

Evidences

Study #2767

Contributing Projects:

- P750 - Activity 5.4.4 Livestock Market System Performance It corresponds to the product line on 'Menu of organizational and business models for improved livestock value chain performance'

Part I: Public communications

Type: OICR: Outcome Impact Case Report

Status: New

Year: 2018

Title: Improved cattle feeding practices in nine Kenyan counties, resulting in increased milk productivity for close to 80,000 farmers, with likely improved income and livelihoods

Short outcome/impact statement:

From 2015-2018, the Accelerated Value Chain Development project aimed to support the dairy sector in non-traditional dairy regions of Kenya. A key constraint to milk production is feed. Using the Feed Assessment Tool (FEAST) tool, Brachiara grass was identified as the most suitable feed option. The second step included its dissemination and improving its use including commercialisation. These activities resulted in an increase in milk production per cow, with likely positive effects on income and other aspects of farmers' livelihoods.

Outcome story for communications use:

In 2012, ILRI initiated a collaborative research project on Brachiaria grass to increase livestock productivity in pre-commercial dairy areas of Kenya by increasing the availability of quality forages. ILRI's simple rapid assessment tool, the Feed Assessment Tool (FEAST), was applied in 2014 and together with farmers participatory variety evaluations in Kenya, five Brachiaria grass varieties were identified as suitable. The Brachiaria grass was readily accepted by farmers, extension agents and researchers due to high biomass production potential, higher nutritive value than local forage (e.g. Napier and Rhodes grasses) and its potential to increase milk production. Farmer to farmer dissemination of Brachiaria grass took place and commercialization of fodder production presented substantial opportunities for income generation.

In 2015, ILRI received funding from USAID under the Feed the Future development strategy and implemented the three-year Accelerated Value Chain Development (AVCD) project which ended in 2018. The dairy component of this program disseminated improved fodder technologies including Brachiaria varieties in Migori, Homa Bay, Siaya, Taita Taveta, Kisumu, Vihiga, Busia, Kitui and Makueni counties of Kenya and achieved a total of 18,064 hectares of improved fodder varieties including Brachiaria grass. In addition to using the grass to feed their animals, some farmers also commercialized Brachiaria grass, selling both hay and planting materials raised from the nursery and splits from established fields. Over the 3 years of the AVCD project, close to 80,000 farmers applied improved technologies or management practices (including feed, animal health and breeding).

The wider adoption of new Brachiaria varieties among smallholder farmers is attributed to:

- i) The use of participatory action research to build local interest and confidence on forage production and use, including the application of FEAST to target a portfolio of forage options according to local context;
- ii) The narrowing of the capacity gap on forage establishment, management and use through practical learning approaches and grassroot extension approaches involving volunteer extension workers or peer farmer trainers;
- iii) The establishment of a sustainable system of Brachiaria germplasm supply in communities;
- iv) The increased demand for milk and establishing and facilitation of milk hubs.

Farmers' adoption of the improved fodder variety, together with other management practices, resulted in increased milk production and productivity. This left the household with more milk to retain for household consumption with likely positive nutritional outcomes, and the marketable surplus milk production earned income used in purchasing diversified food for the household.

Links to any communications materials relating to this outcome: <Not Defined>

Part II: CGIAR system level reporting

Link to Common Results Reporting Indicator of Policies : No

Level of maturity of change reported: Level 2

Links to the Strategic Results Framework:

Sub-IDs:

- Increased livelihood opportunities
- Closed yield gaps through improved agronomic and animal husbandry practices

Is this OICR linked to some SRF 2022/2030 target?: No

Comment: <Not Defined>

Geographic scope:

- Sub-national

Country(ies):

- Kenya

Comments: The dairy value chain work focused in nine counties: Migori, Kisumu, Vihiga, Siaya, Busia, Homa Bay, Taita Taveta, Kitui and Makueni. It is applicable to other non-traditional dairy farming areas.

Key Contributors:

Contributing CRPs/Platforms: <Not Defined>

Contributing Flagships:

- F5: Livestock Livelihoods and Agri-Food Systems
- F3: Livestock Feeds and Forages

Contributing Regional programs: <Not Defined>

Contributing external partners:

- KALRO - Kenya Agricultural and Livestock Research Organization
- Heifer International

CGIAR innovation(s) or findings that have resulted in this outcome or impact:

Feed Assessment Tool (FEAST) Dairy business hubs: <https://cgspace.cgiar.org/handle/10568/73061>
Brachiaria grass

Innovations: <Not Defined>

Elaboration of Outcome/Impact Statement:

In 2012, the International Livestock Research Institute (ILRI) initiated a collaborative research project on Brachiaria grass to increase livestock productivity in pre-commercial dairy areas of Kenya by increasing the availability of quality forages. ILRI has developed a simple rapid assessment tool, the Feed Assessment Tool (FEAST) (1, 2), which prioritizes interventions that are developed in a participatory manner with development agents and communities and are therefore more likely to be adopted. FEAST was applied in 2014 and identified five Brachiaria varieties as suitable for the Kenya sites (B. brizantha cv. Marandú, B. brizantha cv. MG-4, B. brizantha cv. Piatã, B. brizantha cv. Xaraés and B. decumbens cv. Basilisk). The Brachiaria grass was readily accepted by farmers, extension agents and researchers due to high biomass production potential, higher nutritive value than local forage (e.g. Napier and Rhodes grasses) and its potential to increase milk production.

The dairy component of the USAID-funded Accelerated Value Chain Development project (3), which ended in 2018, disseminated improved fodder technologies including Brachiaria varieties (4) in nine counties of Kenya, achieving a total of 18,064 hectares (5) of improved fodder varieties. Apart from Brachiaria seeds distributed to farmers by the project, farmers expanded the area under production through farmer-to-farmer extension. A number of farmers established a commercial grass nursery and produced planting material for sale to both small- and large-scale dairy farmers. Other farmers took up commercial hay production to meet the demand from farmers unable to produce enough from their farms. Hence both Brachiaria planting material and hay generated income for smallholder and large producers, including youth and women.

Farmers' adoption of more productive fodder resulted in increased milk productivity (6), with likely effects on income from sale of milk and potentially improved human nutrition at household level, including from the consumption of extra milk produced on farm. The outcome and impact of the technology was realized due to the large-scale dissemination campaigns and the high number of smallholder farmers reached. This mass dissemination of technology was made possible because it builds on the previous research on Brachiaria grass and used the FEAST tool and various dissemination mechanisms. One of the county governments also committed financial resources to extend the reach of the technology.

References cited:

1. FEAST website. <https://www.ilri.org/feast>
2. Kinyua, C and Lukuyu, B. 2017. Impact evaluation on effectiveness of FEAST in changing knowledge, attitude and behaviour in development of livestock feed interventions. ILRI internal report. <https://www.researchgate.net/profile/Lukuyu/publications>; <https://hdl.handle.net/10568/101934>
3. Kiome, R.M., Bamanya, B., Wamwere-Njoroge, G., Rao, J., Audi, P., Parker, M. and Muoki, P. 2019. Kenya Accelerated Value Chain Development (AVCD) program scorecard 2015–18. Nairobi, Kenya: ILRI. <https://hdl.handle.net/10568/101622>
4. ILRI blog on Brachiaria in AVCD. 2018. <https://tinyurl.com/y6hx4uq6>
5. ILRI. 2018. Accelerated Value Chains Development Program: Annual report (October 2017 to September 2018). Nairobi, Kenya: ILRI. <https://hdl.handle.net/10568/101925> (page 19)
6. Maina, K., Ritho, C., Lukuyu, B. and Rao, J. 2019. Determinants and impact of adopting climate-smart brachiaria grass among dairy farmers in Kenya. Paper presented at the Tropentag 2019 Conference on "Filling gaps and removing traps for sustainable resource management", Kassel, Germany, 18 – 20 September 2019. <https://hdl.handle.net/10568/101920>

Quantification: <Not Defined>

Gender, Youth, Capacity Development and Climate Change:

Gender relevance: 0 - Not Targeted

Youth relevance: 0 - Not Targeted

CapDev relevance: 1 - Significant

Main achievements with specific **CapDev** relevance: Enhanced farmers' capacity to manage fodder and improve their dairy enterprises.

Climate Change relevance: 1 - Significant

Describe main achievements with specific **Climate Change** relevance: Brachiaria grass is a climate-smart fodder crop and its cultivation improves soil quality by increasing the amount of plant available carbon, nitrogen and phosphorous.

Other cross-cutting dimensions: NA

Other cross-cutting dimensions description: <Not Defined>

Outcome Impact Case Report link: [Study #2767](#)

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