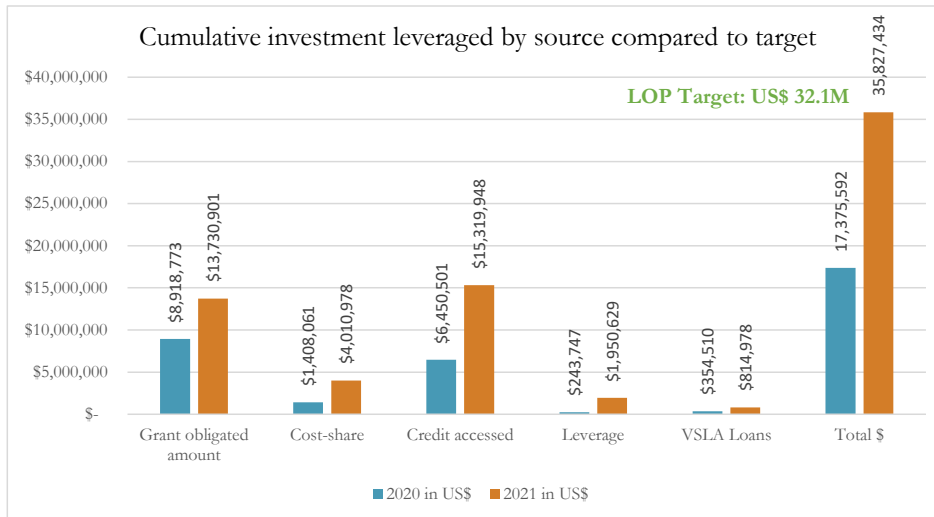


Figure 3 Breakdown of investment leveraged to date

Value of annual sales by farms and firms receiving support from KCDMS

In FY 2021, producers and firms receiving USG assistance through KCDMS generated US\$ 51.9 million in sales. This led to a cumulative sales total of US\$ 95.4 million. KCDMS recruited 14 new partner firms whose annual sales were on average larger than the targets they had provided us when securing partnership with KCDMS. Findings from the KCDMS 2021 annual outcome survey reported that farmers sold only 30% of their produce to KCDMS partners, 70% was sold to other marketing channels which is a lot more (by 30%) than was anticipated during target setting.

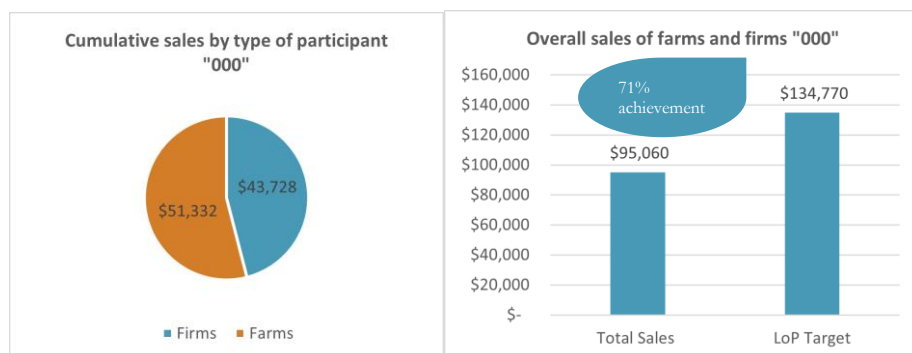


Figure 4 Sales by type of participant

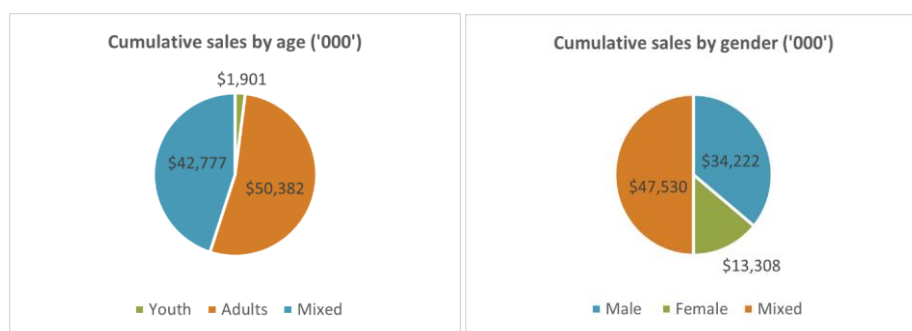


Figure 5 Cumulative sales by age and gender

Table 2 KCDMS performance by county

Region	County	Key Value Chains: H= Horticulture F = Feed and Fodder D = Dairy FI = Farm Inputs	Performance Progress to Date			
			# of Participants	Access to Finance		Sales Value to Date (\$)
# of MSMEs & Farmers Accessing	Value (\$)					
Eastern	Kitui	H, F	12,910	7,510	2,811,700	865,140
	Makueni	H, F, FI	36,040	6,570	2,015,200	11,651,110
	Taita Taveta	H, F	11,340	2,350	1,606,460	4,111,880
Nyanza	Homa Bay	H, F, D, FI	24,330	4,120	666,160	5,080,790
	Kisii	H, F, D, FI	11,630	2,490	1,468,510	4,271,630
	Kisumu	H, F, D	13,300	1,540	854,810	9,266,750
	Migori	H, F, D, FI	17,110	2,840	874,320	9,401,590
	Siaya	H, F, D	16,110	320	239,150	1,225,860

Western	Bungoma	H, F, D, FI	42,130	2,840	1,373,770	15,517,400
	Busia	H, F, D	12,880	610	324,760	7,168,420
	Kakamega	H, F, D, FI	44,990	2,430	618,300	7,854,720
	Vihiga	H, F, D, FI	13,260	1,110	244,590	10,560,290
Other	Other		400	20	2,222,220	8,084,250
Total			256,430	34,750	15,319,950	95,059,810

As shown in Table 3, KCDMS performance by counties demonstrates variation by key indicators. Kitui county has the lowest commodity sales, for example, but the county registered the highest loan amounts and number of borrowers. This can be attributed to Musoni microfinance, a KCDMS grantee, that opened a branch there which registered additional members and facilitated linkages with potential borrowers.

Makueni, on the other hand has the third highest number of beneficiaries and the second highest value of commodity sales. Most of these are attributed to mango and IPM technology. Most of the Western and Nyanza counties had a lower appetite (or access) for credit but performed better in terms of sales. Siaya county is the only county where farms/firms reported both low appetite for credit and poor sales performance.

2.3 Capacity Building Initiatives in 2021

KCDMS facilitates the training of service providers, trainers, policy makers in the public and private sector, business owners, and business association leaders. KCDMS also supports the development of manuals and job aids used in the process of training or service delivery. These training are intended to build a cadre of service providers and champions to skill farmers, agents, business owners, etc., or used to disseminate information or create the awareness needed in policymaking or improving business operations.

High-level trainings conducted in Y4 are presented below.

Applied skills training in the mango and dairy VCs: In FY 2020/2021, KCDMS partnered with the County Government of Kitui to build the capacity of women and youth engaged in the mango and dairy VCs through existing cooperatives. KCDMS contracted the Jomo Kenyatta University of Agriculture and Technology (JKUAT) and the University of Nairobi on behalf of the county government to build the skills of select cooperatives on mango value addition as well as animal health and AI, respectively. The county government mobilized 20 farmers drawn from ten cooperatives for training on mango flakes processing. KCDMS is co-investing with the mango cooperatives to acquire driers to process mango flakes during the 2021/2022 season. In addition, KCDMS supported ICIPE fruit fly control experts to train over 120 TOTs during the reporting period to support the establishment of areas of low pest prevalence in Kitui County. In the dairy VC, a consultant from the University of Nairobi worked in collaboration with Kenya Veterinary Board (KVB) officers to train 26 AI service providers. The newly trained AI TOTs were dispatched to provide private AI services across Kitui County. KCDMS, through EAMDA, also collaborated with the county government of Taita Taveta to build the governance and operational capacity of four dairy common interest groups (CIGs), namely Mwasinenyi, Ngache, Mgange Dawida, and Mwafuga.

FTAI protocol training for AI service providers (AISPs): In Y4, KCDMS trained 105 animal health practitioners (drawn from private and public sectors) from Kitui, Kakamega, Busia, Kisii, and Kakamega on the FTAI protocol. In Kitui County, KCDMS will co-invest with the Kitui dairy cooperatives to equip the young professionals with AI start-up kits and roll out profitable businesses across the larger South Eastern Kenya counties. These trainees will work closely with DFAs recruited to cooperatives and private semen providers, e.g., Supreme Global, to mobilize, register, and inseminate the cattle. County livestock production and veterinary staff will backstop the activities of DFAs and AISPs.

Partnering with KALRO to train animal health practitioners to combat East Coast Fever (ECF): KCDMS partnered with KALRO to train 41 animal health practitioners from Kisumu, Taita Taveta, Kitui, Makueni, Migori, Siaya, Kisii, and Bungoma Counties on skills to conduct ECF vaccinations that will protect the cattle against the disease or death and ensure calf survival. The trained practitioners will work with Kenya Dairy Farmers Federation, a KCDMS grant partner, to roll out the vaccination program in the KCDMS ZoI. The vaccination exercise is expected to result in improved production and higher household income.

KALRO will train 80 practitioners by the end of its contract. KCDMS has co-planned with 12 counties to vaccinate 9,000 cattle under the e-voucher program and a further 1,000 outside the voucher program. In addition, the Taita Taveta County has already procured ECF vaccines from KALRO to vaccinate over 3,000 dairy cattle, an exercise planned for Q1 of Y5.



Left: AISP vaccinating a cow at the Maseno ATC Farm during an ECF vaccination training. Right: [REDACTED] of KALRO instructs AISPs on how to mix the ECF vaccine. Photo credit: KCDMS

Training of trainers (TOT) on animal nutrition: KCDMS trained 24 ToTs drawn from the 12 KCDMS focus counties using the new animal nutrition materials developed by KCDMS and AVCD. The participants included 12 County Livestock Production Officers, FIPS multi-network and network coordinators, and AVCD DFAs. The participants were drawn from county governments, non-governmental organizations, and farmer groups. The participants have rolled out training to farmers drawn from dairy cooperatives.

Training village-based advisors (VBAs) as trainers: KCDMS facilitated the training of 457 VBA as trainers (ToTs) in various needed capacities and further supported the VBAs and county officials to cascade the trainings to farmers. Technical trainings in FY2021 included:

- **Environmental safety and safer use of pesticides** training delivered to 432 VBAs as ToTs and service providers across Eastern and Western regions to build their capacity on environmental management issues and safe use of pesticides in line with USAID regulations as outlined in the PERSUAP document.
- **Business simulation** training delivered to 32 field staff from six counties on entrepreneurship skills including decision-making, savings, re-investment etc. This is an ongoing training targeting all VBA and will continue in Y5.
- **Basic animal health training** was delivered to 184 VBAs in Kakamega, Kitui, and Makeni Counties focused on helping VBAs become basic animal health service providers offering tick control services and advice on deworming and use of quality feeds and housing.
- **Poultry diseases and management** training was delivered to 80 VBAs in Makeni County to build their capacity on common diseases affecting poultry productivity and the best practices for managing the diseases as service providers. The training focused on vaccination, proper housing, and good hygiene.
- **ToT course on policy domestication:** A key constraint that emerged from the PPDs in Y1 was the low capacity of county agriculture staff on policy analysis, formulation, and domestication. In FY 2021, KCDMS partnered with ASDSP II to facilitate the training of 81 trainers on policy domestication. The trainers comprised of representatives from national and county agriculture sector staff including officials from ATVET Institutions from the 12 KDMS focus counties.

2.4 Training Materials Developed and Adopted

KCDMS has also supported the development and dissemination of materials essential for i) training and job aids for service providers, ii) advocacy and mobilization for action (campaigns), iii) provision of information necessary for improving production, productivity, human nutrition, food safety, and food security, and iv) guidance on how to carry out certain activities, how to use certain technologies, or how to meet certain

standards and requirements in business or for the market. Some of the materials developed in Y4 are discussed below.

Animal training resource materials and nutrition dialogue card: KCDMS partnered with the MoALF Department of Livestock Production, AVCD II, ILRI, and other stakeholders in the dairy sector to develop animal (cattle) resource materials. These materials include an Extension Manual, Reference Manual, Illustrated Guide, Nutrition Dialogue Card, and dairying



Figure 8 Animal resource materials developed in partnership with the MoALF.

production e-Learning. The dairy resource materials are in the final stages of review and production, and a national launch is expected in November 2021.

Busia and Vihiga County information, education, and communication (IEC) materials: KCDMS supported the development and dissemination of 10,000 and 5,000 IEC materials for Busia and Vihiga counties, respectively. The materials included posters and fliers focusing on aflatoxin management, dairy cow management, fodder production and commercialization, post-harvest handling of horticultural and grains, and brooding of indigenous chicken.

3. KCDMS PARTNERSHIPS WITH OTHER STAKEHOLDERS

3.1 Partnerships and Collaboration with other USAID Implementing Partners

KCDMS continued to invest in strategic partnerships with USAID IPs to enhance synergy and leverage emerging opportunities. Activities and outcomes of note from these collaborations include:

- KCDMS staff continued contributing to conversations at the Office of Economic Growth and Integration (OEGI) and IP monthly meetings where CDCS, structuring grants to the counties, and other thematic areas have been discussed with the aim of sharing lessons to foster best practice.
- KCDMS held discussions with the USAID-funded Kenya Small Business Development Centers (KSBDC) program implemented by Strathmore Business School to enhance the capacity and profitability of KCDMS supported MSMEs in Makueni and Kisumu Counties, where the two programs overlap. As a result, KCDMS will introduce partnering dairy and horticulture cooperatives and MSMEs that have received business development and ICT support to KSBDC, which will build on KCDMS' gains in catalyzing growth in business and trade opportunities locally, regionally, and internationally.
- KCDMS and KIM collaborate on i) blended finance which includes grant and commercial credit, ii) partner graduation from grant to commercial finance, iii) training on VC financing, and iv) market system-based finance and investments. KCDMS also leverages KIM's business advisory service providers (BASPs) toward raising financing. A joint finance technical committee coordinates the activities. To date, KCDMS and KIM have a pipeline of 14 deals amounting to over to US\$ 4 million, with \$700,000 secured.
- The USAID- AVCD activity has been a long-standing KCDMS partner working in similar counties on dairy and drought-tolerant crops – particularly green gram. Joint interventions include, i) the roll-out of AVCD-developed private sector extension models (DFA and service provider enterprise [SPE]), and ii) technical leadership on animal health, AI, and FTAI, as well as the development of county-level dairy strategies.
- USAID South Eastern Kenya Region: KCDMS works closely with all IPs in the South-Eastern Kenya region on joint planning, budgeting, coordination, and reporting. KCDMS provides leadership support in the South-Eastern Kenya (SEK) county coordination committees by chairing the Makueni County Committee and deputizing the Kitui County Committee. This coordination has resulted in layering activities in the dairy, pulses, and fodder VCs with USAID IPs such as AVCD, with whom KCDMS supported the operationalization of Kathonzweni dairy processing plant.
- KCDMS is in discussion with USAID- EAMS on potential collaboration opportunities on banana and mango export.
- KCDMS will collaborate with USAID-CLEAR on the capacity strengthening of Makueni and Taita Taveta county officers in the Cooperatives Department to better support farmer cooperatives for sustained economic growth.
- The USAID-LMS activity in Northern Kenya shares similar market systems activities but a different geographic zone. However, KCDMS engages with the activity in organizing and/or participating in shared learning platforms.

3.2 Partnerships with National Government

KCDMS is working in partnership with the national government to support the development of the National Animal Feed Development Strategy, the National Dairy Industry Strategy, the National Mango Promotion Strategy, and the National Phytosanitary Policy as policy instruments that are aimed at enhancing synergy and coordination in industry development. These strategies are on target for completion in FY 2022. KCDMS also supported the domestication of the National Avocado Promotion Strategy, 2020–2027, completed in FY 2020, at the county level. Further information on these initiatives is in Chapter 9 of this report.

3.3 Partnerships with County Governments

FY 2021/2022 county co-created work plans: In line with the journey to self-reliance objectives, KCDMS worked with the county governments of Kisii, Homabay, Kisumu, Migori, Siaya, Bungoma, Vihiga, Busia, and Kakamega to develop joint work plans for the FY 2021/2022 period. The work plans align with the Government of Kenya budget cycle and were completed in July 2021. Work planning in the Eastern Kenya counties of Makueni, Kitui, and Taita Taveta was undertaken under the South-Eastern Kenya (SEK) coordination mechanism in line with the USAID IP budget cycles. The joint priorities set by the target county governments and KCDMS form the focus of interventions aimed at enhancing sector performance.

Joint monitoring and learning visits: KCDMS continue to strengthen county government relations and leverage county investments in dairy and horticulture sub-sectors. In collaboration with county governments and county programs, including ASDSP, NARIGP, and KCSAP, KCDMS continued to implement FY 2020/2021 co-created work plans with quarterly monitoring through joint work plan reviews and reports on progress made against joint priorities. KCDMS also facilitated joint monitoring and learning visits in Bungoma, Kisii, and Kisumu Counties with technical staff from the county Departments of Agriculture, Livestock, Veterinary Services and Cooperatives. The activity assessed KCDMS work on market access, productivity and inputs distribution, women and youth empowerment, access to finance through MFI linkages and VSLAs, and *kilimo-lishe* interventions as per the co-created county work plan.



Left: Bungoma County Executive Committee Member (CECM) Agriculture, Hon. [REDACTED] at [REDACTED]'s farm during the joint monitoring exercise. **Right:** Kisumu County team visit Awuoth during the monitoring and learning visit in Kisumu. The group benefited from KCDMS through an in-kind grant for a charcoal cooler, solar drier, walking tractor and irrigation equipment. Since KCDMS' partnership, the group has sold [REDACTED] Kgs of ALV worth KES [REDACTED]. The group now supplies Beyond Fruits and Vegetables retail stores in two malls in Kisumu County. The group has also accessed finance through Sidian Bank, following linkages by KCDMS. Photo credit: KCDMS

Partnerships provide extension messaging during COVID-19: To mitigate extension support limitations associated with the COVID-19 pandemic, KCDMS partnered with county governments to continue messaging on agricultural production by supporting radio extension programs in ten of the twelve targeted counties. Slightly over one million calls were recorded in response to the messaging. Callers received real-time extension technical advice from the county technical teams.

KCDMS facilitated consultant engagements to support Kakamega and Siaya Counties to develop Agriculture Management Information System (AMIS) that will enhance monitoring of crop and livestock production and trade and provide timely weather and climate data. AMIS will improve communication, coordination, and timely provision of accurate data for efficient and quality decision-making. The Kakamega AMIS has a two-way bulk SMS component for farmer feedback. The web-based system will complement the county government's current extension model, support the management of county subsidy input distribution, enable the county to gather data on land use, yields, number of farmers per VC and provide agriculture market information. The county government has registered over 5,000 farmers on the platform.

3.4 Partnerships with National Stakeholders

Partnerships drive compliance in horticulture standards: KCDMS provided grant support to FPEAK and Fresh Produce Consortium of Kenya (FPC-K) to facilitate the roll-out of KS1758-II.⁴ FPEAK is conducting county sensitization and training of ToTs and select off-takers in KCDMS ZOIs, while FPC-K will be piloting the standard at an open-air market, a supermarket, and a grocery store. The lessons learned from the pilot will inform the horticulture industry stakeholder on modalities of facilitating widespread adoption of the standard for both the domestic market. To date, a total of 164 county staff from the Ministries of Agriculture and Trade as well as 18 grant partners in the horticulture VC have been trained by FPEAK across KCDMS ZoI.

Agriculture Sector Network (ASNET) county chapters: KCDMS provided grant support to ASNET toward the establishment of county chapters in Kisii and Kakamega counties for enhanced coordination of agriculture private sector actors, including but not limited to business member associations (BMOs), agro-dealers, FIs, exporters, and producers, in advocating for a redress of sector-related agricultural issues. Progress made on the planned initiative will be reported in subsequent reports.

Agricultural Sector Development Support Program: KCDMS partnered with ASDSP to develop and implement CASSCOM in the 12 counties.

National Agricultural and Rural Inclusive Growth Project: KCDMS worked with NARIGP in convening CASSCOM meetings and in work plan development in Vihiga County.

Regional fresh produce export: KCDMS facilitated Fresh Produce Consortium (FPC), FPEAK, Kenya Flower Council (KFC), and officials from Kenya Airways and Kenya Airports Authority to participate in the North Rift Economic Bloc (NOREB) and the Lake Region Economic Bloc (LREB) fresh produce export promotion events in Eldoret and Kisumu Counties. The events established potential ways to enhance the effective utilization of existing infrastructure such as cold chain transport, Kenya Ports Authority (KPA) inland port depots, railway, and roads, to accelerate the opening of fresh produce export markets.



Left: HE [REDACTED], Uasin Gishu Deputy Governor, making opening remarks during the NOREB, FPC stakeholder consultative forum. Right: Left to Right: [REDACTED]- AAK CEO [REDACTED], [REDACTED]- FPC CEO, [REDACTED]-KVD. Photo credit: KCDMS

3.5 Major Consultancies and Learning Collaborations

Constraint analysis

During the FY 2020/2021 period, KCDMS contracted Boston Consulting Group (BCG) to undertake a national-level constraints analysis on mango, avocado, banana, passion fruit as well as dairy, feed, and fodder. The study focused on identifying industry constraints that curtail private sector engagement and investment

⁴ KS 1758 Part II is the Kenya's horticultural standard covering farm management systems, food safety, plant health, worker welfare and safety, environmental management, and legal requirements. The standard is harmonized with existing international standards on GAPs and guidelines and in particular, the Global GAP.

in high potential markets while also presenting opportunities for transformational growth and expansion at local, regional, and international markets. Selected recommendations were incorporated in the FY 2021/22 work plan.

- Supporting the mango industry to re-enter the U.K. by facilitating the development of a national apple mango branding and marketing campaign.
- Facilitating consultative trade deliberations between a delegation led by Kenya horticulture industry associations for avocado and mango exporters, and buyers in Europe.
- Supporting the development of an online portal to facilitate linkages between fodder producers and buyers.
- Addressing aflatoxin reduction through promotion of Aflasafe use through KCDMS grant partners, including Nuru Social Enterprises and Western Fresh Industries (WEFI).
- Supporting the roll-out of HCD's avocado maturity predictor tool, which will be integrated with the National Horticulture Traceability System to curb the export of immature fruit.

3.6 Other Partnerships

KCDMS collaborated with various entities to facilitate an enabling environment for market systems development and private sector investment. Some key partnerships are listed below:

- One Acre Fund in the Western region: linking a poultry grant partner for the supply of poultry chicks to supported farmer groups
- SNV in Vihiga County: ALV production and marketing and Welthungerhilfe (WHH) on training dairy farmers
- Agri-Fi: development of the Migori County Food Safety Policy
- NAGRIP: development of the ALV Strategy in Kisii County
- GIZ: sensitization of TWG policy development and follow-up on Youth in Agribusiness domestication strategy
- NAGRIP: convening CASSCOM meetings and workplan development in Vihiga County
- Food and Agriculture Organization (FAO): county joint workplan development and setting up of CASSCOM secretariat in Kakamega County
- MESPT: setting up CASSCOM secretariat and formulation of the work plan in Kakamega County; also, support of the ALV stakeholder forum and subsequent data collection to support the formulation of an ALV framework for Vihiga county
- ASNET: plans for institutional strengthening at county level and capacity building of VC-focused business member associations
- KNCCI: mobilization of stakeholders for dairy strategy development in Vihiga county
- Kenya Dairy Board: development of dairy regulations and the National Dairy Industry Strategy
- Diverse KCDMS grant partners during inclusive development of various policy instruments at the national and county levels
- Key apex bodies in the dairy and horticulture VC in inclusive development of various policy instruments at the national and county levels

4. PARTNERSHIPS AND INNOVATION FUND

KCDMS leverages the private sector as its primary delivery mechanism to transform markets. The Partnership Innovation Fund (PIF) facilitates KCDMS's co-investments with private sector players (grant from KCDMS and cost share from partners) for interventions that create sustainable agri-led economic growth and more reliant market systems and households. Other delivery mechanisms include in-kind support to counties and contracted expertise to provide short-term capacity-building interventions in targeted areas (i.e., BDS, ICT, radio station mentorship for BCC). Additionally, KCDMS has employed a multi-intervention approach layering several interventions with those of various market actors and farmers (i.e., VSLA and *keilimo-lishe*). This holistic approach contributes to the capacities of county governments and market system players and farmers in facilitating agri-led economic growth, market systems and household resilience, and an improved business environment. To date, KCDMS has issued 82 contracts worth US\$ 4.3 million. They include county grants, policy-level interventions, VSLA strengthening, *keilimo-lishe* training, BDS support, industry associations, radio stations extension, and fall armyworm training.

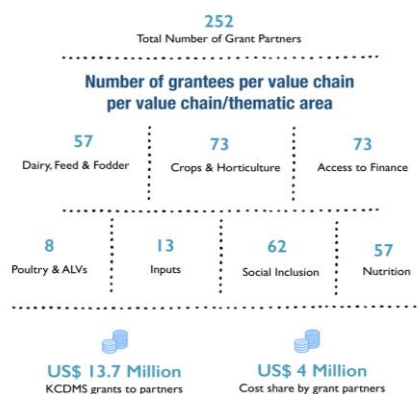


Figure 9 Number of grant partners per value chain

4.1 Approved USG Grant Partners Grew to 252 by the End of FY 2021

In FY 2021, the grant portfolio increased from 107 to 252 grant partners, increasing the obligated amount from US\$ 8.9 million to US\$ 13.7 million. The below tables illustrate the obligated amount per county and VC.

Table 3: Grant investment and cost share by county

S/No	County	Total Grant Investment (US\$)	Total Cost Share Investment (US\$)	Overall Investment Grant + Cost share (US\$)
1	Makueni	2,953,287	3,104,493	6,057,780
2	Taita Taveta	916,035	1,042,066	1,958,101
3	Kisii	929,567	924,056	1,853,624
4	Kitui	593,276	835,859	1,429,135
5	Vihiga	511,900	542,469	1,054,370
6	Kisumu	925,379	952,856	1,878,235
7	Bungoma	1,388,589	1,423,889	2,812,478
8	Siaya	926,411	1,173,960	2,100,371
9	Homabay	1,437,846	1,245,238	2,683,084
10	Busia	601,572	689,493	1,291,066
11	Migori	1,274,240	1,342,778	2,617,018
12	Kakamega	1,010,298	1,141,957	2,152,255

S/No	County	Total Grant Investment (US\$)	Total Cost Share Investment (US\$)	Overall Investment Grant + Cost share (US\$)
13	Others ⁵	262,500	1,557,156	1,516,380
	Total	13,730,901	15,976,273	29,707,173

In FY 2021, KCDMS introduced Kentagra, an American investor in the pyrethrum VC who works with farmers in six counties (referred to as “Others” above-Nakuru, Nyandarua, West Pokot, Bomet, Laikipia, and Kericho). The proposed co-investment outside the KCDMS’s ZOI and core VCs was informed by the value proposition provided by pyrethrum as a cash crop, with great potential to lift many communities out of poverty and enable farmers to branch out into other VCs, while guaranteeing regular income streams.

4.2 KCDMS Works With Grant Partners Toward Improved Cost Share Reporting Amid Hard Economic Times

RTI (KCDMS) committed US\$ 5.6 million in cost share over the life of the project. As of the end of FY 2021, the project had documented cost share amounting to US\$ 4 million, reflecting 71 percent of RTI’s total commitment. There was a significant improvement in cost share reported in FY 2021 as compared to FY 2020. This improvement can be attributed to the following:

- Onsite support by the grants team who visited grant partner premises and provided technical assistance (TA) on cost share reporting.
- Following the lifting of movement restrictions imposed by the government to curb the spread of COVID-19, some grant partners whose activities had slowed down, increased their operations, raising cost share.
- Grant partners are paying their cost share toward the procurement of (in-kind) equipment.
- Intensified and continuous follow-up by grants and technical team to ensure that grant partners were reporting on the committed cost share.

The trend in cost share collection over the financial year is summarized in the table below.

Table 4: Cost share collection trend over FY 2021

Total Cost Share Collected End of FY 2020	Cost Share Collected Q1 (Sept-Dec 2020)	Cost Share Collected Q2 (Jan-Mar 2021)	Cost Share Collected Q3 (Apr-Jun 2021)	Total Cost Share Collected End of FY 2021
US\$ 1,341,010	US\$ 437,836	US\$ 169,203	US\$ 672,258	US\$ 1,390,667

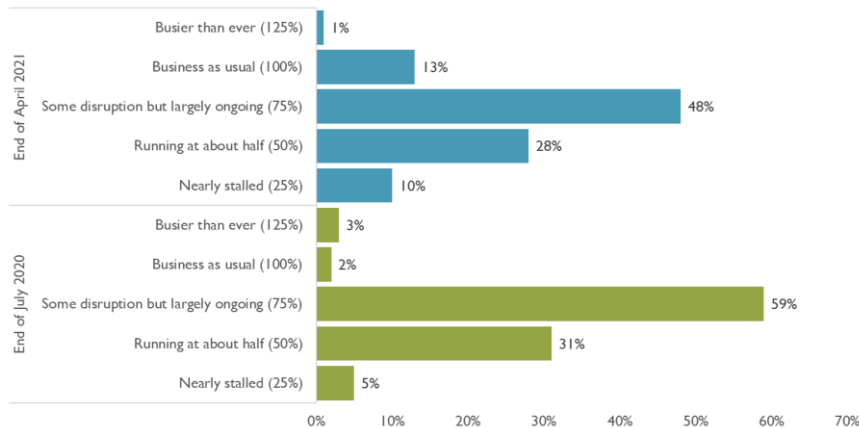
The cost share recorded in Q4 surpassed the first three years of the project. This is attributable to one grant partner who paid US\$ 599,086 toward procurement of equipment worth US\$ 1.4 million. The following measures have been put in place to meet the deficit in cost share of approximately US\$ 1.6 million:

- Fast-tracking in-kind procurement: All procurements are expected to be completed by the end of Q3 Y5.
- Continue providing TA to grant partners on cost share reporting during site visits
- Periodic meetings: The team will hold regular management-led meetings to review progress on cost share collection
- Sharing lessons learned: Regional teams will continue sharing best cost share collection practices for replication in other regions.

⁵ West Pokot, Nakuru, Kericho, Laikipia, Bomet, and Nyandarua.

COVID-19 impacts businesses: KCDMS conducts periodic grant partner surveys to assess their financial, operational, and business performance. The April 2021 survey revealed a reduction in operations, with 48 percent of the respondents operating at 75 percent, 28 percent at 50 percent, and 10 percent of the respondents nearly stalled.

Figure 10: Level of grant partners' business operations during COVID-19: Data source-KCDMS grant partners survey



Level of business operations: 2021 results (n=69) compared with 2020 results (n=64).

Reasons for low business operations include the following:

1. Shorter operating hours (36 percent)
2. Inadequate operating capital (39 percent)
3. Market inaccessibility/closure of certain markets/low sales (44 percent)
4. Difficulty in conducting farming activities (73 percent)

Unsuccessful loan applications to financial institutions: Through KCDMS linkages, some grant partners had applied for loans to meet their portion of the committed cost share. There were delays in loan processing and subsequently, applications were rejected owing to lack of collateral. Additionally, financial institutions shifted priority to lending to the government and more established businesses while also focusing on recovering outstanding loans. The grant partners whose loans were not approved in the reporting period include [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], and [REDACTED].

Grant partners closing without fully meeting cost share: Fourteen grant have closed without partners fully meeting their committed cost share due to tough economic times caused by, among other things, the pandemic. Twenty-three are in the closeout phase and have submitted cost share reports amounting to US\$ 250,438 which KCDMS anticipates reporting in the next quarter.

Low burn rate on obligated grant amount: Cost share is spread across most budget items in grant partner implementation budgets. As discussed below, the grant partner burn rate is still lower than 50 percent.

4.3 Grant Partner Expenditure as of June 2021

Table 5: Total obligated amount and expenditure and the burn rate FY 2020 and FY 2021

Year	No of approved grant partners	Total obligated amount as of 30 September	Total expenditure as of 30 th September	Burn rate
FY 2021	252	\$13,730,900	\$5,527,276	40%
FY 2020	107	\$ 8,918,773	\$3,293,915	36.9%

To date, the project has spent US\$ 5.5 million in PIF-funded activities through grants. The burn rate is currently at 40 percent attributed to the following:

- COVID-19: The ongoing pandemic slowed not only the grant partners but also the national economy owing to county lockdowns and curfews. This also reduced grantee monitoring.
- Rescheduling of milestone activities: Some of the milestone deliverables, especially for horticulture VC, are seasonal and therefore may be inconsistent, slowing activity schedules and reducing the utilization of funds. For grants that were approved earlier in the year, some could not implement efficiently as they had to wait for the season to start. This has been addressed by extending the grant period to allow them a complete cycle of implementation.
- Economic challenges: Insufficient cash flow, especially to cost-reimbursement grant partners to implement project activities, e.g., Inuka Africa and Transglobal.
- Delayed financial reporting due to inadequate capacity of key partner staff, staff turnover of experienced grantee staff trained by KCDMS, and lack of accounting operating systems. This was mainly an issue among grant partners who came on board during the pandemic. To address this, once the restrictions to movement were lifted, the team undertook mentoring exercises with partners at their premises to review financial and cost share documentation.
- Milestone reporting challenges for co-operative grant partners: These partners are unable to meet the required milestone deliverables as scheduled. KCDMS has engaged a consulting firm to support the cooperatives in building their operational capacity and executing the grant program.
- Burn rate tied to procurement: Delayed payment of cost share by the grant partners has resulted in delayed payment of the grant amount, thus affecting the overall burn rate.

Based on the above discussion, KCDMS has put in place the following measures to improve the burn rate:

- Grant partner monitoring has been enhanced following the lifting of the COVID-19 restrictions and staff vaccination.
- BDS contractors: KCDMS will fully utilize the BDS contractors to provide institutional services to the grant partners to improve management capacity and eventually report.
- Encouraging grant partners to digitize some aspects of their business to accommodate online platforms to mitigate the effects of COVID-19, i.e., utilizing the internet and online-based technologies such as computers, mobile phones, and digital media, to promote and market goods and services. Most of the approved grant partners have ICT allocated in their budgets.
- Most of the grant partners approved in FY 2021 have most of their budgets allocated to in-kind procurement. The procurement process started off slowly in Q2, but there has been significant progress in the last two quarters, which has improved the burn rate. This will continue to FY 2022 Q2 where we anticipate that all procurements will have been finalized.

Despite the challenges experienced in burn rate, the project has seen institutional progress from some grant partners. Following the PIF support to cooperatives to procure ICT equipment and solutions, there has been improvement in the operations of some cooperatives who can now produce various reports for decision-making that could not easily be done prior to the system set-up. Additionally, they can send short messages on good agricultural practices (GAPs), market prices, weather alerts, etc. Some of the cooperatives (Luchendi Sacco, 3KM Sacco, and Tangakona) are in the process of upgrading the system so that it can produce financial reports as well.

4.4 Capacity Building

Post award trainings: Following USAID approval, 23 post-award trainings were conducted virtually and in-person to induct the grant partners. The objectives were to:

- Introduce the KCDMS reporting tools and requirements.
- Familiarizing the organizations with USAID rules and regulations; and especially on procurement processes and requirements.
- Create awareness of the project deliverables and objectives
- Introduce the KCDMS technical teams to the grantee partners.

PKF capacity building to grant partner organizations: PKF Consulting Ltd (PKF) was contracted to provide financial and technical support to grant partners for two years because of which the following three organizations made significant progress:

- Stawi Foods and Fruits Ltd was supported to develop a strategic plan which has been presented to a potential investor and discussions are ongoing.
- Lenack Limited was supported in the development of its strategic plan and financial model, which was pitched to the National Bank of Kenya (NBK) in March 2021, and discussions are in progress.
- Orion Farmcare Enterprises was supported in transitioning from a sole proprietorship to a limited liability company in February 2021 to make them more appealing to potential investors.

The activity has extended the PKF contract to March 2022 to continue providing institutional services to the grant partners with a view to improving management capacity and eventually reporting.

4.5 Closeout

The KCDMS activity's grants program began in September 2018 when the first grant partners were onboarded and has been ongoing for 36 months. Currently, the activity has successfully closed out 14 and is phasing out another 38 grant partners whose performance period has ended but their reporting period will continue for another year. Beyond the life of the specific grant, KCDMS, considers grant partners to be key implementation stakeholders. They continue to engage with KCDMS in ways that benefit their business growth. KCDMS takes advantage of capacity-building opportunities and invites current and former grantees to participate in business-to-business (B2B) and policy dialogues. KCDMS will continue linking their farmers to nutrition training, access to finance, access to inputs, and other useful services. KCDMS radio and communication efforts will assist the organizations for product and service promotion and marketing.

5. DIVERSE PRODUCTION AND IMPROVED PRODUCTIVITY

KCDMS has been diversifying agricultural production and improving productivity through a) partnership with the county governments to promote private sector-led extension services to increase uptake of more efficient and effective production and improved productivity technologies, and b) supporting the emergence of a commercially driven input system capable of supplying high-quality technologies to “off-grid” farmers. KCDMS desired outcomes in this component include:

- Smallholder farmers increase sales on key KCDMS commodities.
- Partnership with county governments to increase coverage of private sector embedded extension and advisory services.
- Work with the private sector to transform agri-input distribution to reach more remote farmers sustainably and consistently.
- Increase farmer-uptake of key technologies to increase productivity, e.g., animal health and nutrition, animal genetics, IPM, post-harvest handling technologies, irrigation, and clean production systems (solar dryers and solar cold chains)
- Work with county governments and the private sector to increase the availability of quality planting materials for high-value and food security crops, e.g., Banana rapid multiplication technology, avocado and mangoes high-health seedlings, sweet potato vines, and grafted passion fruit seedlings.
- Provide leadership in the establishment of certified mango fruit fly-free zones and areas of low pest prevalence.

During the reporting period, 217,970 participants (207,070 are producers) have benefited from USAID investments through KCDMS. The infographic below and graph illustrates key KCDMS’ productivity outcomes cumulative and/or for Year 4. Of the US\$ 51.9 million sales generated by producers and firms this year, US\$ 12.9 million was input sales.

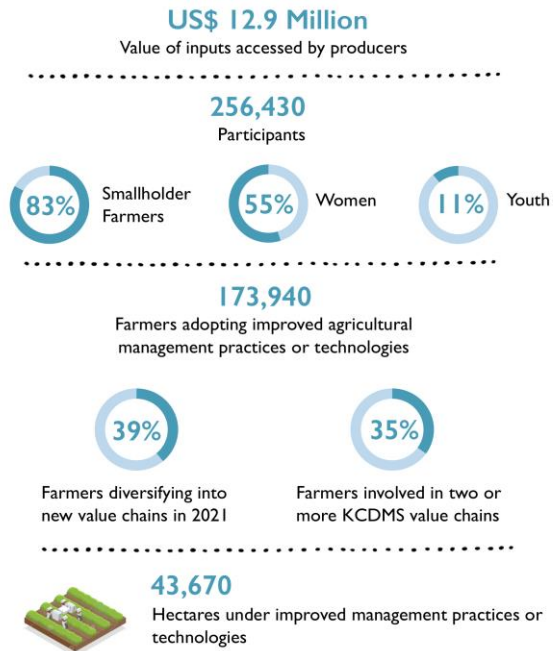


Figure 11 Cumulative KCDMS productivity outcomes as of Year 4

KCDMS cumulative performance over the years:

	2018	2019	2020	2021
Number of Participating farmers	26,259	101,435	162,820	207,070
Number and percentage improved technologies and management practices	9,729	39,598 (65%)	99,709 (58%)	173,940 (84%)
Number of hectares under improved technology	608	10,850	30,940	43,670
Milk yields (Liters/cow/day)	-	5.92	10.68	8.1
Avocado Yields MT/Ha	-	36	14.4	11.1
Mango Yield – MT/Ha	-	24	22.1	10.7
Intensification			-	130,455 (75%)
Diversification (multiple VCs and other off farm Income generating activities)			69,455 (45%)	126,310 (61%)

5.1 Promotion of Services to Farmers

Through KCDMS support, partners worked with 207,070 farmers in FY 2021. Most farmers are from the Nyanza and Western regions (32 and 45 percent, respectively), with 23 percent from the Eastern region. Of these farmers, 43 percent were added during FY21. These additional farmers were reached/supported through the different approaches (a) make quality fruit (mango, avocado, and passion) seedlings and vegetable seeds (ALV and for fodder) available to farmers; (b) ensure farmers have access to technologies (fruit fly traps, spray pumps); and (c) increase sustainable access to quality inputs (pesticides, herbicides, fertilizers) and AI inputs (semen). The partner services promoted in the ZOI included spray services (for crops and animals), AI (KCDMS promotes mainly the FTAI), extension, and information services. A majority (85,630) of the new participating farmers have been reached through the village-based advisors (VBAs). KCDMS also engaged 13 new grant partners in fodder working with about 21,000 fodder farmers.

5.2 Increasing Productivity in Dairy, Avocado and Mango

Investment in dairy

Majority 66 percent of beneficiaries (partners) in the USG investment through KCDMS are in dairy farming/fodder production. In Y4, KCDMS supported 14 dairy cooperatives. KCDMS work with cooperatives include a) support to acquire value addition and high health seedling multiplication (RMT) skills through ToT trainings, b) procure equipment for value addition activities and cold storage to enhance capacity c) enhance food safety measures, especially aflatoxin testing and mitigation, and d) support in income streams diversification in embedded services like AI, animal health, and inputs supplies, excluding investments in BDS services. Fourteen of the dairy cooperative societies implemented the DFA model.

Besides, KCDMS is working on animal health and nutrition—including awareness on feed quality to reduce use of food infested with aflatoxins, development of county level dairy strategies, and support in creating awareness and the domestication of the national dairy policy instruments. KCDMS



[REDACTED], a farmer from Murende Sub-location in Busia County, happily holding her one-month-old calf born from FTAI technology following service by Orio Farmcare. [REDACTED] invested KES [REDACTED] as a cost share amount to have her local cow served with improved semen and now she is glad to have a crossbred calf valued at KES 10,000. Photo credit: KCDMS

continued working with ILRI, county governments, and private firms to improve dairy animal breed through the e-voucher program. KCDMS working with Supreme Global Cares, GenePlus Breeders, and Orion Farm Cares and AISPs to demonstrate the value of improved breeding services to the farmers. The activity continued to facilitate the layering of private sector breeding activities with the counties to establish sustainable structures. A total of 34,581 animals were inseminated during the reporting period with 9365 calves calved down.

Milk production: Our AOS data indicate that dairy farmers reported owning on average 3 dairy cows per household and were producing 8.1 liters of milk per household per day compared to a national average of 7 – 9 liters per dairy cow per day for improved breeds, and 4-5 liters. KCDMS dairy farmers reported earning on average US\$ [REDACTED] per day, which compares well with estimates of US\$ [REDACTED] per day by ILRI and County governments of Makueni and Siaya.

Fodder/Silage production: KCDMS has also partnered with counties to increase the fodder production and sales in the ZOI—and particularly to have enough fodder during the dry seasons. KCDMS's main approach has been engaging and training youth to use available land to produce fodder, make silage, and establish local markets. KCDMS partnered with cooperatives to estimate fodder/silage needs and contract trained youth to supply their farmers. KCDMS has used PIF to grant youth the tools needed to improve their fodder/silage handling and marketing and co-invested with partnering firms to access equipment needed in the fodder enterprises. Moreover, KCDMS partnered with Advantage Crops Limited (ACL) to pre-park smaller and affordable quantities of brachiaria seeds. By the end of Y4, Advantage Crops Limited reported sales of [REDACTED] kgs of brachiaria seeds valued at US\$ [REDACTED]. 29,615 farmers have reported selling fodder worth US\$ 3,197,519. Besides, Lengo Center supported their contracted fodder farmers in Kisumu, Siaya, Bungoma, and Kakamega Counties to bale 24,680 bales, which were sold at US\$ 61,716.

Increasing Hass avocado production and productivity

By the end of FY 2021, KCDMS reported reaching 8726 avocado farmers. Most (>90%) of these were in Nyanza and Western regions. Farmers made sales worth US\$ 311, 317 in Y4. Our 2021 AOS data indicate that the farmers had on average 38 trees per household with an average of nine trees producing, most planted in the last 24 months. KCDMS linked farmers earned better market prices due to a) improved quality of their produce due to training on and implementation of GAP in avocado production, b) linkage to export markets, value addition buyers (for oil production), or local super-markets, and c) the increased capacity of off takers who integrated vertically into oil processing thereby buying different grades from the target farmers. The KCDMS linked avocado farmers reported earning about US\$ [REDACTED] per household the previous year.

To improve avocado production and productivity, KCDMS supported counties (e.g., Kisii, Kakamega, and Bungoma Counties) to avail clean and high-quality planting materials for the Hass variety to interested farmers. KCDMS partnered with KEPHIS to increase the number of certified Hass-avocado seedling sellers in four (Kakamega, Bungoma, Taita Taveta and Kisii) of our counties. In Bungoma, Kakamega, and Busia Counties, KCDMS/FIPS facilitated the demonstration of 3,026 improved and high- health Hass avocado seedlings as well as a learning exchange visits to Olivado-Fresh EPZ Limited in Makueni and Kitui Counties. KCDMS has co-invested in three partners (Biofarms, Eskay, Solar Vegetables) to support farmers in private sector embedded extension services and trainings on GAP for avocado production. KCDMS has jointly planned with county governments and beneficiary firms to evaluate the effectiveness of the GAP trainings in Y5 of the Activity.

The KCDMS led constraints analysis findings did report that poor quality (because of early harvesting and post-harvest handling) as a major threat to the expansion of Kenyan avocado sales in the global markets. KCDMS is working with HCD, apex fresh produce associations, and the private sector to pilot a maturity index predictor tool that will ensure only physiologically mature fruits are harvested and marketed.

Increasing mango production and quality

Mango production is the main cash crop for 28,696 farmers in Makueni and Kitui Counties. During the joint planning sessions, both counties identify improving the productivity of the mango trees and quality of the mango and linking the farmers to lucrative high-value markets as priority interventions for improving the livelihoods and economic wellbeing of smallholder farmers in these counties. In this partnership with

counties, KCDMS works with horticultural/mango farmer groups to a) improve their governance structures and operational efficiency, b) address production challenges of their members, including GAP in mango production, c) certification of farmers with global GAP standards, and d) linking farmers to IPM input suppliers, training them, and working with KEPHIS to certify low fruit fly zones. In partnership with KEPHIS, Green life & Kenya Biologics input companies, and KCDMS/FIPS demonstrated improved mango management practices, including nutrition and use of fruit-fly traps among participating farmers.

Our monitoring data indicate that US\$1,617,700 worth of mangos were sold in Y4 through 21 grant partners that report. On average, farmers sold mangoes worth US\$ [REDACTED] per farmer—only 28 percent of the mangoes were sold to the market off-takers, most was sold or consumed locally. Farmers estimated that in 2020/2021 season, they had losses estimated at 24 percent due to lack of market or spoilage associated with fruit fly or other infestation.

KCDMS leads the establishment of mango fruit fly-free zones in Makueni and Kitui Counties

After an eight-year self-imposed ban resulting from a fruit fly outbreak, KCDMS is collaborating with other stakeholders to facilitate the resumption of mango export to the European Union during the 2021/22 mango season. KCDMS has been leading the campaign dubbed *Komesha Fruit Fly Campaign* to support the county governments, mango cooperatives, the private sector and KEPHIS to establish a CETZ. The campaign is geared to promote the adoption of safe, proven IPM technologies at the farm, off-taker, and exporters levels. Three new exporters were licensed to produce and aggregate mangoes from the CETZ.

Through this partnership, about 47,334 farmers (19,362 farmers during FY4) were engaged in the Campaign in Makueni county alone. KCDMS co-invested with five IPM partners to avail the technologies to mango farmers. The technology providers have reported selling about 32,120 fruit fly traps in Y4, making the number sold since the campaign started to around 194,840 fruit fly traps and an estimate KES 66.1 million having accrued from sale of assorted traps and solar bags.

KCDMS has also been working with two and ten mango cooperatives in Makueni and Kitui Counties, respectively. In partnership with the county governments, KEPHIS and the IPM technology providers, 34 demonstration sites in addition to the initial 155 demonstration sites, where the use of the IPM technologies are demonstrated, have been established by the end of Y4.

KCDMS worked with Makueni and Kitui counties, and KEPHIS to create awareness of SPS regulations and standards, strengthening the capacity of private actors to comply with ISPM requirements and disseminating technologies necessary for SPS compliance. For instance, KCDMS used private sector embedded extension through exporters like Biofarms, Kibwezi Agro, AgriValue, Best Tropical Fruits, Goshen Exporters, Burton and Bamber, etc. to train farmers on global standards, facilitate certification, and monitor for compliance with markets quality requirements.

KCDMS investment in the fruit fly eradication in these two counties has increased demand for the IPM technologies to the extent that it has attracted investments and operation of new IPM companies (Koppert Ltd. and Dudutech Ltd.) in the counties. This is expected to increase competitiveness of the inputs giving farmers options and incentivizing suppliers to sell their products at reasonable prices. Public sector investment through county governments and KEPHIS has also exponentially increased. For instance, KEPHIS deployed 3,500 quality pheromone traps, 2,400 protein-based traps, 3,800 field sanitation bags and 300 augmentorium cages to be installed in the CETZs and invested in survey traps for monitoring.

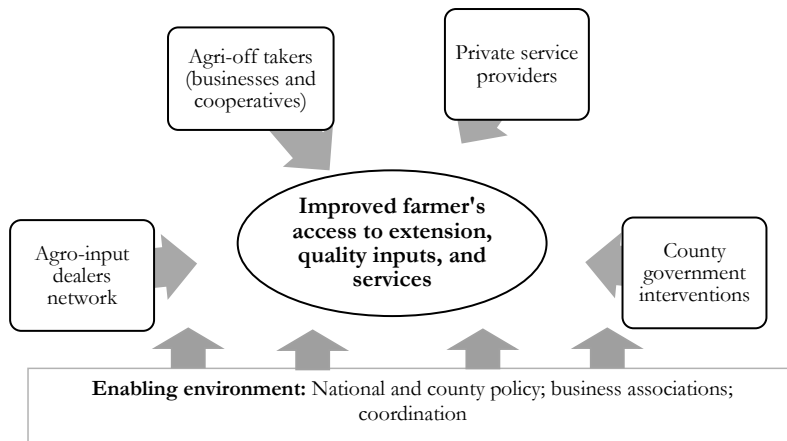
KCDMS supported the development of an export protocol and draft mango dossier that was submitted to and approved by the EU. KCDMS continued to lead sensitization on the mango dossier and export protocols through the Mango TWG to ensure actors are aware of the contents of the dossier/protocol and there is agreed implementation of the PFA protocols and commitment to compliance to export market requirements. To this end, KCDMS is supporting the establishment of a comprehensive national horticultural traceability system through HCD. Meanwhile a couple of firms are implementing traceability approaches based on global GAP.

5.3 County Government Partnership Increases Coverage of Private Sector Extension and Advisory Services

KCDMS partnered with county and private sector VC actors to promote private sector embedded extension. These extension services are bundled with access to inputs like improved access to planting materials and seeds, pasture seeds, dairy and poultry feed, improved breeding technologies, IPM technologies, other inputs like fertilizers and farm equipment. By the end of Y4, a total of 2,782 extension service providers were supporting farmers in the KCDMS ZOI. The pool of service providers includes village-based advisors (VBAs), service provider extension model (SPEs), SSPs, AISP, and DFAs.

We show in Figure 5 the various approaches KCDMS has been promoting to transform how farmers access extension services and agri-inputs.

Figure 12: Approaches to transforming agri-input distribution and extension services



Agri-input networks bring quality inputs to farmers

KCDMS partnered with associations and networks of agro-dealers for quality input distribution and technical support. In Y4, KCDMS engaged five IPM technology manufacturers/suppliers in the Komesha fruit fly initiative. They work with 103 agro-dealers in the promotion of the technologies to farmers. Another nine agro-dealers are direct grant partners⁶ whose field staff provided training and advisory services in agronomy, komesha fruit management, livestock, and veterinary. The partner agro-dealers work with affiliated smaller agro-dealers who are in more rural areas in the counties. The agro-dealers are working with 24 agents to link to farmers through selected model farmers. They work with input manufacturers to create learning/demonstration centers on various technologies. Through a partnership with KCDMS, agro-dealers reported to have reached farmers with extension information on input utilization, making US\$ 9,554,475 in sales value.

Other models are where larger agro-dealers franchise to increase their reach to farmers. Nyarkadera Enterprises (Migori County) and Magos Enterprises (Kisumu County) continued to franchise or contract more outlet stores. They established new agro-dealer outlets in Kisumu, Homabay, and Migori Counties that brought in new business and input sales, reported to be worth US\$ [REDACTED]. In Y4, KCDMS co-invested with grantee partners, Avepo Enterprises and Kavirondo, to sign agreements with additional 26 agro-dealer outlets. The grant partners facilitated trainings (on customer care, product display, record keeping, marketing and safe disposal and storage of pesticides) and supported in in-kind credit, ICT & POS installations.

⁶ Including Millennium, Busia Agrovet, Jemb Mkulima, Jecks, Avepo, Enochem, Kavirondo, Magos, and Nyarkadera

Agri-businesses and cooperatives to increase access to inputs and extension to farmers

KCDMS promoted backward linkages between output market off-takers and smallholder farmers to access quality extension information with bundled inputs delivery. In Y4, KCDMS partnered with over 13 grant partners⁷ to provide inputs to farmers on check-off arrangements. KCDMS also partnered with Solar Vegetables Limited (SVL), an off-taker of fruits and vegetables including ALV, in Homabay, Kisumu, and Siaya Counties and Biofarms- an off-taker of avocados in Kisii, to establish linkages with (three) local nurseries to supply quality planting materials (of Hass/Fuete avocado and passion) to local farmers, but also to train farmers on GAP and refer them to where they can get quality inputs.

In collaboration with Seeds of Change and Olivado, KCDMS supported farmer demonstration with improved avocado seedlings in 100 villages, creating demand for up-to 6,400 (42 acres), and are targeting 12,000 seedlings in the current season and up to 60,000 seedlings by mid-2022. FIPS has built on the demand for seedlings by formalizing its relationship with Olivado as an out-put market, committing to buy avocado fruits from farmers.

KCDMS supports smallholder farmer certification for improved quality products and planting materials:

KCDMS is supporting grant partners, e.g., Biofarms, Eracle, Solar Vegetables, Burton and Bamber, and Equatorial Hortifresh, to prepare their farmers for certification in the Global GAP, while Tensesens is undertaking organic certification for pineapples.

Bedie CBO Nurseries in Rusinga Island and God Jope in Homabay County were certified by KEPHIS as sources of high-health seedlings. Bedie CBO received the International Phytosanitary Award for exemplary performance in quality seedlings production and impact on disadvantaged in the society, thus enhancing their visibility during the International Year of Plant Health 2020, held on 13-16 September 2021.

Using business service providers to increase access to inputs and extension by farmers

KCDMS also supports the establishment of community cadres that provide services in their communities—using the *Service Provision Extension Model*⁸. During Q3 of FY21, Crop Care held nine soft/functional skills workshops for SSPs in the Western and Eastern regions. The workshops built capacity in facilitation skills, building business relationships, competition and coordination, and financial literacy. The mapped SSPs were headed by an agribusiness coach who provided coaching to SSP groups.

Over the four years, KCDMS through FIPS-Africa, has built a pool of 457 village-based advisors (VBAs) and equipped them with the required capacities to serve farmers while making money. These VBAs enhance access to agri-technologies among 85,630 participating farmers in the dairy, fodder, mango, and poultry VCs, and are part of the total number of farmers receiving extension at the beginning of this section.

In Year 4, KCDMS collaborated with Kukuchic and Kenchic companies to demonstrate improved day-old chicks using small pack approach to 7,900 farmers and further built the capacity of 160 VBAs as permanent vaccination service providers and day-old chicks' agents in the village. As a result of the demonstration, 8,574-day-old chicks valued at KES 857,490 have been sold while VBAs have offered vaccination services to 4,184 farmers, earning cumulatively KES 333,220 from vaccination services.

Public and CSO sector extension and input support

KCDMS links county and non-governmental (public-sector) extension services to private-sector actors and is supporting them to offer extension services through (a) radio and call centers, (b) agricultural information systems, and (c) bulk SMS during the ongoing COVID-19 pandemic.

In Y4, KCDMS supported the launch of radio extension programs in nine⁹ of the 12 counties in KCDMS ZOI. County governments used the radio programs to sensitize the public and provide information on GAPs, and various productivity-enhancing technologies and areas of opportunities in agri-business, and nutrition. Governments used the platform to create awareness on existing and upcoming policies, including

⁷ Including: Ziwani poultry, USOMI Ltd, Digital Farmers Kenya, Eskay nurseries, Equatorial hortifresh, Chitingoma, Transu, Organi, Biofarms, Guruvet, Chicken Basket, Obwombe, and Solar vegetables Limited

⁹ These are--Taita Taveta, Kitui, Kisumu, Siaya, Migori, Makeni, Kisii, Busia, and Vihiga Counties.

mobilization for public participation forums.

KCDMS supported the Kakamega and Siaya County Governments to set up an agriculture management information system with a database of 5,328 farmers and 50,000 farmers, respectively. The system was used to disseminate extension information through a two-way system bulk SMS. The web-based system will bridge the gap created by a low number of extension officers and complement the county current extension model, manage county subsidy input distribution, enable the county to gather data on land use, VCs, yields, number of farmers per VC and upload agriculture market information. Similar support has been approved for Bungoma, Busia, and Vihiga Counties and will reach 12,000 farmers. Furthermore, KCDMS supported Peter General in installing an ICT DAPOWER program to disseminate extension messages to 2,600 farmers on fodder trees for improved milk production.

During FY 2020, KCDMS and Kisumu County co-invested in an agricultural call center that continued to be used by the Department of Agriculture to offer extension services. In Y4, farmers were linked to the Sub-County and Ward officers under crop and livestock management for direct on-farm support. The Kisumu County Government has further set a budgetary allocation of KES [REDACTED] (US\$ [REDACTED]) under the Department of Agriculture, Livestock and Fisheries to sustain the call center operations in FY 2021/2022.

Food and Nutrition Security
"Chakula mezani, Pesa mfukoni"
Talk Show
 From: 23rd April 2021
 Time: 4pm - 5pm

Host: Calvin Wanga
 Guest: HON MOSES OSIA MWANJE
 CEC Agriculture, Busia County

LIVE
 Western Nyota Busia Fm 87.8

Transformed Agriculture for Improved Food Nutrition Security & Livelihoods.
Talk Show
 From: 21/06/2021
 to: 19/07/2021

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Busia and Vihiga County fliers for the KCDMS-supported radio programs.

KCDMS facilitating reduction in aflatoxins in food and feeds

Introduction: Widespread aflatoxin contamination of a great number of food and feed crops has negative implications on global trade and health. Frequent occurrence of aflatoxin in maize and milk poses serious health risks to consumers because these commodities are staple foods in many African countries. This situation calls for the development and implementation of rigorous aflatoxin control measures that encompass all value chains, focusing on farms where food and feed-based commodities prone to aflatoxin contamination are cultivated. GAPs have proven to be an effective way to mitigate and manage aflatoxin risk under farm conditions.

Link to climatic change: Climatic changes are expected to greatly increase the risk of aflatoxin contamination in tropical and sub-tropical regions of Africa. There is therefore an urgent need to devise and apply novel methods to complement GAP and mitigate aflatoxin contamination in the feed, maize, and milk value chains. Also, creation of awareness on aflatoxin management through training of farmers and other stakeholders and enforcement of regular surveillance of aflatoxin in food and feed chains are recommended strategies.

Product losses, economic: Contaminated commodities are rejected in some sections of local markets. Worldwide, aflatoxins represent an important non-tariff trade barrier in international trade.

Effect on human and animal health, growth, and productivity: Aflatoxin is recognized as a One Health issue, the interconnection between people, animals, plants, and their shared environment, e.g., research in Africa on the apparent role of aflatoxin exposures in epidemiology of HIV AIDS.

In year 5, KCDMS will work with USAID to document the scope and extent of involvement of stakeholders in aflatoxin management through a private sector landscape assessment mechanism to a) identify the extent to which the private sector, the civil society and government are engaged in prevention and reduction of aflatoxin contamination in susceptible VCs in Kenya, b) Identify gaps limiting the realizations of aflatoxin control objectives from past efforts—including the challenges other countries in the region have encountered with this effort, and provide recommendations and actions that USAID, USDA and CDC can pursue to meaningfully engage the private sector, civil society, and government in Kenya, including opportunities to collaborate with USAID/Kenya and East Africa (KEA) Mission in the Journey to Self-Reliance.

KCDMS efforts on aflatoxin infestation reduction

Our approach is through the private sector actors, in the milk, and feed and fodder value chains. Western Fresh Industries (WEFI) achieved a major milestone toward stocking its locally produced dairy meal at local agro-dealer outlets across Homabay County and environs. Kenya Bureau of Standards (KEBS) certified their dairy meal under the brand name Western Fresh. To date WEFI has sold [REDACTED] MT of dairy meal worth KES [REDACTED] and contributed to farmer income of KES [REDACTED]. Again, the firm instituted contracting farmers for raw products (sunflower and soybeans) worth KES [REDACTED]. In Y4, KCDMS supported WEFI to institute interventions on ensure feed safety by co-investing in a laboratory for testing for aflatoxin in the raw materials used in dairy meal production. The company will promote the use of aflasafe from Koppert Biologicals to its farmers, aiming adoption by the 800 contracted farmers and collection of raw materials to produce about 500 MT of dairy meal by end of 2022.

Safe handling and storage of cereals and pulses (groundnuts) is key in reduction of post-harvest infestation with aflatoxins. KCDMS partnered with county's Ministry of Agriculture and Transglobal Distributors Ltd. (TGDL) to increase the distributorship of HST bags in the 12 target counties. The partnership included linking TGDL to 418 agro-dealers across the counties. The agro-dealers also trained farmers on the effective use of AgroZ bags, as a proven safe and cost-effective solution for household storage of cereals and pulses. The company managed to sell close to [REDACTED] bags (valued at KES. [REDACTED]) over a 18 month period. The new revised taxation rates have greatly impacted the company's sales in the last three months.

Aflatoxin in dairy products: KCDMS is working with Nuru Social Enterprise and Highland Creameries to mitigate against aflatoxin in milk through rigorous and routine testing of milk at the different aggregation and bulking centers before processing. Equally, feeds at farm level are subjected to routine tests to ensure cows are not fed on aflatoxin infested feeds. Trainings and demonstrations on feed and fodder preservation and conservation is promoted to keep the farmers abreast of the latest technologies and trends.

6. IMPROVING ACCESS TO DIVERSE, SAFE, AND NUTRITIOUS FOODS

KCDMS works with private consulting firms to build KCDMS partners' capacity on nutrition behavior change and agriculture through lead farmers. The lead farmers are trained to cascade nutrition messages to other farmers organized into farmer groups to build communities' ability to meet the recommended dietary diversity. KCDMS also followed up on the linkages and referral of farmer groups to other income-generating activities, including VSLA initiatives and agricultural production of various VCs, including fruits and vegetables. The infographic below presents the summary of KCDMS achievements to date.

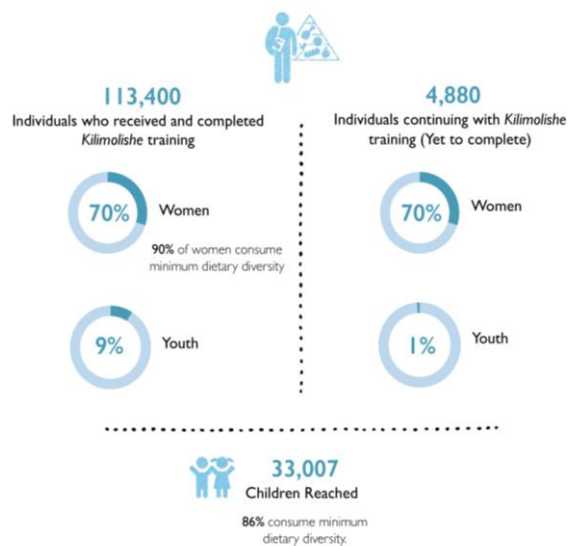


Figure 13 Summary of KCDMS achievements to date.

6.1 Sustainable Approaches to Achieving Dietary Diversity and Reducing Hunger

Interventions toward system-wide adoption of standard *Kilimo-Lishe* (agri-nutrition) training content: In 2018, KCDMS was part of the agri-nutrition technical working group (TWG), including the MOALF, USAID, and other development partners, that actively participated in the design and roll-out of the *Kilimo Lishe* 14-module standard training material in the form of dialogue cards¹⁰. The team also repackaged *Kilimo Lishe* dialogue card into Kiswahili audio content for ease of understanding and with jingles and skits that make it fun and memorable to the listeners.

In FY 2021 and during the COVID-19 pandemic, KCDMS through learning and adaptation, translated the audio content into five local languages and partnered with thirteen local radio stations spread across the ZOI to air the content, reaching over five million people. This was very impactful as it was going on in the COVID-19 lockdown period when actual in-person training could not happen. KCDMS submitted a case study, *Nutrition Education and Social Behavior Change Communication: Community Approach*, through the Nutrition Linkages Working Group that will be printed for dissemination and will hopefully inspire more to adopt sustainable approaches to achieving increased household nutritional outcomes.

¹⁰ The community dialogue cards are designed to help community trainers to communicate effectively on the 14 *kilimo-lishe* modules with various community members at every available contact point.

Through lesson sharing based on continuous learning studies conducted in 2020/2021 and the success of disseminating *Kilimo Lishe* messages through local radio stations, KRAPID and LMS supported the translation of the content to other languages and aired the radio messages in Samburu, Turkana, Isiolo and Marsabit.

Scale-up of *Kilimo Lishe* print content (dialogue cards and posters): Five private sector players continued to train farmers on *Kilimo Lishe* by layering the messages to farmers already working with KCDMS private sector partners. The contractors used mostly dialogue cards while encouraging trainees to listen to the radio content availed through local radio. Through the multi-sectoral Food and Nutrition Technical Working Group, KCDMS printed and used the platform for countrywide distribution of *Kilimo Lishe* training content to the MoALF Nutrition component at the national and county levels. The national nutrition office staff plans to use the materials during the rollout of the Agri-Nutrition Implementation Strategy later in the year. Other IPs: WHH, AVCD, and FAO, committed to print additional materials for other counties.

6.2 Collaboration, Layering, and Sequencing for Improved Outcomes

KCDMS engaged the county nutrition officers and program officers affiliated with the KCDMS contractors in the question-and-answer sessions during the airing of the *Kilimo Lishe* pre-recorded content on local radio stations. A majority (75 percent) of the callers were men compared with 25 percent women, hence a need to encourage more women to tune in and listen to *kilimo-lishe* messages. Feedback from the listeners (60 percent) indicates a great appreciation for the content as it increased their knowledge of household nutrition practices. The listeners also requested more *Kilimo Lishe* sessions and repeat sessions aired during the weekend to allow for a catchup with sessions if one missed it during the week.

KCDMS also participated in the county stakeholder forums in Busia, Makeni, Kisumu, Kisii, Homabay, Vihiga, Bungoma, and Kakamega Counties. Through the joint work plans with the counties, KCDMS Nutrition component provided results of the *kilimo-lishe* activities, including the distribution of materials to the communities.



[REDACTED] from Kithingati VSLA waters the vegetables in their vegetable farm. KCDMS trained the women group on establishment and management of vegetable farms for household consumption and sale of surplus for incomes. Photo credit: Amunga for RTI international

7. COMPETITIVE, INCLUSIVE, AND RESILIENT AGRICULTURAL MARKET SYSTEMS

In Y4, KCDMS continued working with private and public actors in dairy, horticulture, and other crops VCs in its ZOI to drive positive market system changes. KCDMS identifies the incentives, attitudes, capacities, and practices that stimulate market players to invest in higher productivity, quality improvements, greater efficiency, and commercial relationships between core market actors and support functions. KCDMS believes that farmers benefit more by selling their products through formal entities, including cooperatives and agri-businesses. The desired outcomes in this priority area are:

- Emergence/expansion of smallholder-dominated market systems linking farmers and farmer groups to SME buyers
- Expansion and strengthening of lead firms and other (up- and downstream) agribusinesses to better manage their businesses
- Expansion of local, regional, national, and international trade that increases market demand from smallholder supply chains
- Transformation of market system actors' relationships to enhance cooperation, shared values, constructive competition, and trust
- Inclusive and competitive markets

The infographic below summarizes market performance to date:

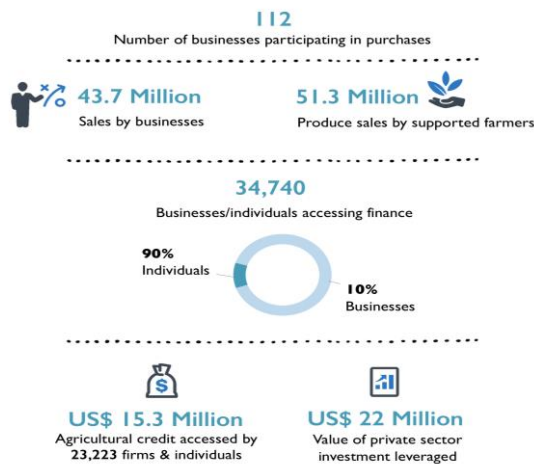


Figure 14 Market performance to date

7.1 Farmers Increase Sales of Key KCDMS Commodities

During FY 2021, KCDMS continued to link commodity buyers (traders, processors, exporters, etc.) and suppliers (farmers, traders, and aggregators) for sustainable commercial relationships. Moreover, KCDMS availed opportunities to tap into support services (financial services and BDS) for improved business performance. These linkages of farmers to grant partners and non-grant partners have led to cumulative sales by producers and firms of US\$ 95.06 (US\$ 51.3 million producer sales and 43.7 million firm sales).

A key result of KCDMS interventions is to improve the income of smallholder households in effort to improve their economic prosperity and wellbeing. KCDMS monitors earning from sales of farm produce as a proxy of household incomes from farming. Sales from dairy produce (including sales of fodder) were US\$ 40.2 million. Other commodities contributed as follows: six percent from avocado, seven percent from

mango, four percent from banana and 40 percent from the combination of others like ALV, pineapples, poultry, green grams, sorghum, and sweet potatoes.

Of the US\$ 51.9 million sales facilitated by KCDMS in FY 2021, US\$ 39.7 million was commodity purchases and sales by producers and firms.

Table 6: Value of commodity sales (US\$) of producers and firms as a result of USG assistance in FY 2021

VC	Eastern	Nyanza	Western	Other ¹¹	Total
Dairy	2,454,516	3,710,581	12,681,073	89,831	18,936,002
Feed and Fodder	1,123,498	3,835,628	3,009,485	23,541	7,992,152
Avocado	233,584	545,835	260,934	4,623,069	5,663,422
Mango	3,448,910	122,164	5,668	182,432	3,759,174
Banana	1,122,960	652,648	253,433	131,451	2,160,491
Passion	39,956	476,872	570,226	69,763	1,156,817
Grand Total	8,423,425	9,343,727	16,780,818	5,120,087	39,668,058

7.2 Dairy and Horticulture Cooperatives Earn Profits

Most dairy and horticulture cooperatives in Kenya lack good management structures and operate at levels very close to insolvency. Besides, most of them rely on donor funding to compensate for their inefficiencies. KCDMS, in partnership with four BDS providers¹² and four ICT solution providers¹³ embarked on a journey to transform the business performance of dairy cooperatives by improving management capacities, operational efficiency and developing and implementing business strategies. The strategies include farmer recruitment and service provision models that lock in suppliers while establishing strategic linkages with scale agents such as large processors. Below are case examples of strategies that KCDMS has put in place toward transforming dairy and horticulture cooperatives.

KCDMS journey to transform the performance of 49 dairy and horticulture cooperatives

Development and implementation of growth-oriented business strategic plans: Forty-nine dairy and horticulture cooperatives were identified through a co-created approach with partnering county governments.

Through KCDMS-facilitated BDS support, they were trained and supported to develop and implement growth-oriented strategic plans. The plans included exploring new markets and linkages, membership drives and improved loyalty, improved production and productivity, resource mobilization, governance, and ICT adoption for business operations efficiency. The strategic plans developed provided the cooperative societies with a blueprint upon which they engage with partners. This has resulted in guided investment discussion and adoption of both internally and externally generated resources. To date, the cooperatives continue implementing recommendations in the strategic and business plans developed with support from BDS providers as discussed below:



Luchendi SACCO staff receiving bananas at the Misikhu collection center in Kakamega County.
Photo credit: KCDMS

¹¹ Others include Murang'a, Uasin Gishu, Trans-nzoi, Nairobi and Machakos.

¹² Leowa Ltd worked with cooperatives in the Western region, Academy of Savvy Investors Ltd working with cooperatives in Nyanza region and PKF Consulting Ltd working with cooperatives Eastern region

¹³ Leowa Associates Ltd, E-prod Solutions Ltd, KDFP and Amtech Technologies Ltd

Re-engineering cooperative business processes via co-investment with KCDMS: In Y4, 34 of the supported cooperatives (20 dairy and 13 horticulture, and 1 grain) received KCDMS in-kind grant support approval to purchase equipment for improving business operations and investments through the purchase of affordable solar chilling technologies for milk collection, food-grade milk cans for milk aggregation and ICT solution systems for improved operational efficiency. The cooperatives are in the process of procuring the equipment. Impact on business growth will be observed in FY 5.

Market and product diversification for increased resilience and incomes: One of the identified growth strategies is the diversification of products and markets for increased resilience. For instance, Sirikwa Dairies Cooperative Society set up a commercial fodder production in Likuyani and Lugari Sub-counties, Kakamega County as an additional income stream. The company has also set up a milk pasteurizing unit that dispenses pasteurized milk at Mutanda Market in Likuyani sub-county to diversify milk markets. To meet the growing milk demand, the cooperative established new aggregation centers within the reporting period and grew its membership increasing its milk collection from 400 to 12,000 liters. New Yala Dairy Cooperative in Western Kenya secured a supply contract with Mana Supermarket in Siaya Town and supplies 3,000 liters of pasteurized milk monthly sold through the supermarket's milk dispenser.

Commercial linkages with leading milk processors for formal supply: Dairy cooperatives in Nyanza and Western regions entered supply arrangements with Highland Creameries and Food Limited (HCFL) to supply raw milk. Through a partnership with KCDMS, HCFL established aggregation infrastructure through existing dairy cooperatives and producer groups in Kisii, Homabay, Migori, Kisumu, Siaya, Kakamega, and Bungoma Counties, providing sustainable milk markets for 5,000 smallholder dairy farmers. This model includes contracting farmers through dairy cooperatives, extension services offered through HCFL's elaborate extension system, and an elaborate transport system for onward delivery to the HCFL processing facility in Nyamira, which can process 300,000 liters of raw milk per day.

Operationalization of the Makueni Cooperative Creameries Processing Plant: To understand potential entry points toward operationalization of the Makueni Cooperative Creameries (MCC) processing plant, a well-equipped but not yet functional milk processing plant in Makueni County, KCDMS engaged consulting firm Transglobal Ltd. to conduct a feasibility and market analysis study. The study will analyze supply and demand of milk and milk products and any infrastructural fixes required to operationalize the plant. KCDMS previously collaborated with the County Government of Makueni to facilitate the formation of the Makueni Creameries Cooperative (MCC), the umbrella organization of 22 dairy cooperatives and farmer groups that assumed ownership of the factory. The findings provided strategies that would transform the dairy processing plant into a thriving entity capable of operating at acceptable levels of profitability, solvency, liquidity, and cash flow. During FY 5 and with support from KCDMS and the county government, MCC will utilize the processing plant to add value and to market its milk in the region. MCC will also provide the smallholder dairy farmers in the region with sustainable markets for their raw milk, while selling the pasteurized and processed milk through the member cooperatives, thereby providing double incomes for affiliate members.

Adoption of ICT for improved operational efficiency: Through a KCDMS-facilitated ICT promotion program, 10 dairy and horticulture cooperatives invested in ICT solution automation and have registered improved operational efficiency, leading to reduced costs, improved communication with suppliers and markets, as well as enhanced record-keeping practices. Additionally, 15 cooperatives have received approval for ICT implementation and are in the pipeline for ICT installation. The cooperatives are now using digital tools to increase transparency, deter fraud, and reduce losses caused by using manual procedures. The use of bulk SMS to communicate advice and market prices in real time to farmers has proved to be a transformative strategy, especially in the wake of COVID-19 lockdowns and social distancing requirements. For instance, before investing in ICT automation, Kasbono Dairy Cooperative operations were conducted manually, including recording daily milk delivery, milk testing, and weighing. It took half a day for their 100 farmers to deliver milk to their collection points. The cooperative reported that the ICT solution has transformed the way of doing business; milk delivery is faster, taking less than two minutes per farmer, hence all farmers are served in less than three hours. Farmers receive information on the actual weight of milk delivered via SMS

alerts through their phones, which has increased efficiency for the cooperative. The strategy also increased supplier loyalty by minimizing milk siphoning by transporters en route to the collection point. To date, a total of 311 partnering firms and farmer groups, including 203 agro-dealers, 23 cooperatives, and 85 VSLAs, continue to benefit from adopting ICT services.

7.3 Diversification Increases Market Penetration During COVID-19

KCDMS continued to facilitate diversification in market systems and household resilience. More variety of products and services boosts brand image, profitability, and resilience while also supporting producers and suppliers of raw materials. KCDMS is promoting four main diversification strategies: (i) value addition into different products (organic, dried, juices), (ii) the use of by-products to produce new high-value products, (iii) expansion (local and exports), and (iv) market segmentation targeting different cadres of clients with different products. These strategies have helped businesses to stay afloat during the COVID-19 pandemic. In Y4, KCDMS supported new commercial initiatives by several market actors who adopted diversification strategies. Below are examples of these strategies in action.

Burton and Bamber Ltd. works toward export of dried mango, pineapple, and bananas products: Burton and Bamber (B&B) Ltd., a KCDMS grant partner working with mango and sweet potato farmers in Makueni and Kitui Counties, purchased a mechanical dryer to increase its drying capacity for export and local markets. The company has distribution contracts with BioFoods¹⁴ Ltd. for local and regional markets. Its facility now has the capacity to dry [REDACTED] kgs of fresh mango that become [REDACTED] kgs of dried mango per day. The company has a sales target of at least KES [REDACTED] for the forthcoming mango season. This will not only enable them tap into alternative high-value export market for B&B but also ensure better value for smallholder mango farmers contracted by the enterprise.



A worker at B&B processing plant placing fruit slices on a dryer for processing into a healthy snack.

Photo credit: KCDMS.

Ten Senses Ltd diversifies into organic pineapple farming: Ten Senses, a KCDMS grant partner and an active member of the FPC-K, expanded its production capacity of organically produced pineapples for export by contracting 510 certified out-grower farmers in Homa Bay County. The smallholder farmers cultivate organic pineapple as an alternative cash crop and source of income. The company's entry into the Western region is considered a long-term sustainable venture, creating employment opportunities in the production and marketing of planting materials (suckers) to the contracted farmers. Through a KCDMS co-investment, Ten Senses Ltd. installed an automated out-grower management system that captures farmer information and relays crucial information such as harvest dates through bulk SMS. and installed a set of slicers, decorating machine, de-crowner, container dryer, and a packing line currently processing [REDACTED] MT of fresh fruit processed per day. This upgrade is a breakthrough in business efficiency via process automation and has seen the company's capacity and exports increase.

Miyonga Fresh Ltd. diversifies fruit processing using mobile equipment: Miyonga Fresh Greens Ltd. partnered with KCDMS to build the resilience of banana farmers in Taita Taveta by providing an alternative market for bananas. Farmers in the area have long relied on the fresh domestic market, predominantly selling large bananas to buyers from Mombasa's Kongowea Market. They are left with smaller-sized bananas that are less attractive to local markets but represent a potential source of income. Miyonga Fresh Ltd., with support from KCDMS, acquired a containerized mobile solar drying factory from South Africa and is now processing dried mangoes, bananas, pineapples, coconut fruits, and other products for export markets. The

¹⁴

innovation, dubbed *Wheeling Fruits*, consists of processing equipment mounted on a mobile truck set to move to different regions to process dried fruits and snacks including banana and mango based on their seasonality. KCDMS support to Miyonga also involved the provision of extension services to 600 farmers in Taveta sub-county of Taita Taveta County. In Y4, the company processed [REDACTED] kgs of fruit worth KES [REDACTED].

7.4 KCDMS Supports the Resumption of Mango Export to the EU/UK

In 2014, the Government of Kenya has implemented a self-imposed ban on mango export to the U.K. and E.U., mainly because fruit fly infestations decreased the quality and value. Without a national strategy to address this issue, the ban has continued for seven years. KCDMS partnered with the government, key stakeholders, farmers, and exporters and policy makers in Kenya and the EU to restart exports. KCDMS engaged stakeholders and provided technical advice, technologies, co-investment in scaling technologies, and farmer demonstrations and trainings. The following are key initiatives toward this goal.

Promotion of quality standards to meet market requirements: The partnerships with FPEAK and FPC in the roll-out of KS1758-Part II in the KCDMS focus counties, as well as with HCD in the implementation of the National Horticulture Traceability System (NHTS) discussed in the partnerships section, will enable adoption of quality standards by mango market system players to increase volume of the required quality for export.

Enhancing collaboration among mango stakeholders in Makueni County: KCDMS is working closely with key stakeholders, including the County Government of Makueni, mango exporters, processors, domestic traders, producers, regulators like KEPHIS, relevant county government offices, and development partners to create a fruit fly-free zone that will produce mangoes meeting E.U. market requirements. In Y4, KCDMS facilitated consultative forums for more than 200 mango stakeholders in various towns in Makueni County organized by FPEAK and FPC. During the forums, participants agreed on working modalities to ensure that smallholder farmers benefit from capacity building to enhance productivity and, consequently, reach better markets.

7.5 Investment in Energy Technologies by Agribusinesses

Lack of access to sustainable and affordable energy technologies by dairy and horticulture enterprises is a key constraint preventing smallholder farmers and local businesses to increase productivity and income and achieve climate-resilient and food-secure livelihoods. In Y4, KCDMS supported agricultural enterprises to invest in clean energy solutions, thereby cutting operations expenses in an environment where the cost of fuel and electricity have been escalating. Below are case examples of PUE technologies that KCDMS grantees invested in during the year:

Solar drying technology: KCDMS has supported enterprises to invest in dry food products to reduce post-harvest losses. KCDMS grant partners, including Miyonga Fruits Ltd., Mucho Mangoes Ltd., Burton and Bamber Ltd, and several producer groups have invested in solar drying equipment for cost-effective and environment-friendly value addition. This has enabled these enterprises to venture into new fruit and vegetable markets and establish competitive brands. Burton & Bamber Ltd have expanded their scope through their *Sweet Tunda* dried fruit as discussed in a news feature entitled “Sweetunda’s entry in healthy snacks market” in *Business Daily Africa*, a regional publication: <https://www.businessdailyafrica.com/bd/special-reports/sweetunda-entry-in-healthy-snacks-market-3573214>.

Solar cooling technologies: To reduce fuel and electricity costs related to chilling operations, dairy and horticulture enterprises have invested in solar-cooled containers to preserve dairy and horticulture products. These include Kimaho SACCO (Kisumu County), Miyonga Fresh Ltd. (Taita Taveta County), Burton and Bamber Ltd (Kitui County), and Briken Green Ltd, (Makueni County). They invested in 40-foot container solar-cooled storage facilities. Kathonzweni Dairy Cooperative, a grant partner in Makueni County, invested in an 800-liter mobile eco sub-chiller, which consists of a power back-up, refrigeration system, and solar panel. This innovation from Savannah Circuit Technologies Ltd. has enabled the dairy to expand its milk

collection zones within the vast Makueni region and reach the aggregation center while the milk is still fresh.

Briquets power milk boilers: Nuru Social Enterprise (Migori County) and Osiepe Multipurpose Cooperative (Kisumu County) have replaced their grid-powered boilers with briquet-powered boilers to run their milk pasteurizer. This innovation enabled them to reduce energy costs and increase farmer incomes.



An 800-liters mobile solar-powered chiller from Savannah Circuit Technologies Ltd. Photo credit: KCDMS

7.6 Financial Service Providers Seek to Increase Agriculture Lending

The KCDMS strategic approach for access to finance encompasses supply augmentation and demand stimulation facilitation. KCDMS has undertaken multiple initiatives to generate and direct demand and increase the capacity of financial service providers to enhance their VC participation. The following are key achievements from KCDMS work to link actors to financing:

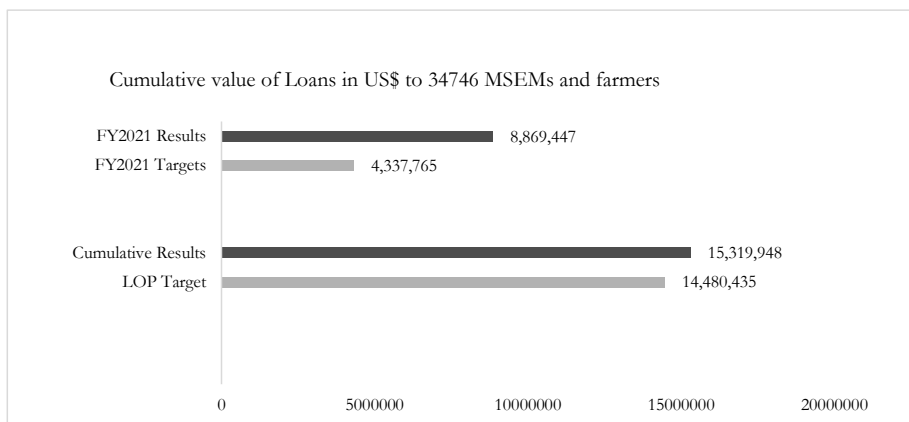


Figure 15 Cumulative loan values compared to targets for MSEMs and farmers

TA enables MFIs to broaden and deepen their financing

In Y4, KCDMS rolled out TA programs with 10 financial service providers in the MFI, SACCO, and FSA space valued at US\$ 234,000. The objective is to strengthen the capacity of the institutions to offer agribusiness finance facilities. Adaptations based on the TA include:

- KLIFT restructured its operations to increase efficiency and reach by re-designing its hub to serve the western region. The MFI has also developed a pathway to raise capital.
- Yehu MFI has developed an agribusiness strategy and has just started the roll-out and piloting of re-engineered products. Following a feasibility study in the SA2 region, the MFI will launch a branch in Taveta, a major milestone from this co-investment.
- ECLOF MFI is scaling its dairy finance approach that is driven by climate-smart investments. Following this intervention, ECLOF has signed two MOUs with cooperatives to provide financial services to their farmers.

We now have answers to our slow business growth in our Wote Branch. We were not targeting the key driver of Makueni's economy- agriculture- [REDACTED], Yehu COO

Training of financial institution staff bears fruit

KCDMS facilitated a training of 80 staff from 14 FIs in VC finance in collaboration with Strathmore Business School in Q2 of this year. The institutions have since grown their lending appetite to KCDMS grant partners and affiliate farmers as highlighted in the following examples:

Restructuring of agribusiness lending departments: 50 percent of participating FIs attribute enhanced structuring of their agribusiness lending departments to the trainings. The trained staff have made significant contributions at Faulu Microfinance Bank, Wakenya Pamoja SACCO, and Arise & Shine SACCO.

Enhancing capacity of FIs to review strategies and products: FIs have been able to identify bottlenecks in agri-financing as reported by Faulu, AFC, and Yehu MFSL. Staff trained at Yehu MFI have been instrumental in developing a new agribusiness strategy for the MFI. At Vision Fund, the training enabled staff to take a structured approach to financing and leveraging KCDMS grant partners to structure financing schemes.

Promotion of staff to key positions in agri-credit segments: At ECLOF Kenya, one of the participants was appointed to the position of Business Development Manager-Agribusiness and two Yehu MFI branch managers who participated in the training have been assigned agribusiness champion roles.

Blended SME finance and partnership with KIM activity

KCDMS partners have continued to benefit from blended funding in various VCs for co-investments, working capital, and further investment. Positive results were achieved in Y4 through collaboration with Agricultural Finance Corporation, Equity Bank, Shared Interest Society, and Heifer Shared Impact. Partners such as One Hen Ltd., Chicken Basket, Avepo, Josemo Distributors, MyFugo Innovations, and Burton and Bamber have raised US\$ [REDACTED] through the blended approach. Financiers are increasingly keen on deals originating with KCDMS due to lower perceived risk. KCDMS also collaborates with KIM to increase possibilities of closure of financing deals. Through this partnership, three companies (Abwombe, MyFugo, and Chicken Basket) have accessed finance. The activity has an active pipeline of 11 cases.

Structured partnership enabling agribusiness SMEs and farmers to access finance: The activity has continued to facilitate VC actor coordination and synergies that support access to finance, such as tripartite arrangements and linkages. Significant successes have been recorded with MyFugo Microfinance and five cooperatives in Nyanza and Western regions in financing the dairy VC. Musoni has partnered with Agricycle and Nzamka Cooperative in Kitui to finance mango farmers while Bimas has established a financing relationship with Global Organic Chicken in Makueni for financing poultry farmers. Increasingly, businesses are recognizing the power of alliances, and KCDMS has enabled these linkages.

Increasing accessing to finance under PIF through co-investment with finance institutions: In Y4, the KCDMS accelerated partnerships with FIs via the PIF co-investment of US\$ 759,000. Cherehani Africa and Bimas Kenya MFI completed their programs successfully during the year, with both having opened two new locations. Musoni MFI opened Kitui and Kakamega outlets through co-investment with KCDMS. Faulu Kenya MFB, KUSCCO, and Myfugo Innovations rolled out programs to expand access to finance and agricultural insurance.

Our business is growing exponentially in these new branches with 30–40% rates of growth in clients and loan portfolio. -Chief Operating Officer, Musoni

Webinar on financing Kenya's agribusinesses amid COVID-19

KCDMS and MSC hosted a webinar for stakeholders to discuss the challenges, coping mechanisms, and share information about the impact of COVID-19 on the agriculture finance sector. The webinar was attended by 154 participants from a cross-section of market actors, including financial service providers, agribusiness entrepreneurs, consultants, and development actors. They discussed provision, flow, and access to finance in the agribusiness sector, and drew content from financial service providers (an impact lender and MFI) and

VC actors represented by Nuru Enterprises (dairy), Magos Farm (inputs provider), Biofarms (horticultural exporter), and experts in financing agribusinesses.

Participants described a diversity of impacts resulting from COVID-19 that have affected actors in finance supply and demand. In particular, the pandemic presents operational challenges to business capacity and liquidity, and has fragmented VCs. It was also clear that improved financial literacy among VC actors would empower them to negotiate with financial actors when their finance flow is disrupted. Webinar contributors

A webinar on "Financing Agribusinesses amid COVID-19"

29th September 2021
1:00-2:45 pm GMT | 4:00-5:45 pm EAT
<https://bit.ly/2VCn4vz>

Moderator
Eric Kingori
Independent Consultant
Finance and Investments

Speakers:

- Tom Kibet
Chief Operations Officer, Nuru Kenya
- Daniel Musyoka
CEO and Managing Director, Biofarms Limited
- Dr. Patrick Gathundu
CEO, BIMAS Kenya Microfinance Limited
- Immaculate Ochieng
Lending Manager - East Africa,
Shared Interest Society Ltd.
- Vivian Oponoh
Tech entrepreneur
- Nehemia Odongo
CEO, Magos Farm Enterprises

Logos: MSC, FEEDIFUTURE, USAID, RTI INTERNATIONAL

Figure 16 Webinar advertisement

also shared their adaptive strategies and innovative mechanisms to keep business afloat despite these challenges. Among the most favored strategies are investments in technology and automation, business model innovations and agility for resilience. Businesses that have pivoted and have agile business models reported sustained despite the prolonged pandemic. Participants cited KCDMS interventions, such as co-investments, as enabling factors for FIs and market actors to sustain operations or access finance.

Webinar contributors agreed that agricultural production will require support to meet rising demand from local and export markets. This indicates that opportunities for youth, women, and retail business will continue to grow. Demand for finance is also expected to increase, with new trends in urban farming and commercial agriculture among people who have lost jobs due to the pandemic.

8. POLICY ENVIRONMENT FOR MARKET SYSTEMS DEVELOPMENT

An enabling policy environment is critical for effective market systems development and private-sector investment. Cognizant of the Kenyan Government's interest in the realization of shared growth and transformation in its agricultural sector, in Q3 of FY 2021 KCDMS continued to facilitate an enabling environment at both the national and county levels of government. KCDMS's policy component aims to achieve four primary outcomes:

- The policy formulation process (national, county, and value-chain specific) is inclusive and evidence-based
- The policy implementation processes (national, county, and value-chain specific) is coordinated between the county and national levels
- Monitoring and implementation systems improve country-level strategies and policies for inclusive and resilient agriculture
- The policy environment stimulates increased agricultural investment by government, development partners, and the private sector

8.1 Domestication of Agricultural Policies

An enabling policy environment is essential for effective market systems development and private sector investment. Schedule 4 of Kenya's Constitution (2010) requires that the national government be responsible for development of overarching policies, standards, and strategies while implementation takes place at the counties, which domesticate the policies to address county needs and conditions. The national government is also responsible for capacity building, research, and international trade. Recognizing the government's

commitment to shared growth and transformation of the agricultural sector, KCDMS continued to facilitate an enabling environment at both levels of government in FY 2021.

8.2 National Level Policy Formulation

In response to requests made by the national bodies in FY 2021, KCDMS used local consultants to support the national government in the development of key policy instruments, as summarized in table below. All the policy instruments were developed to engage representatives from the private and public sectors and from cooperatives. In the private sector, the activity targeted the respective apex bodies.

Table 6: TA activities for national-level policy systems

Instrument	Description/Expected Impact	Status
National Phytosanitary Policy	A KCDMS consultant in collaboration with the taskforce continued facilitating KEPHIS to develop the National Phytosanitary Policy. Key stages included an inception planning meeting, another on issue identification and technical formulation of the document up to draft two, presentation of the draft to stakeholders and review of the same to draft three. The phytosanitary policy development was made to the Cabinet Secretary of the MoALF&C who provided valuable feedback and committed support of the process up to presentation of the product to Cabinet for approval. Next was to present draft three to the policy SWAG for review and advise on next steps. <i>This policy is meant to facilitate regional and international trade in horticultural crops and other crops.</i>	Ongoing
National Dairy Industry Strategy	KCDMS supported consultant in collaboration with the TWG and key dairy apex bodies ¹⁵ facilitated the Ministry to develop this strategy using an inclusive and evidence-based approach. Various planning meetings were held that identified key stakeholders to be involved especially private sector. A strategic stakeholders' workshop was held where the process was presented, visioning data was collected along the pillars of productivity, profitability, quality, value addition and marketing. The development process was also presented to the SWAG on policy legislation and standards who provided valuable feedback to ensure inclusivity of the instrument and anchoring of the same on requirements of schedule 4 of the constitution. A key technical write-shop was held and focused on validation and adoption of the dairy industry vision and baseline data, undertook a two-tier situational analysis, conceptualized the theory of change and strategic model, and generated the strategic focus areas and strategic action areas. The VC action pillars, objectives, interventions, and activities were generated and an actionable strategic framework. <i>This strategy is meant to transform the dairy subsector to an innovative and commercially viable private sector driven dairy industry in Africa.</i>	Ongoing
Animal Feed Development Strategy	The KCDMS-consultant in collaboration with the National Animal Feed Technical Working Group (NAFTWG) ¹⁶ continued facilitating the Ministry to develop the Animal Feed Development Strategy. Next stage is a small technical meeting to finalize alignment of the document comprising 10 enterprises and 14 feed products, ahead of subjecting it to the wider animal feed stakeholders. <i>This strategy aims to address feed quality and availability, which are essential for the transformation of Kenya's livestock sub-sector especially the dairy industry.</i>	Ongoing
Kenya Dairy Regulations (Sensitization)	Following the launch of the Kenya Dairy Industry Regulations on March 18, 2021, KCDMS facilitated the MoALF&C and KDB to sensitize dairy industry stakeholders in the 12 KCDMS focus counties in Eastern, Nyanza and Western regions, reaching a total of 576 key dairy stakeholders <i>These regulations are expected to provide an enabling environment for the smallholder dairy development,</i>	Complete

¹⁵ Dairy Apex bodies: Kenya Dairy Farmers Federation, Kenya Dairy Processors Association, etc.)

¹⁶ National Animal Feed Technical Working Group (NAFTWG), inclusive of the public and private sector (e.g. AKEFEMA, Pasture and Fodder Society of Kenya, farmer representatives etc.

	<i>commercialization, and competitive marketing in the local, regional, continental, and global markets.</i>	
National Mango Promotion Strategy	<p>KCDMS consultant in collaboration with the National Horticulture Transformation Technical Committee (NHTTC)¹⁷, continued facilitating the MoALF&C to develop this strategy. Held a planning meeting that agreed on the key stakeholders to be involved in development of the instrument. Facilitated two technical write-shops the first one involved adoption of Next is a VC stakeholder workshop for adoption of the activity and process, including visioning internal and external analysis of the VC. The second one involved drafting of the National Mango Promotion Strategy including the introductions, situational analysis, strategic issues, and interventions and consolidating, enriching and refining key sections and sub-sections, and the value proposition for investors.</p> <p><i>This strategy is meant to transform the mango subsector to an innovative and commercially viable private sector driven mango industry in Africa.</i></p>	On going



Mr. [REDACTED], the Cabinet Secretary at the Ministry of Agriculture, Livestock, Fisheries, and Cooperatives (Middle) poses for a photo with KEPHIS Managing Director- Prof. [REDACTED], KCDMS Policy Director, and the KCFMS Consultant- Dr. [REDACTED]. The team held a meeting with the Cabinet Secretary to brief him on the development status of the National Phytosanitary Policy. Mr. [REDACTED] expressed his appreciation for the support in the development of the policy, which has been long overdue. Photo credit: KCDMS

Figure 17 A phytosanitary policy briefing meeting.

8.3 County-Level Policy Implementation Systems Support Market Systems

KCDMS continued to facilitate county domestication of national policy instruments by building county capacity to do so in an inclusive and effective manner with less reliance on external support. Y4 interventions included:

- Institutional architecture strengthening, targeting gap areas identified in the IA county assessments undertaken in 2018.
- Strengthening cooperation and coordination through capacity building of the County Agricultural Sector Steering Committees (CASSCOM)
- Strengthening and facilitating county policy TWGs to ensure that the policies are need-driven
- Facilitating a ToT course on policy domestication
- Facilitating functional analysis in each county to help identify gap areas to address for more effective policy domestication

County Agriculture Sector Steering Committees (CASSCOMS)

¹⁷ The National Horticulture Transformation Technical Committee (NHTTC) comprises the public and private sector (e.g., FPEAK, KEPSA, TransAfrica Agricultural Solutions Ltd., Green Rhino Ltd., Global GAP, SOCCA, farmer representatives, etc.).

CASSCOM coordinates projects at the county level and ensures non-duplication of policy efforts in policy domestication, as all policies at the counties are discussed at the quarterly CASSCOM meetings.

In FY 2021, KCDMS in partnership with ASDSP facilitated and made technical contributions during the development of the CASSCOM bills and regulations in Kisumu, Siaya, Kisii, Migori, and Homabay Counties. KCDMS supported stakeholder validation and the sensitization of MCAs and CECMs on the various policy instruments. KCDMS also partnered with ASDSP in the development of CASSCOM strategic plans in each of the Nyanza counties and in Kakamega, Vihiga and Bungoma. These plans will provide the framework to guide effective implementation of CASSCOM and ensure effective coordination, corporation, and synergistic partnerships among sector players. The plans also aim to enhance fair distribution of resources to county activities, and inclusion of the private sector.

County Policy Technical Working Groups

The Policy TWGs were established in Y1 with facilitation by KCDMS to address poor county coordination of agricultural policy-related activities impacting market systems development. The membership is comprised of private and public sector representatives and is chaired by a private sector actor. The TWGs meet quarterly or as need arises. KCDMS attends these meetings and provides technical support as needed. In Y4, for instance, KCDMS facilitated and provided technical support to Taita Taveta TWG to develop the Taita Taveta County Agriculture Strategy and the Taita Taveta County Livestock Identification and Traceability System Regulations (draft) 2020. In Kitui, the TWG reviewed and updated the Livestock Breed Improvement Draft Policy; Siaya TWG reviewed and prioritized various legislations, while Vihiga TWG worked on domestication of the Youth in Agribusiness Strategy.

County-level policy intervention priorities and strategic plans

KCDMS staff offered technical support for the domestication of national policy instruments, as summarized in the table below. The instruments were developed using an inclusive approach involving a range of private and public sector actors and cooperatives.

Table 7: TA activities for county-level policy

Activity	Description	Status
Makueni Dairy development Strategy	Participated in and provided technical support during the second multi-stakeholder participation meeting for this instrument, which among various private and public sector actors included various KCDMS grantee partners in Makueni County. This activity was spearheaded by ILRI/AVCD and the KDB. <i>This strategy is meant to transform the dairy subsector in this county to an innovative and commercially viable private sector driven dairy industry in Africa.</i>	Complete
Makueni Fruit Development and Marketing Regulations 2020	KCDMS in partnership with KEPSA Youth Alliance and the County government of Makueni - facilitated public participation of these regulations – specifically by the youth and valuable youth-sensitive ideas were shared and integrated in the instrument. The regulations were submitted to the County Legal office for review. <i>The regulations once approved shall enable enforcement of the required practices that shall ensure maintenance of status of the fruit fly free areas.</i>	Ongoing
Makueni Cooperative Movement Revitalization Strategy/ framework	KCDMS provided technical support during the development and review of this strategy. This was a joint initiative of the county departments for agriculture and cooperatives which build on a taskforce report commissioned earlier by office of the governor. <i>The framework provides a guide to government, private sector and farmer organizations including cooperatives for promotion of good practices in cooperative development</i>	Complete
Kitui County Livestock Breed Improvement Policy	KCDMS continued providing technical support during review of this policy and during presentation of the policy to other county departments. This is work in progress and will be continued in Q4.	Ongoing

Activity	Description	Status
	<i>This policy is meant to provide guidance on institutional arrangements for increased and sustainable investment in the county government and private livestock breeding improvement programs and technologies.</i>	
Siaya Cooperative Fund bill	KCDMS facilitated public participation of this bill to completion and its enactment into an Act of the County Assembly, and assessment into law by the Governor. <i>This Act shall provide provisions on how the funds will be used in granting low interest loans to cooperative institutions with a view to scaling up their lending activities, value addition amongst other activities.</i>	Completed
Siaya Crops Agriculture Policy	KCDMS facilitated public participation of this instrument across six sub-counties and the report of the issues raised was approved by Cabinet. The revised instrument was forwarded to the county assembly for approval. <i>This policy is meant to provide guidance for promotion and development of agriculture and its connected purpose through a legal framework</i>	Ongoing
Siaya Public Participation Bill	KDMS supported consultant facilitated review of the Siaya Public Participation Act to completion. <i>This bill is meant to make amendments to the current Siaya public participation Act and make provisions for virtual debate as a mode of public participation. This would allow virtual debate at the floor of the house – especially during the COVID-19 restriction period.</i>	Completed
Kisii County ALV Strategy	The KCDMS-consultant continued facilitating development of this strategy to completion. <i>The ALV strategy is meant to address unstructured production and marketing of ALV in Kisii County, and provide a strategic approach that will promote ALV as a feasible commercial option for farmers in the county</i>	Completed
Economic Recovery Strategy (ERS) for Kisii County	A KCDMS supported consultant facilitated development of this strategy to completion, which included development of the data collection tools, the actual data collection, the draft strategy and validation of the same to completion. <i>This strategy is meant to provide a roadmap for recovery of the County from the negative impacts of COVID-19 in all its key sectors.</i>	Completed
Siaya Youth in Agribusiness Strategy	KCDMS facilitated public participation in all the six sub-counties of Siaya on this instrument which was developed in partnership with GIZ in year 2.	Ongoing
Homabay County COVID-19 Socio-Economic Re-engineering and Recovery Strategy	KCDMS supported consultant facilitated development of this strategy which included development of the data collection tools, the actual data collection and draft one of the strategies. The next step is validation of the instrument. <i>This strategy is meant to provide a roadmap for recovery of the County from the negative impacts of COVID-19 in all its key sectors.</i>	Ongoing
Migori Cooperative development Policy	KCDMS supported consultant continued facilitating and providing support during development of this policy to completion and was submitted to Cabinet for approval. <i>This policy aims to provide guidance on how to address challenges experienced by cooperatives and establish a legal and institutional framework to strengthen and support the growth of cooperatives in Migori County.</i>	Completed
Migori Food Safety Policy	KCDMS in partnership with Agri-fi facilitated and provided technical support during development of this policy up to stakeholder validation. A policy brief on the public participation report was forwarded to the CEC to table at cabinet for approval. <i>The policy is meant to provide guidelines on the food system handling along the food VC to ensure safe and high-quality food. This shall be by setting, promoting, and enforcing appropriate guidelines, standards, and regulatory framework.</i>	Ongoing
Miyare ATC Regulations	KCDMS in partnership with NAGRIP, AGRI-FI and ASDSP Programs, facilitated and provided technical support toward the development of these regulations. The regulations were approved by Cabinet and enacted by the County Assembly. <i>These regulations are meant to operationalize the Miyare ATC Act (2020).</i>	Completed

Activity	Description	Status
Migori County Sweet potato processing plant and cooperation Act and regulations	KCDMS facilitated and provided technical support in the development of Migori sweet potato and processing bill that was later passed by the county assembly and assented into law by the governor. Also, KCDMS in partnership with NAGRIP provided technical support toward the development of the regulations. <i>These regulations are meant to operationalize the sweet potato processing Plant and Cooperation Act.</i>	Ongoing
Kisumu County Dairy Development Corporation Bill	KCDMS continued facilitating Kisumu County in development of this instrument. This included development of the draft bill, sensitization of the MCAs on the same, validation of the bill and forwarding of the same to Cabinet for approval to enable public participation. <i>The bill is meant to make provision for the role of the corporation in the Kisumu dairy industry, and also promote an organized milk industry in Kisumu County.</i>	Ongoing
The Taita Taveta County Fruit VC Development and Marketing Authority Bill, 2020	KCDMS in partnership with ASDSPII facilitated development of this bill through support for MCA sensitization, followed by submission of memorandum to the county assembly and report prepared for debate on the floor of the full house. <i>Once enacted into law – this bill aims to provide guidance and institutional arrangements for sustainable and increased investment in the fruit VC and supporting institutional arrangements</i>	Ongoing
Taita Taveta County Artificial Insemination and Livestock Breeding Technologies Draft Bill 2020	KCDMS in partnership with ASDSPII facilitated development of this instrument through support for MCA sensitization followed by submission of memorandum to the county assembly and report prepared for debate on the floor of the full house. <i>This bill aims to provide guidance and institutional arrangements for increased and sustainable investment in the county government and private AI services and other livestock breeding technologies</i>	Ongoing
Taita Taveta Livestock Identification, Registration and Traceability System Regulations, 2020.	KCDMS in collaboration with ASDSPII facilitated development of this regulations through support for MCA sensitization followed by submission of memorandum to the county assembly and report prepared for debate on the floor of the full house. <i>The regulations provide the county with clear operational guidelines and enforcement of compliance in Livestock identification, and movement linked to the national system to stamp out conflicts</i>	Ongoing
Vihiga Agriculture Strategic Plan	ILRI/AVCD in partnership with KCDMS, facilitated, and provided technical support during development of this instrument. This included public participation in five sub-counties, approval of the proposed feedback by Cabinet, integration of the feedback, validation of the instrument. The revised strategy has been submitted to Cabinet for approval. <i>This strategic plan aims to provide a framework to guide implementation of interventions by various stakeholders for transformation of Vihiga's agriculture sector.</i>	Complete
Busia Agriculture Strategic Plan	ILRI/AVCD partnered with KCDMS, facilitated and provided technical support during development of this instrument. This included public participation in seven sub-counties, approval of the proposed feedback by Cabinet, integration of the feedback, validation of the instrument. The revised strategy has been submitted to Cabinet for approval. <i>This strategic plan aims to provide a framework to guide implementation of interventions by various stakeholders for transformation of Vihiga's agriculture sector.</i>	Complete

County-level functional analysis

In FY 2021, KCDMS contracted Tegemeo Institute to facilitate functional analysis of the agriculture sector in five of the KCDMS focus counties or Makueni, Kakamega, Kisumu, Kisii, and Vihiga. This involved briefing the governors on the study, holding inception meetings, finalizing data collection, and recommending workshops in Vihiga and Kisii Counties.

Institutional architecture strengthening

As part of the JSR, institutional architecture (IA) strengthening is meant to help counties undertake effective and inclusive policy reforms without relying on external support. In Y4, KCDMS supported IA strengthening

of 12 counties by addressing gaps identified in IAAs of 2018.

- *Predictability of the guiding policy framework (predictability and transparency of the policymaking process):* In Y4, KCDMS provided technical support and capacitated county staff to develop policy instruments at the county and national levels. Development of the national phytosanitary policy and the Kitui County Livestock Breed Improvement Policy provided a practical exercise.
- *Policy development and coordination (technical capacity):* KCDMS capacitated county staff to coordinate public and private sector actors policy instrument development through the Policy TWGs, CASSCOM, NHTTC, and NAFTWG. Some of this was done through KCDMS-supported consultants at the county and national levels.
- *Functioning coordination processes:* KCDMS continued facilitating CASSCOM and its recognition as a county-level project and policy coordination entity. In this regard, in FY 2021, KCDMS facilitated the development of CASSCOM bills, regulations, and strategies which were meant to facilitate the process toward institutionalization and operationalization of CASSCOM as a coordination entity within the structure of county governments in Nyanza, Western and Eastern regions of Kenya.
- *Engagement of legislative body:* KCDMS sensitized the legislature on policy instruments ahead of a parliamentary debate to ensure objective decision-making. Some examples include the sensitization of 50 MCAs on the SEKEB formation bill and sensitization of MCAs on three bills in Taita Taveta County which have since progressed and are at the County Assembly awaiting tabling at the floor of the house. The three bills are Taita Taveta County Fruit Value Chain Development and Marketing Authority Bill 2020, Taita Taveta County Artificial Insemination and Livestock Breeding Technologies Draft Bill 2020, and Livestock Identification, Registration and Traceability System Regulations 2020.
- *Inclusivity and stakeholder consultation (opportunity/ space to participate):* In Q3, KCDMS purposefully created space for and included private sector players into the process of development of various policy instruments, such as the Dairy Industry Strategy, Livestock Breed Improvement Policy, Siaya Public Participation Bill among others.

8.4 Facilitating an Enabling Environment for Agricultural Transformation at Regional Economic Blocs

The 47 counties in Kenya's devolved system have organized themselves into seven regional economic blocs (REBs), based largely on their historical, political, and economic similarities, and are envisaged to leverage on economies of scale in the regions and maximize utilization of existing opportunities and advantages that come from opportunities of scale for development¹⁸. The REBs are expected to spur economic growth within the respective counties through policy harmonization and resource mobilization. Recognizing the critical role that the REBs play in the agricultural transformation of the respective counties, KCDMS continued to facilitate various policy and capacity strengthening activities as listed in the table below:

Table 8: TA activities for inter-governmental -level policy

Regional Economic Blocs	TA Provided by KCDMS	Status
LREB Economic Blueprint	The KCDMS-supported consultant continued facilitating review of the LREB Economic blueprint to align with recent changes in the economic blocs. He undertook various activities including interviews data collection and analysis, facilitated consultative meetings with the leadership in the four cluster regions including South Nyanza, North Nyanza, Former Rift Valley and the Western, and comprising of 14 counties. Integrated feedback from the cluster meetings into the report and finalized the LREB Economic Blueprint.	Complete

¹⁸ The KCDMS target counties fall within three regional blocs including the Lake Region Economic Bloc (LREB), the South Eastern Kenya Economic Bloc (SEKEB) and the Jumuia ya Kaunti za Pwani. Nine of the KCDMS counties are in LREB (Migori, Siaya, Vihiga, Bungoma, Busia, Homa Bay, Kakamega, Kisii, Kisumu), two in SEKEB (Kitui and Makeni) and one in Jumuia ya Kaunti za Pwani (Taita Taveta).

LREB-NOREB Transboundary Livestock Disease Control Policy	The KCDMS supported consultant finalized facilitation of development of the NOREB -LREB Livestock disease control policy for the two regional blocs which comprise 22 counties. This policy is expected to promote the application of identification and traceability measures to animals and animal products in compliance with national guidelines and international standards	Complete
SEKEB	KCDMS facilitated validation of the Institutional Architecture Assessment (IAA) report.	Complete
SEKEB Founding Bill	Facilitated a joint County Assemblies two-day meeting for the SEKEB counties comprising of 50 MCAs who deliberated on the bloc's Founding bill. The knowledge gained from this meeting was expected to facilitate faster enactment of the Bill into an Act of the County Assembly. Next the bill will be tabled in each of the three counties after the recess ending in late September 2021. <i>Once enacted into law, the legislation shall provide a legal basis for the founding, establishment, and operationalization of SEKEB.</i>	Ongoing

9. INTEGRATION OF WOMEN AND YOUTH IN AGRICULTURAL MARKET SYSTEMS

KCDMS encourages inclusive economic growth that creates opportunities for all, including women and youth to acquire skills and capacities to access livelihood opportunities through agriculture. In FY 2021, the COVID-19 pandemic continued to cause health and economic crises and income losses that disproportionately affected vulnerable populations. KCDMS through its market systems interventions supported youth- and women-led agri-enterprises to respond to agricultural market dynamics by facilitating access to valuable services and resources, linkages to sustainable markets, and by strengthening production to meet market demands. To enable new and existing agri-businesses to grow and become more resilient against shocks, KCDMS provided BDS to youth and women-led businesses and VSLAs. KCDMS also facilitated a shift to digital platforms for continued service delivery.

Key highlights for FY 2021 include:

- Provision of technical support through business development services (BDS) to 62 youth and women grant partners and 749 VSLA groups. The groups were also supported with productive resources including equipment, and access to finance and facilitation of market linkages with various market and VC actors to improve productivity and marketing.
- Rolled out a COVID-19 resilience mechanism through digital literacy for VSLAs to increase effectiveness and efficiency of their operations in the agricultural market systems space.
- In FY 2021, KCDMS reached 119,884 women and 23,977 youth farmers with market system interventions. To date, KCDMS has achieved the below outcomes for women and youth.

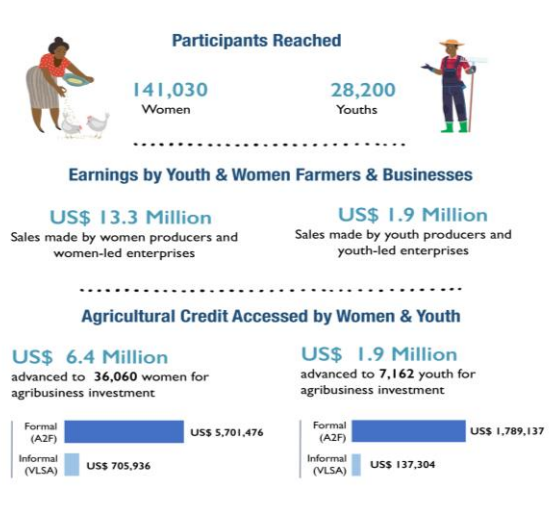


Figure 18 KCDMS Key highlights for Y4.

9.1 Market Facilitation for Youth and Women

KCDMS partnered with 62 women and youth grant partners and 749 VSLAs who have engaged a total of 13,563 women and 2,638 youth farmers. Despite the marketing challenges presented by the COVID-19 pandemic during FY 2021, the SI partners continued to engage farmers in various agricultural market systems activities. KCDMS helped to reposition into commercial ventures of some of the VCs deemed by the community as “for the poor” or “for women” and/or regarded for household consumption. This was achieved by facilitating access among women and youth to equipment that increased production and market access, supported economic independence, and facilitated food security and nutritional diversity at the household level. Through its social inclusion partners and non-partners, KCDMS generated annual US\$ 4 million for ALV and 3.3 million for poultry and commodities directly linked to SI partners. Through BDS support and mentorship, groups targeted for social inclusion were trained on business skills, record keeping, and marketing, which triggered farmers from 65 groups to embrace collective marketing and venture into contract farming to realize economies of scale. For example, through mentorship on negotiation skills, Awuoth Widows CBO brokered a deal for the supply of ALV to two outlets for “Beyond Fruits and Vegetables” in Kisumu town. KCDMS facilitated supply contracts to provide various commodities to organized markets for more than 600 farmers.

9.2 African Leafy Vegetables Empower Women and Youth

KCDMS continued to strategically integrate youth and women in the market systems through commercialization of youth and women- friendly VCs, including ALVs and poultry. Initially, KCDMS promoted the production of ALVs mainly for food security and nutrition purposes. As an entry point for women and youth in the market system, KCDMS refocused its model and is supporting the production, processing, marketing, and consumption of this neglected and underutilized VC that offers fair profits and provides an avenue for diversification for smallholder farmers. ALV perform well under extreme weather conditions and adapt easily to climate change if well supported.

To date, KCDMS has partnered with 18 grant partners (women and youth) in ALV production and marketing. In addition, four agri-nutrition grant partners are providing capacity building to farmers on agri-nutrition, with a focus on ALV among other commodities. VSLA groups are also involved in the production and marketing of ALV in 10 of the 12 KCDMS counties. A total of 26,891 farmers (76 percent women and 14 percent youth) have been involved in the production and marketing of ALV. Eighteen women and youth groups were supported through in-kind grants to improve their technologies for continuous production to meet the market needs. KCDMS supported partnering VSLAs with GAPs and technology adoption trainings. The equipment included drip irrigation kits, walking tractors, harvesting equipment, cooling systems to minimize post-harvest losses, and weighing scales.



Awuoth Widows CBO member measures and preserves vegetables ready for the market. Photo credit: KCDMS

The ALV VC has created other revenue streams and some farmers have adopted seed bulking as an agribusiness venture to improve access to affordable quality ALV seeds. In addition, with the increased production of ALV, their consumption in most households has increased, hence contributing to nutritional benefits. To date, the ALV farmers have made sales worth US\$ 967,809 across the regions.

Tumaini Youth Group

KREP Development Agency (KDA), a KCDMS SI grant partner, reached 120 VSLA groups, among them Tumaini Youth Group in Kakamega County, comprising 33 members (22 women, 11 men). The group was engaged with VSLAs, but yielding little cash, it could not pursue its goal of investing in horticultural production and marketing. Before the project, Tumaini Youth Group tried accessing credit from five formal FIs without success because of lack of collateral and a clear business plan, and faced high interest rates of 12–15 percent per annum. The chairperson of the group said, *“As youth, we can’t afford to repay a loan with that interest rate. Furthermore, we have no security for the loan, and we fear co-guaranteeing each other because there is little trust among us. Our parents cannot provide us with title deeds to secure the loan, since we risk losing our family land.”*



Members of Tumaini Youth Group working in their 0.5-acre vegetable farm. Photo credit: KCDMS

No FI was willing to lend to the group since they were considered to be risky borrowers. The group secretary said, *“We ended up losing our members and reducing from 38 to 21. This was also attributed to lack of trust, as the treasurer had disappeared with money that we expected to share at the end of 2019.”*

Through its leadership, the group sought the support of the Ministry of Agriculture at Lumakanda Office. The Ministry linked Tumaini Youth Group to KDA for capacity building and other support. KDA trained group members on VSLA methodology, agri-preneurship, and agri-nutrition. The group rolled out VSLA activities in 2021, with each member saving between US\$ 3 and US\$ 5 monthly. They also contribute a social fund of US\$ 0.5 per member per meeting to prepare for unexpected challenges. The group started lending to members in February 2021, and they raised US\$ 50 at every meeting as cumulative savings.

Having been trained on agri-prenuership by KDA, the group set aside two months of savings worth US\$ 340 to invest in a joint ALV production project. They used the money to buy seeds and other farming inputs and equipment, and one member voluntarily gave two acres for production. Since April 2021, the group has generated about US\$ [REDACTED] from vegetable sales.

Through KDA, the group was linked to formal FIs (Equity Bank and Faulu Kenya) for financial literacy training in preparation for future borrowing. Tumaini was also linked to the Ministry of Agriculture in Lugari for technical support on ALV production and marketing. Inspired by the agri-nutrition trainings, group members have individually invested in kitchen gardens to feed their households.

The chairperson said that the VSLA approach serves as a bank for the group, since FIs had rejected them, but the VSLA approach saved them. They intend to lease an additional acre of land to expand vegetable production and grow their income.

9.3 Women and Youth Access New Agricultural Inputs and Technologies

In Y4, KCDMS worked with grant partners and contractors to promote agricultural technologies and input access for increased production among women and youth. The activity facilitated demo sites, on-farm training, farmer field days, and input supply linkages for extension support. The participating women and youth farmers learned and adopted various technologies, including production technologies, soil and water conservation and management, adoption of quality breeds, poultry production and management, sweet potato processing, and the benefits of certified seeds and fruit seedlings.

KCDMS linked youth and women farmers (affiliated with grant partners and VSLAs) to public and private sector extension services and to local agro-dealers, agri-input trainings, and collective input purchases of fertilizers, quality seeds, hermetic storage bags at a reduced and subsidized price bundled with free delivery of inputs.

9.4 VSLAs Bridge Access to Investment Capital for Women and Youth in Agriculture

KCDMS rolled out a VSLA program as a promising solution and an entry point for women and youth for investing in agricultural production and market engagement. The activity partnered with four contractors in the its ZOI to build the capacity in the VSLA methodology. These groups are also supported with trainings in agri-prenuership and *kilimo-lishe* training, as well as linkages to markets and credit from formal FIs.

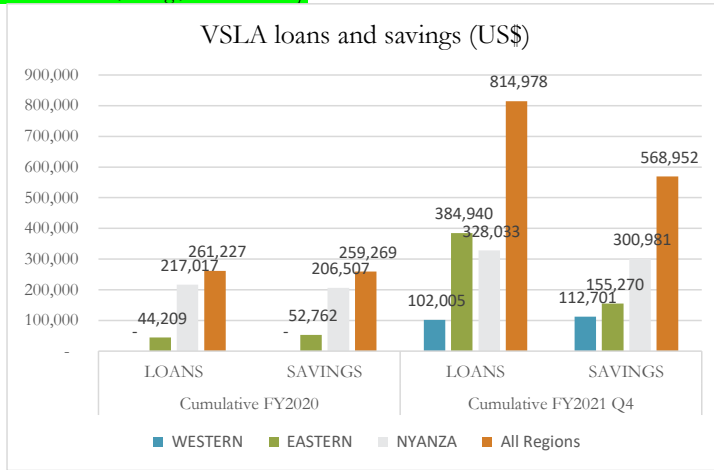
In Y4, KCDMS reached 749 VSLAs comprised of 15,658 members (87 percent women and 17 percent youth) with capacity-building interventions in financial literacy that have strengthened VSLA management and operations and led to the growth of their portfolios. The VSLAs have achieved cumulative savings of US\$ 568,952 and loans of US\$ 814,978. As a result, members had more resources to invest in quality services, inputs, and resources to invest, reinvest, increase production, and diversify into high-value crops for increased incomes. Women are enjoying financial independence with increased trust from financial service providers.



[REDACTED] VSLA WG during a transaction meeting.
Photo credit: KCDMS

The COVID- 19 pandemic and the resulting lockdown posed unique challenges for women's savings and lending groups. KCDMS facilitated the development of various coping mechanisms and strategies including digital financing through mobile money and piloting VSLA digital platforms. Through digitization, VSLAs transitioned from written bookkeeping to digital platforms, expanding their financial capabilities. Eighty VSLAs were onboarded and adopted digital platforms using the Dreamsave application, 40 of whom have transitioned from manual operations to use of the Dreamsave application for e-meetings and record keeping.

Figure 7: VSLA loans, savings, and membership



9.5 Linkages to Formal Financial Institutions

KCDMS continued to facilitate relationship building between FIs and VSLAs to increase access to financial services and resources. In compliance with the current COVID-19 guidelines, the activity facilitated one-on-one meetings as well as financial literacy trainings for the VSLAs. From the 2021 AOS, 40 percent of interviewed VSLA members were linked to various financial service providers and acquired formal loans. Of the 23,223 MSMEs and farmers who accessed credit from formal institutions through KCDMS facilitation, 11 percent are youth and 70 percent are women.

From KREP’s analysis on loan utilization, approximately 70 percent of funds were invested in input purchases and land preparation. In Kitui county, KDC partnered with Kenya Community Development Foundation (KCDF) to facilitate financial support for VSLA farmers through a revolving fund to support access to farm inputs for agribusiness expansion and diversification.

The figure above shows increased access to credit from formal FIs. However, there has been a reduction in savings from the VSLA groups, possibly attributable to the negative impact of COVID-19 on VSLA member livelihoods.



[REDACTED], a mango farmer in Makeni County, standing next to her cart loaded with mangoes for delivery to Burton and Bamber Ltd aggregation center. KCDMS co-invested with Burton and Bamber through the purchase of drying equipment to increase its mango drying capacity hence increased orders from farmers. Photo: KCDMS

10. ENVIRONMENTAL COMPLIANCE MONITORING AND REPORTING

During FY 2021, KCDMS continued implementing the environmental mitigation and monitoring plan (EMMP) developed at the inception of the activity, with revisions. The activity complied with all USAID environmental compliance requirements per the project EMMP and PERSUAP guidelines, ensuring no significant impact on the environment from implementation. KCDMS developed a PERSUAP training module and facilitated training sessions in 11 of the 12 KCDMS counties. A total of 262 staff members drawn from 189 grant partners were trained. Furthermore, 20 KCDMS technical staff and ten county government technical staff were trained. The two-day trainings raised awareness on environmental management, compliance requirements, and safer and effective use of pesticides to strengthen the capacity of KCDMS partners on systematic environmental compliance. The training focused on the following modules: i) key environmental issues under KCDMS activity (environmental themes under KCDMS) ii) introduction to climate-smart agriculture and cleaner production technologies iii) introduction to USAID environmental procedures and PERSUAP, pesticides safer use principles and practices, approved and rejected pesticides list, and safer use principles and practices, and iv) principles of IPM, environmental compliance monitoring and reporting

To strengthen monitoring of EMMP and integration into the M&E system, KCDMS revised its data collection tools in Y4. The revisions will ease the tracking of environmental compliance indicators and implementation of EMMP. Additionally, a pre-award environmental review checklist was reviewed to conform with specific environmental compliance requirements of different categories of grant partners. The PIF grant contract form was amended to incorporate a clause that obligates grant partners to observe and comply with environmental procedures.

During the reporting period, KCDMS monitored 50 grant partners for environmental compliance, with priority accorded to those involved in agrochemicals and agro-processing and whose activities are considered potentially risky to the environment. No major non-compliance was identified during the monitoring visits. KCDMS will continue working with NEMA, KEPHIS, PCPB, HCD, KVB, and KDB to enhance environmental compliance.

KCDMS collaborated with KEPHIS and Agrochemical Association of Kenya (AAK) to support crop care in promoting safer use of pesticides through the SSP model. A total of 592 SSPs were trained, of which 392 were trained in Y4. The SSPs across KCDMS counties of influence are growing into sustainable microenterprises equipped to offer IPM services to farmers. To further enhance environmental compliance, all SSPs will be trained on PERSUAP guidelines in Y5. KCDMS also held a consultative meeting with Migori and Siaya County Department of Environment to provide inputs for the County Environmental Policy being developed.

10.1 Natural Resource Management and Climate Change

KCDMS continues to address climate and environmental risks that might undermine systemic change, to build stakeholders capacity to consider climate change in service delivery, and to support the national and county governments to implement the National Climate Change Action Plan.

KCDMS will continue to exploit potential opportunities to ensure that the Kenya Meteorological Service is providing the necessary long-term weather and climate data to the private sector to allow them to accurately gauge the long-term potential income generation from their investments.

Opportunities exist to promote renewable energy sources and reduce greenhouse gas emissions among businesses. To support this endeavor, KCDMS continued to integrate natural resource management initiatives by promoting climate-smart agriculture, cleaner production technologies, and continuous monitoring of the activity's four climate and conservation smart agriculture (CCSA) annual indicators. These indicators measure renewed efforts to mainstream climate resilience by the FTF initiative and the various activities during the reporting period are listed below:

- Building the capacity of KCDMS staff and the private sector market actors on climate mitigation and adaptation strategies.

- Promotion of conservation agriculture activities such as minimum tillage which helps in conserving water, soil quality, moisture, fertility, and seed quality.
- Spearheading the use of clean energy sources e.g., use of solar water pumps, solar cold chain for horticulture/dairy products since refrigerants contain chlorofluorocarbon-12 which contributes to greenhouse gases that harm the environment. The use of IPM technologies in the production of horticultural crops and preservation of grains using diatomaceous earth to promote food security at household level, and the promotion of Aflasafe for aflatoxin mitigation and food safety.
- Encouraging farmers to adopt water harvesting technologies to enhance availability, especially in semi-arid regions of Busia, Makeni, Kitui, and Taita-Taveta.
- Facilitated adaptation training of farmers and grantees on the effects of overgrazing/overstocking on pastures which causes pressure on vegetation cover thus exposing soil to erosion.
- Supported grantees to establish fruit trees including mangoes, avocados, bananas, and pasture and fodder which ensures availability of vegetation cover and thus protect the soil from extreme exposure of harsh conditions.
- KCDMS continued carrying out vaccination against East Coast Fever as Vector borne disease increase with change in temperatures and worked closely in collaboration with meteorological departments at the county level to give updates and early warning to farmers on prevailing weather patterns.
- Ensured that all our activities complied with National Environmental Management Authority, the focal point for national environmental issues and coordinator of climate change policies.

Table 9 CCSA indicators: disaggregated KCDMS indicators

#	CCSA Indicators: Disaggregated KCDMS Indicators	2021 results
1	Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance [IM-level] The disaggregate is the number of smallholder farmers using climate-smart technologies that comply with Environmental management practices	42,389
2	Number of organizations adopting improved management practices or technologies or any other organization improvement with USG assistance. The disaggregate considered is number of firms adopting and or promoting climate-smart technologies or complying with EMM requirements	99
3	Number of agricultural and nutritional enabling environment policies/regulations/processes/ norms analysed, consulted on, drafted, or revised, approved, and implemented/ altered with USG assistance. The disaggregate picked is Number of laws, policies, regulations, or standards addressing climate change adaptation formally	10
4	Value of new USG commitment and private sector investment leveraged by the USG to support food security and nutrition (The disaggregate is amounts spent by firms on interventions that align with EMM and climate smart activities)	\$991,083

11. COLLABORATIVE ACTION AND LEARNING FOR MARKET SYSTEMS CHANGE

Below are highlights of CLA activities planned for FY 2022:

1. KCDMS is in the process of documenting several learnings that contribute to the FTF learning agenda. Learning areas include strengthening formal and informal markets, intermediary services/support functions, and successful interventions that promote sustainable and inclusive market systems transformation, among others. To connect learning to policy, lessons will be documented in partnership with select county governments.
2. KCDMS will host webinars on i) the journey to resume mango exports to the lucrative U.K. and E.U. markets, ii) agri-nutrition, and iii) a national avocado learning event.
3. KCDMS will prepare a series of validation and learning webinars on its work market system resilience work, based on the USAID MSR framework.
4. KCDMS continues to jointly implement the co-created work plans with the 12 partnering counties and conduct periodic joint monitoring. This will culminate in jointly-organized county activity closeout and learning events, as well as the national/program level learning and closeout event.

11.1 KCDMS Learning Studies

As part of its collaboration, learning, and adaptation, KCDMS has several ongoing studies, with their progress illustrated in the table below.

Table 10: KCDMS learning studies

FTF CLA Question	Progress	Year 5 Plan
1. What are successful approaches for developing intermediary services in market systems?	<p>Successful approaches for developing intermediary services have been discussed in the quarterly and annual reports.</p> <p>Productivity and market learning pieces to elicit successful approaches to embedding intermediary services into the target market systems.</p>	KCDMS will develop productivity and market systems learning pieces along key thematic areas like access to finance, breeding services, fodder commercialization, and others, and will be illustrating the successful approaches and tactics while indicating what has not worked.
2. What are the sustainable approaches to achieving dietary diversity within a market systems approach?	<p>Four panel surveys over two years assessing interactive effects of nutrition messaging, women's economic empowerment, agricultural productivity, and incomes on nutrition outcomes.</p> <p>Panel 1: Completed. Report shared. (n=1,214 across KCDMS ZOI)</p> <p>Panel 2: Draft report under internal review. (n=1,042, same respondents as panel 1)</p> <p>Panel 3: Analysis completed.</p> <p>Panel 4: Data collection is complete, and analysis is ongoing.</p> <p>In April 2021, KCDMS also documented a paper titled <i>CLA in Scaling Up Agri-Nutrition BCC: the Kenya Crops and Dairy Journey</i> and submitted it for the CLA competition.</p>	KCDMS has already developed an analysis plan and shall synthesize the data-eliciting insights that will be packaged for sharing with lessons learned so far in relation to CLA question 2 above. A webinar organized under the agri-nutrition TWG will also be used as a platform to share lessons with the Mission and peers. These will be shared in Q1 of FY 2022.
3. What are some practical and cost-effective	KCDMS has been measuring indirect results using annual outcome surveys. For example, the 2020 agri-nutrition outcome survey revealed 80–90 percent of the respondents shared agri-nutrition information with	KCDMS will be testing the program-level replication during the 2021 and 2022 outcome surveys.

approaches for credibly measuring secondary contacts and indirect impacts, setting performance targets (including for shared indicators), and sharing indicators?	household and community members. When extrapolated based on the total number of agri-nutrition trainees, this implies an additional 281,050 individuals indirectly receiving and benefiting from nutrition messaging through KCDMS support.	
	KCDMS has used the Adopt-Adapt-Expand-Respond systemic change model¹⁹ to document systemic change: This is another inexpensive way to show the breadth and depth of KCDMS interventions beyond the Activity by observing and documenting adoption, adaptations, expansion, and system-wide responsiveness.	KCDMS will consolidate the evidence of systemic change alongside key thematic areas, and this will be included in the learning pieces shared on the various platforms. RTI will study the indirect impacts focusing on employment created within the KCDMS work.

KCDMS has also conducted studies to increase its understanding of the communities it works in and test the effectiveness of its approaches. Some of those studies are presented below, along with their status and plans for Y5.

Table 11 KCDMS effectiveness studies

N o.	KCDMS Study	Lead	Status/Action	Year 5 Plan
2.	Market systems resilience (MSR) study: An intensive market system and household resilience study that uses the USAID MSR framework to assess market systems and household resilience. The methodology includes assessing MSR for dairy in HR1 and mango in SA2 using the MSR framework and evaluating how KCDMS work has contributed to the resilience of partnering market actors and farmers using outcome harvesting.	RTI/ Busara Centre/ MSR and Outcome Harvesting Consultants	<ul style="list-style-type: none"> Data collection completed. KCDMS held a CLA pause and reflect session during the annual work planning in August 2021 based on the outcome harvesting findings and has informed adaptations going into Year 5. The findings also demonstrated some of the successes. 	MSR study findings will be validated in various dairy and mango stakeholder workshops in Q1 of FY 2022. A webinar will be used to share the results after the validation workshops. Final reports and learning pieces will be shared with the mission.
3.	SI learning study and VSLA resilience in COVID-19: The study focused on how access to information and finance (informal and formal) affects investment in agribusiness.	KCDMS MEL Team/ Making Cents	Draft reports are released on the VSLA resilience under COVID-19 as well as how access to finance and relevant information affects agri-investment, and findings are being used to inform the structure of the second phase of VSLA contracts. Some of the adaptations include the provision of BDS based on identified capacity gaps to support VSLAs to better integrated into market systems.	An additional set of data is being collected via the 2021 annual outcome survey. This will enrich the ongoing synthesis, especially around access to finance and relevant information that affects agri-investment and will be packaged into a learning product for sharing.
5.	Periodic grant partners surveys to assess the health of the grant partners regarding the partnership around implementation, financial/grant performance,	KCDMS MEL/ Grants Team	Three rounds are completed. Some of the findings have been discussed in the Q3 FY 2021 report under the grants section. Findings have informed internal adjustments to enhance the equipment procurement process and	The fourth study is underway, concurrent with the 2021 household and market actors' annual outcome surveys.

¹⁹ This was developed by the **Springfield Centre**, a leader in the market systems approach to development in low- and middle-income economies. It allows programs to document adoptions, adaptations, expansion, and system-level responsiveness based on program activities. It is explained in detail in the KCDMS MEL Plans.

	and indicator performance. The study also assesses the effect of COVID- 19 on business operations.		more support to increase the burn rate, cost share reporting, and contract extension to enable completion of milestones.	
7.	Policy learning study in partnership with the partnering county government. The two study areas are: 1. How has institutional architecture strengthening contributed to enhanced capacity for policy reforms? 2. How has the facilitation of government to develop policy instruments contributed to an enabling environment for market systems development?	MEL and Policy Team	KCDMS has interested several partnering counties into partnering to tackle these studies. KCDMS has identified and presented consultants to USAID for approval.	KCDMS will work with the consultants and the partnering counties to undertake these studies and use the findings to help conversations with the counties around adaptations that enable the counties to learn and improve continually. The findings and lessons will also be documented and shared.
8.	MIS study to understand the use of market information systems by smallholders.	KCDMS ICT/ MEL Team	Completed, and findings indicate low use of MIS platforms by farmers. The ICT team is working on interventions to increase exposure and usage of these.	N/A
9.	Agro-dealer survey in the Eastern region to understand the knowledge levels and availability of IPM technology for mango management.	KCDMS/ MEL and Eastern Regional Team	Completed, and findings have informed the training content, demonstration, and distribution mechanisms by partnering IPM providers.	N/A

11.3 Communications Activities

Social and behavior change communication

Production of fruit fly control IPM training video: In FY 2021 Q3, KCDMS partnered with Digital Green under the video-enabled digital extension to produce a training video on fruit fly IPM control technologies. The video was produced in Swahili, a language understandable by most of the farmers in Makueni County. IPM technology providers were provided with an opportunity to train farmers on the use of their various IPM technologies and the benefits of adopting the technologies. The video was shared with Makueni County Government Department of Agriculture for dissemination through the video-enabled extension model. Short clips of the video were also shared through farmers' WhatsApp groups. There are plans to share the training video with local journalists for airing on their radio stations.

Development of Komesha Fruit Fly Campaign IEC materials: KCDMS worked with the Komesha Fruit Fly Campaign Media Consultant to enhance public awareness on the adoption of IPM technologies to control fruit flies and thereby recapture the EU market. The communication team developed posters and radio spots for use by the IPM technology providers, cooperatives staff, and county extension staff in farmer training.

Training of local journalists on the Komesha Fruit Fly Campaign: KCDMS, in collaboration with the Komesha Fruit Fly Campaign Media Consultant- Hussein Muhammed, held a journalist sensitization and training on Komesha Fruit Fly in Makueni County. The successful training attracted 40 participants, including journalists from 18 different media houses, two mango cooperatives, five IPM firms, and Makueni County Government representatives. Following the training, the journalists have developed and aired public education content on IPM technologies to control fruit fly.

Impact documentation and communication

The communications team continued to document the impact of KCDMS interventions through photography and written success stories and sharing with the Mission for review and publishing. Several success stories and learning pieces have been published, as reported in the CLA section. Social media content and photos were also developed and shared with the Mission for dissemination.

12. CHALLENGES

12.1 COVID-19 and Related Challenges

COVID-19 has created challenges for both the supply and demand sides of target market systems, as illustrated in the below graphic and described in the following narrative.

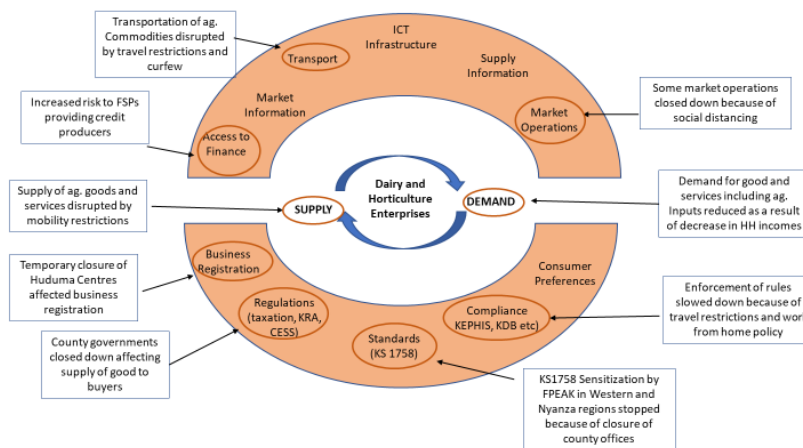


Figure 19 Challenges to supply and demand derived from COVID-19.

- Erratic county funding: In addition to COVID-19 delays, recent disagreement on the national government's revenue sharing formula has slowed funds release from the national treasury. This reduced county agriculture departments' ability to co-finance the policy development process, including staff travel costs to meetings.
- Movement restrictions posed serious challenges to policy and capacity development work, especially delays to county functional analysis work, policy domestication trainings, and sensitization trainings on dairy industry regulations.
- Movement and gatherings restrictions have impacted field activities. Planned, seasonal market linkage meetings and farmer trainings have been delayed, hence affecting the production activities. VSLA activities have also been affected, and members have reduced their monthly savings.
- COVID-19 has affected income generation activities for MSMEs due to movement restrictions, curfews, and closures of small shops, restaurants, and open-air markets, which have reduced access to markets, consumer income, and spending. The ability to source and process products has also been significantly affected. Businesses that rely on raw materials and intermediate goods have experienced a disruption in their supply chains and have been forced to source from other markets at higher cost. As a cost-saving measure, market actors have laid off staff and reduced the scale of their operations.
- Despite the introduction of new technologies, inputs, and service delivery to farmers, they have generally low purchasing power which led to lower-than-expected levels of adoption. Their purchasing power was affected by the economic downturn, inflation, and unemployment rates, especially for farmers who rely on other incomes to purchase inputs. While contracted farmers gain access to inputs through checkoff arrangements, other farmers and organizations were linked to FIs to access credit.
- Pandemic-responsive government regulations slowed grant partner performance and reduced farmer training attendance. Some scheduled activities, such as training of AISPs from Kisii county, were cancelled.

- A shortage of liquid nitrogen, which is used to transport and store semen and the ECF vaccine, was caused by a manufacturer pivot to produce oxygen used by hospital patients.

12.2 Other Challenges

- The re-introduction of tax for agriculture machinery and equipment and revoking the tax waiver against importation of solar equipment has raised the cost of machines, especially for KCDMS market actors who were in the process of acquiring new machinery to scale up their processing and value addition activities
- Limited access to appropriate, current, relevant, and adequate information is a notable constraint to farmer groups and product suppliers in Kenya. Market signals on business opportunities and customer trends are not communicated back effectively by farmer-owned businesses to product manufacturers for them to develop support mechanisms. Market actors struggle to access the information they need to support improving productivity, farmer satisfaction, and loyalty. A perfect example is the uptake of Savannah Circuit Ltd. solar chilling equipment whose information on availability and functionality has taken some time to get to farmers. Organized pitch presentations by Savannah Circuit Ltd. to dairy cooperatives is unlocking this, and more cooperatives are interested in investing.
- Political focus on the upcoming election year led to delays in decision-making and policy work by the legislature and the executive on joint implementation initiatives with KCDMS.
- Political dynamics within the counties especially the BBI and referendum was a key disruption to the county leadership at some point – this posed a challenge to policy work at the counties.
- Radical changes in the Taita Taveta County Department of Trade and Cooperatives slowed down processing of two SITAS on capacity building and review of cooperative bills. Working patiently with the departmental leadership while appreciating the county political economy has been necessitated though slowly giving positive results
- FTAI activity implementation for producer organization (POs) in Western and Nyanza counties was delayed by the inability of Geneplus to deliver hormones and semen. KCDMS turned to Supreme Global as an alternative source.
- Shortage of the ECF vaccine led to price increases, which will affect targets that have been set for Supreme Global Cares and KDFP.
- Milestone delivery by grant partners is often tied to equipment procurement for franchise outlets. Procurement delays have slowed activity progress, especially those that are seasonal.
- Out of the previously engaged 536 SSPs, only 402 have been verified as active. A good proportion deserted the SSP profession due to alternative and more rewarding trade such as motor bike transport “boda boda” business while many cited low incomes associated with (i) unwillingness of the farmers to pay for the service and (ii) low income/pay.
- The FFFZ campaign initiative has experienced enormous challenges including the slow implementation of the fruit act enacted by the County Government of Makeni, expected to ensure collective responsibility in fruit management and structured trade in the mango VC. Lack of hot water treatment designs and specifications to guide the private sector in investment and supplier commitments and lack of local hot water treatment fabricators.

13. LESSONS LEARNED

13.1 COVID-19 Lessons Learned

- The role of ICT in linking buyers and sellers has proven key in providing market access solutions during the pandemic. Some market actors used online platforms to sell their products and services. For instance, Miyonga Fresh Greens Ltd. is exploring the potential to offer their products through online platforms and has identified export markets through this.
- Maintaining regular interactions, including virtual, with the county and national governments is important, as that helps their continued awareness of KCDMS.
- Enabling county internet access ensures critical meetings with government officers and joint activities between with KCDMS.

13.2 Other Lessons Learned

- Close relationship with the executive at both the county and national levels is critical for smooth flow of KCDMS policy activities at those levels.
- The county departments are interdependent, hence when implementing specific interventions, it is important to determine the relevant key departments and ensure their involvement.
- Joint review and monitoring of planned activities with the counties have enhanced synergy and reduced duplication of effort.
- Collaboration with the County Departments of Veterinary and Livestock is critical in successfully implementing the FTAI program. Also, the involvement of AISPs and dairy cooperative representatives from the program's inception provides for an easy startup and rollout of the program.
- More input providers are showing a willingness to support demo plots with inputs and to offer on-site training. The rationale is that when farmers see and relate to how the inputs work, they adopt them.
- Olivado seedlings performed better than seedlings sourced from other nurseries, with almost 100 percent of farmers observing that the seedlings are healthier and stronger, characterized by relatively dark green leaves, thicker stem, and high growth vigor. This has created a demand for the seedlings, which cost KES 100 more compared to seedlings from local nurseries.
- Services by most BDS providers and other professional management firms are unaffordable to dairy and horticulture cooperatives. There is, therefore, a need to structure BDS models that work well for SMEs and identify and build the capacity of local BDS service providers to support these cooperatives.
- Farmers on contract farming are enforcing existing contractual arrangements with buyers and are not side selling to other buyers despite an increase of new entrants in the Makueni market. KCDMS will document the benefits of contract farming for sharing with other businesses and farmers.
- **Opportunities:** The government has allocated KES 8 billion to projects such as Kenya Climate Smart Agricultural Project, National Agricultural and Rural Inclusivity Project, Kenya Cereal Enhancement Programme, and irrigation and land reclamation initiatives, among others. KCDMS is supporting market actors to collaborate with these projects to mitigate against risks associated with the COVID-19 pandemic, such as MCFPC working with NAGRIP project to support farmers' capacity building and capture the local fruit market.
- Services by most BDS providers and other professional management firms are unaffordable to dairy and horticulture cooperatives. There is, therefore, a need to structure BDS models that work well for SMEs and identify and build the capacity of local BDS service providers to support these cooperatives.
- While regulatory bodies require significant strengthening, industry associations give reason to be optimistic about the future of the dairy and horticulture sectors' political economy. For example, FPEAK and FPC have been in the forefront in lobbying government and other regulators to create an enabling environment for horticulture importers including working closely with private sector to facilitate strategies toward the opening up of the EU mango market. KCDMS has been engaging both associations

to sensitize the horticulture supply chain on KS 1758 and its importance in complying to market requirements

- There is still unexploited potential for commercial partnerships between market actors. It had been assumed that it would be difficult for these partnerships to form given the level of competition between and among market actors. For instance, financial service providers are keen to develop tailored products and financing options if exporters, cooperatives and ag. SMEs are ready to work closely with affiliate farmer groups on a tripartite agreement. Technology firms with fruit fly control solutions have partnered in the development of a fruit fly free zone (FFFZ) in Makeni County
- Several counties that have strategic plans do not have an implementation framework; hence they implement projects that are not captured in the strategic plans nor the budget plans. Therefore, it is critical to proactively engage and encourage these counties to develop these plans in order to ensure that they undertake activities that have been captured in the County budgets and hence implementable
- When a county leadership, especially the legislature and executive are included and fully own a policymaking process, there are almost no hiccups in completion of development of the instrument.
- Digital Divide: The digital divide (levels of illiteracy on ICT related issues) among various age cohorts in the rural communities who are the majority members of VSLAs, has slowed down the roll-out of the digitization plan for VSLAs due to capacity concerns. Though with continuous capacity enhancement, it presents an opportunity for future engagement and as well a COVID-19 resilience mechanism.
- Adoption of Fees for Service (FFS): FFS is a relatively new sustainability model to the community agents and private service providers; hence it is gaining slow momentum. Though with more capacity building, most of the private service providers, agro-dealers and community agents, it presents another income source for all parties mentioned and as well facilitating activities within the respective VCs.
- Business to business partnerships among SI grant partners: There is emerging B2B model integration among the SI grant partners given their individual strengths along the market systems. This is critical in enhancing efficiency and effectiveness along the VCs. For instance, Awuoth CBO and Ayuko Young Women Group have a market collaboration arrangement where Ayuko Young provides ALV offtake services. Ayuko Young WG is very efficient in production activities while Awuoth CBO has grown ALV market relationships and aggregation system. In another case, Kobat Youth Group and Nyawara Feeds Mill have a facility sharing arrangement where Kobat Youth Group uses the fish feed mill technology to also process dairy products for their farmers. The BDS intervention is facilitating corresponding SOPs for the engagement processes.

14. FINANCIAL INFORMATION

[REDACTED]

Commented [EW1]: ERIN REDACT

ANNEX 1: SUCCESS STORY



SNAPSHOT Organic production and fair-trade of pineapples- the new gold in Western Kenya



Ten Senses workers using a decoring machine purchased through co-investment with KCDMS.

Photo: Boniface Musembi- KCDMS

“Ten Senses has been training me on organic pineapple production technology and continuously inspecting my farm. They buy my fresh pineapple at KES 40 per kg (60 percent more compared to the previous KES 25 per kilogram), and I am optimistic that my revenue will increase from US\$ 6,900 (KES 750,000) in 2020 to US\$ 36,801 (KES 4,000,000) by the end of 2022.”

— Stephen Onyango Obunga
A pineapple farmer in Homabay County

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

Organic fair-trade is an emerging production and marketing approach with limited adoption in Kenya. The slow uptake of the approach is due to the extensive promotion of the use of inorganic pesticides, herbicides, fertilizers, and exploitation of farmers and workers in the name of a liberalized economy. This can also be attributed to farmers' limited awareness of the advantages of organic fair-trade.

However, there does exist a few well-intentioned off-takers in this market niche to trigger organic fair-trade production and adoption. To receive organic production certification, farmers need to use a set of standards to keep soils, ecosystems, and the harvested produce healthy. Companies are required to promote ethical and sustainable production systems and pay sustainable prices.

Despite the benefits of organic fair-trade, smallholder farmers in Western Kenya had limited access to extension services and appropriate outgrowers management systems required for the internal control for an organic system. In addition, the farmers were not in an organized production system for certification until Ten Senses and KCDMS appeared on the scene.

Ten Senses Ltd. introduced organically produced pineapples as an alternative cash crop and source of income for households and created new opportunities for employment in the production and marketing of planting materials. To expand the production capacity of organically produced pineapples for export fair-trade markets, KCDMS partnered with Ten Senses Ltd. in 2019. KCDMS co-invested US\$ 162,336 (KES 17,644,545) with a matching investment from the company. In 2020, the fresh pineapple and suckers' sales were valued at US\$ 88,323 (KES 9.6 million), earning US\$ 64,402 (KES 7 million) to the contracted farmers.

The co-investment with KCDMS enabled Ten Senses to install a set of slicers, decoring machine, de-crowner, container drier, and packing line for increased capacity and improved process automation. Through the upgrade, the company increased its processing capacity from 400 kilograms per day to five tons of fresh fruits per day and increased their weekly production capacity of dried produce from 50 kilograms to an average of 1.2 MT of dried pineapple fruits.

To supply this increased efficiency and capacity of its systems, Ten Senses Africa has increased contracted smallholder farmers from 100 in 2018 to the current 571 in 2021. The company has trained and facilitated the certification of the contracted farmers to produce organic and fair-trade pineapple for the USA and EU markets. The company estimates that their certified farmers in the region will produce a yield of 14,000 MT of pineapples, up from 1,000 MT harvested in 2020. They are expecting a revenue of US\$ 4.9 million by 2022, up from the US\$ 350,000 that was realized in 2020, with a corresponding a ten-to-fourteen-fold increase in household incomes.

Feed the Future Kenya Crops and Dairy Market Systems Activity (KCDMS) • Snapshot • October 2021

ANNEX 2: GPS DATA FOR FIELD ACTIVITIES

[REDACTED]

ANNEX 3: SUMMARY OF POLICY ACTIVITIES BY REGION, COUNTY, AND CROSS-COUNTY

[REDACTED]

ANNEX 4: ENVIRONMENTAL MITIGATION AND MONITORING REPORT

Environmental Compliance Monitoring and Reporting

KCDMS continued implementing the EMMP developed at the inception of the activity with revisions done during FY 2020. The plan highlights potential environmental risks posed by the project activities, proposed mitigation measures, and a monitoring and implementation plan. All USAID environmental compliance requirements laid down in the project Environmental Mitigation & Monitoring Plan (EMMP) and PERSUAP guidelines were complied with, ensuring no significant impact on the environment from the activity implementation.

PERSUAP compliance efforts took center stage during the reporting period through training on environmental compliance and dissemination of PERSUAP guidelines to KCDMS grant & non-grant partners. KCDMS developed PERSUAP training module and facilitated training sessions in venues across eleven KCDMS Counties. A total of 262 staff members drawn from 189 grant partners were trained. Furthermore, KCDMS trained twenty (20) KCDMS and ten (10) county governments technical staff. The two-day training aimed at raising awareness on environmental management, compliance requirements and safer & effective use of pesticides with a view of strengthening the capacity of KCDMS partners on systematic environmental management. The training focuses on the following modules:

- Key environmental issues under KCDMS activity (Environmental themes under KCDMS)
- Introduction to climate-smart agriculture and cleaner production technologies
- Introduction to USAID environmental procedures
- Pesticide evaluation report and safer use action plan (PERSAUP) guidelines, permitted & rejected pesticides list, safer use principles & practices.
- Principles of IPM
- Environmental compliance monitoring and reporting

To Strengthen monitoring of EMMP and integrate into the KCDMS M&E system, KCDMS data collection tools were revised during the reporting period. This will ease tracking of environmental compliance indicators and implementation of EMMP. Moreover, pre-award environmental review checklist was reviewed to conform with specific environmental compliance requirements of different categories of grant partners. During the reporting period, PIF grant contract form was amended to incorporate a clause that obligates grant partners to observe and comply with environmental procedures.

Monitoring of environmental compliance continued In Y4 under review with both internal and third-party monitoring activities being conducted. KCDMS team participated in a Third-Party Monitoring exercise conducted by USAID Mission through the MSP team. This monitoring exercise focused on the assessment of environmental compliance levels of KCDMS activities. The evaluation targeted 26 sampled KCDMS beneficiaries across six counties (Homabay, Migori, Kisii, Busia, Kakamega, and Bungoma) of Nyanza and the Western region. County government representatives also participated in this assessment. KCDMS will utilize this assessment's findings to enhance environmental compliance in its activities. Internally, routine monitoring continued with over (50) fifty grant partners visited. Priority was accorded to grant partners involved in agrochemicals and agro-processing, and whose activities are considered to have potential risk to the environment. An environmental review checklist developed earlier by KCDMS was used to assess environmental compliance of the sampled partners. Waste management, environmental protection /conservation, occupational safety, safer use of pesticides and compliance with environmental regulatory bodies were the main areas of focus. No major noncompliance was reported during the monitoring visits.

During FY 2021, KCDMS activity in collaboration with KEPHIS and AAK through CropCare, continued to promote safer use of pesticides through adoption of the SSP model. To date, 592 SSPs have been trained with 392 trained in this reporting period. The training focused on Pest Free Area (PFA) concept, PERSUAP guidelines and functional skills. The SSPs across KCDMS counties of influence are effectively growing into sustainable microenterprises equipped to offer IPM services to farmers. To further enhance environmental compliance, KCDMS will focus on training all SSPs on PERSUAP guidelines during FY 2022.

KCDMS activity continued to engage county governments in the implementation of EMMP. A consultative meeting with Migori and Siaya County Departments of Environment was held to provide inputs for various county environment policy instruments being developed. Additionally, KCDMS held environmental compliance sensitization sessions with Homabay and Migori County government representatives during the county partnerships planning meetings. In Migori County, KCDMS supported the development of the County Food Safety Policy. Policy sensitization forums for members of the County Assembly and county technical staff were conducted. Policy validation meeting by the County Assembly Agriculture and Trade Committee on Food safety Policy was done through KCDMS support.

The project continued working closely with the environmental regulatory bodies such as NEMA, KEPHIS, PCPB, HCD, KVB and KBD among others to support project grantees in compliance with the requisite environmental policies and regulations. Creamy-ways Enterprises and Vihiga Dairies in Busia and Vihiga Counties, respectively were linked with NEMA to acquire an environmental compliance license for their milk processing premise. In addition, KCDMS worked with KEPHIS to support training and initiate certification process for three fruit nurseries. KCDMS supported Western Fresh Industries (WEFI) and Osiepe to acquire KEBS certification for their dairy meal and milk products, respectively.

Climate change is expected to greatly increase the risk of aflatoxin contamination in tropical and sub-tropical regions of Africa. Therefore, in partnership with market actors, there is an urgent need to devise and apply novel methods to complement GAP and mitigate aflatoxin contamination in the feed, maize, and milk VCs. Also, creation of awareness on aflatoxin management through training of farmers and other stakeholders and enforcement of regular surveillance of aflatoxin in food and feed chains are recommended strategies. KCDMS commenced aflatoxin mitigation through use of aflasafe in the production of feeds raw materials and testing of outsourced raw materials at entry with WEFI Industries, and milk testing and fodder testing with Nuru Social Enterprise. KCDMS will undertake private sector-led rapid assessment to inform on evidence based future interventions.

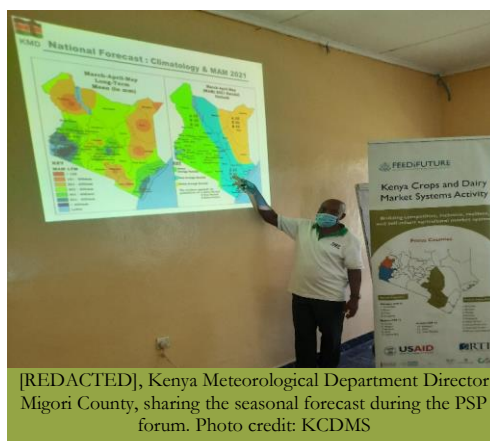
NATURAL RESOURCE MANAGEMENT AND CLIMATE CHANGE

KCDMS continues to address climate and environmental risks that might undermine systemic change as part of a sustainability strategy. To support this endeavor, KCDMS continued to integrate natural resources management initiatives through promotion of Climate Smart Agriculture and cleaner production technologies. KCDMS continued to monitor the four climate & Conservation Smart Agriculture (CCSA) indicators developed and integrated into the primary performance indicators by the project last year. These annual indicators appreciate the renewed effort to mainstream climate resilience by the FTF initiative.

The table below illustrates the CCSA indicators' progress during this reporting period (PY 4).

#	CCSA Indicators: Disaggregated KCDMS Indicators	Q4 2021 results
1	Number of smallholder farmers (with improved resilience) using climate-smart technologies and management practices introduced by KCDMS as a result of USG assistance	42,389
2	Number of firms adopting and or promoting climate-smart technologies with USG assistance	99
3	Number of laws, policies, regulations, or standards addressing climate change adaptation formally	10
4	Amount of investment mobilized (in US\$) for climate change adaptation as supported by USG assistance	\$991,083

During Y4 KCDMS continued to address climate change and environmental risks that might undermine systemic change as part of a sustainability strategy. To support this effort, KCDMS co-sponsored a Participatory Scenario Planning (PSP) forum for Migori County with the County Department of Agriculture. The platform, also referred to as the climate outlook forum, brought together the Kenya Meteorological Department, County government Departments of Agriculture, Livestock & Water, community representatives, and private sector actors from Migori County. The event focused on sharing the long rain (March – April – May) seasonal weather forecast and translating it into actionable and locally relevant information. Collectively, the stakeholders discussed the down-scaled seasonal forecast for Migori County, reviewed the past season, and the status of risk, food, and livelihood security to feed into the translation of the forecast into future scenarios and advisories for action. Seasonal advisories were developed and disseminated. The County leveraged on the radio programs on Mayienga and Togotane FM to disseminate this information for informed seasonal decisions on county sector plans, agriculture market system actors, and farmer level actions.



[REDACTED], Kenya Meteorological Department Director Migori County, sharing the seasonal forecast during the PSP forum. Photo credit: KCDMS

Integrated pest management: During Y4, KCDMS continued to partner with five IPM technology suppliers (Farmtrack, Kenya Biologics, Real IPM, Faina Innovations, and Ifarmkconnect) and two mango cooperatives (Makueni County Fruit Processors and Makueni Value Chain Investment Cooperatives) to expand distribution in Makueni County. In FY 2021, 19,362 (cumulative 47,334) farmers have been exposed to new technologies such as Bactrolure, Torulla bait, False Codling Moth (FCM) lure, Bactrocera mania, torulla bait B, Bactrocera-block-fruit fly bait station, Fruit fly mania, and Solar bag. A total of 194, 838 assorted traps were sold during the reporting period. Through the FFZ campaign, farmers continued to access a wide range of IPM technologies through local agro-dealers, village-based agents, SSPs, and cooperatives. In collaboration with IPM technology providers, mango cooperatives established additional 34 demo sites above the already existing 155 Side by side technology demonstrations. These are helping farmers to understand the comparative benefits of different IPM approaches. In Western and Nyanza Counties such as Bungoma and Kisii, 106 farmers were trained on IPM technologies specifically the use of Flytraps (a pheromone-treated trap) to control fruit-fly in avocado and mango orchards.

Promotion of cleaner production technologies: KCDMS continued to support the adoption of resource-efficient and cleaner production technologies. Nuru Social Enterprises and Osiepe Practical Action have adopted steam boilers for clean energy production utilizing waste products. The two companies have realized cost reduction in milk pasteurization by over 50 percent. Nuru continued to utilize solar pre-milk chillers to enhance milk quality during milk transportation from their collection centers. Increased adoption of solar vegetable driers was reported by KCDMS grant partners such as Awuoth Widows in Kisumu embracing this technology. Best Tropical Fruits Ltd. continued to produce briquettes from mango and avocado seeds waste generated from the factory. The factory is also generating biofuel from the fruit peels to provide lighting in the factory. Training on Cleaner Production (CP) technologies to 262 staff members from 189 grant partners, 20 KCDMS technical staff and ten county government staff was conducted during the reporting period.

KCDMS continued to promote irrigation technologies in the ZOI counties as a necessity to ensure high fruits and vegetable yields and a favorable fruit size distribution. Most farmers in SA2 region (Makueni and Kitui Counties) deploy puddle irrigation system. Mostly farmers use surface irrigation method which includes water being pumped from a certain source of river into the area to be irrigated or water collected as run off during rainy seasons. Some farmers have adopted furrow irrigation. Within the certified Export Trade Zones (CETZ), some farms like Antennae are piloting floppy irrigation system while some are

promoting the use of solar irrigation systems, e.g., ARDAP.

Promotion of solar dryers: This is a basic box-type low-cost solar dryer made of wire-mesh trays in a wooden framework surrounded by a clear plastic sheet. Various grantees i.e., Mucho Mangoes, Sweet and Dry, etc., have promoted this technology in SA2 region, and Awuoth widows in Kisumu.

Solar cold chain storage: Soko Fresh, a partner on FFFZ offers affordable cold storage services to Kenyan farmers and farmer-agents. The company has developed two cold-storage facilities with a capacity of 6,000 kgs each. Storage is offered as a service and based on payment per kg stored. This pricing model makes cold storage accessible for both farmers and aggregators. Miyonga Fresh and Gradale were supported to acquire mobile solar storage and InspiraFarm model solar storage, respectively. This has seen them increase raw material uptake. KIMAHO, an open-air traders association is in the process of acquiring solar powered cold storage with a capacity to carry [REDACTED] MT on a rolling basis. KCDMS through Supreme Global Cares continue to support producer organizations with cold chain infrastructure for semen preservation and with maintenance of cold chain hubs created in year 2 and 3 by GenePlus

Increasing farmer resilience through increased vegetative cover: KCDMS, working with the various grant partners, has continued promoting improved planting materials. To date, more farmers have planted improved varieties of fodder, mango, sweet potatoes, ALV, passion fruits, bananas, and avocados, significantly increasing vegetation cover to a cumulative Total of about 40,000 acres

Hermetic Storage Technology (HST): KCDMS activity continues to support adoption of HST technology to minimize postharvest losses. Over the past year, Transglobal Distributors Ltd. (TGDL) increased the distributorship of HST bags through a total of 405 agro-dealers across the 12 target counties. TGDL continued training farmers on the effective use of AgroZ bags as a safe and cost-effective solution to store grains and pulses without using pesticides. During the reporting period, TGDL sold a total of [REDACTED] bags worth KES. [REDACTED] and cumulatively [REDACTED] bags have been sold since the start of KCDMS activity.

LESSONS LEARNED

- There is a need to enhance partnerships with other county led programs such as Kenya Climate Smart Agriculture Program (KSCAP) and NARIGP, and EU-IDEAS for more consolidated gains.
- To enhance compliance with PERSUAP guidelines at the farm level, training of all SSPs and VBAs on PERSUAP need to be prioritized.
- It is necessary to conduct annual refresher trainings on PERSUAP guidelines to KCDMS partners.
- There is need to identify and retrain environmental champions amongst the KCDMS technical staff to spearhead environmental compliance and natural resources management in the three KCDMS regions.
- Continuous engagement at the county level is necessary to facilitate environmental compliance, food safety, and Climate change policies.

EMMR TABLE FOR KCDMS ACTIVITIES**October 2020 to September 2021**

Project/Activity/Sub-Activity	Mitigation Measure(s)	Summary Field Monitoring/Issues/Resolution (i.e. monitoring dates, observations, issues identified and resolved)	Outstanding Issues and proposed resolutions
Activity 1: 3.2 Agricultural Productivity at Farm Household-Level, including Market Access.			
Concerns improved post-harvest handling and processing (3.2.2) and increased production in dairy, horticulture, and staple crops (3.2.4).			
	Train KCDMS technical team and key partners on resource-efficient and cleaner production.	Training of KCDMS technical staff on cleaner production technologies has been ongoing during year 4 with 20 technical staff trained.	Refresher trainings will continue through quarter 1 of the 5 th year.
	Enforcement of minimum standards for post-harvest handling and processing for PIF beneficiaries.	KCDMS continued supporting PIF beneficiaries to achieve post-harvest handling and processing minimum standards through linkages and collaboration with environmental regulatory bodies such as NEMA, KEPHIS, PCPB, HCD, KVB, and KDB. Dairy processing companies, such as Vihiga dairy were linked with NEMA for capacity building and renewal of Environmental compliance license. Nuru Social Enterprises and Osiepe Practical Action, were supported by KDB to strengthen internal quality control and assurance procedures.	KCDMS will continue to support partners to enhance their capacity to strengthen their internal quality assurance procedures & policies. PIF beneficiaries will also be supported to comply with requisite environmental laws and regulations
	Incorporate Cleaner Production (CP) approaches into BDS	KCDMS continued to support the adoption of resource-efficient and cleaner production technologies. 262 staff from 189 grant partners from 11 out twelve (12) KCDMS Counties were trained on Cleaner Production technologies. The session on Cleaner Production was covered as part of environmental compliance and PERSUAP training conducted during the reporting period.	KCDMS to continue working with the agro-processors to support B2B linkages to offer financing options for enhanced cleaner production approaches.
	Promote production practices that incorporate natural resources management.	KCDMS continued to integrate conservation and climate-smart practices and technologies into all its activities with indicators to track progress. Other best practices promoted include IPM and hermetic storage technology. Integration of natural resources management session was	This activity will be ongoing through year 5.

Project/Activity/Sub-Activity	Mitigation Measure(s)	Summary Field Monitoring/Issues/Resolution (i.e. monitoring dates, observations, issues identified and resolved)	Outstanding Issues and proposed resolutions
		also covered during the environmental compliance and PERSUAP training conducted during year 4. 262 grant partners' staff were trained	
	Conduct PERSUAP training with any grant partner likely to sell or promote pesticides.	Training of KCDMS partners on PERSUAP guidelines and environmental compliance was conducted during the reporting period with 262 staff from 189 grant partners taken through the two days training. So far, all grant partners from eleven (11) out of 12 KCDMS Counties have been trained.	The focus during year 5 will be monitoring of PERSUAP guidelines compliance and refresher trainings on need basis. Cascading of PERSUAP guidelines training to VBAs & SSPs will also continue through year
Activity 2: 3.3 Government Capacity Support, Development, and Studies Concerns TA for national policy, regulatory, strategy development, and reform for LED and GCC (3.3.1)			
	Capacity building for county governments, including training to identify and address potential adverse environmental and social impacts of their agriculture investments. Support domestication of policies to adhere to national policy requirements during the design phase. PERSUAP training will be provided where applicable.	KCDMS continued to engage county governments in the implementation of EMMP. During the reporting period, KCDMS held a consultative session with Migori & Siaya County departments of environment to provide inputs for the County environment policy instruments which are being developed. KCDMS supported engagement between County Governments of Makeni & Taita Taveta and KDB to Cascade National Dairy strategy to the Counties. KCDMS in collaboration with Busia County hosted a Climate Smart Agriculture Multi-Sectoral Stakeholders Forum	PERSUAP refresher training to county government departments and other non-grant partners will continue through Q1 of Y5.
Activity 3: 3.4 Agricultural Competitiveness and Trade Concerns support to improve market infrastructure (3.4.1); extension and demonstration of technologies and best practices to improve productivity (3.4.2); and build capacity and facilitate linkages with private agricultural and dairy extension services (3.4.3).			
	Require partners to conduct an environmental assessment of any physical infrastructure investment	Physical structures are not funded under KCDMS. However, awareness creation on the need for compliance by market actors is ongoing.	Awareness creation will continue through year 5.
	Promote production practices that incorporate natural resources management and IPM.	KCDMS is integrating conservation and climate-smart practices and technologies in all its activities with indicators to track progress. Other best practices	Ongoing activity

Project/Activity/Sub-Activity	Mitigation Measure(s)	Summary Field Monitoring/Issues/Resolution (i.e. monitoring dates, observations, issues identified and resolved)	Outstanding Issues and proposed resolutions
		<p>promoted include IPM and HST technology. During year 4, K,CDMS partnered with 5 IPM technologies' suppliers (Farmtrack Kenya Biologics, Real IPM, Faina Innovations and Ifarmkconnect) to expand distribution in Makueni County. 47,334 farmers (19362 new this year) have been exposed to new technologies such as Bactrolure, Torulla bait, False Codling Moth (FCM) lure, Bactrocella Mania, Torulla Bait B, Bactrocera-Block-Fruit fly bait station, Fruit Fly Mania, and Solar Bag. A total of 194,838 traps and 19,0556 solar bags were sold during year 4. Furthermore, environmental compliance & PERSUAP training covered a session on IPM. 262 grant partners staff were trained during this reporting period.</p>	
	Conduct assessments of any new crop or species before introducing them to a new AEZ.	No new crop species or breed has been introduced through KCDMS related interventions	
	Promote sustainable soil health interventions.	KCDMS continues to promote sustainable soil health interventions through soil testing and correction, including capacity building on soil nutrition and conservation agriculture.	Interventions are ongoing
	Train partners on the risks of pesticides. Disseminate the revised (KAVES) PERSUAP and follow the Safe Use Recommendations laid out in the report	The 282 KCDMS grants partners' staff trained on PERSUAP guidelines also received the PERSUAP documents for reference and application.	Grantees monitoring to ensure PERSUAP guidelines compliance to continue through year 5.
	Ensure that training and organizational capacity integrate and promote ecological health and safety.	KCDMS is working with partners to ensure the integration of environmental and health/safety considerations in all capacity-building initiatives. During PERSUAP training for grant partners, ecological health & safety, among other environmental compliance requirements were also covered.	Ongoing activity

Project/Activity/Sub-Activity	Mitigation Measure(s)	Summary Field Monitoring/Issues/Resolution (i.e. monitoring dates, observations, issues identified and resolved)	Outstanding Issues and proposed resolutions
Activity 4: 3.9 Financial Sector Support Concerns improved financial services (3.9.1); promotion of innovative financial instruments (3.9.3); and support of financial sector reform (3.9.4).			
	Ensure that partner FIs integrate the EMMP checklist for market actors	Potential project grant partners are screened for environment compliance using an environment review checklist tool developed by the project. The checklist was reviewed during this reporting period. During PERSUAP training which also targeted access to finance grant partners, EMMP integration was also covered.	KCDMS will continue to monitor environmental compliance of all grant partners, including partner FIs.
ACTIVITY 5: 3.10 Infrastructure Concerns small scale rehabilitation/retrofitting or new construction (3.10.1)			
	KCDMS does not directly support construction. However, the grant 'partner's construction works must comply with requisite NEMA requirements.	KCDMS continued with awareness creation on the need for partners to comply with existing environmental policies and regulations. Compliance with government environmental laws & policies formed one of the sessions covered during the PERSUAP and environmental compliance training.	KCDMS will continue with awareness creation and support to grant partners to comply with environmental policies and regulations
Activity 6: 3.11 Support to Household Food Security and Resilience Regulatory reform to increase agricultural production and food security (3.11.4).			
	Policy support will include training to identify and address adverse environmental and social impacts of grant 'partners' investment proposals that adhere to the national policy on food security.	KCDMS EMMP implementation is done in consultation with county governments and other relevant stakeholders.	Continues collaboration with County governments and other market actors in implementation of EMMP will continue through year 5.
Activity 7: 3.12 Aflatoxin Control Concerning financial and technical support to Partnership for Aflatoxin Control In Africa (PACA) (3.12.1); development and promotion of agricultural BMPs (3.12.2); and development, manufacture, and use of bio-pesticide products (3.12.3).			
	Integrate comprehensive training for grant partners that address environmental health and safety. Minimizes aflatoxin risks and supports improved quality control	KCDMS continued to engage with HST actors to integrate environmental considerations into HST products. Promote GAPs and post-harvest handling &	Promotion of GAP and PHH technologies to continue. KCDMS will continue support aflatoxins

Project/Activity/Sub-Activity	Mitigation Measure(s)	Summary Field Monitoring/Issues/Resolution (i.e. monitoring dates, observations, issues identified and resolved)	Outstanding Issues and proposed resolutions
	standards. Conduct assessments of any new technologies developed. Train partners on PERSUAP.	management, including promotion of safe animal feed manufacturing practices. KCDMS through WEFI in partnership with other market actors is promoting use of Aflasafe to control aflatoxins in cereals. 262 Grant's partners staff have been trained on environmental compliance & PERSUAP during the quarter	control in year 5. PERSUAP guidelines compliance to continue in year 5.

Additional Comments

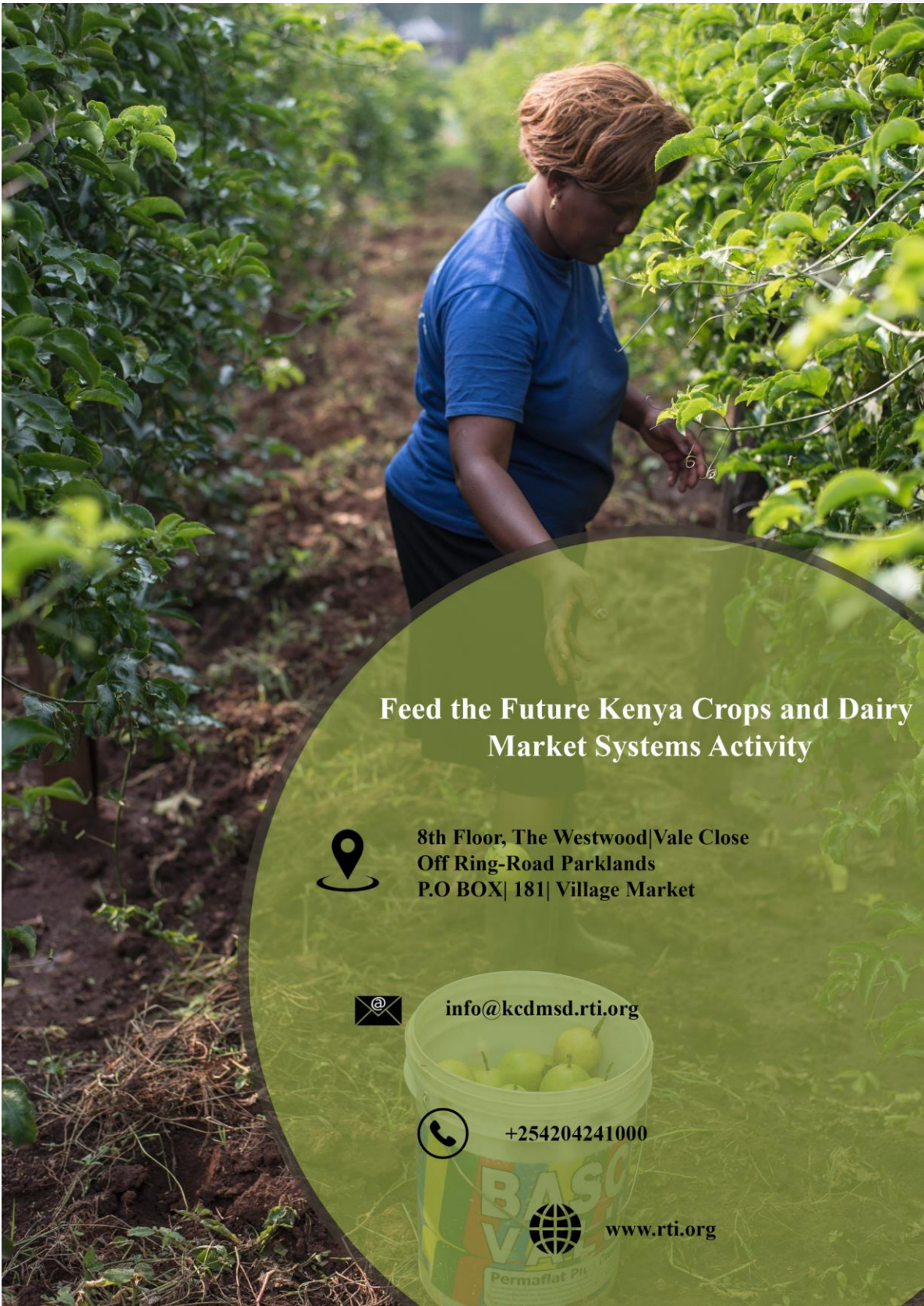
KCDMS will prioritize monitoring of grant partners for environmental compliance as the project enters the final year of implementation. Cascading of PERSUAP guidelines training to VBAs and SSPs will also be critical to ensure safer use practices are sustained as the project comes to an end.

ANNEX 5: FY 2021 PROGRESS AGAINST ANNUAL WORK PLAN

[REDACTED]

ANNEX 6: ACTIVE GRANTS PERFORMANCE AGAINST KEY INDICATOR TARGETS AS OF SEPTEMBER 2021

[REDACTED]



Feed the Future Kenya Crops and Dairy Market Systems Activity



8th Floor, The Westwood|Vale Close
Off Ring-Road Parklands
P.O BOX| 181| Village Market



info@kcdmsd.rti.org



+254204241000



www.rti.org

Permaflat Plt