



USDA/Land O'Lakes
International Development
Kenya Semi-Arid Livestock Enhancement
Support Project (K-SALES)

Impact Report

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CONTEXT



Kenya's Livestock Industry

Kenya's livestock sector provides income and employment for millions of people. Among the four agricultural sub-sectors: industrial crops, food crops, horticulture, and livestock and fisheries, livestock is the fastest growing sector in Kenya, generating \$3.9 billion in sales, and representing 12 percent of the nation's KSh.7 trillion (\$70 billion) Gross Domestic Product (GDP). The sector's growth is largely due to the current trend of increased meat consumption, which is closely linked to rising incomes and changing lifestyles of Kenyans. The sector thus accounts for up to 40 percent of Kenya's agriculture sector.¹

However, increasing droughts and unreliable rainfall patterns have made livestock producers and rural communities more food insecure resulting in huge losses of livestock in the country's arid and semi-arid regions.

¹ Kenya Economic Survey 2017 and IMF World Economic Outlook 2016



40%

Approximate percentage that the livestock sector accounts for in Kenya's agriculture sector.



\$3.9 BILLION

Amount generated from livestock sales in Kenya representing 12 percent of the nation's KSh.7 trillion (\$74.7 billion) GDP.



In addition, rural areas lack access to modern processing and supporting infrastructure, including electricity. Slow adoption of modern processing techniques has also increased food insecurity among livestock-producing communities in Kenya.

Why Focus on Kenya's Arid and Semi-Arid Lands?

Kenya's Arid and Semi-Arid Lands (ASALs) make up 84 percent of Kenya's total land surface. Characterized by low and erratic rainfall, these regions support about 8 million Kenyans (20 percent of the population). ASALs are home to some of the poorest segments of the population, which are highly vulnerable to drought, among other environmental challenges.

Despite these challenges, over 70 percent of all livestock in Kenya is found in the ASAL areas. The sector employs more than 90 percent of the local population.² The economy here is dominated by agro-pastoralism, with a more mixed economy prevailing in the better-watered and better-serviced areas. With unreliable access to water, cyclical drought, high prevalence of livestock diseases, and limited access to inputs and services, agro-pastoralists living here struggle to survive.

By focusing in Kenya's Semi-Arid Zone 2, the Kenya Semi-Arid Livestock Enhancement Support (K-SALES) project aimed to help vulnerable communities here sustain their livelihoods and sustainably expand their incomes through increased trade both within and outside of the ASAL regions.

² Njarui D M G, Gichangi E M, Gatheru M, Nyambati E M, Ondiko C N, Njunie M N, Ndungu-Magiroi K W, Kiiya W W, Kute C A O and Ayako W 2016: A comparative analysis of livestock farming in smallholder mixed crop-livestock systems in Kenya.



The purpose of this report

This report highlights the impact of the \$20 million Food For Progress initiative, which targeted the beef, sheep and goat meat value chains. The data and results draw upon information comparing the project baseline with the final evaluation and project monitoring data.

ABOUT LAND O'LAKES INTERNATIONAL DEVELOPMENT

Land O'Lakes International Development is a 501(c)(3) nonprofit helping communities around the world build economies by strengthening agriculture from farm-to-fork, helping businesses grow and linking farmers to markets. Since our start in 1981, we have been leveraging nearly 100 years of expertise in dairy, animal nutrition, crop inputs and agricultural insights from our affiliate, Land O'Lakes, Inc., a farmer-owned agribusiness committed to fulfilling its purpose of feeding human progress.

We use our practical experience and in-depth knowledge to facilitate market-driven business solutions that generate economic growth, improve health and nutrition and alleviate poverty. We believe in the value of people and ensuring our work is rooted in honesty, integrity and respect. For nearly 40 years, we have unlocked the potential of agriculture around the world through nearly 300 programs in more than 80 countries. Funded primarily by USAID, USDA and the Gates Foundation, our programs not only improve production and food security for small farming operations, but they also foster innovation and market linkages, and strengthen the private sector. Ultimately, they make small and growing enterprises in developing countries more attractive for investment, and build consumer demand for agricultural products produced by smallholders.



OVERVIEW

K-SALES

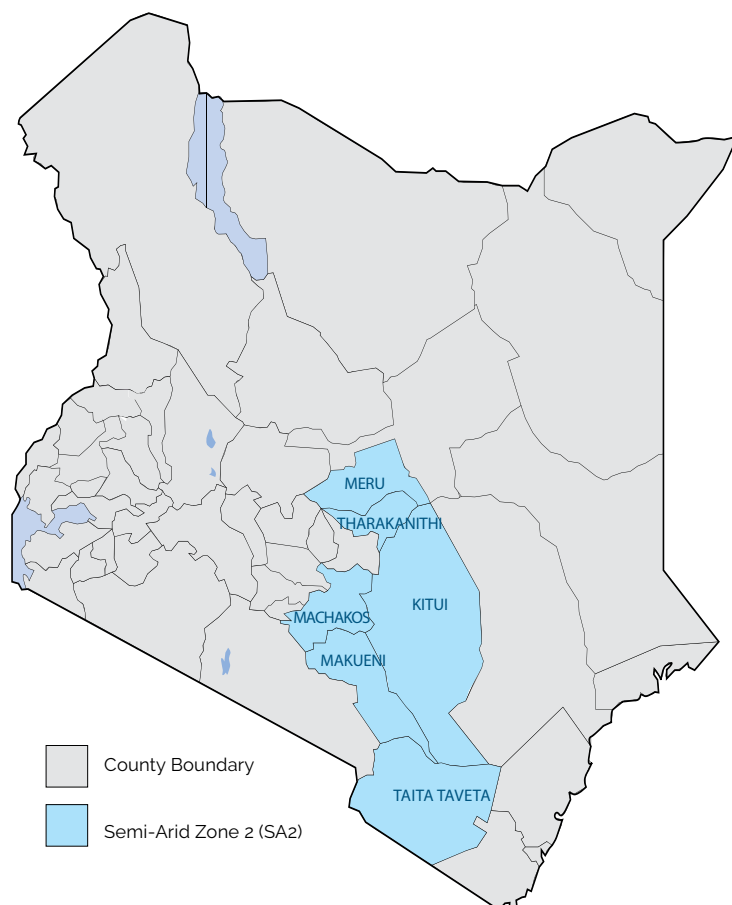
Implemented from October 2013 to December 2017, the project contributed to the U.S. government's Feed the Future (FtF) initiative.³

K-SALES aimed to expand trade and increase production of the livestock value chain in six counties, including: Meru, Tharaka Nithi, Machakos, Kitui, Makueni, and Taita Taveta Counties, which comprise Semi-Arid Zone 2 (SA2) in Kenya.

Strategic approach

Land O'Lakes International Development utilized a "light touch approach" to build the capacity of Local Implementing Partners (LIPs) and livestock service providers to help foster sustainability with the project's eventual exit in mind. These implementers were identified and selected under a **\$6 million**

³ Feed the Future is a whole of government initiative that includes USDA-funded projects. The U.S. Government selected these counties as a priority zone under its Feed the Future Strategic Analysis due to rampant rural poverty, food insecurity and under-nutrition in these areas. Households here earn the lowest income among Kenya's agricultural regions. SA2 contains the second-highest poverty density in the country.



competitive sub-grant component, through which the project mobilized 35 LIPs and private sector actors along the value chain. By targeting key value chain points and providing the competitive sub-awards to firms and local NGOs, K-SALES applied a demand-driven, private sector-facilitative approach to help businesses grow and build linkages with livestock smallholders.

Project activities and impact

Land O'Lakes International Development also worked with industry leaders and private business service providers (BSPs) to increase producer and processor capacity in providing quality animals, hygienic quality meats, hides and skins. These activities were aimed at delivering the two-fold project mandate to:

- Increase productivity in the live animal, meat and non-meat value chains, and
- Increase and expand market opportunities in the red meat livestock sector.

K-SALES also worked to stimulate and leverage public and private investment in on-farm and off-farm infrastructure⁴ and technologies. This was achieved through cost-share agreements identified through **competitive grant sub-awards**.

The project served **78,728 farmers** and **3,200 agribusinesses** including women-owned micro, small and medium enterprises (MSMEs), input wholesalers, retailers and exporters. K-SALES organized its activities along ten sub-components highlighted in the graphic below.

K-SALES Components

Component 1	Facilitate FFS
Component 2	Infrastructure: On-farm
Component 3	Increase Access to Clean Water Systems
Component 4	Post-harvest Handling and Processing
Component 5	Infrastructure: Off-farm
Component 6	Develop Business Service Providers
Component 7	Financial Services
Component 8	Facilitate Agricultural Lending
Component 9	Develop Cooperatives Business Capacity
Component 10	Livestock Trade Shows

⁴ K-SALES activities comprised both on-farm and off-farm interventions and infrastructure. On-farm interventions included the establishment of Farmer Field Schools (FFS) and installation of animal health infrastructure such as hay barns, cattle dips, vaccination crushes and water troughs, while off-farm refers to the establishment of livestock markets, slaughter-houses and slabs, among others.



\$20 MILLION

Amount of project funding through the Food for Progress program, funded by the USDA under the broader mandate of the U.S. government's Feed the Future presidential initiative.



78,728

Number of farmers, in **4,141** farmer field schools in Meru, Tharaka Nithi, Machakos, Kitui, Makueni, and Taita Taveta Counties, that K-SALES trained.

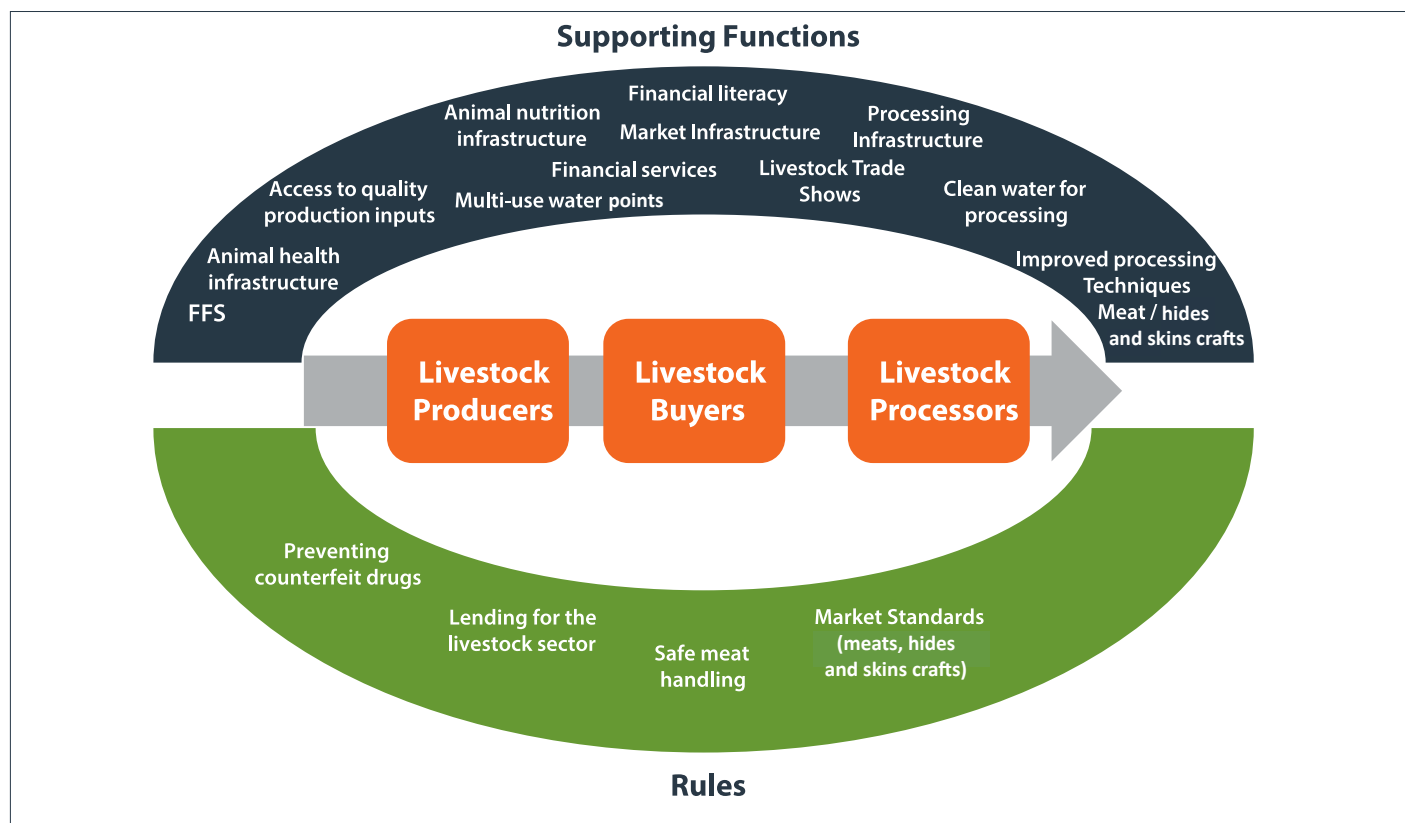
63%

Percentage of farmers who adopted better farm management practices and the adoption of modern livestock production techniques and technologies.

25.6%

Percentage increase in the number of farmers preserving fodder to ensure livestock survival during times of scarcity (from **55.1 percent** in 2014 to **80.7 percent** in 2017).

Graphic showing various points of the red meat livestock value chain in which K-SALES activities demonstrated impact.



Working with **Farmer Field Schools (FFS)** as a strategic entry point, the project emphasized several supporting functions illustrated on page 8 to improve production by livestock producers and enhance trade involving livestock buyers and processors.

These interventions with FFS members were aimed at reducing seasonal variability of production, improving livestock, meat, and by-product quality to meet domestic standards and for export-readiness, as well as reduce marketing inefficiencies.

Through the project's business development services approach, at least **57,907 households and enterprises** associated with the livestock value chain received financial literacy training and services.

K-SALES also played a pivotal role in revitalizing livestock trade shows,⁵ which helped boost trade in the sector, enhanced the dissemination and adoption of new technologies for production and marketing, and increased industry awareness of quality systems for competitiveness.

⁵ From 2014 – 2017, K-SALES held a total of 18 trade shows in the six counties. Each trade show was attended by approximately 600 participants.



\$39

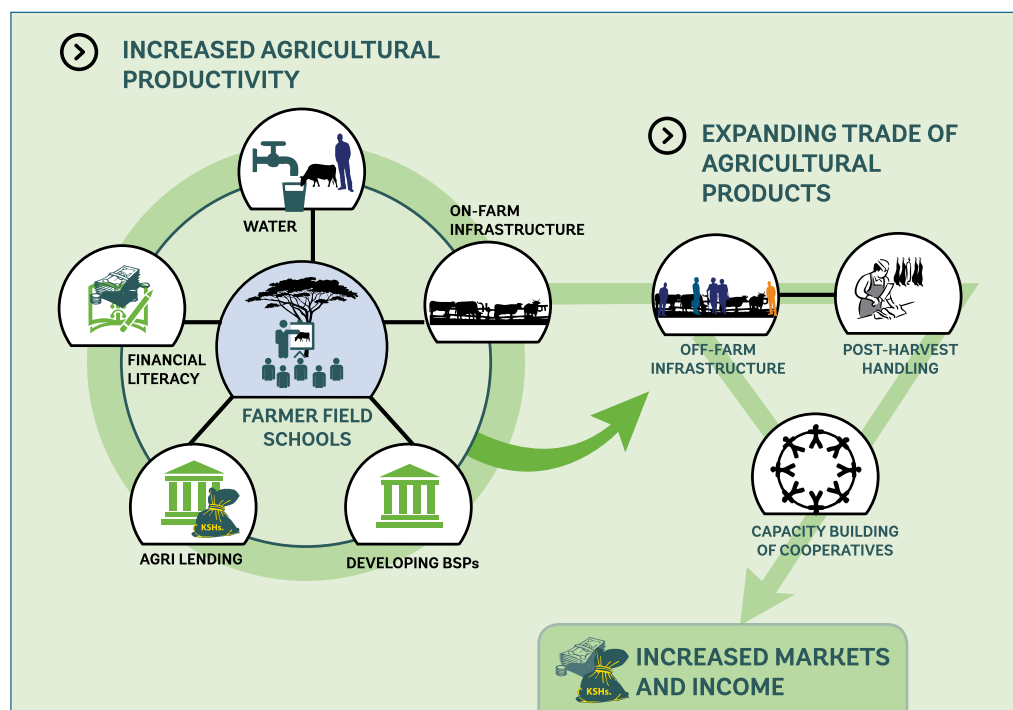
Increase in value of incremental sales per farmer from **\$347** in 2014 to **\$386** in 2017. This represents an 11 percent increase in annual income of targeted farmer households, due to improved production and increased production efficiency.



57,907

Number of households and enterprises associated with the livestock value chain that have received financial literacy training and services through the project's business development services approach.

K-SALES Supporting Functions



K-SALES Project Outputs

	TARGET	DECEMBER 2017
Number of farmers trained in improved agricultural techniques and technologies	60,000	78,728
Number of farmers and community members benefiting from new or rehabilitated community-based water points	189,000	239,232
Number of livestock enterprises linked to financial institutions	2,550	7,987
Value of agricultural and rural loans provided as a result of USDA assistance	\$200,000	\$558,359
Percentage of farmers participating in project interventions who have applied new techniques or technologies as a result of USDA assistance	80%	63%
Number of post-harvest handling and processing facility employees trained in sanitary standards	2,500	3,276
Percentage livestock enterprise using improved techniques to process livestock products as a result of USDA assistance	60%	72%

IMPACT BY THEMES



With activities and grants tailored to ensure gender-equality and environmental sustainability, K-SALES worked across the beef, sheep and goats meat value chains to increase trade by actors in the six counties.

1. Increased livestock production and productivity

Drought and livestock disease outbreaks pose two of the greatest threats for livestock farmers living in Kenya's Semi-Arid Zone 2. At the start of the project, most livestock farmers practiced traditional livestock production in which livestock were reared almost purely as socio-cultural assets and not for sale. Farmers were not organized for trade and livestock diseases were common. Only about 10 percent of livestock farmers in the target region had access to production infrastructure, such as hay barns, vaccination crushes and cattle dips. Drought-induced livestock deaths averaged 12.4 percent

per drought season with most farmers having to restock after every episode.

In order to help mitigate the potentially devastating impacts of drought and disease outbreaks on livestock-dependent communities, K-SALES worked through LIPs to engage farmers with FFS to promote knowledge of improved livestock production techniques and technologies. The project also linked the FFS groups with Business Service Providers (BSP) to increase access to quality inputs and services in animal nutrition, health and breeding. Interventions under this theme also involved working with farmers to improve access to water for domestic and livestock use.

By the end of December 2017, K-SALES had worked with **78,728 farmers** organized into **4,141 FFS** in the six counties. K-SALES trained the farmers on better farm management practices and the adoption of modern livestock production techniques and technologies. By the end of the project **63 percent**

of farmers working with the project had adopted these techniques with average Body Conditional Scores (BCS) increasing by between **0.3** and **0.6**.⁶

Over the same period, the number of **farmers preserving fodder increased from 55.1 percent in 2014 to 80.7 percent in 2017** with drought-induced livestock deaths recorded in the last drought season (September 2016 – March 2017) decreasing to less than five percent.

During the project, a severe drought caused an overall loss of cattle among livestock farmers in Kenya's Semi-Arid regions. Among non-participants in the K-SALES project surveyed, the number of cattle owned dropped from 3.5 at baseline to 2.6 at end-line. K-SALES participants were able to use resources and techniques learned during trainings to instead increase their cattle head from 2.3 to 2.7 on average. Considering the adverse conditions during the program, this increase shows improved resilience as well as increased productivity and buying power among K-SALES farmer participants.

Due to improved production and increased production efficiency, the value of incremental

sales per farmer increased from **\$347** in **2014** to **\$386** in **2017** in annual incomes of targeted farmer households.

Previously-unregistered BSPs have sought and obtained licenses to formalize their business entities. Overall, BSP activities to improve access to genuine and high-quality agro-veterinary products helped increase farmer production capacity and decrease production costs.

Through training and mentoring in business planning and management, financial management, marketing and customer services, the project developed the business capacity of 973 agricultural BSPs to deliver productivity-enhancing inputs and services. Input and service linkages were strengthened through county-level livestock trade shows, field day events and business-to-business forums involving BSPs, FFS farmers and agricultural input manufacturers and distributors. As a result, FFS farmers witnessed increased access to improved inputs and services. By December 2017, 46 percent of the farmers were within a five-kilometer radius of input supply sources, making livestock production inputs more

⁶ In 2013, the average BCS of livestock from this region was 2.7 for cattle and 2.8 for sheep and goats (shoats).



affordable as a result of the greatly reduced cost of transport. Women made up 66 percent of farmers within the five-kilometer radius of quality input supply.

K-SALES also worked to improve access to and reduce distance from clean water systems by rehabilitating water facilities. Shallow wells, boreholes, water storage tanks, small dams and pans (reservoirs created by excavating open ground to collect runoff) were rehabilitated in strategic areas close to FFS farmer participants. By the end of the project, K-SALES had established **229 community water points** and reached **over 239,232 direct and indirect livestock producers** in the target counties. This substantially surpassed the project target of 200 community water points and 189,000 beneficiaries. The establishment of water facilities closer to livestock-dependent households has increased access to clean water, significantly **reducing both distance and time travelled in search of water by about 50 percent.**

To ensure efficiency in the day-to-day use and maintenance of the community water points and to foster sustainability, K-SALES facilitated the formation, registration and training of **227 Water User Associations (WUAs)** (from some of the

existing FFS groups) and trained a total of **2,040 WUA members** on the sustainable management and operation of the water points.

Given the central role played by women in maintaining adequate water supply for livestock and domestic use, K-SALES facilitated the inclusion of women in the WUAs to ensure adequate representation. The project also linked WUA management committees to county governments, and suppliers of spare parts for water supply equipment. The water committees prepared and adopted by-laws which specified a **"Pay-As-You-Use" system** with set tariffs ranging from KSh.2 to KSh.5 for a 20-liter jerrican, compared to an average of Ksh.10 that was typically charged before the K-SALES intervention. Through this intervention, K-SALES created a total of **74 full-time jobs** for water kiosk attendants and plumbers.



Success Story: Access to Clean Water Secures Smallholder Farmer Livelihoods

Joyce Mwikali Makau, 55, is a resident of Kaliani Village, in Makueni County. Joyce, who has been a vegetable farmer all her adult life, is married to John Makau, who is also a farmer.

As a result of acute water scarcity in the region, Joyce has faced immense challenges through the years. With the nearest viable source of water being 12 kilometers away, Joyce had to endure a four-hour daily trek to access the precious commodity for domestic and farm use. The farm produce was barely enough for her family of nine, let alone for sale, and life was tough.

In 2016, K-SALES partnered with the Anglican Development Services-Eastern (ADS-E) - formerly Ukamba Christian Community Services (UCCS) to rehabilitate the dilapidated Munyenze borehole in the area as one of over 200 community water points to be rehabilitated under the project.

In partnership with ADS, K-SALES removed the old, broken-down pump from the borehole and in its place, installed a submersible solar-powered pump and solar panels to keep running costs at a minimum. With the borehole up and running, area residents have reliable access to clean water for both crop and livestock farming, as well as for domestic use.

Joyce's 13 goats and three cows are now also in better health thanks to a new livestock watering trough constructed at the borehole site.

For Joyce, the functioning borehole has dramatically cut the distance to access a clean water source to two kilometers. This is a manageable 30 minute-walk.

Her 13 goats and three cows are now in much better health, thanks to a new livestock watering trough constructed at the borehole site as part of the project.

Going by the state of her vegetable farm, which is now flourishing with kale, spinach, onions, and amaranth, this seeming simple intervention heralds a new day for Joyce and her family.

Now, apart from having enough vegetables with which to keep her family nourished, Joyce also earns Kshs.350 every day from her farm, which she uses to provide for the family.

ADS and K-SALES also worked together to help establish and build the capacity of county Water User Associations in book keeping, project management, and leadership and management skills. These associations were established from K-SALES facilitated FFS.

Members also received training on administration, management and maintenance of the water facility, which is kept secure by a barbed wire fence installed as part of the rehabilitation. The site also boasts a water kiosk with a 10m³ storage tank.

Among the more than 1,000 users benefitting from the refurbished water point are members of Indooni Livestock Trading Cooperative, formed from an FFS established through the K-SALES project. Reliable access to clean water has thus not only boosted productivity and livelihoods here, but has also precipitated better organization of livestock farmers and enhanced trade.



2. Expanded trade of livestock and livestock products

Limited access to markets is one of the key challenges facing smallholder livestock producers in Kenya. Producers are constrained by high transportation costs, low farm-gate prices, low business capacity of farmer groups and unsuitable financial products.

K-SALES developed the business capacity of livestock cooperatives, rehabilitated local livestock markets and processing facilities, improved post-harvest handling and processing (including increased value-addition to livestock products), and facilitated increased access to financial services.

Farmer-owned cooperatives are an effective way for farmers to aggregate their product and access markets. In partnership with the Ministry of Industrialization, Trade and Cooperatives, K-SALES helped take this one step further by facilitating formal registration of livestock marketing cooperatives.

By project close, K-SALES had facilitated the formal registration of **56 livestock marketing cooperatives**, "graduating" advanced FFS into legal entities that made gross sales of KSh.200 million (\$2 million) over the life of the project. There was also a **27 percent** increase in the number of markets where livestock and livestock products were sold. Smallholder farmer earnings also increased as a result of project interventions. The cooperatives actively used business and marketing plans and financial management tools for business decision-making.

Poor livestock market facilities also hindered livestock trade. Lack of basic infrastructure such as fences and loading ramps made it difficult to organize livestock markets in the target counties, and it was nearly impossible for county governments to effectively collect levies for livestock sales. To help address these challenges, **K-SALES rehabilitated 20 livestock markets** in partnership with the County Governments of **Kitui (13 markets), Makueni (three markets), Machakos (three markets) and Tharaka Nithi (one market)**. The efforts created a more formal and efficient trade environment and has attracted more livestock traders to the facilities. County governments can now collect revenue more effectively at the gate and traders can load livestock onto trucks without cattle injuries and associated losses. The improved markets have also created business opportunities for numerous micro-enterprises around these sites, such as motorcycle operators and food vendors, thus invigorating surrounding economies.

Illustrating the effects of improved access to quality inputs, improved feeding techniques, and increased linkages with finance, the final evaluation also found that the project had a positive and significant impact of the average farm gate price of head of cattle and goats. On average, the beneficiary farmers fetched about US\$30 above their control counterparts for every cattle sold. They also obtained US \$7.7 more for every animal they sold compared to their control group counterparts.



56

Number of livestock marketing cooperatives whose formal registration was facilitated by K-SALES.



20

Number of livestock markets rehabilitated by K-SALES in partnership with the County Governments.



3,267

Number of processing facilities employees trained in improved sanitary and phytosanitary standards by K-SALES in partnership with The Meat Training Institute and the Kenya Leather Development Council.

Success Story: No Sweat! Successful Livestock Trading Venture Beats the Odds in Harsh Terrain

Kaunguni Jasho Livestock Marketing Co-operative - Makueni County, Kenya

"Unforgivingly hot with inhospitable terrain" well describes Kaunguni Town, which is situated at the foot of Chyulu Hills in Makueni County. The dry cowpeas struggling to survive in the farms are an indication of the failed rains – the area has been dry for months. With the dominance of huge and imposing pumice rocks on the landscape of the sparsely-populated town, a first-time visitor would be forgiven for being skeptical of the viability of any farming activity in this area.

Here, residents rely on livestock farming to earn a living. As a way of interacting and supporting each other socially and financially, some farmers came together to form *Kyeni Kya Jasho* (loosely translated to light from sweat) Self-Help Group. Members from the table banking group each made a weekly cash contribution to the group, the sum of which was paid to members on a rotational basis weekly. However, this proved to be unsustainable as there was no money left with the group after each rotation.

In July 2015, following recruitment as a FFS under the K-SALES project, *Kyeni Kya Jasho* decided to register as a co-operative to reap some of the benefits of a formal organization. Members of the group convinced eight other similar groups to join them in this business venture. Barely two months later, the group had formed and registered Kaunguni Jasho Livestock Marketing Co-operative under the Cooperatives Act with the main aim of livestock trading. K-SALES trained members of the cooperative on business plan development, cooperative management and marketing, financial literacy, leadership and governance.

Kaunguni Jasho Livestock Marketing Co-operative popularly known as '*Kaunguni Jasho*' currently has a membership base of 150 members. The cooperatives'

initial capital was mobilized from the sale of shares at a value of KSh.500 per share, with a maximum of 10 shares and a registration fee of KSh.1,000 per member. In addition to the membership fee, each member was required to provide three goats towards a capital base for the cooperative. For sustainability, each member contributes KSh.100 per month. Sales commissions charged at KSh.500 per cow and KSh.100 per goat sold from livestock sold are another source of income for the cooperative. Cooperative members are also encouraged to earn extra cash from marketing livestock

"If a livestock cooperative can be launched here in Kaunguni, then I believe it is possible to practice livestock trading anywhere,"

during marketing days. Members have put in place good leadership and governance practices to ensure the steady growth of the cooperative.

The cooperative bulks and sells livestock for sale on market days in Makindu (Mondays) and Kibwezi (Fridays). They earn up to 200,000 Kenya shillings weekly in sales from an average of 50 goats and 2 cows per week. As it continued to profit and grow, in July 2016, the cooperative set up an office at Kaunguni Town.

During the cooperatives' launch this year, the area Member of the County Assembly, Mr. John Mwenze could not hide his joy.

"If a livestock cooperative can be launched here in Kaunguni, then I believe it is possible to practice livestock trading anywhere," he said.

On their part, women are excited at the new opportunities for income generation that livestock farming and marketing present.

"We have since realized that livestock trade is very profitable," one woman explains. The rotational participation in livestock marketing has created confidence and trust among members.

Recently, Mr. John Mailu, an officer from Sidian Bank Kibwezi Branch, visited the cooperative to open new accounts for members following the increased income from weekly sales.

The cooperative plans to venture into slaughtering livestock for meat at Emali Slaughterhouse, about 60 kms away. The group intends to market the meat in the busy Burma Market in the capital city of Nairobi.



Low sanitary standards in slaughter-houses and butcheries, dilapidated processing facilities, limited processing and value addition skills, and other post-harvest issues limit demand for meat and other livestock products. This hinders trade making it difficult for livestock processors to stay in business.

To help address this challenge, K-SALES collaborated with key stakeholders, mainly government partners at the national and county levels. These included public health officials, veterinary department officials, and hides and skins officers responsible for regulatory compliance, continuity of training programs and overall livestock processing business sustainability.

K-SALES also worked with the government-owned meat processor Kenya Meat Commission (KMC) for training and site visits to see the implementation of good manufacturing practices (GMPs), the Meat Training Institute, which provided experienced

trainers, and the Kenya Leather Development Council (KLDC) for reference training materials. With these partners, K-SALES trained processing facility employees in improved sanitary and phytosanitary standards, product handling, storage, transport and value addition. K-SALES trained a total of **3,267 processing facility employees** in sanitary standards and **2,503 employees on improved processing techniques and technologies**. The project also trained **384 meat processors** on processing of value-added products⁷ to improve trade and earnings.

As part of its activities to improve slaughter services for business growth, K-SALES also supported the **acquisition of modern tools and equipment** within target abattoirs, slaughter-slabs, butcheries and mini tanneries. This resulted in the acquisition of over 144 types of processing equipment and tools including cradles for slaughtering cattle, band saws, electronic weighing scales, flaying knives and chopping boards for 70 meat processing facilities.⁸

⁷ Value addition can be leveraged to reduce postharvest losses in the meat value chain and provide the diversity of meat products demanded by consumers thus contributing to expanded meat trade and increasing sales volumes for livestock enterprises. Value-added products include prime cuts and special cuts, bacon, ham, sausages, meat loaves, fermented meat products, meat patties, minced meat, and hamburgers, among others.

⁸ These refer mainly to butcheries and slaughter houses.



Success Story: From Waste to Wealth – Wamunyu Handicraft Cooperative

The Kamba people in Eastern Kenya are renowned for their exceptional woodcarving and basketry skills. Mutisya Muge was the first Kamba to introduce wood carving in the region in 1916. He sold his carvings to First World War soldiers in 1917. His carvings were later displayed in Machakos Town, a major trading center and now a large county in the area, and earned him the first-ever artisan's award from the government. With the benefits of woodcarving clear, Muge's neighbors and relatives developed a keen interest in the craft. The rest, as they say, is history.

However, with increasing environmental sustainability concerns over the use of wood and growing scarcity of the material, this generations-old tradition is slowly being phased out. Cow horns and bones are increasingly providing alternative materials for the craft – a relatively easy find giving that this region is home to a large percentage of Kenya's livestock population, ensuring reliable supply of bones and horns for the trade. Previously considered as waste, bones and horns are now an integral part of the red meat livestock value chain, given the high aesthetic appeal of products crafted from this material and lucrative earnings in the market.

Wamunyu Handicraft Cooperative is one such group making a good living from transforming horn and bones craft into beautiful hand-made products for sale. The group comprises 17 members, all of whom have now refined their craft. This is thanks to a five-day training on semi-processing of bone and horns by Bemis Craft Developers – a Kenyan Enterprise working in partnership with the K-SALES project. Bemis Craft Developers produces artistic products primarily derived from cow, goat, camel, sheep, and fish bones, as well as cow horns. Products include flower vases, spoons, candle stands, key holders,

and jewelry. The social enterprise also trains groups and individuals in handicraft production using locally available materials for poverty reduction.

Prior to the training, Wamunyu Handicraft Cooperative members had only been supplying wood carvings to the local market and had not considered horn and bone products. Now, with Bemis Craft Developers support in the form of market linkages, Wamunyu Handicraft Cooperative is supplying a new range of diverse products to Ziya Kenya, a Nairobi-based handicraft exporter specialized in managing the production of quality hand-crafted products made by small artisan businesses for international fashion brands, designers and retail outlets. This is a big step for the cooperative and will help guarantee steady demand in more lucrative markets for their products.

During a recent visit to the group, Ziya Kenya Director Petra Fitzgerald provided the group with samples of pendants made from horns and bones to serve as prototypes for the export market. An elated Petra was impressed with the group's deftness at crafting an assortment of export-quality products.

Previously considered as waste, bones and horns are now an integral part of the red meat livestock value chain, given the high aesthetic appeal of products crafted from this material and lucrative earnings in the market.



Institutional buyers such as university cafeterias and supermarkets are now sourcing more meat and meat products from the trained livestock processors and meat traders. Lower transaction costs are also increasing profit margins for processing businesses.

By project close, K-SALES-supported enterprises had signed a total of 108 meat and meat product supply contracts with private buyers in Meru, Tharaka Nithi, Kitui, Machakos, Makueni and Taita Taveta Counties. A total of 45 meat and by-product supply contracts had been signed in Machakos, Makueni and Taita Taveta Counties.

As part of its support towards organic tanning⁹ of hides and skins and leather goods production for improved sector trade, K-SALES worked with partners to provide concrete tanning channels and sheds. The project constructed four mini-tanneries and one hides and skins preservation unit in Taita Taveta County. New tanning systems have **more than tripled leather production capacity** from

a turnover of four hides and/or skins to 15 per production cycle.¹⁰ The quality of leather produced has also greatly improved as a result of the improved tanning process, thus delivering leather products that attract more buyers. K-SALES has also expanded the range of products being traded from the traditional meat and meat products to horns and bone to make jewelry and carvings for sale locally and internationally to markets in Europe and the USA. By December 2017, the value of sales of these improved products was KSh.450,000 (\$4,500).

3. Increased access to Finance

Limited access to suitable financial products is a major challenge in the livestock sector. Low access to suitable financial products is largely due to lack of bankable business plans, financial records and inadequate collateral, causing these enterprises to be considered high-risk by most conventional financial institutions.

⁹ Tanning is the process of treating skins and hides of animals to produce leather by use of tannin – usually an acidic chemical compound from which the tanning process draws its name. In the conventional leather-production process, tanning is carried out using refined chemicals such as chromium (III). Organic tanning refers to use of tannin which occurs naturally in the bark and leaves of many plants and is thus environmentally friendly. Examples are the barks of chestnut, oak, mangrove, wattle and acacia trees.

¹⁰ Each production cycle takes 10 days.



Using a tailored financial literacy curriculum provided in the Land O'Lakes/K-SALES FFS Training Manual, K-SALES helped to build the capacity of the FFS in financial literacy and facilitated linkages with formal and informal financial service providers. Working with 11 financial service providers, K-SALES **trained 57,907 farmers on financial literacy**, helping them manage their livestock enterprises profitably and paving the way for them to **access loans valued at \$558,359** over the life of the project.

Increased trade in livestock and livestock products led to higher use of formal savings and credit cooperative societies (known as SACCOs) as well as informal (table-banking) services by cooperative members. Financial service providers also invested in the development of improved and new financial products following K-SALES recommendations from a study conducted in 2016. For instance, Universal Traders SACCO Kitui office has advanced business loans to FFS groups and Livestock Marketing Cooperatives in Kitui County. UTS, Centenary SACCO and Solution SACCO also introduced agency banking for "last-mile" financial service delivery in the project areas. In addition, K-SALES co-funded the establishment of four

Centenary SACCO Agencies to serve Meru and Tharaka Nithi Counties, as well as the procurement of computers for the installation of SACCO Management Information System (MIS) for SOFDEV SACCO in Machakos and Kitui Counties.

Through the financial linkages efforts of local project implementing partners, one cooperative in Machakos County - Mbiuni Livestock Cooperative Society Limited – formed its own Savings and Credit Cooperative Society, Mbiko SACCO, to facilitate member access to livestock trade working capital. The SACCO currently has an active membership of 247, share capital of approximately KSh.1,800,000 (\$18,000), member savings amounting to approximately KSh.550,000 (\$5,500) and loans disbursed so far amounting to KSh.1,200,000 (\$12,000).



Success Story: Eye-Opening Experiences Grow Mbiuni Self-Help Group to Cooperative Society and SACCO

For decades, communities in Machakos County have depended on livestock for their livelihoods. However, with no organized form of marketing, farmers here traded mostly with brokers who took advantage of the lack of information and bought livestock at very low prices. Furthermore, livestock farmers here had not yet considered livestock-keeping as a viable enterprise that could do more than meet their basic needs, and thus only subsisted on the activity, barely making ends meet.

These challenges motivated some community members to come together and form Mbiuni Self-help Group with the aim of improving livestock production and marketing. Through its FFS component, K-SALES recruited the group and provided training on improved production techniques and technologies and farm management. Access-to-markets training with a focus on livestock aggregation was an eye-opener and helped the group to leverage economies of scale. Through this engagement, Ultimate Limited, which facilitates capacity building for farmer producer groups/cooperatives made Mbiuni FFS alive to the benefits of cooperatives. Convinced, the group ran with the idea to form a livestock marketing cooperative.

Their first sale under the new structure consisted of 14 goats, which fetched the group KSh.49,000. This was beyond the members' expectations and they quickly invested in new stock of goats from Mbiuni Market. Members agreed to broaden their scope to Tala and Mwala markets to increase weekly sales. The continuing growth further spurred their desire to formalize registration as a cooperative. With additional information from the District Cooperative Office, members of Mbiuni FFS managed to pay the registration fee and the group was formalized as Mbiuni Livestock Cooperative Society Limited.

"We have seen the light," said Joel Wambua, Mbiuni Livestock Cooperative Society Limited Secretary during a meeting with Ultimate Limited.

Access-to-markets training with a focus on livestock aggregation was an eye-opener and provided the solution to the marketing challenge and helped the groups to leverage economies of scale.



More developments were in the works as a visit to Quality Meat Packers (QMP) - Kenya's largest slaughterhouse and meat processing plant - inspired invaluable business growth lessons. The cooperative management made a decision to start lending to members who were willing to take up the livestock business.

Mbiko Savings and Credit Cooperative Society (SACCO) was thus formed to lend funds to members who wanted to engage in livestock farming as a business. By December 2017, the SACCO had an active membership of 247, share capital of \$18,000, and members' savings amounting to \$5,500. The SACCO had disbursed loans amounting to \$12,000 - a worthwhile achievement in ensuring financial linkages for livestock farmers and boosting capital mobilization.

On its part, Mbiuni Cooperative has grown and is helping to ensure a regular and reliable supply of high-quality livestock for the market, while securing improved and steady income levels for members. By June 2017, weekly sales had increased from the initial 19 goats to 150 goats. The cooperative earns a commission of KSh.200 per goat sold on behalf of a member, contributing towards its earnings and overall financial sustainability.

These successes have earned Mbiuni Cooperative and Mbiko SACCO credibility in this area. The Ministry of Industry and Trade's Department of Cooperatives allowed the enterprise to use a building in Mbiuni Market, which previously belonged to some defunct cooperatives, to run their activities.



KSh. 49,000

The amount fetched by the first sale under the new structure consisted of fourteen goats.



247

Active members of Mbiko Savings and Credit Cooperative Society formed by members of Mbiuni Cooperative for purposes of lending to members for livestock business.



\$18,000

Share capital for Mbiko Savings and Credit Cooperative Society.



\$5,500

Amount in members' savings for Mbiko Savings and Credit Cooperative Society.



131

Increase in the number of goats sold weekly from the initial 19 goats to 150 goats.



Success Story: Trade Show Plants the Seed for Profitable Fodder-Selling Business

Dorcas Mutindi Kamuti is a fodder products distributor in Mangweti Village. Educated up to the primary school level, Dorcas, 35, sells fodder at her farm, which is located near Kinyaata Trading Center in Machakos County.

Dorcas ventured into the fodder-growing business in 2015 after attending the Mwala Trade Show. The show was organized by USTADI, a local capacity development initiative working in partnership with K-SALES to help create business and marketing opportunities for livestock farmers in Machakos and the neighboring counties. Seeing fellow show-participant Nganda Muthiani earn cash from selling fodder seeds at the event planted a vision for fodder farming in Dorcas' mind, who saw it as a good opportunity to boost her income.

Dorcas accompanied Nganda for three subsequent trade shows and helped him sell fodder seeds to FFS farmers. At the Mwala Constituency Trade Show in the same county, Dorcas linked up with SMEP, a micro finance institution, and started saving.

"I call my new house K-SALES because I am forever grateful that this project has changed my living standards,"

Now, Dorcas grows fodder grass along terraces in her farm – an endeavor she never imagined could be a viable enterprise. She runs the business with the help of her family. Her fodder products distribution enterprise is growing and her main clients are other farmers in Mangweti Village.

Training on customer service, business planning, marketing and finance has proven invaluable to Dorcas. She adopted the business planning strategies and is now planning how to scale her business to sell fodder products countywide. Thanks to the customer service and marketing skills gained, Dorcas now finds it easy to attract new clients. The capacity building has also helped Dorcas to package her product, which she bales for sale at KSh.200 per bale. She also keeps records of her sales, which help her to effectively analyze her business performance.

The K-SALES project has also helped Dorcas link with various other partners such as Nuclear Family Foundation, Universal Traders SACCO (UTS), Kenya Commercial Bank (KCB) and Solidarity Fund for Rural Development (SOFDEV) to build capacity and make further linkages for business expansion.

These developments have also led to improvements in her family lifestyle and well-being. Dorcas recently took a KSh.18,000 loan from SMEP to buy iron roofing sheets for her house, which is under construction.

"I call my new house K-SALES because I am forever grateful that this project has changed my living standards," Dorcas said.

A photograph showing a man in a light orange shirt, likely a veterinarian or extension worker, examining the teeth of a goat. He is surrounded by other people and livestock in an outdoor market setting. The background shows other people and animals, suggesting a busy market environment.

OUTLOOK

for Kenya's Livestock Industry

Driven by human population growth, income growth and urbanization, demand for livestock products will continue to increase over the next few decades. This increasing demand continues to be a key opportunity for poverty reduction and economic growth.

Through its interventions at various strategic points of the value chain, K-SALES demonstrated that improved technologies for productivity exist and are applicable in Kenya's red meat livestock sector, and that livestock trade can be feasibly enhanced to meet demand and improve livelihoods. Several factors must be considered for continued development in the sector. These include:

Increased investment: In Kenya, developments in the industry present a good opportunity for both government actors and development partners to invest in livestock production. Livestock can present a better return on investment in many parts of the ASAL counties than crops-only farming. There are ample opportunities for the government to invest more given significant demand.

Private-sector partnerships for economic sustainability: Through a facilitative approach working in concert with local partners to implement project activities, K-SALES leveraged private sector strengths in developing the industry and demonstrated the potential for long-term success. For economic sustainability, future interventions in the space should continue to build on this momentum by focusing on production and marketing interventions with the private sector or public-private partnerships rather than attempting to provide them only via the public sector.

Competition for resources: While increased demand for livestock and related products augurs well for trade in the sector and can spur continued innovations and improved technologies to enhance productivity, competition for land and natural resources is a mitigating factor that must be taken into consideration. Increasing pressure on natural resources such as water and land, and increasing demand for livestock products will give rise to considerable competition for land needed for both food and feed production. The biggest



impacts of climate change will continue to be seen in livestock and mixed systems, particularly in the already-vulnerable arid and semi-arid lands.

Socio-economics of livestock farming: For a long time, traditional approaches to livestock farming as a social asset rather than as a viable enterprise activity hindered the growth and development of the sector. Through its activities, K-SALES built knowledge and capacity in the sector, notably at the smallholder level, to build an understanding of input and output dynamics for successful livestock enterprise farming. Continued emphasis of these and other approaches to enhance resilience in livestock-farming communities, particularly in arid and semi-arid lands, would boost economic development in these areas and contribute to the continued development of the sector.

Intensive mixed livestock production systems: While crop production growth will come mostly from yield increases rather than from area expansion, increases in livestock production will come about more as a result of expansion in livestock numbers. In the intensive mixed systems, food-feed crops¹¹ are vital ruminant livestock feed resources. The prices of food-feed crops are likely to increase at faster rates than the prices of livestock products.

Breeding and genetics: Developing countries will continue to see breeding practices change - focusing more on improved production and product quality. This will require changes in animal welfare, disease resistance and reducing poor environmental practices.

Addressing the nutritional constraints: While there is demonstrated potential to improve livestock productivity in semi-arid and arid areas, probably the most feasible solutions require an integrated application of what is already known, rather than new technology. This could involve dissemination of information from early warning systems and drought prediction, for example, so that livestock farmers can better manage the complex interactions between herd size, feed availability and rainfall.

Future disease trends: Potentially effective control measures already exist for many infectious diseases. Whether these are implemented appropriately could have considerable impacts on future disease trends. Recent years have seen advances in technology that can be brought to bear against disease, including DNA fingerprinting for surveillance, genome sequencing and antiviral drugs.

¹¹ Food-feed crops are crops that provide grain for human nutrition and fodder for livestock from the crop residues. They are also referred to as dual-purpose crops.

