

The Transformation of the Fodder Market in Kenya

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This case study outlines how efforts by TechnoServe's Kenya Market Assistance Program (MAP) spurred widespread change in the commercial fodder market for dairy cattle. Over a period of 3.5 years, the market for commercial hay went from essentially non-existent to over 14,000 acres under production, increasing farmer access to high-quality fodder. While hay is now on the pathway to becoming a major input in dairy production, transformation of this sector is not yet complete.



THE CONTEXT AND PROBLEM

Dairy farming in Kenya is a widespread form of revenue generation for agricultural households, contributing to a diversified set of income sources. 80 percent of all milk produced in Kenya is by smallholder farmers in rural settings. These estimated 1.8 million smallholder farmers produce four million liters of milk per day. However, the productivity of dairy cows in Kenya is highly variable, ranging from four to eight liters per cow per day. In addition, dairy farmers have mixed access to high quality products, services and information related to feed and animal health services. As a result, production costs are high, constraining the overall growth and competitiveness of Kenya's dairy sector.

Feed is an important part of cattle health and has substantial impact on yield; poor access to concentrate feed and fodder, as well as poor feeding regimens mean that most cattle are not reaching their highest productivity potential. Due to small land sizes in central Kenya, cattle are generally kept in pens. Farmers then allocate a small piece of their remaining land to grow a minimal amount of fodder, like Napier grass, which has limited nutritional value.

Access to concentrate feed is inconsistent and large millers produce mixed quality while not properly labeling nutritional content. Other types of available fodder are also incorrectly labeled as hay or as highly nutritional. For example, traders collect

and bale rice and wheat straw, selling it with the misconception that it is nutritional.

Given the size of the smallholder dairy sector and the importance of fodder to productivity, TechnoServe asked why the fodder market system was not meeting the needs of dairy farmers. The key constraint identified was that businesses did not recognize the market opportunity for innovations that would address the needs of small-scale dairy farmers. Many larger commercial dairy farmers grow hay solely for their own consumption, and then sporadically sell any excess production to cooperatives and smallholder farmers. They do not intentionally target this market for widespread sale due to the belief that smallholder farmers are not knowledgeable about the product and are not willing to pay. Large dairy hubs and milk processors have recognized that access to feed and fodder is the most significant challenge faced by their supplying farmers, but have done little to address it. Those interested in commercial hay production may also have been deterred by high start-up costs—such as, expensive hay baling equipment and the large amount of seed and fertilizer needed—as well as the transportation and logistics required to deliver the bulky product to smallholders.

THE THEORY OF CHANGE

TechnoServe believed that the fodder market could be transformed through: 1) the improvement of the enabling environment by working with essential service providers, such as testing labs and equipment distributors, to provide commercially attractive packages of inputs and advisory services to hay producers, and 2) the demonstration of the business case by inducing a small number of businesses to begin commercial hay production. It was expected that the large margins for early entrants and high levels of demand would attract a significant number of investors and interested parties. It was understood that the market price for hay would be relatively high because supply would still not reach demand, but that the price would decrease with the entrance of more commercial producers into the market, making fodder more accessible to smallholder farmers. This would lead to the emergence of different types of partnerships, such as dairy hubs bulk-purchasing or contracting supply from particular commercial producers, and input companies refining their offers over time to make them more affordable and attractive (such as Kenya Seed Co. and John Deere). The presence of falsely labeled hay or other low-quality fodder types would be crowded out of the market as farmers witnessed the significantly increased value of utilizing certified, high-quality hay.

THE INITIAL INTERVENTION

TechnoServe identified two partners that could pilot hay production as a commercially viable venture. The two early adopters were Hay N' Forage Ltd. (HNF)—a partnership between Nyala Dairy and Ndumberi cooperatives in Nyandarua, Central Region—and Sochon Ltd. (Sochon), a commercial farm in Nakuru, Rift Valley Region. Beyond identifying the market opportunity, TechnoServe's main added value was providing technical advisory support and facilitating the creation of market linkages. Thus, TechnoServe improved the enabling environment for hay production by working with a range of support service providers to develop tailored and attractive products for businesses interested in venturing into commercial hay production. Starting at the end of 2012, TechnoServe worked with a number of companies, including KPMG (management consulting services), Kenya Seed Co., Yara and Amiran (fertilizers), John Deere (tractor and baling equipment), Double J Transporters, Olivine ICT Solutions (stock and customer management systems), Root Capital (debt arrangements), and CropNuts (soil and hay analysis and agronomy services). Through these partnerships, TechnoServe facilitated more favorable prices and/or payment plans that these companies could test with HNF and Sochon. All offers were arranged so as to be commercially viable offers for subsequent hay producers.

Rules and Regulations

TechnoServe made efforts to work with the Kenyan National Bureau of Standards to introduce labeling requirements for hay. As the market is still nascent, immediately establishing good practices could be more feasible than trying to enforce regulation later. While HNF and Sochon are properly baling and

communicating the quality of their hay, a lack of regulation could mean new entrants would not participate in the same practice. These discussions are still ongoing.

RESULTS

In 2013, HNF already had 1,200 acres under operation, utilizing a loan from Root Capital to invest in cost-intensive equipment and fertilizer. By the end of their first season, HNF was producing more than 10,000 bales of hay to sell to their cooperative members and wider market. Sochon, who started production in 2014, began with 50 acres. By January 2015, HNF and Sochon had a combined 2,500 acres under production, and this number continues to grow by the season. However, yields were not optimal due to prolonged drought throughout 2015. This meant that—even with favorable payment plans—both HNF and Sochon experienced difficulty meeting financial contracts with multiple companies. To address these challenges, TechnoServe worked with HNF and Sochon to renegotiate their payment terms.

However, while suppliers understood these circumstances, smallholder farmers suffered from a lack of fodder and from other common drought-period challenges, such as herds grazing on private land, the quick sale of cattle in pastoral communities and a significant decrease in overall milk production. This prompted TechnoServe to investigate whether commercial irrigation systems could be an affordable fix for this type of climate change related issue. Although this analysis is still ongoing, both HNF and Sochon were able to increase their acreage under production in subsequent seasons. Sochon is now producing hay on more than 700 acres, and HNF is providing hay baling services for 400 farmers growing hay on roughly 500 acres. Sochon also independently partnered with farmers to establish Rift Valley Growers—an association of 406 members growing hay on more than 7,000 acres—who are selling through Sochon.

After the initial intervention phase, TechnoServe shifted its role from working with early adopters to showcasing the success of the pilot to the industry in order to encourage others to crowd-in and begin commercial hay production. In mid-2015, TechnoServe helped organize an official launch event with Sochon Farms, which had impressive attendance from other potential hay farms, support service companies, the government and more. The success of the event set off a period of momentum:

- New Kenya Creameries Corporation (NKCC), the industry's second largest milk processor, held an industry forum with its cooperative and leading suppliers, commercial farms, and related hay sector companies, declaring its aim to source fodder from a total of 50,000 acres to meet the needs of its producers. The event alone resulted in the formal commitment of roughly 12,000 acres.
- NKCC partnered with Kenya Commercial Bank (KCB) to support commercial hay producers with KSH 800 million (\$7.8 million USD) in finance. In addition to KCB, Root Capital and Chase Bank have further extended credit to commercial hay producers.



TechnoServe helped organize an official launch event with Sochon Farms which brought together key stakeholders from across the commercial feed industry including hay farmers, support service companies and government officials.

- John Deere has further improved their service offerings to include reduced interest rates with Chase Bank and CFC Stanbic while Kentrac Equipment has developed a similar offer on baling equipment.
- In addition to Cropnuts, AgriQuest and KALRO—formerly KARI, which is partly government owned—are now providing agronomy services and quality assurance to hay producers.
- Hay seed sales have grown by more than 200 percent. Seed companies, such as Kenya Seed Co.—the leading seed company in Kenya—have expressed that they are currently unable to keep up with demand, stimulating demand for alternative fodder varieties.
- Insurance companies such as Underwriting Africa—in partnership with Swiss Re—have developed offers tailored to commercial hay production.
- Several commercial and family-owned farms have now taken advantage of the enhanced enabling environment, including 29 large farms and two county governments—Narok and Bomet—whom have invested in equipment leasing.
- In particular, the 26 farms working with NKCC produced nearly 10 million bales of hay during the September to December 2015 season, 1.5 million of which were purchased by smallholder farmers.

- The Rift Valley Hay Growers Association is working with labs to develop quality standards for certification and lobbying the government through the Ministry of Agriculture for concessions on inputs, including fertilizer.

Farmers that have increased access to hay have expressed satisfaction with the improved quality, but are eager to see the price continue to fall. Throughout the drought period, hay was roughly between KSH 250 to 300 (\$2.45 to \$2.95 USD) per bale, making this a relatively expensive investment for most farmers. In non-drought periods with greater supply, prices have fallen as low as KSH 150 (\$1.47) per bale. With an increased and more constant supply of hay, TechnoServe predicts that prices could fall to around KSH 100 (\$0.98) per bale.

TechnoServe is continuing to provide light-touch support for the growth of the commercial hay market, including working with news outlets and radio shows to spread the word on hay production, as well as continuing to provide linkages between hay-sector companies and prospective clients.

For more information on the hay market in Kenya, please read the articles listed below:

- [“Kenyan Farmers eye Sh33b in hay production plan”](#)
- [“New KCC, association strike deal to up milk output”](#)
- [“Sh33 billion project to boost hay production for dairy farmers”](#)

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