

Research Application Summary

Farmer Field School Approach adapted for improved feed availability for beef cattle production in the cattle corridor in Uganda: A case study

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Abstract

Dissemination of knowledge and skills to farmers with high adoption rates has been attained in instances where Farmer Field School (FFS) have been adopted as part of the process. They were started by FAO staff in Indonesia in 1989 with the aim of promoting integrated pest management (IPM) and have since been replicated for different types of agricultural interventions across the world. Scientists at the National Livestock Resources Research Institute (NaLIRRI) and their partners implementing interventions in the beef value chain in Uganda decided to adopt a FFS approach. The main objective was to improve feed resources for beef cattle in the country. This targeted cattle keepers in the cattle corridor districts where dry seasons are often severe causing extreme scarcity of pastures and water for livestock. The FFS approach used adopted a two-step process with the first step focused on learning at the demonstration sites and the second step focused on seed acquisition and adoption by the FFS members of the practices learnt and follow up by the FFS facilitators. Overall, 27 FFS were established across nine districts each with a demonstration site. Each FFS effectively participated in a pasture establishment and management cycle, pasture seed production and mechanised hay baling. Members of the FFS received pasture seed and established pastures on their own farms. Members of the FFS are now looking forward to sustaining these gains by developing cost-effective strategies for accessing hay baling machinery.

Keywords: Beef value chain, Cattle corridor, Farmer Field School, Uganda

Résumé

La diffusion des connaissances et des compétences aux agriculteurs avec des taux d'adoption élevés a été atteinte dans les cas où les FFS ont été adoptés dans le cadre du processus. Ils ont été lancés par le personnel de la FAO en Indonésie en 1989 dans le but de promouvoir la lutte intégrée contre les ravageurs (IPM) et ont depuis été reproduits pour différents types d'interventions agricoles à travers le monde. Les scientifiques de l'Institut National de Recherche sur les Ressources Animales (NaLIRRI) et leurs partenaires mettant en œuvre des interventions dans la chaîne de valeur de la viande bovine en Ouganda ont décidé d'adopter une approche FFS. L'objectif principal était

d'améliorer les ressources alimentaires pour les bovins de boucherie dans le pays. Cela ciblait les éleveurs de bétail dans les districts du couloir du bétail où les saisons sèches sont souvent sévères, entraînant une extrême pénurie de pâturages et d'eau pour le bétail. L'approche FFS utilisée a adopté un processus en deux étapes avec la première étape axée sur l'apprentissage sur les sites de démonstration et la deuxième étape axée sur l'acquisition de semences et l'adoption par les membres FFS des pratiques apprises et le suivi par les animateurs FFS. Au total, 27 FFS ont été établis dans 9 districts, chacun avec un site de démonstration. Chaque FFS a effectivement participé à un cycle d'établissement et de gestion des pâturages, à la production de semences de pâturage et à la mise en balles mécanisée du foin. Les membres du FFS ont reçu des semences de pâturage et ont établi des pâturages sur leurs propres fermes. Les membres du FFS sont maintenant impatients de maintenir ces gains en développant des stratégies rentables pour accéder aux machines de mise en balles de foin.

Mots-clés : chaîne de valeur de la viande bovine, corridor du bétail, champ-école des agriculteurs, Ouganda

Introduction

Farmer Field Schools (FFS) were started by FAO staff in Indonesia in 1989 with the aim of promoting integrated pest management (IPM) for rice through providing a platform for farmer education and empowerment. They have since been replicated for different types of agricultural interventions across the world. In some instances, replicating them as they were developed becomes rather complex because of the differences in different factors related with the interventions in the dissemination process. Factors such as commodities, interventions, communities and others may render direct adoption of FFS complex. As such, it is common to find FFS being adapted to different settings and hence in this case the implementation process will use a process referred to as a FFS approach. As such, adaption of the FFS approach for intervention in livestock production has also been implemented by FAO. The approach was effective with successes registered in dairy in Burundi, poultry in Lebanon and pastoral cattle keeping in Kenya (FAO, 2018). Basing on these strengths, scientists at the National Livestock Resources Research Institute (NaLIRRI) and their partners, Food and Agriculture Organisation of the United Nations (FAO), Agriculture Environment and Ecosystems (AGRENES) and Consortium for enhancing Universities Responsiveness to Agribusiness Development (CURAD) implementing interventions in the beef value chain in Uganda decided to adopt a FFS approach. The main objective was to improve feed resources for beef cattle in the country. This targeted cattle keepers in the Uganda cattle corridor with focus on nine districts, namely, Isingiro, Kiboga, Kiruhura, Kyankwanzi, Masindi, Mbarara, Nakaseke, Nakasongola and Sembabule. These are districts where dry seasons are often severe causing extreme scarcity of pastures and water for livestock.

Process. The process adopted was a three-step process (Fig. 1) with the first step focused on training one extension staff in each of the nine districts to equip them to provide oversight on the FFS activities. The second step focused on FFS members learning at the demonstration sites, and the third step focused on seed acquisition and adoption by the FFS members of the practices learnt and follow up by the FFS facilitators.

The initial field activity was identification of demonstration farms/sites in each of the nine district and these were to be used as the core learning sites for the FFS. Criteria for selection included (i) presence of beef cattle on the farm, (ii) willingness to participate in the process, (iii) willingness

to commit a minimum of five acres of land for planting pasture, (iv) committing farm labour towards the process, (v) commitment for the farm to be used as a learning site, (vi) commitment to provide support to FFS during the adoption process, and (vii) commitment to host implementing teams visiting the demonstration site to review and document progress.

Invitations in the community for individuals interested in joining FFS were sent out using various communication channels together with the key criteria for joining which mainly included (i). owning beef cattle,(ii). owning some grazing area (iii). Commitment to participate in leaning sessions at the demonstration site. The initial meeting included confirmation that all the individuals who turned up met the core criteria for membership of the FFS. The FFS members elected a female and a male facilitator who would enable smooth, systematic and organised progress review of all their activities.

The FFS members had practical sessions at the demonstration sites for (i) land preparation for establishment of *Chloris gayana* (Rhodes grass) and *Centrosema pubescens*, (ii) weeding, (iii) construction of hay barns, (iv) mechanised hay baling (Fig. 2), and (v) pasture seed harvesting (Fig 3).

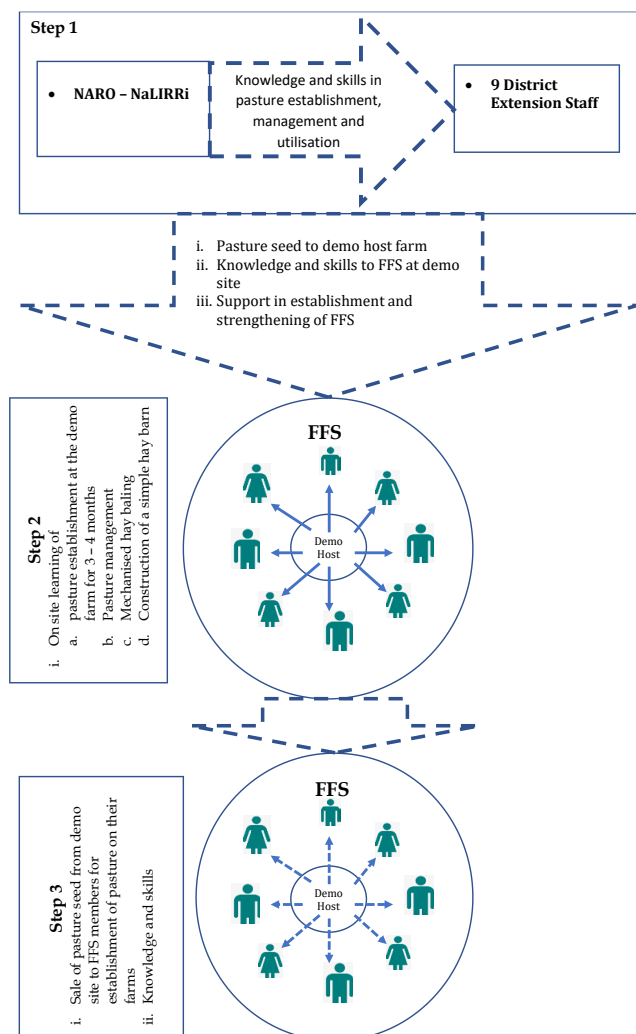


Fig. 1. Illustration of Farmer Field School three-step process for beef cattle feed enhancement in the cattle corridor of Uganda



Fig. 2. Some FFS members during a machinery hay baling demonstration



Fig. 3. *Chloris gayana* seed harvested and ready for distribution at one of the FFS demonstration sites in Sembabule district

Achievements and Discussion

Twenty-seven FFS were established across nine districts (Table 1) and each FFS elected their team of facilitators, i.e., Chairperson, Secretary and Treasurer. Each FFS also developed a constitution to guide their mode of operation and one district extension staff assumed an oversight role for all the FFS in their district to ensure that all the technical knowledge related to pasture establishment and utilisation was well understood by all the FFS members.

In this case study we share the case of Joshua a cattle keeper in Ngoma Trading Centre in Nakaseke district and a demonstration site host for a FFS. He planted 20 acres of *Chloris gayana* and the entire process of establishing the *Chloris gayana* was used in training the FFS members. During the first round of mechanical hay baling the pastures at the demonstration site produced 70 bales of hay (each 15 kg) which were instrumental in providing cattle feed in the dry season. He also harvested 115 kg of *Chloris gayana* seeds. He sold and, in some cases, gave seed to 27 members of the FFS and supported them in establishing their pastures. The community recognised the value of the FFS and Joshua is always given a time slot of 20 minutes at all village gatherings to talk about pasture improvement. This type of appreciation of knowledge and skills is quite similar to the result obtained from livestock FFS in Pakistan where a FFS facilitator ultimately became a registered training service provider (FAO, 2018). The design of these specific FFS with the creation of access to seed for the introduced intervention from the demonstration site enhanced the rate of adoption. Engagement of the districts extension staff in the process was an effective sustainability strategy evidenced by the establishment of improved pasture plots for demonstration and seed multiplication by the district extension staff at their district headquarters to expand the process after the project closed. Similar success was registered in a sustainability approach that engaged government staff in FFS in Burundi for enhancing dairy production where by the close of the project, the government decided to adopt the FFS as the national approach for agriculture and livestock extension. Livestock based FFS although relatively recent have also reported successes in Tanzania which resulted in adoption of improved livestock breeds (Larsen and Lilleør, 2014).

Table 1. Number of Farmer Field Schools established in each of the nine districts in the cattle corridor of Uganda

District	No. of Farmer Field Schools
Isingiro	3
Kiboga	3
Kiruhura	3
Kyankwanzi	3
Masindi	3
Mbarara	3
Nakaseke	4
Nakasongola	4
Sembabule	1
Total	27

Conclusion and Recommendations

The Farmer Field School approach adopted for improving feeds for beef cattle in the cattle corridor in Uganda was effective at delivering inputs, knowledge and skills for pasture improvement and hay making. Members of the FFS who planted the *Chloris gayana* will benefit from it for over seven years hence it is a worthwhile investment. The design of the FFS effectively provided for sustainability through engagement of both FFS members and district extension staff as facilitators. The FFS members now need to develop innovative cost-effective strategies for financing access to hay baling machinery and as these strategies are still being refined a number of the FFS members are using manual hay balers which are labour intensive.

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