

Developing feed business with farmer groups in Farakala and Baroueli, Mali

Monitoring the use of two delivered feed processing units

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Cover photo: Association des Femmes Pastorale de Baroueli (AFPB) Ségou, Mali. (Photo: Udo Rudiger, ICARDA) – November 2024

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Introduction

As part of the implementation of Innovation Package No. 2, "Gender-Sensitive Integrated Livestock Health Packages through Behavior Change Communication (BCC) to Improve Sheep and Goat Productivity," and as one of the innovations introduced by the initiative to enhance the quality, quantity, and availability of feed for small ruminants, the initiative supports male and female small ruminant farmers in improving feed production efficiency, feeding strategies, and cost savings. The aim is to increase investment capacity and generate additional income by introducing appropriate and affordable small-scale mechanization, enabling farmers to produce their own cost-effective and nutritious feed concentrates using locally available resources.

To achieve these objectives, the initiative carries out several activities related to animal feed, including:

- i) Identifying and developing suitable machinery for animal feed production.
- ii) Determining context-specific feed formulas for total mixed rations using available feed resources and best practices for processing and quality control.
- iii) Strengthening the commercial operations of men's and women's cooperatives facilitated by multi-stakeholder innovation platforms focused on small-scale feed production mechanization.
- iv) Providing knowledge on marketing, financial management, and the development of economically viable business models.

Following the prospecting visit conducted by the ICARDA-ILRI-CIAT team from July 4 to 18, 2023, in Bamako, Sikasso, and Ségou, aimed at identifying small-scale mechanization opportunities for animal feed production in Mali and exploring strategic partnership possibilities around this component, two animal feed production chains were co-developed. These chains, consisting of grinders, mixers, and pelletizers, were locally manufactured and deployed to two initiative sites in Mali: the 'Wutango' women farmers' group/MSIP-Farakala/Sikasso and the Association of pastoral women in Barouéli/Ségou.

From July 18 to 26, 2024, participatory workshops for the co-development of business plans were held at the two initiative sites, where the necessary elements for developing the feed production business were identified.

In this context, a follow-up visit took place from November 11 to 16, 2024, to discuss the implementation of the business plan with stakeholders and assess the utilization level of the feed production units. The monitoring visit was conducted by the mission team composed of Udo Rudiger, ICARDA and Idrissa Sacko, IER.

The women farmer group Wutango in Farakala



The Women farmer group Wutango in Farakala as part of the Innovation platform (IP) in Farakala has received a feed processing unit composed of a grinder, a mixer and a feed pelletizer by the SAPLING initiative in July 2024. The platform has built with their own financial means a warehouse where the production of feed is taking place. The construction of the warehouse started in June 2024 and was completed in October 2024.

Since October the women group has started using the feed processing unit. 2 – 3 times a week the unit is used mainly for grinding

and mixing poultry feed. Poultry farmers bring their ingredients to the unit where the farmer group provides processing services. They charge 1,000 FCFA (1.5 \$) for grinding and mixing 100 kg feed and 2,000 FCFA (3 \$) for pelletizing 100 kg feed. In total they have processed 2.140 kg of feed in the last four weeks. 25% of the charges receives the machine operator and 75% remain with the group.

The women group has also started producing feed pellets for small ruminants but are still at the marketing stage. They produced one bag of 50 kg and several 1 kg bags for promotion. During the last big scaling event where different stakeholders from Sikasso came to Farakala to assess the forage trials of the innovation platform, with different varieties of Braccharia, Panicum and Andropogon, the feed processing business was also presented and promoted. Presently they use the following formula for pellet production: Maize grains (50%), Maize bran (20%), Cotton cake (20%), Molasse (5%), Maize cobs (4%), Salt (1%). The production costs including ingredients, labor and fuel are around 300 FCFA / kg. They intend to sell pellets for 330 – 350 FCFA/kg.



To start producing and selling feed pellets in large quantities they intend to use the produced ingredients from members of the women group. They will not ask for a loan at this point in time as they first want to see the development of the feed business. It is always a risk to take a loan. They also intend to adjust the feed formula and use more by-products like niebe, groundnut and sweet potato leaves, but first need to harvest, dry and stock such ingredients. IER and ILRI will help them in developing new formula and analyze the feed. Including these by-products in the formula will make the feed more balanced and reduce production costs to make it more competitive with feed concentrates.

So far about 40 people have benefited from the feed processing unit, but the president of the IP estimates the demand at 5,000 beneficiaries in the nearby communities. The demand of the Livestock and Meat Union in Sikasso on its own is estimated at 200 t of animal compound feed per year. Feed mixing and pellet production has been low during the rainy season (June – October). Livestock farmers do not spend much money on feed during this time as there is abandoned fresh feed available. Although the demand for poultry feed is all year round, a peak demand is expected in December when farmers start fattening their chicken for end of year festivities. From January till May sheep fattening will take place to satisfy the Tabaski demand. Further on, beef fattening goes from December till March to meet the Ramadan market. As a general conclusion, feed production will have its peak demand in the coming months due to the different festivities.

Association of pastoral women in Baroueli (AFPB)

The feed market situation in Baroueli is just like the one in Farakala. The increased feed demand starts only in December when the fattening activities start for the festivities and when availability of fresh feed will be less due to the drought period.

The women group has used the feed processing unit since October only four times. Two times as service provision for poultry farmers processing in total 1,300 kg feed and two times feed pellet production for small ruminants processing 400 kg. The feed pellets were composed of 50% maize bran, 40% cotton cake, 6% molasses and 4% vegetable oil.

The feed processing unit has been working fine, without any technical problem. Two employees are charged to manipulate the unit and are paid per delivered service 2,000 FCFA irrespective of the quantity processed. The association charges 1,250 FCFA for 50 kg grinding and mixing poultry feed and 1,500 FCFA for 50 kg pellet production for small and large ruminants.



Major challenges for starting the feed production and commercialization are the necessary investments. AFPB needs a proper feed chopper for valorization of by products like maize stalks, and vegetative parts of niebe and groundnuts. In addition, they need to purchase a balance, a sowing machine and empty bags. They don't have much savings but will count on the incomes generated from feed processing services (grinding, mixing and pelletizing) as well as the profit they gain from their milk processing business.

The raw material or ingredients they need for the feed pellet production will be provided by the members of the association as credit. They already established lists for members being interested in purchasing feed pellets. 19 women have requested 121 bags of 50 kg for small and large ruminant fattening at a first round. Seven large dairy farmers have already commanded 169 bags to feed their dairy cows. This makes a total of 14.5 tons of feed pellets requested to start the business.

Recommendation

The mission team recommends the following points:

- i) Both farmer groups need urgently a feed chopper to chop and valorise by-products from niebe, maize stalks and sweat potato leaves
- ii) Develop new pellet feed formula with above mentioned by-products being part
- iii) Assess the possibility of integrating new forage crops (Braccharia, Panicum, Andropogon grasses) into the feed ratio
- iv) Analyze the feed composition
- v) Do trials to evaluate impact of feed pellets on animal health and growth
- vi) Support the Farakala women group with a balance and bag sowing machine necessary for starting feed business
- vii) Close monitoring of the feed business and data collection (using the provided data collection sheet)

Annexes

Annex 1 : Mission program

Date & Lieu	Activités	Temps	Equipe/Responsable
Dimanche 10/11/24, BKO	Arrivée à Bamako (Hôtel Villa Soudan) 00 :05 h (TU 399) ;		Udo Rudiger (ICARDA)
Lundi 11/11/24,	Déplacement Bamako – Sikasso (Hôtel du CINQUANTENAIRE)		Udo Rudiger (ICARDA) Idrissa Sacko (IER)
Mardi 12/11/24 Sikasso/Farakala	Visite de la MSIP de Farakala et du groupement de femmes paysannes 'Wutango': Suivi de l'installation et de fonctionnement de la chaine, collecte des données et discuter le plan d'affaire –		Udo Rudiger (ICARDA) Idrissa Sacko (IER)
Mercredi 13/11/24 Farakala - Ségou	Déplacement Farakala – Ségou (Hôtel Djoliba) –		Udo Rudiger (ICARDA) Idrissa Sacko (IER)
Jeudi 14/11/24 Baroeli / Segou	Visite de la USCE de Baroueli: Suivi de l'installation et de fonctionnement de la chaine, collecte des données et discuter le plan d'affaire		Udo Rudiger (ICARDA) Ahmadou Sow (ILRI) Idrissa Sacko (IER)
Vendredi 15/11/24 Segou - Bamako	Déplacement Ségou (Hôtel Djoliba) – Bamako (Hôtel Villa Soudan)		Udo Rudiger (ICARDA) Idrissa Sacko (IER)
Samedi 16/11/24 Bamako	Vol du Bamako à Dakar , Départ 15h55 (HC 308)		Udo Rudiger (ICARDA)



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CGIAR's Sustainable Animal Productivity for Livelihoods, Nutrition and Gender inclusion (SAPLING) is working in seven countries focusing on livestock value chains to package and scale out tried-and-tested, as well as new, innovations in livestock health, genetics, feed and market systems. SAPLING aims to demonstrate that improvements in livestock productivity can offer a triple win: generating improved livelihoods and nutritional outcomes; contributing to women's empowerment; and, reducing impacts on climate and the environment. Its seven focus countries are Ethiopia, Kenya, Mali, Nepal, Tanzania, Uganda and Vietnam.

