

Livestock Café establishment and operationalisation in Uganda

Kuteesa, R.A.^{1,2}, Mpairwe, D. R.^{1*}, Angella, Z.L⁶, Nyaga, M.³, Mureithi, S. M³, Nyberg, G.⁴ and Wredle, E.⁵

1. Department of Agricultural Production (DAP), College of Agricultural and Environmental Sciences (CAES), Makerere University
2. Kachwekano Zonal Agricultural Research and Development Institute (KAZARDI), National Agricultural Research Organization (NARO)
3. Department of Land Resource Management and Agricultural Technology, University of Nairobi (UON)
4. Department of Ecology and Management, Swedish University of Agricultural Sciences (SLU)
5. Department of Animal Nutrition and Management, Swedish University of Agricultural Sciences (SLU)
6. Department of Production, Moroto District Local Government

*Corresponding author: D.R. Mpairwe; DAP, CAES, MAK
P. O. Box 7062, Kampala, Uganda.
Email: denis.mpairwe@mak.ac.ug; Telephone: +256 772 439372

Introduction

Livestock cafes are established demonstration sites where land, livestock and livelihood improvement technologies will be co-developed through research conducted on-site together with the local communities and also knowledge is shared between the project teams and the local communities

This is a novel concept that is closely related to the concept of pastoral farmer field schools with the only difference that here a permanent demonstration site is established and maintained with the local communities.

Livestock cafes are the key deliverables of objective Two of the Drylands Transform on co-developing sustainable rangeland management options with local communities and set up knowledge sharing hubs.

A complete livestock café would comprise of a kitchen garden having both food and fodder, caretakers' house, experimental site, café where people can sit and share knowledge especially the umbrella tree, hay barn, simple weather station, among other things.



Picture: Pastoralists in Rupa arriving at the livestock café to start off the day's work

Location of livestock cafes

Two livestock cafés have been established in Poron sub-county in Napak district and in Rupa sub-county in Moroto district. These sites used for establishment of the cafés were identified and willfully handed over by the communities in the respective localities. The Rupa site is representative of typical pastoral areas whereas the one in Poron is representative of agro-pastoral setting.



Picture: Livestock café site in Poron, Napak before establishment

Status of the Livestock cafes

Most of the work at the livestock cafes is done except for a few pending activities including fencing and planting of vegetable gardens. Work done so far can be rated as shown below:

1. Caretakers house

The caretaker's houses are almost completed, on average they can be considered as 90% completed, only remaining to be mudded and beautified at Rupa (Picture X) or fixing the door at Poron.



Picture : Male pastoralists excavating soil for mudding the caretaker's house

2. Kitchen gardens

Kitchen gardens comprising of Fodder and Food gardens are almost complete. Fodder gardens have been fully planted with sugar napier, gliricidia, lablab and calliandra in Napak.

Food gardens can be considered to be established at 90%. They have been planted with food lablab, cassava, beans, green gram, among other crops. Gardens for vegetable production are yet to be established at both sites. The planted food and fodder crops are establishing despite the erratic rains that have somehow strained vigorous establishment.



Picture: Lablab establishment in the Kitchen Garden of Rupa Livestock Cafe



Picture: Pastoralists planting lablab in Poron, Napak kitchen garden



Picture: Planting Gliricidia in Poron Livestock Café Kitchen Garden



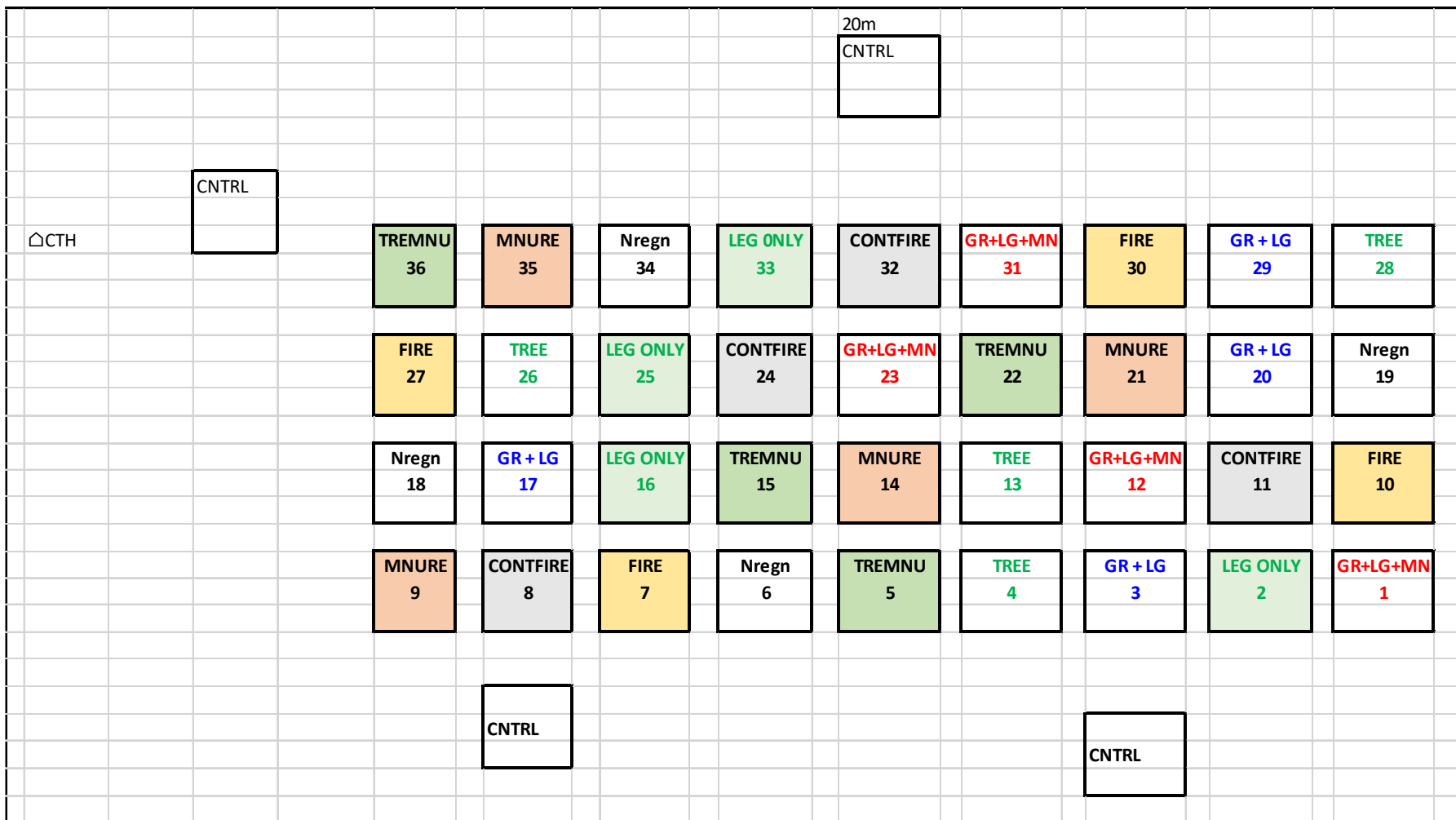
Picture: Planting sugar napier in Rupa Livestock café kitchen garden



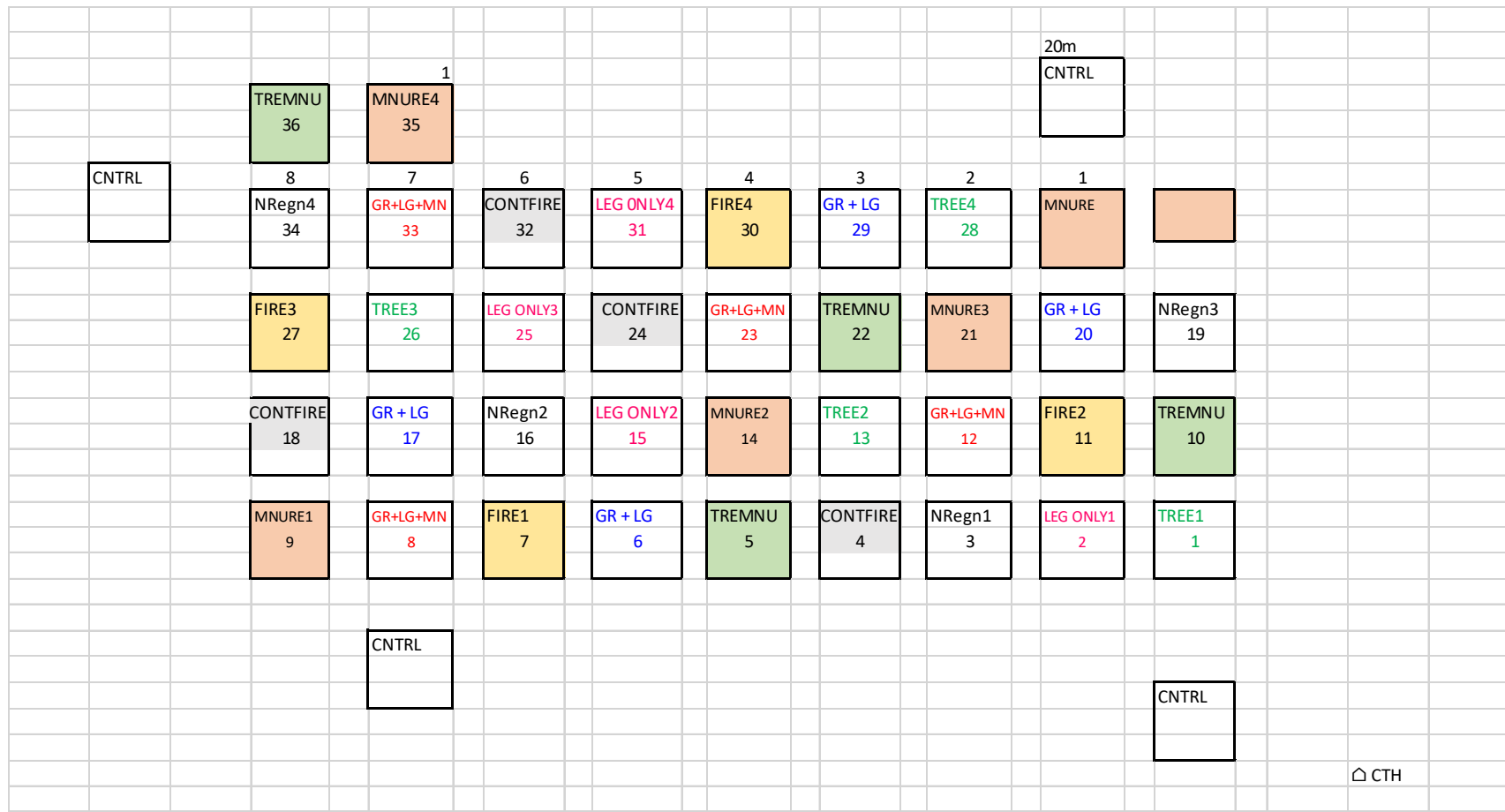
Picture: Karachunites applying manure in an experimental plot in Rupa, Moroto

3. Experimental plots

Plots measuring 20m X 20m were measured on a tractor harrowed area leaving an inter plot spacing of 4m. The marked plots were later randomly assigned various treatments as shown in the experimental plot layouts below.



Picture : Experimental plot layout in Poron Livestock café in reference to the direction of the caretakers house (CTH)



Picture: Experimental plots layout in Rupa, Moroto Livestock café in reference to the direction of the caretaker's house (CTH)

Treatment 1: Existing pasture Manure only (MNURE)										MNURE
Treatment 2: Existing pasture Oversow with Legumes only [Desmodium+Siratro+Glycine+Centro] = LEG										LEG ONLY
Treatment 3: Existing pasture Oversow with Grasses+Legumes = Chloris R + C. Gayana +Cenrus + Des +Gly + Sirat +Centro = GR										GR + LG
Treatment 4: Existing pasture Fence + Oversow with Grasses +Legumes+ Fertilize (Manure).										GR+LG+MN
Treatment 5: Existing pasture Fence + Legume trees (Acassia Senegal and Terminalia brownie (all indigenous to Karamoja).										TREE1
Treatment 6: Existing pasture Fence + Legume trees (Acassia Senegal and Terminalia brownie + Manure ferilizer.										TREMNU
Treatment 7: Existing pasture Fence + Recommended Fire regime (Controlled fire = every the other year)										CONFIRE
Treatment 8: Existing pasture Fence + Fire every dry season (current practice)										FIRE1
Treatment 9: No Oversowing - Control (Natural regeneration)										Nregn
Treatment 10: Fire regime - Control (common practice randomly located outside the within 500 metres from the Lcafé.										CNTRL

Picture: Legend to the experimental layouts for the different treatment abbreviations and colours

For the livestock cafes to be considered complete the following will have to be established first:

- i. Knowledge sharing hub (Café): This basically would comprise of an umbrella tree locally called **Ekitoikekisil** meaning peace tree where people gather and hold discussions.
 - ii. Fruit and vegetable gardens: These are gardens where both indigenous and exotic fruits and vegetable plants shall be grown to provide various health benefits. Some of the indigenous plants include Eputen, among others
 - iii. Simple weather station
- Fruit and vegetable garden



Picture: Nakarachunites applying manure in an experimental plot in Rupa, Moroto

Co-learning and practical training

During the livestock café establishment, a number of hands-on training and co-learning took place. These included:

1. House construction

There was co learning how to establish a larger house which will be hosting the care taker and a store. Dryland transform (DT) team learnt that traditionally Karimajong houses are short and smaller in size to be able to withstand the vagaries of nature especially winds and storms. And on the other hand the pastoralists came to appreciate the fact that a larger size of the houses can actually be achieved with appropriate modifications.



Picture : Livestock café caretaker's house in Poron, Napak



Picture : Caretakers house under construction in Rupa Livestock café

2. Planting of fodder

Through hands-on sessions, pastoralists in Rupa were taught how to plant different fodder species including Gliricidia, Sugar naiper and lablab.



Picture: Prof. Denis demonstrating to the pastoralist how to plant sugar napier



Picture: LHS shows a well sprouted sugar napier cutting; RHS shows a sugar napier cutting devoured by termites

3. Crop production

Pastoralists in Rupa were also taught how some new knowledge about crop production. They were taught about correct selection and planting of crops suitable for arid conditions These included

cassava, nutrient (Iron and Zinc) rich beans, and sunflower, green gram, among others. The farmers were taught about correct plant spacing to maximize the plant population per unit land area.



Picture: Women filling bags with manure to carry to the experimental plots in Rupa Livestock café

4. Rangeland restoration

Through practical sessions, pastoralists were taught on the importance of rangeland restoration and the different mechanisms that could help in restoration of the degraded rangelands. The mechanisms taught included cattle manure application, oversowing with grasses and legumes, use of controlled burning, planting trees, fencing, among other regenerative mechanisms.

The pastoralists in Rupa also were taught management of weeds in pastures especially the weed locally called **Epoo**; which is known for making milk to go sour when cows feed on it. The pastoralists were later allowed to participate in the measurement of the experimental plots and establishment of the different treatments.



Picture: Tractor harrowing the experimental plot area near the kitchen garden



Picture : Bags of shoat manure at the Livestock café site in Poron, Napak



Picture : Pastoralists attend a training session on manure application



Picture: Manure application in the experimental plots of Poron, Livestock café

5. Group dynamics and division of labour

Both the DT team and the pastoralists co-learned that much more work could be accomplished if smaller teams were formed each with a local leader to give instructions. A simple social experiment where teams comprising different gender were formed and given the same tasks and observations were done on how much time they took to accomplish a task, how much time was spent talking rather than working, how much time was spent just talking and or sitting down.

It was observed that the Nakarachunites (Female youth) worked far much better than the Karachunites (Male youths), male and female adults. It was observed that groups worked better if they were comprised of the same sex and/or age than when male and females are mixed and or old are mixed with the youth. Mixed groups performed poorly because most of the times male would just stand to order around the females because the male sex is culturally raised to dominate over the female gender.

Picture: Various groups assigned similar tasks

Challenges faced

The Ugandan DT livestock café has experienced a couple of challenges in their bid to establish the livestock café sites which include the following among others;

1. Non-motorable roads during rainy periods

Majority of the roads to the livestock cafes are seasonal in nature becoming completely impassable during the rainy season.



Picture: Road to Poron flooded and impassable even to the famous 4-wheel drive Landcruiser

2. Insecurity incidences

From time-to-time cattle raids happen and the settling pastoralists are shaken up. During some of the raid people are often killed which has continually instilled fear in the native and often times they do not like staying at the livestock café for very long periods in fear of being found there by cattle raiders. We can only work up to early afternoon and have to vacate the field before it gets late



Picture: Night kraal for cattle on the way to Poron, Napak

3. Unpredictable weather conditions

The climate in the area has greatly changed and hence the local predictions on when the rains would come are often not right which could result into loss of the planted fodder and food crops in the café



Picture: Cattle grazing in Rupa subcounty near the livestock café

4. Termites

Due to low organic matter in the area, the termites will attack whatever fodder and food crops establishing. This could possibly affect the establishment rate of the planted crops.

5. Poor environmental management

Often times, you may find that the natives have cut a tree or two within the café just because they are used to cutting trees.



Picture: Clearing the road of stones to make the road passable

6. Distant site location in Rupa, Moroto

The livestock café site identified is far away from the nearest communities. This necessitates provision of transport for the people visiting the café otherwise it would take a very long time for one to walk to the cafe. This is of course very challenging ferrying a large number of people in a twelve-sitter land cruiser.



Picture: Over 25 people trying to squeeze in and/ or onto the land cruiser to return home after the days work



Picture: Dropping off the pastoralists after the day's work

Lessons learnt

1. There are plenty of locally available resources within the rangelands let us use them as much as possible for example people eat Balanitis as a snack why buy chapatis; we could possibly ask the locals to collect Balanitis and we buy it from them, have it prepared their way and then used as an accompaniment for tea
2. Milk should be bought and used at the café meetings for tea, we should avoid buying unhealthy drinks such as sodas



Picture: Pastoralists taking soda and chapati during a work break

3. Drinking water should be treated at the livestock café to show people how clean water can be obtained from dirty water sources through refining
4. Complete meals should be prepared at the livestock café to enable the pastoralists appreciate healthy diets. Posho, beans, vegetables and fruits should be included to come up with a low-cost food ration.
5. Segregation by sex and age is very important factor for enhancing healthy group dynamics to accomplish tasks and learning since there would be far less distractions and male dominance



Picture: Young and the old pastoralists have been equally involved in café activities

6. Start and end all café activities with a briefing about the livestock café concept because every day new people visit the café and we need to cease every opportunity to let word out about what we are doing and also encourage local ownership.



Picture: Ronald giving a brief to the pastoralists about the livestock café activities

Acknowledgement

The pastoral communities within the environs of the livestock café are greatly appreciated for actively participating in the co-learning process and knowledge sharing that is already on-going. We also greatly appreciate Ms. Anna Sward who provided a helping hand in demarcation of the plots in Poron, Napak



Picture: Anna helping in the marking of the experimental plots in Poron, Napak

Author Contributions

DRM, SMM, GN, EW conceptualized and conceived the experimental designs, EW is the team lead for Livestock café, RAK & MN actively participated in the establishment of the livestock café as guided by DRM. SSM, GN & EW. ZAL coordinated field activities and logistics. DRM, RAK, SMM & MN participated in the training and co-learning activities in the livestock café during establishment.

Funding information

Livestock café establishment is being funded by the Swedish Research Council for Sustainable Development, Formas under the Drylands Transform Project; Achieving the SDGs in East African drylands: Pathways and challenges towards a social-ecological transformation of landscapes, livestock and livelihoods.