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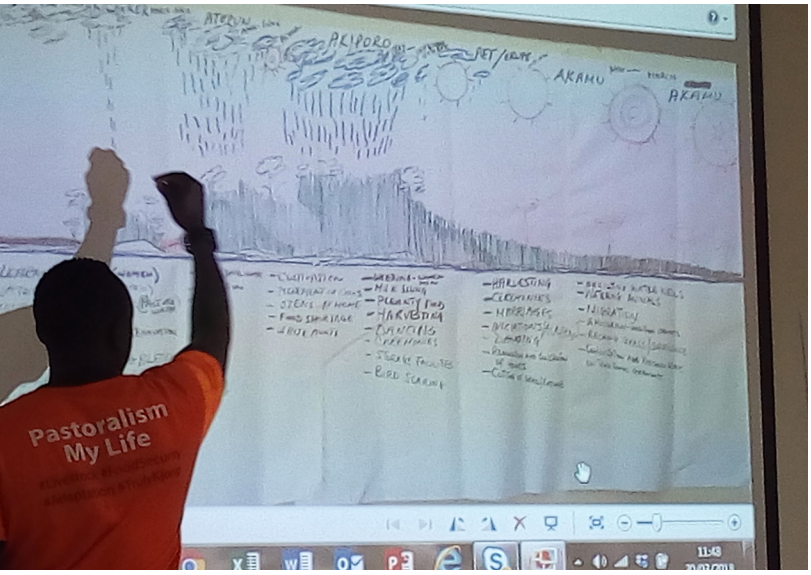

Karamoja Resilience Support Unit (KRSU)

TRAINING OF TRAINERS PASTORALISM AND PASTORAL POLICY COURSE

March 19–23, 2018
Kampala, Uganda

Tufts UNIVERSITY
FRIEDMAN SCHOOL OF NUTRITION SCIENCE AND POLICY
Feinstein International Center
Tufts Global, Inc.

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The training of trainers (ToT) course was the second of a five-part series of courses called the *Pastoralism and Policy in East Africa* organized by the Karamoja Resilience Support Unit and facilitated by the International Institute for Environment and Development (IIED).

The training process is based on the *East Africa Pastoralism and Policy* course developed by IIED and Feinstein International Center, Friedman School of Nutrition Science and Policy, Tufts University. It was designed to help decision-makers and planners better understand the scientific rationale underpinning sustainable pastoralism, while simultaneously strengthening the skills of pastoralists and their advocates to articulate the economic, ecological and social benefits of their livelihood systems and argue for their inclusion in national policy.

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ACRONYMS

CBR	Center for Basic Research
CSO	Civil society organization
FAO	Food and Agriculture Organization of the United Nations
IIED	International Institute for Environment and Development
KDF	Karamoja Development Forum
KQ	Key question
KRSU	Karamoja Resilience Support Unit
M&E	Monitoring and evaluation
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MUK	Makerere University, Kampala
NARO	National Agricultural Research Organisation
NCHE	National Council for Higher Education
NGO	Non-governmental organization
OPM	Office of the Prime Minister
PPP	Pastoralism and pastoral policy
PPPC	Pastoralism and Pastoral Policy Course
ToRs	Terms of Reference
ToT	Training of trainers
VSF-B	Vétérinaires Sans Frontières Belgium

BACKGROUND

Pastoralists and agro-pastoralists are one of the most researched yet least understood groups in the world. Despite decades of empirical research, many policy makers, government staff, non-governmental organization (NGO) personnel, and the broader public believe that the levels of poverty and conflict facing many pastoralists and agro-pastoralists are the result of their production system. Livestock mobility, a key feature of pastoralism, in search of markets, nutritious pastures, and water, and as a mechanism to avoid stress, is widely believed to be a primitive way of life that is uneconomic, environmentally destructive, a source of conflict, and incompatible with a modern world.

Policy has consistently ignored both the scientific evidence on the dynamics of dryland ecosystems and the strategies and institutions used by local people to exploit environmental diversity and unpredictability to their advantage. The inability of local pastoral and agro-pastoral communities to articulate the rationale of their livelihood system and the scope and scale of its benefits to the economy, the environment, and society further exacerbates their marginalization.

This poor understanding has contributed to the prevalence of inappropriate policies and interventions for pastoral and agro-pastoral development, many of which have undermined local institutions and their strategies for responding to, among others, drought, disease, and conflict. This scenario poses a serious challenge to the sustainability of the rangelands in Africa's drylands, particularly in a context of increasing climate variability and change.

To contribute to addressing these challenges in Uganda, the Karamoja Resilience Support Unit (KRSU) commissioned the International Institute for Environment and Development (IIED) to run a 5-day workshop to introduce a pastoralism and pastoral policy training course developed for East Africa to a multi-stakeholder group.

Participants at the workshop, held in Moroto (April 2–7, 2017), unanimously agreed that the training, if adapted to the Ugandan context, would enable more informed decision making in support of climate-resilient development and service provision in Uganda's pastoral areas, particularly Karamoja.

Workshop participants also agreed on the broad institutional framework within which the adaptation process would be managed, involving Makerere and Gulu Universities, the Center for Basic Research (CBR), and the Karamoja Development Forum (KDF).

Further consultations between KRSU and these institutions over 2017–18 have led to the establishment of two "bodies" to manage the adaptation process:

- A **multi-stakeholder reference group** to provide strategic oversight over the adaptation process;
- An **adaptation team**, drawn from the participating institutions, responsible for the implementation of the adaptation process, with technical support from IIED and KRSU.

KRSU organized the first of a series of Training of Trainers (ToT) workshops to kick-start the adaptation.

Workshop objectives

The workshop's aims were:

- To build consensus on the objectives, activities, deliverables, and timeline of the adaptation process aligned to participating organizations' strategic objectives in promoting pastoralism and agro-pastoralism in Uganda;
- To agree on the institutional framework and the respective roles and responsibilities of the multi-stakeholder reference group, the adaptation team, and participating organizations in the adaptation process;
- To build understanding of the internal structure and content of the East Africa training in preparation for its adaptation;
- To identify and agree on a work plan for the adaptation process, including inputs into Terms of Reference (ToRs) for a participatory review of how pastoralism is taught, researched, and/or communicated at the four participating institutions.

BACKGROUND

Workshop program

The 5-day workshop consisted of the following sessions:

- **The strategic value of a training course on Ugandan pastoralism and agro-pastoralism.** Participants discussed how training on pastoralism and agro-pastoralism will add value to ongoing processes within their own and other institutions for the promotion and support of pastoralism in Uganda.
- **The adaptation objectives, process, activities, and deliverables.** This session presented and discussed the process and the activities that will be implemented over the next 18–24 months to complete the adaptation process. This included discussion on how to align delivery of the adaptation process with university curriculum development, and monitoring and evaluation (M&E).
- **Institutional framework and arrangements.** This session reviewed and devised means to strengthen as necessary the ToRs of the multi-stakeholder reference group, the adaptation team, as well as reviewing the roles and responsibilities of all participating institutions. Key provisions were identified for inclusion in Memorandums of Understanding.
- **Introduction to the East Africa training course.** Participants were introduced to the East Africa training course, its overall structure and content. Detailed presentations were made on key sections of the trainings to enable discussion on the nature of the adaptations to be made for the Uganda context. This identified the specific tasks the adaptation team will need to deliver before the next ToT workshop.
- **Definition of work plan.** On the final day, a detailed work plan for the adaptation process was agreed on by all participants.

DAY ONE

SESSION 1: OPENING SESSION

KRSU Chief of Party Mesfin Ayele welcomed participants to the workshop and briefed them about the motivation for the workshop and the target audience. He expressed his gratitude to IIED for providing the resources to develop the course. After a round of introductions, participants wrote down their expectations and reconciled these with the objectives for the workshop in a participatory manner. See Table 1 for the workshop objectives and participants' expectations.

Table 1. Objectives and expectations for the workshop

Objective	Expectations
i) To build consensus on the objectives, activities, and timeline of the adaptation process aligned to participating organizations' strategic objectives in promoting pastoralism and agro-pastoralism in Uganda	• Mainstream pastoralism and pastoral policy (PPP) in academia/school curriculum • Develop a shared vision on the training of pastoralism in Uganda • Learn why Feinstein International Center, Friedman School of Nutrition Science and Policy at Tufts University is interested in pastoralists
ii) To agree on the institutional framework and the respective roles and responsibilities of the multi-stakeholder reference group, the adaptation team, and participating organizations in the adaptation process	• Gain an understanding of the roles of the key stakeholders in implementation of the course • Have the policy audience embrace PPP • Become a ToT on pastoralism • Become a center of pastoral studies (pastoral development and productivity, nomadic education) • Institutionalize the PPP course into university curriculum
iii) To build understanding of the internal structure and content of the East Africa training in preparation for its adaptation	• Find ways of reducing movement of pastoralists from one place to another • Understand course content • Find ways of integrating livestock and cropping systems in pastoralism • Learn how the roll-out process will benefit from experiences of other countries • Have this PPP course mitigate cross-border tensions, e.g., Teso/Karamoja • Have this PPP course mitigate intra-ethnic tensions in Karamoja
iv) To identify and agree on a work plan for the adaptation process, including inputs into ToRs for a participatory review of how pastoralism is taught, researched, and/or communicated at the four participating institutions	• Understand the implementation road map • Roll out work plan and timeframe • Learn how to apply the course in programs and projects

DAY ONE

Welcome remarks

Honorable Member of Parliament for Kaabong, Dodoth East County and also the Chairperson for Karamoja Parliamentary Committee Honorable Samson Lokeris welcomed the members to the training and thanked KRSU and the United States Agency for International Development (USAID) for continually funding the process and for selecting Karamoja as an area of interest. He further highlighted the need to select modules from the PPC course that could be relevant to the school of agriculture in Karamoja.

The Honorable Member, who participated in the PPP taster course that recommended adaptation of the course to Karamoja Region, noted that the multi-stakeholder meeting held in April 2017 in Moroto was very informative for him and therefore told the participants to expect to learn a lot from the workshop.

Honorable Samson Lokeris emphasized the need for the adaptation team to come up with strategies and relevant statistics that can be sold to Parliament so as to influence policy makers to draft a policy on pastoralism. He informed the audience that the issue of pasture management and burning grass has popped up during other discussions; for example, during discussions about the National Environment Management Authority (NEMA) bill. He concluded his remarks by pledging to work with the team of stakeholders that had gathered for the workshop.

SESSION 2: SETTING THE SCENE

Negative		Positive
Backward	Primitive	Positive outlook
Hostile	Unsustainable	Resilient
Disorganized	Ignorant/illiterate	Hardy
Conservative	Not environmentally friendly	Rich traditional knowledge
Steal cattle	Live in arid and barren areas	Passion for animals
Unproductive areas	Source of conflict and disease	Patient

This session focused on the context of pastoralism in Uganda. The participants brainstormed as a group about the dominant narratives of pastoralism in Uganda, key characteristics, and premises of the narrative. See the table for the brief of the discourse that ensued from the discussion.

What underpins the narrative? (justification for narrative)

- They are found in places that are underdeveloped; thus, they are perceived as backward and ignorant.
- Owning guns deems them to be hostile.
- The areas are underdeveloped because policy makers are biased about them.
- Policy makers cite climate change as the driving force for pastoralists to roam.
- Books, school curricula, places of worship, and academicians portray a negative narrative about pastoralists. Unfortunately, many of these are sedentary crop farmers who don't come from these places. Even those who come from these areas perceive certain attributes as backward. The negative perceptions are formed at an early age.
- There is unwillingness by policy makers and other stakeholders because they think pastoralists cannot change.
- Nobody has a clear understanding of this kind of community and how the system works, so they look at it from the outside.
- The politics of who defines the narrative; non-pastoralists drive the narrative, and they use their own yardsticks/parameters to measure pastoralists' level of economic success.
- Publicity in media drives the negative perception.

Points for reflection

- Are there sectors with similar narratives, e.g., economics, environment, institutions/governance, ecology and livelihoods, education system, or politics, and how can they be influenced to drive a positive narrative?
- The training is structured around key questions (KQs) with supporting arguments.

In order to obtain the individual reflections of the participants, a questionnaire was handed out to them. The results are in Appendix I.

Overview of the KRSU program

KRSU Chief of Party Mesfin Ayele shared with the participants the context and rationale of KRSU program and the rationale for the PPP course. He also briefed them about the highlights of the PPP taster course held in Moroto in April 2017. He then gave an overview of the pastoralism and policy training adaptation project (KRSU and/or IIED): objectives, deliverables, activities, timeframe, institutional arrangements, progress to date, and key issues pending.

Feedback from presentation on overview

- National Council for Higher Education (NCHE) is a regulatory body, so it might be better to involve them at the level of accreditation.
- Honorable Lokeris suggested that the presence of a policy on pastoralism will boost the dissemination of the course; hence the need to coordinate with the Office of the Prime Minister (OPM) to pursue this. Despite the fact that some of the concerns have been included in the rangeland policy, there is still a need to build a critical mass so as to influence policy makers in order for them to appreciate the need for a policy on pastoralism.
- Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) should be included as members of the reference group in order to avoid friction at the point of disseminating the training.
- There is increased interest by students from various institutions in going to Karamoja. Given that MAAIF has a challenge with staffing in this area, this course could be a good incentive for those students.
- Language use and terminology are very important because they may have either a negative or positive influence on the target group. Positive attributes of the course will eventually have an impact on policies and policy makers.
- As a startup, should the course be introduced as a stand-alone or cross-cutting course? (This is a spillover discussion from the meeting held in Moroto in April 2017)
- Avoid planning in a vacuum. The course should align with National Development Plan (NDP) and sector development policy. There should be a justification to avoid problems at accreditation.

SESSION 3: OVERVIEW OF THE EAST AFRICA TRAINING (IIED)

Pastoralism and policy in East Africa

This session focused on sharing with the participants:

- The objectives and history of the training;
- The overall structure of the training (handouts provided to participants);
- Explanation of two modules, KQs, and arguments (A) structure;
- Explanation of the training approach and demonstration of how the training is done.

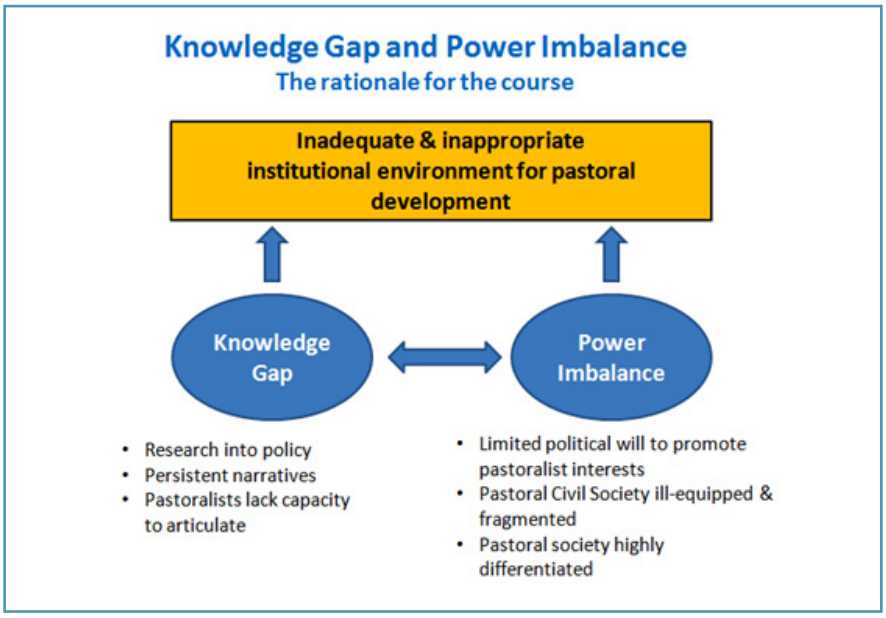
Lead Facilitator Ced presented a visual that expounds on the thought process that guided the process of drafting the manual. It highlights a strong linkage between knowledge and policy and emphasizes building the capacity of pastoralists. The short-term goal is a training manual, while a long-term goal is to publish textbooks. See Figure 1. for the framework.

Feedback from trainees

The framework provides a more structured way of delving into the challenges around pastoralism in terms of policy, the knowledge gap, the power imbalance, and development. It can be used to situate the context in Uganda.

Power imbalance: The observation is that pastoralists' power is marginal; there are limited cases where they are in control. Is it just a question of pastoralism being marginalized from power in the sense of location, or is it related to state institutions or is it related to their thinking?

Figure 1. Conceptual framework for PPP course.



The modern perception of "power" by Government differs from or contradicts that of the pastoralists; the parameters and indicators differ. This can be synchronized in two ways: communicating to the Government about this or building the capacity of the pastoralist community to communicate their position. The power dynamics within the pastoralist community should not be ignored.

Development: Efforts should be made to integrate pastoralism at the household, regional, and national level. Currently, there is no pastoral policy in Uganda. The structure of the pastoralist system does not work well with the national taxation system; facilitating dialogue around this is pertinent. The availability of appropriate laws and a policy framework to support pastoralism is a prerequisite, yet Uganda has no law/policy on pastoralism.

Knowledge gap: The contribution of livestock and/or pastoralism has not been quantified. This is an area to explore further.

NB: There is a need to reconcile power dynamics with knowledge obtained from academia. Civil society organizations (CSOs) are better placed to advance advocacy on these aspects. A key area for academia to research is quantifying the contribution of the pastoral system to the national economy and comparative studies of the economic benefit of pastoral systems with other land use systems. A multi-disciplinary and trans-disciplinary approach by the various disciplines (economic sciences, environmental sciences, social and human sciences) will facilitate buy-in. The adaptation team should have representation from all these disciplines.

Sharing experience from Nairobi

"In light of inadequate evidence on economic contribution of pastoralism, through support of IIED, students from Nairobi University were sponsored for masters and PhDs in the university of Nairobi in this aspect. The findings were compiled into policy briefs, and the end result is that there is a broader knowledge base on the subject and these briefs are being used to advocate for pastoralism," according to Raphael, KRSU/Feinstein.

Group exercise on pastoralism as a system

Pastoralism is a SYSTEM composed of three components (the "pillars"). These three pillars are natural resources, the herd, and family and wider institutions. The participants participated in a brainstorming exercise aimed at demonstrating how these three key components are inter-connected and that if pastoralism is to work as a system, all three pillars have to work. See Table 2 for the guiding questions and responses from the exercise.

Table 2. Guiding questions and responses

Guiding Questions	Responses
Is pastoralism a system? What are the constituent parts? How do they influence each other? What factors in the wider environment affect the pastoral system?	Pastoralism is more than a system; it is a super-system that constitutes a number of smaller systems that work independently and together. There was unanimous agreement that it is a system unlike the negative narratives that describe it as "disorganized;" hence efforts should be made to portray it as a system. System constituent parts: • Physical environment (weather like rainfall, sunshine); • Natural resources (pasture, water, minerals (salt), land, vegetation, people (pastoralists and institutions around them—cultural, religious, political, economic, social—crop farmers), livestock (all animals) • Technology—mobile phones, guns; • Services—market, health, education, veterinary, financial institutions. Mobility is a key aspect, and there is linkage between the three pillars. Each component has its own dynamics, and they do influence each other. Dynamics in the herd involve multiplication, birth, and death, while for pastures it entails dry-out and burning. Effect of herd on family is around the availability of food and disposable income.

DAY TWO

Recap of Day One - key learnings

- Appreciation of the fact that pastoralism is a system consisting of three pillars. Those pillars should work in equilibrium, and they are in a state of mobility.
- Narratives about pastoralism are shockingly negative.
- There is a lot of information, yet we don't seem to comprehend the most important things or ways to harness that information to support pastoralism.
- Need to bring on board all other stakeholders, e.g., Government, NCHE.
- Pastoralism is a system, and social, economic, and ecological systems cannot be considered in the absence of one another but must be understood as being related, integrated systems.
- Any effort that attempts to increase efficiency of one element of the system may lead to inefficiency of the other.
- Analysis focused on one element of the system without considering the other aspect, as a basis for decision making for sustainability, can lead to narrow and wrong assumptions.

Ced gave an overview of the content of each module:

- Module 1 analyzes the dynamics of pastoral systems;
- Module 2 analyzes the policy challenges and options for pastoralism;
- Module 3 advocates for the change.

SESSION 4: MODULE 1

Module 1 emphasizes the three pillars of the pastoral system and their interconnectedness. For example, livestock need water and pasture at the same time and are looked after by people following rules and regulations over access to resources to ensure their sustainability and avoid conflict; hence the interdisciplinary approach is important when researching and understanding pastoralism.

Summary of reactions from participants

- Experiences about the training should embrace a multi-disciplinary approach and participation. Each discipline has a role to play in terms of giving knowledge, getting knowledge from the community, interpreting the training, and delivering it to pastoralists.
- There is interdependence of the three pillars of the system; therefore, elimination of one of the pillars could break down the system. The assumption has been made that everybody is interested for altruistic reasons in what is good for pastoralism, but there are those who are against it. Access to this insight by people against pastoralism could be destructive. For pastoralists, especially Karamojong, trust must be built over time before they will share information.
- KDF and other stakeholders have to take on an active advocacy role to ensure implementation of policies that support pastoralism.
- The suggestion of involving pastoralists in the training since they are the primary beneficiaries was emphasized.
- There is a need to carefully tease out the appropriate stakeholders to work with in order to make the message reach the people for which it is intended. For a long time, there have been both national and international efforts. CSOs have been spearheading the efforts to promote the pastoralist agenda.
- Explore the possibility of taking on pastoralism as a tourist attraction.
- Apart from advocacy, the gender aspect should be incorporated in all the three pillars because women contribute immensely in all the three pillars. Evidence should be generated to support this.

Illustration of training approach

The lead facilitator, Ced, then illustrated how the trainer conducts the training using various visual aids and data.

Participants were presented with various visuals and allowed to brainstorm and interpret them.

Key features of training

- Experiential—three-step process that consists of: (i) presenting participants with some data, a photo, and a short case study and asking them to analyze what it means; (ii) then asking them to justify or provide evidence in support of their analysis; and finally (iii) either confirming their analysis or challenging it with additional or new data/information.
- Validates and brings together indigenous and scientific knowledge
- Builds capacity to use evidence to articulate rationale that underpins pastoralism
- Policy-oriented
- Multi-disciplinary
- Political, economic, and historical approach
- Gender perspective and analysis
- Use of visual aids
- Mixed participants: by gender, academic background, age, livelihoods, etc.

A. Mobile vs. sedentary livestock systems. See Table 3 for a comparison of productivity of sedentary and mobile livestock in Southern Darfur.

Observations: Productivity is higher for mobile livestock compared to those in a sedentary setting. It has also been noted in Karamoja that cows in a pastoralist setting have better productivity. This could be attributed to the fact that when animals move they get better pastures, while there is a possibility of accumulation of pests and diseases when animals are in one place.

Table 3. Productivity in sedentary vs. mobile systems

7 herds: 3 sedentary & 4 mobile	Sedentary	Mobile
Meat production per kg of breeding female	0.023 kg	0.057 kg
Calving rate	45%	65%
Total deaths	35%	15%
Calf deaths	%40	%11

Source: Wilson and Clarke, 1976, Studies on the livestock of Southern Darfur, Sudan II. Production traits in cattle. *Tropical Animal Health and Production* (8): 47-51.

B. Comparative output from settled commercial ranching versus open-range pastoralism. See Table 4 for a comparison of productivity in the two systems.

Observations: Productivity is higher under the open-range pastoralism system. One key policy directive is to convert rangeland into ranches; the information in the table would reliably inform policy makers and

Table 4. Productivity of pastoralism vs. ranching

Productivity of pastoralism vs. ranching (ranching = 100%)		Units of measure	Source
Ethiopia (Borana)	157% relative to Kenyan ranches	MJGE/ha/yr (calories)	Cossins, W. J. 1985. The productivity of pastoral systems. *ILCA Bulletin* 21: 10–15.
Kenya (Maasai)	185% relative to East African ranches	Kg protein production/ ha/yr	Wesern, D. 1982. The environment and ecology of pastoralists in arid savannas. *Development and Change* 13: 183–211.
Botswana	188% relative to Botswana ranches	Kg protein production/ ha/yr	de Ridder, and K. T. Wagenaar. 1984. A comparison between the productivity of traditional livestock systems and ranching in Eastern Botswana. *ILCA Newsletter* 3(3): 5–6.
Zimbabwe	150% relative to Zimbabwe ranches	Zimbabwe $/ ha/year	Barrett, J. C. 1992. The economic role of cattle in communal farming systems in Zimbabwe. *Pastoral Development Network Paper* 32b. ODI, London.

thus influence them to support pastoralism. The general discourse tends towards replacing ranching with pastoralism. Besides, figures on productivity can be misleading when one has to make decisions for the entire nation basing those decisions on other aspects of the economy. The United Nations has done a lot of studies in Karamoja, and findings indicate that there is more stunting of children and high food insecurity in communities practicing crop cultivation.

C. Total estimated contribution of livestock to Ethiopian national economy = 113 billion Birr (USD 5.1 billion) per year (Ethiopia national budget, June 2011 = 118 billion Birr).

Observations: It was noted that there are no specific data to show the actual contribution of livestock and particularly pastoralism to the national economy of Uganda. The Uganda National Bureau of Standards generates data, but the indicators are too narrow.

D. Revenue per hectare. See Figure 2 for a comparison of revenue for three uses of the Awash floodplain in Ethiopia.

E. Tourism: $85 million is provided to Tanzania's northern circuit tourism industry each year through preservation of dry season pastures. It was noted that pastoralism is compatible with wildlife.

F. Grasslands store approximately 34% of the global stock of CO_2—a service worth $7 per hectare.

G. Product branding has an indirect value. Use of pictures promoting pastoralism for branding consequently changes the negative perception of pastoralism.

H. Another advantage of pastoralism is that it **keeps carbon in the soil;** trees and grass act as a carbon sink.

I. Pastoralism makes a significant contribution to other sectors, e.g., employment in meat roasting and milk dairies.

Exercise

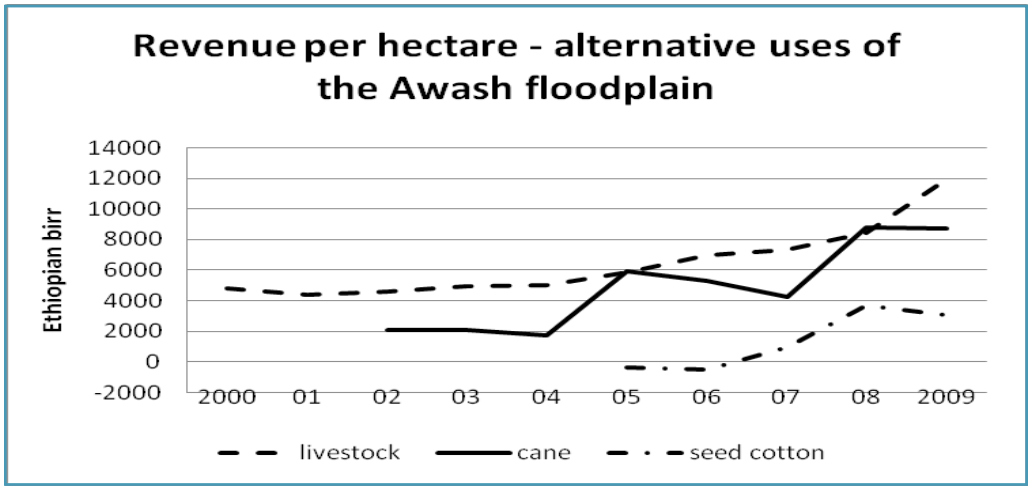
1. On basis of data seen, how do pastoralists manage this environment to out-perform other land uses in the drylands?
2. Why is it that many policy makers overlook the significant contribution of pastoralism to the national and regional economy?

Responses to exercise questions

Responses to question 1:

- Mixed species grazing, maximum utilization of grazing ground and niches, small ruminants prevent growing of bushes and stimulate growth of grasses;

Figure 2. Revenue from alternative uses of Awash floodplain, Ethiopia.



- Stocking density in ranching is regulated to a number of animals. Hence, animals fatten, but in pastoralism there are more animals per hectare;
- Sustainability of ecosystem. Pastoralists exploit different ecosystems at different times. Pastoralists make use of different places at different times and weather conditions. Hence, the system allows cattle to move from one place to the other;
- Pastoralists keep animals that are genetically adapted to the environment. Hence, they will be able to make use of the resources available;
- Pastoralism allows other activities like hunting or bee keeping. Hence, more productivity is possible;
- Pastoralists keep the best resources for last. As the environment becomes more adverse, they move to the best resources, which favors the livestock;
- Pastoralists use a more opportunistic stocking rate. They follow availability of resources through mobility and thus are able to keep more animals;
- They keep diverse species that exploit the diverse ecosystem, unlike the ranch system, where cattle eat limited types and species of vegetation. Pastoralists also keep diverse range of age and sex, of animals and species.

Response to question 2: Preference for policy is to go for commercialization of agriculture, which means avoiding mobility, improving breeds, investing in land, and advancing infrastructure.

There is a need to tailor messaging and arguments around pastoralism to respond to Government policy directives. Messages should highlight the potential implications of removing pastoralism in favor of ranching on food security and climate suitability in Karamoja. Policy makers are more interested in the comparative advantage of the two production systems.

Pillar 1: Natural Resources

KQ 1: What natural resources are needed for pastoralism in East Africa?

A 1: Natural pastures are the major source of feed for the majority of livestock in East Africa.

Participants noted that:

- Varying structure/ecosystems support different animals and require different management approaches; thus, it is better to have different ecosystems. These offer different resources, with differing nutritional values. Varying seasons offer differing quality of pasture; hence, mobility allows livestock to benefit from the variety;
- Pastoralism offers opportunities to benefit from resilience of various places in varying seasons and times of year;
- Diversification allows species to supplement each other.

Key policy intervention area: Justify why pastoralists need to access different ecosystems.

KQ 2: What are the dynamics of natural pastures in East Africa?

A 2: Seasonal variations have an influence on pastures.

Through a participatory process, draw/design a seasonal calendar with the trainees. In order to understand the seasonal calendar for pastoralists in Karamoja, it is important to find out when the pastoralist year commences. This process entails a lot of arguments; it highlights why people do certain activities such as digging shallow wells, castrating male livestock, and controlling breeding of animals at certain times of the year. The Karamojong seasonal calendar is determined by the rainfall pattern.

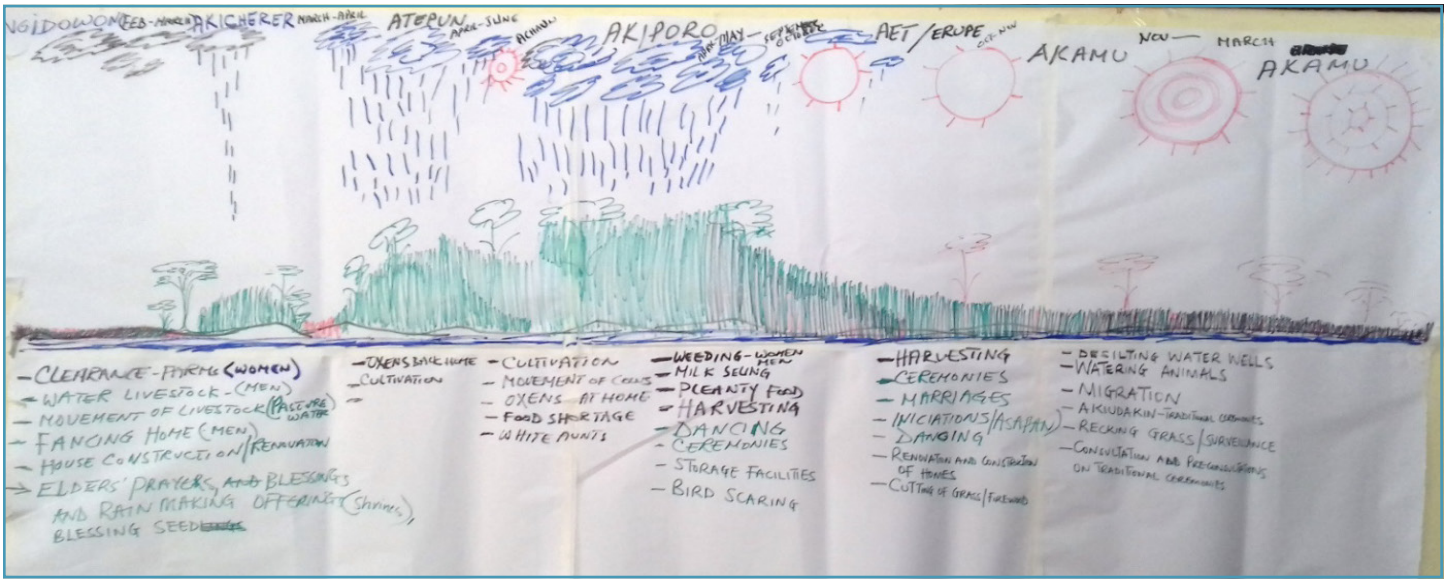
The seasons are determined by location and size of certain stars.

Note: Efforts should be made to harness the indigenous knowledge and repackage it into a form that can be used for advocacy with policy makers and all other relevant stakeholders. The seasonal calendar is a useful tool throughout the training.

Participants noted that:

- Rainfall and moisture have an influence on nutritional quality; nutrients are higher during rainy seasons. The amount of rainfall will determine if nutrients will be retained or not. A lot of rainfall may lead to leaching of nutrients. This explains why animals look healthier during the dry season. The nutritive content of the pasture is high towards the first period of the dry season and then drops later.
- The nutritional quality of grasses is higher in the wet season than the dry season.
- Dry season grasses have very little water, lower protein content, and lower digestibility. This results

Figure 3. Seasonal calendar for Karamojong.



in animals losing weight and productivity during the dry season.

- Wet season pastures have higher water and protein content and higher digestibility. This means animals put on weight, produce more milk, and are in better condition in the wet season.
- Minerals are important for livestock productivity.
- Apart from season, fire and soils affect quality of grasses.
- Massive invasion of grazing areas to open up land is an issue to consider. Charcoal burning by women for household use and to supplement household incomes is an issue of concern.

Possible policy intervention areas: *Reduce bush burning and deforestation and increase tree planting in rangelands, advocate against large-scale commercial agriculture that requires mechanization.*

DAY THREE

Recap of Day Two key learnings

- Economic value and benefits of pastoralism are greater than those of ranching based on case studies shared in the presentations.
- Seasonal variation has an effect on pastures in terms of nutrient value and availability.
- Herders make choices about whether to allow cattle to take hay, soft grass, leaves, shrubs. The perception that most people have is that pastoral mobility is haphazard, which is not true. Mobility is intentional and is based on availability and convenience. Pastoralists' logic for mobility is consistent with scientifically proven aspects of varying nutrient content among the various ecological systems in rangelands.
- There is a high percentage of economic contribution of the livestock sector to the Ethiopian economy as compared to the small percentage of financial disbursement it obtains from the Government.
- The availability of a wide range of ecosystems is a major strength of rangeland ecosystems and thus justifies the mobility of pastoralists.
- Trees have a higher nutritive value compared to grasses throughout the rainy and dry seasons.
- Sensitizing all stakeholders at all levels, including at the community level, about the value of pastoralism is important.
- Studies must have specific research or case studies that quantify the contribution of pastoralism and the livestock system.
- Devise strategies to tap into the vast indigenous knowledge and find effective ways to communicate it to the rest of the stakeholders.
- There is a need to repackage available statistics and terminology into forms that are appealing to policy makers and the general population.

KQ 2, A 2

Ced facilitated a discussion based on KQ 2, A 2: "Total seasonal rainfall has an important influence on the nutritional quality of pastures." Below is the discourse that ensued from the presentation of various statistics related to KQ 2, A 2.

Discussion and observations

- There is an optimum amount of rain needed for growth of pastures, implying that there is a positive correlation between rainfall amount and pasture production. The more it rains, the more the grasses grow.
- There is an observation that vegetation in arid areas is generally more nutritious compared to that in tropical areas. See Table 5 below. There are a number of compounding factors:
    - This is related to the volume of biomass in relation to the nutrients available in the soil. Volume of biomass in arid areas is less and therefore there is less loss of nutrients than in tropical environments.
    - Soils in areas with low amounts of rainfall areas experience less leaching of nutrients, while soils in areas with high rainfall amounts have a high leaching capacity.
    - Nature of the parent rock determines the type of soil, and the photosynthetic path taken by plants is different.
    - Another school of thought would be that arid areas have soils with low organic matter compared to soils in rainy places; hence, nutrients are easily washed away.

Observations and discussion

Pastures in lowland areas tend to have more nutritive content; this could explain the preferences for meat and milk products from rangeland areas compared to those from areas with lots of rainfall. This is opposed to the common perception that pasture growth and nutritive content is higher for rainy areas. This could be a **possible argument for promoting pro-pastoralism policies**, and thus there is a need for relevant statistics or data.

Table 5. Nutritional quality of highland and lowland pastures in Ethiopia

	Dry matter (k/ha)	Crude protein	Roughage	Mineral matter
Highland pastures				
Meadow hay	93.1	4.5	4.9	8.1
Oats hay	91.2	5.1	4.5	4.6
Rye grass hay	92.5	6.2	5.0	7.4
Lowland pastures				
Cenchrus ciliaris	58.8	7.5	5.1	11.3
Themeda triandra	84.7	5.0	8.0	10.9
Chrysopogon aucheri	59.1	6.0	5.2	11.5

Table 6. Rainfall on Njemps flats, Baringo, Kenya

Total monthly rainfall (mm) and number of rain days during the wet season on Niemps flats, Baringo, Kenya

1978	Rainfall	Rain days
April	33.6	10
May	8.8	9
June	37.1	10
July	185.5	17

1979	Rainfall	Rain days
April	48.4	9
May	30.6	13
June	114.4	7
July	82.2	8

1980	Rainfall	Rain days
April	169.1	10
May	87.6	16
June	41.2	8
July	8.5	4

1981	Rainfall	Rain days
April	133	14
May	68.6	9
June	65	5
July	45	10

Table 7. Annual rainfall and biomass production in the Sahel (Northern Senegal) between 1981 and 1992

Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Rainfall (mm/year)	353	207	105	131	303	323	242	344	471	304	219	119
Biomass (Kg DM*/ha)	1,000	610	210	112	931	965	1,051	1,055	1,081	555	607	117

*dry matter

Table 7 present data on annual rainfall and its impact on biomass production in northern Senegal. The situation shown in Table 7 is similar to that of Karamoja: the rainfall intensity varies across the years and months. Karamoja is experiencing more rain towards the end of year than ever before. Unevenly distributed and unpredictable rainfall has implications for the growth of pastures. It consequently results in uneven distribution of pasture in time and space as well as fluctuation in the amount and quality of vegetation.

Observations: Rainfall does not directly affect biomass production; there could be other factors. There is an optimum amount of rainfall that leads to an increase in biomass production; beyond that, it has no effect.

There may be the same total volume of rainfall but varying distribution. Too much rain is useful, but if it is spread evenly throughout the year, biomass production is guaranteed and more stable. However, in a sparse rainfall regime, biomass distribution is patchy and less. This does happen.

The rationale for the mobility of pastoralists in the rainy season is to maximize resources (water and pasture) in order to survive the dry season. The perceived reason for mobility of pastoralists by policy makers is due to scarcity of resources. In Karamoja, mobility during the rainy season is intended to conserve watershed areas for the dry season.

Note in relation to policy: *Look into possibility of combining indigenous knowledge with research to influence or support policy for pastoralism.*

Impact of rainfall on growth cycle of annual and perennial plants in a dryland area
Ced invited one of the participants to volunteer to demonstrate the impact of rainfall, as illustrated in the figure below.

Annual pastures/crops thrive with rain. However, in the dry season, they die off and only remain in the form of dormant seed (seed bank) waiting to germinate in the next rainfall regime. Some seeds may be eaten off by animals and others may be transferred by animals to areas with favorable weather conditions.

Not all seeds germinate at the same time; those that receive moisture or rain first will germinate first. This is one way of coping with fluctuating weather conditions. **As an adaptation for survival, pastures in dryland areas produce lots of seeds. This is a point that can be used in arguments against the general narrative that rangelands are barren.**

Other defense mechanisms include producing sticky, itchy, or poisonous chemical substances, thorns, and spikes. For example, the whistling thorn has thorns and

Figure 4. Participant demonstrating impact of rainfall on growth cycle of plants in a dryland area.

ants in the galls. The ants scare away animals. Pastoral ecosystems consist of annual plants, perennial pastures, and biannual and ephemeral plants.

Environmental characteristics of the pastoral ecosystem are: dynamic ecosystem (constantly changing), not predictable, varied, self-perpetuating, resilient, and diverse. This is in contrast to the narrative attached to rangelands such as that they are barren, harsh, desert-like, wastelands, hostile, and infertile.

Participants held different points of view on the perception that rangelands are **fragile**. In conclusion, it was agreed that the choice of words is very important in relation to rangelands. Some narratives such as "fragile" can be used against the existence of rangelands, especially if not well understood by policy makers and other stakeholders.

Key points on seasonal rainfall

- There is a positive correlation between seasonal rainfall and pasture production.
- Rainfall amount and the number of rain days within the rainy season vary from one month to the next.
- Not all rainfall events are useful for good pasture growth. There is a "stop-start" pattern.
- Rainfall in pastoral areas is **unevenly distributed** in **space** and **time** and is **unreliable** and **unpredictable.**
- Implication of above point is that the quantity and nutritional QUALITY of pastures are also **scattered in time and space**, and **mobility** is essential to reach these pastures.
- Through mobility and **selective feeding**, livestock are able to get a higher-nutrition diet than they would if they remained sedentary.
- Dryland plants produce thousands and thousands of seeds, which germinate in different phases according to rainfall.
- Dryland pastures have mechanisms and physical structures that enable them to thrive in their environment.
- Dryland pastures are diverse, complex, and resilient.

KQ 2: What are the characteristics and factors affecting natural pastures?

KQ 2, A 4: Grazing rhythm during dry and rainy seasons has an important influence on natural pastures and livestock. Table 8 below presents data on estimated biomass consumption by large herbivores and invertebrate animals in East Africa.

Observations: Stocking rate and palatability of grasses are key factors. Shorter grass is more palatable, when animals feed on pastures; there are better chances of rejuvenation when the rains come.

Table 8. Estimates of biomass consumed per year

Location	Community	% biomass consumed
Large herbivores:		
Uganda	Savanna	30% to 40%
Tanzania	Savanna	60%
Serengeti (livestock and wildlife)	Savanna	66%
Serengeti (wildlife only)	Savanna	15% to 39%
Invertebrate animals:		
Serengeti	Savanna	4 to 9%
Kenya	Savanna	6%
South Africa	Savanna	7% to 17%

Table 9 below presents examples of the positive effects of livestock on the environment.

Group exercise

Participants were divided into groups by institutional affiliation to discuss the questions below as an exercise to enable them to use the arguments developed over the previous days to review Uganda's policy environment with respect to providing support to pastoralism.

1. What are the key policy issues with respect to land/natural resources and the economy?
2. What arguments can we use to challenge or support the arguments used in policy positions?
3. What evidence should we use to support or challenge these arguments? Do we have the data/information?

Group 1: Gulu University

Question 1: Key policy issues

1. Policy issues on mobility:
    - Decentralization and mushrooming districts;
    - Privatization of land;
    - Directing support to crops rather than livestock;
    - Zoning of the country. Though it has been done, it has not been implemented;
    - Misconception that pastoralism is not economically viable and degrades land;
    - Deliberate effort by some people to carry a system that has worked somewhere else and dump it in Karamoja, but Karamoja has different ecosystems;
    - Menace from selected cases on pastoralism, like cattle rustling;
    - Land tenure: looking at Karamoja as an industrial region by 2040 but with focus on mining rather than livestock.
2. Economy
3. Water for production policy
4. Rangeland policy

There is a need to separate the pastoral policy out of the rangeland policy, because rangeland is not necessarily pastoral in nature.

Group 3: Center for Basic Research

Question 1: Key policy issues

The current development thinking in Uganda by some key development partners that the government has conveniently embraced is one that seeks not only the conversion of pastoral rangelands to alternative land uses, but also the sedentarization of pastoralists to end livestock mobility and convert pastoralists into permanently settled crop farmers. The alternative land uses preferred include large-scale irrigated crop farming, wildlife conservation, and commercial mining enterprises. If there has to be any form of livestock production, this perspective favors large-scale commercial livestock ranching.

Table 9. The positive effects of grazing

Positive effects of grazing	Key points
• Reduces the quantity of dead material accumulating on the soil surface • Opens up pasture; opened-up pasture harbors fewer pests. • Dung is a source of fertilizer • Hoof action/trampling breaks soil crust, thus enhancing water infiltration into soil • Helps in seed dispersal, thus maintaining pasture diversity • Enhances pasture seed germination for seeds that go through the animal gut • Prevents bush encroachment when properly managed • Enhances cycling of nutrients through the ecosystem	• Pasture at the end of the rains is the stock of feed for livestock until the next wet season. Ideally, standing biomass should be eaten gradually so that when the rains return, little remains. • Complete exclusion of grazing has negative impact on the qualitative and quantitative aspects of pastures. • Livestock have beneficial impacts on pastures—clearing of litter, hoof action, transporting of seeds, etc.

Question 2: What arguments can we make to support or challenge these policy positions?

The above thinking is informed by a set of assumptions about rangelands and pastoralism that needs to be debunked. The assumptions include the following:

- Pastoralism is an outdated system of production that is backward and cannot be allowed to continue;
- The populations of pastoralists and livestock have increased, making continuing mobility untenable. Mobility stresses livestock, which reduces their productivity.
- Pastoralists move because they have no better alternative.
- Shepherds suffer during the long duration of migrations (from cracked feet).
- Mobility makes it difficult for pastoralists to access basic social services such as education, health, and access to safe water;
- Karamojong can be transformed like the Bahiima pastoralists in Ankole.

Some of the **evidence** that support this thinking that needs to be critiqued includes:

- Kanabi-Nsubuga, H. S. 1977. Livestock development in Uganda with particular reference to the Ankole-Masaka cattle ranching project. Ph.D. thesis, Makerere University (unpublished).
- Kisamba-Mugerwa, Wilberforce. 1995. The impact of individualization on common grazing land resources in Uganda. Ph.D. thesis, Makerere University (unpublished).
- Wilson, J. G. 1985. Resettlement in Karamoja. In Crisis in Uganda: The breakdown of health services, edited by C. P. Dodge and P. D. Weibe, 163-70. New York: Pergamon Press.

Question 3: What evidence should we use to support or challenge these arguments? Do we have the data/ information?

We need evidence that shows that mobility practiced by pastoralists, for example in Karamoja, is not haphazard but scientific. It is not nomadism, but a well-organized and planned systematic production process that allows the pastoralists to maximize returns and make the most of opportunities available in the rangelands.

Crop farming in pastoral households in Karamoja is far more widespread than is often recognized. The Karamojong indulge in crop farming to the extent allowed by the physical environment. They undertake subsistence crop farming that is integrated with livestock production. It is sustainable crop farming. The moment efforts are made to commercialize it, it becomes extremely costly.

Some of the evidence includes:

- African Union Commission. 2010. Policy framework for pastoralism in Africa;
- Catley, Andrew, Jeremy Lind, and Ian Scoones, eds. 2013. *Pastoralism and development in Africa. Dynamic change at the margins.* Routledge;
- Egeru, Anthony, Richard Osaliya, Laban MacOpiyo, John Mburu, Oliver Wasonga, Bernard Barasa, Mohammed Said, Daniel Aleper, and Gilbert-Jackson Majaliwa Mwanjalolo. 2014. Assessing the spatio-temporal climate variability in semi-arid Karamoja sub-region in north-eastern Uganda. *International Journal of Environmental Studies* 71 (4): 490-509;
- Ellis, E. James, and David M. Swift. 1998. Stability of African pastoral ecosystems: Alternate paradigms and implications for development. *Journal of Range Management* 41 (4): 450-9.

We need evidence that reveals the challenges that interventions intended to introduce large-scale commercial crop farming in rangelands are faced with. For example:

- There is a high level of investments required to support large-scale farming in rangelands. It is not neutral to scale;
- Rangeland crop farming is very vulnerable to high rates of crop failure associated with frequent drought and rainfall patterns that have become more erratic. Rainfall amounts have decreased and come in fewer days than in the past, falling outside the usual seasons when it was expected. Droughts have become more frequent and intense due to the effect of climate change;
- Large-scale farming in rangelands, whether rain-fed or irrigated, is unsustainable in Karamoja because of a combination of topography, soil types, salty underground water aquifers, and high cost of water harvesting from Lake Kioga. Large-scale crop farming has no comparative advantage when compared with livestock production.
- Nakalembe et al. have carried out a study that shows that while land area opened and planted with crops had increased significantly, productivity had not increased in the same measure (Nakalembe,

Catherine, Jan Dempewolf, and Christopher Justice. 2017. Agricultural land use change in Karamoja Region, Uganda. *Land Use Policy* 62 (March): 2–12). See also Behnke, Roy, and Carol Kerven. 2013. Counting the costs: Replacing pastoralism with irrigated agriculture in the Awash Valley, north-eastern Ethiopia. IIED working paper.

We need evidence that shows that sedentarization leads to a drive to change land tenure in rangelands, resulting in the individualization and privatization of tenure. This constrains the capacity of pastoralists to seasonally track different resources in rangelands, which are scattered in disparate ecological niches. It undermines not only the productivity of the herd, but also the ecosystem health of the rangelands.

Parceling the rangelands concentrates populations of pastoralists and herds in specific places and makes access to areas that become private property difficult. This increases the risk of degradation of resources in areas where access is not encumbered, arising from overuse.

There is evidence that reveals construction of large water sources is associated with adverse changes in vegetation in areas nearer the water sources. See Egeru, Anthony, Bernard Barasa, Henry Makuma-Massa, and Paul Nampala. 2015. Piosphere syndrome and rangeland degradation in Karamoja Sub-region, Uganda. *Resources and Environment* 5(3): 73–89.

We need evidence to show the economic contribution of pastoralism to the local and national economy. See Behnke, Roy, and Margaret Nakirya. 2012. The contribution of livestock to the Ugandan economy. Intergovernmental Authority on Development (IGAD) Livestock Policy Initiative (LPI) working paper no. 02–12.

Group 2: KDF/ Vétérinaires Sans Frontières **(VSF)**

Group 2's responses to the three questions in the group exercise are given in Table 10.

Table 10. Key issues, arguments, and evidence used

Key Issues	Arguments in Support or to Challenge	Evidence Used
1) Communal land tenure system	**In support:** Communal ownership and utilization of land and other natural resources encourages sustainable use and management of the same through traditional institutions that offer expedient solutions and justice in case of conflicts. Communal ownership is a cheaper, more reliable, and more sustainable mode of control and management of rangelands. It also allows equitable sharing of resources among different groups, e.g., Turkana and Karamojong in the same area, thus reducing conflicts. **Against:** Currently, there is massive individualization of communal land, which has depleted pastoral grazing areas and watering points. Individual ownership and access of land does not support equitable and sustainable use of and access to land, since regulation of its use is not managed by local institutions in community leadership. Traditional institutions are not empowered to manage land. Individual ownership of land limits mobility of pastoralists and herds, which has widely been accepted as an eco-friendly system.	Uganda National Land Policy, 2013 Livestock Demographic Survey report, 2017 by Mercy Corps "Take anything, leave our land," KDF report, http://www.celep.info/wp-content/uploads/2015/03/Take-anything-leave-our-land.pdf

2) Mobility	**In support:** Mobility allows access to nutritious and safer water for animals and thus increases production. Mobility enables herds to escape vector-borne diseases and disease-infested areas. Mobility is environmentally friendly since it allows regeneration of exhausted ecosystems as opposed to the ranch or sedentary system. Mobility does not encourage exhaustive utilization or destruction of vegetation like crop farming, which encourages massive destruction of vegetation cover and trees. **Against:** Mobility is restrained by new administrative boundaries of districts in spite of shared geographical systems and economic activities; this fuels conflicts. Discouraging mobility exhausts the environment as it leads to overstocking. Discouraging mobility increases risk of vectors and disease, e.g., the protected *kraal* reports of escalation of livestock diseases. Discouraging mobility encourages conflicts with other land users like miners and crop farmers. Limiting mobility limits access to different ecosystems that give different nutritional values to livestock.	Food and Agriculture Organization of the United Nations (FAO) report KRSU, 2018 report Toronto University paper
3) Environmental degradation	In support: All economic activities are potentially economically degrading, depending on the extent of damage and ability to regenerate. **Against:** Pastoralism is not as environmentally degrading as crop farming since it uses mainly grasses, whereas crop farming allows extensive destruction of both grasses and trees. In pastoralism, the environment is saved from degradation through mobility, which is not the case with crop farming.	
4) Role of pastoralism in economy	**In support:** Pastoralism is economically viable. Karamoja pastoralists own about 22% of Uganda's cattle. Pastoralism significantly contributes to household income and livelihoods compared to crop farming. **Against:** Pastoralism's contribution to the national economy is not computed or accessed. Pastoralism is conducted in the peripheries of Uganda; thus trade is not regulated. There is significantly low budgetary allocation to the sector from the central government.	KRSU and FAO reports[1]

[1] https://www.google.com/search?client=safari&rls=en&q=pastoralism+is+viable+in+Uganda+Tufts+University&ie=UTF-8&oe=UTF-8

DAY FOUR

Recap of Day Three key learnings

- The fragility of land is a contentious issue, one that depends on the line of the argument and the lens of the discussant. It is not easy to reach a conclusion. A scientific term cannot be defined using an English dictionary, e.g., fragility.
- The ability of pastures to adapt to adverse conditions was an eye opener, e.g., some plants produce many seeds. Rangeland ecosystems have resilient mechanisms, e.g., the whistling thorn tree that has ants in galls and thorns.
- When biomass is low towards the rainy season, there is higher possibility of regeneration.
- Grazing animals on grassland stimulates regeneration and growth, especially when the rains come.
- There is a strong correlation between the seasonal rain variations and the mobile lifestyle of pastoralists.
- Contrary to common narratives about mobility, mobility is actually a plus to the self-sustaining ability of ecosystems. Explaining this concept at all levels, from the communities to governments, is vital.
- Ecosystems with higher rainfall have higher biomass but lesser nutrients, while those with limited rainfall amounts have the opposite, e.g., rangelands have less biomass with more nutrients.
- ***Prior to the training I perceived pastoralists as stupid, without a plan, and disorganized, but I have come to discover that they consciously plan for their mobility.***
- Determinates on rangeland include fire, moisture/rainfall, herbivory.
- Survival strategy is used by pastoralists in order to maximize use of resources during rainy seasons to survive dry seasons.
- Pastoralists do not move only because of scarcity but also because of abundance, to conserve the pasture and water for dry seasons.
- Pastoralists leave the best grass for the later dry seasons.
- Ecosystems have self-sustenance mechanisms; disequilibrium comes from external factors like deforestation.
- Any ecosystem has the ability to rejuvenate if given ample time for rejuvenation (succession) to take place. If not given time, there is a high risk of degradation.
- Terminology we use can be used against the pastoralist ecosystem.
- Pastoralists keep a large number of cattle as an adaptation mechanism.

Livestock trade dynamics in Karamoja

Participants watched a video depicting trends in market activity and policy issues, which was a typical scenario of livestock trade and markets in Karamoja from a study carried out by KRSU in January 2018. The following observations and conclusions were made:

- Feedback about the video is that it was informative;
- The possibility of data collection at the revenue collection points was suggested. This data could be used to justify the economic benefits of pastoralism and livestock.

SESSION 5: KEY ISSUES AROUND PASTORALISM

Ced facilitated a discussion that was aimed at unpacking some of the cross-cutting issues arising from discussions held from the previous sessions, namely degradation, mobility, and communal land.

DEGRADATION

Are there instances where pastoralists degrade the environment?

- Every land use system has potential to degrade the environment to some extent. At the point of use of a rangeland there might be substantial consumption of resources. However, because pastoralism supports cyclic rotation from one pasture to another, this

caters to regeneration of the vegetation. For example in Karamoja, land that was found to be very bare and dry around watering points was able to produce fresh vegetation of small trees up to the height of a meter after four months.
- In instances where the *kraal* protection system was introduced in Karamoja, the environment suffered a lot of damage.
- Despite the common narrative that pastoralism is associated with overstocking, the mobility to various pasture grounds out-balances the effects of overstocking, thus reducing environmental degradation.
- The point at which the land or environment is regarded as degraded is a subjective one. One can declare a certain part of the ecosystem degraded because of the absence of vegetation in the dry season, and after the rains the place regenerates to produce fresh vegetation.
- Degradation of rangelands could also be in terms of change of the structural component of the pastures from palatable to unpalatable over time. This is in terms of species composition and species diversity.

From the UN Convention to Combat Desertification
For the purposes of this Convention (Art. 1):

"'Desertification' means land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities.

'Land degradation' means reduction or loss, in arid, semi-arid and dry sub-humid areas, of the biological or economic productivity and complexity of rain-fed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns."

The participants highlighted the following concerns and observations with regard to the above definitions in relation to pastoralism.
- Land degradation and pasture degradation are used interchangeably, yet they do not have the same meaning.
- The reduction in productivity and diversity in land degradation is part of the definition of desertification. Human activities are pointed out as a major cause of desertification. Desertification is a culminating feature that comes at the end of degradation if no interventions are done. This means desertification happens through a process of continuous degradation.
- This definition looks at degradation in the absence of mobility; it is removed from the benefits of mobility.
- Reduction or loss depends on the time of description; period of time is missing from definitions.
- Given that desertification involves biological or economic loss, then all ecosystems are liable to desertification. There is a perception that degradation mainly happens in dry areas because dryness is associated with a high risk of degradation.
- The definition does not take into account the notion of "potential to regenerate due to the presence a seed bank of dormant seeds at the end of the dry season" in the cases of bare land. **The adaptation team should come up with a suitable interpretation of degradation and desertification, especially in relation to pastoralism.** It was unanimously agreed the definition should include that "degradation occurs when the land loses its potential to regenerate." The current definition can be misleading.

When are pastoralists most likely to degrade the land most?
- During the rainy season, because for the rangelands to continue, seeds are needed. During rainy seasons, plants flower and produce seed. If that process is interfered with, there will be no seed for the next rainy season.
- Degradation will occur at any stage; the highest risk is when the dry season lingers, and bush burning is done. Seeds without a thick seed coat die off, which affects important pasture variety (species extinction is risked).
- It depends on the lenses of person/discipline or economic objective; a soil scientist might observe open galleys due to soil erosion caused by animal movement.
- Degradation takes time; it is a process but starts where rains stop, because after that the rate of growth and regeneration goes down. Assuming grazing is constant, every other day biomass reduces.
- The degradation process can begin at any stage, even at the beginning of rains. If all the residual seeds germinate and then, due to overstocking, vegetation

is grazed out, it can happen. Even in the middle of the rains, before grasses can flower and produce seed, if everything is consumed, the potential to regenerate is affected. If plants are constantly eaten, they can fail to complete their cycle.

- External conditions dictate the restriction of livestock in one place for a longer time than usual, e.g., district boundaries, security concerns, community conflicts. Hence, pastoralists might end up degrading the environment because they are forced to overstay in a given area.

Note: Policy area concern
Degradation can occur in pastoralist areas but happens when mobility has been constrained. It is never intended by pastoralists. Use the language of policy makers, understand the science, and interpret and articulate it accurately if you are to convince them. Forced expansion of agricultural land is contributing to degradation because it does not support the ecosystem.

Applying the definition to large-scale commercial farms of mono crops, you could argue that there is degradation due to loss of biological diversity, though policy makers emphasize the economic benefits of large-scale farms.

Do pastoralists destroy trees and, if they do, what are the conditions that lead them to do it?

Due to an increasing demand for collective security for pastoralists in Karamoja, they cut down specific species of young trees to make thorn stockades (fences). As more people settle in permanent houses, trees are cut down for curing bricks and poles for construction.

Trees are also cut selectively (species that are not palatable to animals) for the purposes of building *kraals*/ cattle crashes.

During prolonged dry seasons, women cut down trees for burning charcoal to supplement income.
Note: It is important not to tie all the negative aspects of tree cutting to pastoralists. Other people also cut down trees. Pastoralists, through their indigenous knowledge, have conservation mechanisms for species that they find useful. Generally, selective cutting of tree species with desirable characteristics eventually results in a gap in the species diversity over time.

Example of tree management and conservation mechanisms in Turkana
A visual aid was presented of a rangeland in Turkana. See Figure 5 for a photograph of the area.

Using real-time, context-appropriate, shared-learning methodologies, Raphael (*participant from Turkana, but working with KRSU*) briefed the participants about tree

Figure 5. Tree management and conservation strategies along riverine area in Turkana.

management and conservation strategies along riverine areas in Turkana. Salient points were:

- Settlement is composed of families, led by elders, staying along both sides of the river. The areas are demarcated using strings or ropes around certain trees in the area, and each demarcated area is named after the elder in charge of it. However, this does not imply that the families living in this area own it. The land is owned communally. The demarcation is intended to ease management and protection of the riverine areas.
- As an incentive for protecting the riverine area/land, families living close to the riverine area are accorded more user rights. Those living far off are not excluded, but their use is governed by set rules and conditions.
- The most protected tree is *Acacia tortilis*, because the pods are used to feed young animals that stay behind during the dry season. These trees flower and produce seeds at different times, so the households plan how to use them maximally.
- Use of the riverine area, for example to cut trees, is regulated and approved by an institution (a team of elders) who, through a negotiation process, give permission tied to conditions. Failure to adhere to rules calls for expulsion from the community or other intermediate measures. User rights are tailored around primary, secondary, and tertiary users.

Feedback

The situation in Turkana riverine areas depicts a harmonized interaction between the three pillars of the pastoralist system to control degradation and conserve the ecosystem. Traditional institutions that regulate user rights exist in Karamoja; however, they are being undermined. Enforcement of rules and sanctions is challenging for the following reasons:

- Some youth acquired weaponry during disarmament of the Karamojong, so they do not heed the sanctions imposed by elders;
- When elders convene sanction meetings, they are misunderstood by Government to be planning raids. In some villages, the elders have been arrested, physically assaulted, and humiliated;
- The presence of the army and police undermines the customary institutions;
- Establishment of the Local Council system has eroded the strength of cultural systems.

Note: A possible research area is assessing the correlation between strong traditional administration institutions and degradation.

Experiences from other countries

Kenya: The Forestry Authority does work with the existing traditional or customary institutions to help conserve the ecosystem.

Mali, Senegal, and Niger: Forest guards are armed and have more authority than the police; this has led to undermining the power of customary institutions.

Table 11 below presents data on the different uses the Turkana make of the trees in their region.

Table 11. Use of trees in Turkana

Turkana use of trees

TYPE OF USE	Nº
Total number of species identified	512
Recorded use	222
Human use for food	43
Human use for medicine	67
Other human use	56
Pastoral use for cattle	102
Pastoral use for goats	187
Pastoral use for sheep	164
Pastoral use for camels	163
Pastoral use for donkeys	120

Barrow, E. (1990) "Usufruct rights to trees: the role of Ekwar in dryland central Turkana, Kenya. ***Human Ecology, Vo. 18, No.2***

Note: Despite of the common narrative those rangelands are unproductive, Table 11 indicates that trees in rangelands have vast uses and can have a variety of species (512). The numerous uses of trees in rangelands should be documented to emphasize the importance of pastoralism.

COMMUNAL LAND

Ced shared with the participants a number of slides highlighting Government perceptions of communal land since colonial times until after independence.

A. "I cannot admit that wandering tribes have a right to keep other and superior races out of large tracts merely

because they have acquired the habit of straggling over far more land than they can utilise. Charles Elliot, Governor of East Africa Protectorate (1902–4). Source: Kenya Land Commission Report, Nairobi, Government Printer, 1933, p. 642.

Comment: Views such as those of Elliot were common and used to justify the superiority of certain races and the perception of pastoralists as wanderers.

B. "There is one over-riding stumbling block that is the system of uncontrolled communal land tenure which permits of the fiercest competition taking place for every blade of grass and every drop of water Pasturage, the life-blood of animal husbandry, is the common property of all and consequently little effort is made to improve or indeed preserve it. Source: Director of Veterinary Services, Tanganyika, 1948. Quoted in Lane, Ced. 1998, *Custodians of the commons: Pastoral land tenure in Africa*.

Comment: The statement doesn't recognize the ability of pastoralists to reorganize themselves and is a justification for moving away from the communal tenure land system.

C. "The general range management policy should be to introduce order and discipline to the transhumant system, so that the seasonal grazing pattern is established, and so that adequate rest is given to the range. Source: From the Jijiga Livestock Project document of 1974, quoted by Richard Hogg in Government policy and pastoralism: Some critical issues. Conference on pastoralism in Ethiopia, February 4–6, 1993. Ministry of Agriculture, Addis Ababa, with Save the Children USA, IIED, and Oxfam.

Comment: The assumption is that there is no seasonal grazing, so land is not given enough rest and that pastoralism is disorganized.

D. "The practice of grazing private livestock on communal land constitutes the single major constraint to improved management of the natural pasture land. The inevitable result of this system of livestock production is that the cattle owners keep excessive numbers of livestock which in turn leads to over-grazing, soil degradation, low fertility and high mortality rates." Source: An official of the Ministry of Agriculture and Livestock Development, 1989, Tanzania. Bilali, 1989, quoted in Lane, 1998.

13 years ago:

E. "We will take deliberate measures to improve the livestock sector. Our people must change from being nomadic cattle herders to being settled modern livestock keepers. We will take measures to improve pastures, veterinary care, cattle dips and auctions. It is the duty of all Regions, Districts and Local Authorities to set aside pastoral land, especially in those areas with much livestock." Source: Speech by the President of the United Republic of Tanzania (URT) on inaugurating the fourth phase Parliament of the URT, December 30, 2005.

The Tragedy of the Commons.
Garrett Hardin. 1968. *Science* 162:1243-1248.
"The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.

As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, '*What is the utility to me of adding one more animal to my herd?*' This utility has one negative and one positive component:

The positive component is a function of the increase in wealth from one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly +1.

The negative component is a function of the additional overgrazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any particular decision-making herdsman is only a fraction of -1.

Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another, and another....But this is the conclusion reached by each and every rational herdsman

sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit - in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all."

Participants were tasked to construct three or more arguments, with evidence to challenge Hardin, as part of group work on the basis of the three pillars.

ARGUMENT ONE: No account is taken of mobility. In Hardin's example, it seems that the pastoral system is closed, and livestock can't leave. In reality, when pastures decline, pastoralists move their animals to other areas. Mobility thus allows livestock to disperse over a wide area, using pastures where they exist.

ARGUMENT TWO: No account is taken of the dynamics of natural pastures. In Hardin's example, it looks like pastures are a fixed stock of biomass, one which disappears forever once it has been eaten. In practice, grasses have an annual growth cycle and have complex growth and reproduction dynamics. New grass grows every year so long as there is rain.

ARGUMENT THREE: No account is taken of rules of access and management. In Hardin's example, pastoralists can enter the rangeland without asking permission from anyone. The text mentions that pastures are "open to all." In practice, customary pastoral systems have complex rules of access to and management of natural resources, e.g., Ekwar (a usufruct right to trees practiced by the Turkana in Kenya), private wells of Longido.

ARGUMENT FOUR: No account is taken of herd dynamics. Hardin says pastoralists can keep adding one more animal to their herd without the animals suffering any hunger or dying. In reality, many factors limit herd size. These include:

- **Seasonal variability** in the quantity and quality of pastures reduces herd productivity, contributes to high calf mortality, etc.;
- **Slow natural growth rate** of pastoral herds (e.g., cattle herds grow at a rate of 3-4% per year);
- Livestock are **vulnerable to drought, disease, raiding;**
- **Pastures are limited** and, once there is not enough, animals will die.

ARGUMENT FIVE: No account is taken of wider social institutions. In Hardin's example, the pastoralist appears to be isolated with no family or links with the broader community. In practice, pastoralists have families and live in large communities with complex social, cultural, political, and economic rules regulating their lives. Hardin says that herders are selfish and do not communicate with anyone. This vision contradicts the beginning of the article where he says that after many years of war, peace had returned to the region, which presupposes that the community did, in effect, communicate with each other!

Key lessons from "tragedy of the commons"

- Pastoralists are often seen as irrational and incapable of managing resources under common property regimes.
- In reality, the situation is very different.
- Open access to natural resources can result in a "tragedy of the commons."
- Hardin's article has influenced government and donor policy.

General assumptions cited by participants

Part 1

- There will be no wars, poaching, and disease.
- There is progression in society, yet society experiences fighting or natural causes that lead to death, so there cannot be an explosion of people.

Part 2

- Every animal reproduces without any constraints.
- The private benefit is far less than the cost that is shared.
- The pastoralists are naive and have no adaptation strategies to control stocking rates.

Part 3

- Some elements are true. Herdsmen consciously or unconsciously increase their herds as a safety mechanism.
- In pastoralist systems there are no constraints to freedom.
- Pastoralism takes place in a laboratory, assumption is that pastoralists are capitalists.

Feedback

- Constructing the arguments as a group was an interesting experience that requires joint brainstorming. However, it is not easy to reach consensus. It is also difficult to discuss the pillars independently of each other. Constructing arguments toward policy formulation is not easy. You need one entry line into the argument.
- There is an assumption of linear exponential growth, which is not so in reality. The population of humans and livestock are kept in check naturally.
- Hardin assumes a static community, no mobility between rangelands, and that every increment in number of animals causes degradation, thus resulting in ruin. In real life, there is a lot of mobility, the grass regenerates, and the system is flexible. There is an assumption that pastoralism is a closed system.
- There is an assumption that resources in pastoral areas are open to all, yet in reality there are institutional mechanisms that regulate ownership and access.
- Hardin wrote this in 1968. If he were correct, we wouldn't be here today in 2018, and the day of reckoning would have already taken place.
- We will need to take this and apply it to policy narratives from Uganda, in light of different examples from other countries.

Is there any element of truth in tragedy of commons?
Human beings by nature tend to grab as much as they can for their own satisfaction, especially in the absence of regulations. For example, forests are being destroyed, yet they are communal property. Human "wants" are unlimited, but natural resources are limited. Pastoralists will de-stock depending on the prevailing constraints.

Conclusion: Communal land is a prerequisite for livestock and rangeland regeneration in functioning pastoral systems. Livestock need resources scattered all over the rangeland, and this allows maximum use of resources. The communal land system is the ideal for pastoralism. Interventions to remove it will result in high-cost implications, because one has to supplement or compensate for the missing elements. Communal land tenure allows mobility at the lowest cost socially, economically, and environmentally.
The biggest and most current global tragedy of the commons being faced is climate change. Some people/communities are polluting the atmosphere to a greater extent compared to the rest. There are regulations that have been put in place to regulate this.

MOBILITY

This discussion involved sharing experiences of mobility from other places and how other countries have created an institutional framework to support mobility. There are no policy, laws, or institutional frameworks to support livestock mobility in Uganda. The session was therefore intended to draw lessons and contextualize for Uganda.

Lessons from Spain
Spain is one of the countries in Europe that has decided to invest in mobility and therefore has migration routes. The southern region is warmer in the winter as it is closer to the Mediterranean region, and in summer the sheep migrate to the northern region.

Principles of pastoralism do not differ between continents: animals move to where conditions are suitable in terms of water and pastures. With the Industrial Revolution, railways were built, meat was imported, and the system broke down. It has recently been revived in Spain, for tourism and because of big growth in the market demand for organic meat. Currently, the migration routes are shorter and smaller.

There was discussion around the Spanish State Act 3/95 of March 23, 1995 on cattle trails—policy/laws. Striking features of the Act include:

- Communal use of routes/trails is emphasized;
- Local institutions are empowered to do so in Articles 1 and 2;
- Compatible and complementary uses;
- Respect for sustainable development and respect for the environment;
- Institutional arrangement for conservation and management.

In comparison, in Uganda the land tenure system facilitates fencing, which removes cattle trails and animal movement has been restricted. This is undermining the future of pastoralism.

Action point: Can the local government and Members of Parliament (MPs) in pastoralist communities synergize efforts and articulate concerns? There is a need to bring

together regional governments to negotiate that these areas be gazetted for pastoralism.

Livestock trails or routes help mitigate conflicts due to conflicting land uses. The traditional routes extend beyond Karamoja. Cattle trails would be useful where accessing resources is restricted. Most critical resources lead into Teso. IGAD has taken the initiative to map the routes from the Kenya corridor, but more buy-in is needed from the Government of Uganda. KDF mapped routes and assessed changes faced. Traditionally there are known grazing areas.

There are other examples of livestock mobility in Africa. Even in fenced farms, water is scattered in a few places, so there is movement to access water, and there are grazing areas for dry and rainy seasons.

Legislation that supports mobility
Uganda can start with existing laws that protect goods for the public domain, e.g., those for water access agriculture policy for the East African community.

In western Africa in the Sahel region (Mali, Burkina Faso, Senegal), there is a protocol that allows for migration across countries.

Ced shared a selection of pastoral legislation in West Africa, both at national and international level. Participants looked at provisions of Economic Community of West African States (ECOWAS) International Transhumance Certificate (1998).

Lessons to learn

- IGAD has mapped the routes in Turkana and Uganda. There is a need to lobby the Government of Uganda to endorse the routes.
- Make use of existing policies, e.g., Movement of Livestock Act that caters only for tracks and carts.
- Government Cabinet Minutes 1971-85 reveal that in 1984 the Minister of Rehabilitation sought money to establish a resettlement scheme for Karamojong, and reasons stated in the minutes were based on the fact that Karamojong were roaming everywhere. This is the basis of most policies; research can be done, and evidence can be searched around this.
- There are informal agreements such as resident district commissioners (RDCs) writing to fellow RDCs to grant access to movement to other districts.

  The President issued a directive that the pastoralists should be allowed to access resources when they move to new districts. Such arrangements should be translated to policies.

With regard to national laws from Mali, Mauritania, and Niger, mobility is allowed but restricted to corridors.

Other innovative provisions supportive of pastoralism revolve around marrying customary and modern institutions to devolve responsibility for resource management to the most appropriate level, legal recognition of customary land management, and use negotiation and consensus-seeking using existing institutions at different levels as a basis of conflict resolution.

Examples in West Africa
NGO projects work hand in hand with the local government and local communities to map out routes for pastoralists. In Mali, Senegal, and Burkina Faso, the mobility routes have to go through farms, negotiations have to be made with farmers, and failure to consent to the pastoralists' passage through the farms results in conflict.

Common challenges and opportunities within Africa
There are a number of laws targeting pastoralists; the old laws need to be reviewed so as to make them relevant, especially with the birth of new districts.

Negotiations between the sedentary farming community and migrating pastoralists are easier if there is reciprocity, and benefits for the latter community are clearly stipulated.

In the Land Act, there is a window that recognizes customary ownership of land, while the Uganda National Land Policy 2013 provides for local institutions to be empowered to handle conflicts over land. Under the OPM, there are special programs that fund traditional institutions; advocacy can be made to have these programs support conflict resolution around pastoralism.

These policies and programs can be exploited to support pastoralism.

As a second window of opportunity in Karamoja, people in crop farming have a strong interest in livestock, which might minimize conflict.

In Karamoja, most of the land suitable for pastoralist corridors is available as gazetted land/protected land for forest and wildlife activities and wildlife. The only national parks in Uganda where grazing is allowed are found in Karamoja. This could be an area to pursue in terms of policy.

Mobility in Karamoja

Participants from KDF were tasked to come up with words used in pastoralism and mobility in the *Ngakarimajong*.

Before migration, elders and *kraal* heads meet under a designated meeting place known as an "***akiwudakin***" to make movement plans and choose someone to consult with the community about where the pastoralists will move to, at the beginning of the dry season.

After the dry season, livestock return to a reserved portion of pastureland for grazing. The livestock rotate, depending on the size of land available.

It is important to appreciate the local dialect of various pastoralist communities. For example, the Borana, Afar, Somali, and Hama dialect vocabulary referring to mobility is richer than in other communities and clearly highlights the objective for the mobility.

Migration = ***Akiwot*** **(means shifting with things)**	**Water** = ***Ngakipi*** **Pasture**= ***Nginya***	**Diseases** = ***Ngidekethio*** **(pl.** ***Ngidekesio*****)**	**Insecurity** = ***Awathia*** **(pl.** ***Awasia*****)** **Ponds** = ***Ngataparin***
Nakamu = scarcity of water during dry season. Even in the wet seasons, mobility is to preserve rich pastures.			
Kraals = ***Ngalomarinei/Ngawuyoi***. Mobility is triggered by the need to go to places with more nutritious pasture, move from insecure to secure places, move to pastures near homestead during wet season.			
Apero = reserved grazing areas owned either communally or individually with varying acreage			
Grasses = Elet is the most nutritious grass type for animals (it is sour), *Amekwi Ietirikamu* is grass eaten by goats, sheep, camels, and donkeys, ***Emagwarat*** = changes during dry season			

DAY FIVE

Overview and roadmap
KRSU Chief of Party Mesfin emphasized the outcomes of the meeting held in Moroto in April 2017. The training workshop was a result of consensus reached by various stakeholders (seven MPs from Karamoja, senior officials from OPM, District local government, civil society, policy research institutes like CBR, and other researchers, as well as an FAO representative) in the meeting to have a taster validation workshop with support from IIED. It was further agreed that the target audience would be future civil servants, policy makers, academic institutions (Makerere University, Gulu University), and other stakeholders who might be interested.

One of the recommendations during the meeting was that in order to address misconceptions and misunderstandings of the pastoralist system, a think tank group comprising CBR should be involved, to drive tailor-made policies that support pastoralism.

The community itself needs the right narratives and arguments to engage with service providers and Government. In light of this, it was suggested that KDF take a lead role, with support from other stakeholders.

Mesfin emphasized the fact that the training workshop was merely a preparatory phase and was intended to gauge if the course is relevant to Uganda's context and the possibility for buy-in.

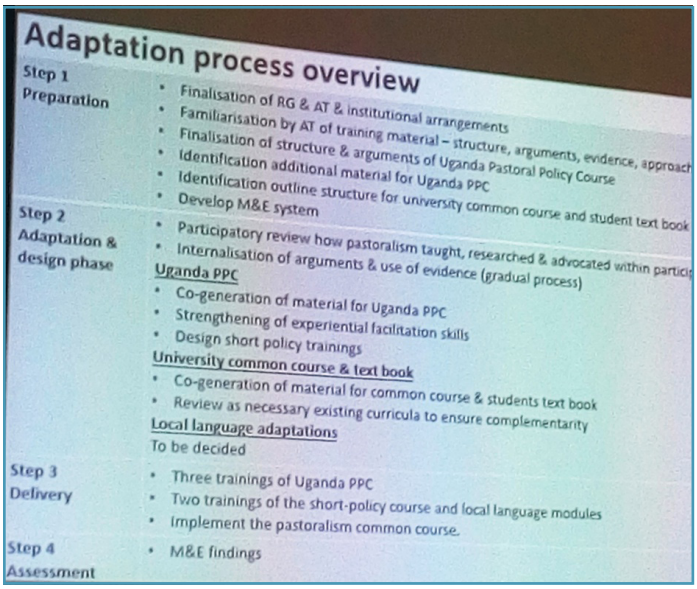
The process involves an adaptation team and reference group. The former team has a big task ahead of them. The short-term outcome of the process is to develop the Uganda pastoralism policy curriculum, and a textbook is the long-term goal. KDF will develop their own advocacy material, while CBR can extract content and design short-term courses.

Remarks by Ced
Some pillars within the pastoralist ecosystem were not discussed extensively due to limited time. Ced advised the participants to embark on a participatory process of adapting and delivering the course. This has worked well in other countries; for example, in the Sahel the training was done in French, and later the trainer realized that a major stakeholder was missing in the training (the pastoralists). The rationale for training pastoralists is to empower them to engage with other stakeholders. They need to be able to articulate convincingly the reasons why they are involved in pastoralism and justify various aspects, such as mobility.

A similar training done with the Pulaar in West Africa stirred a lot of emotion among the pastoralists. The course made them realize that they are an important part of the community despite the common negative narrative. This example highlights that adapting the course into local dialects can have a big positive impact on the pastoralists and the communities around them. Ced highlighted that, from his experience, training locals achieves the best results when centered on the three pillars and the seasonal calendar for pastoralists.

Ced concluded his remarks by sharing an overview of the suggested adaptation process/roadmap.

Figure 6. Adaptation process overview.



Feedback from participants on the suggested adaptation process:

- Tanzania has been through this process. Uganda could pick a leaf from Tanzania. Tanzania published an English and Swahili version of the training book.
- In order for the course to be approved and taught at

the university, it must be accredited by the NCHE. The adaptation team should work on this.
- Each stakeholder will nominate a focal point person for easy coordination.
- There should be commitment from the institutions, especially the academic ones, to support staff to facilitate this process. During the ToT, the training process should center on the trainers internalizing the messages, arguments, and use of evidence. In Sudan and Ethiopia, the adaptation teams compiled a complete facilitator's guide and student textbook. Three test trainings were done; the first with peers/those in support of pastoralism, the second with Ministry of Agriculture, and the third with high-level policy makers.
- Ced emphasized that the training manual could be used to design tailor-made training sessions and doesn't have to be followed religiously. He also suggested that test training could begin as soon as possible. He further stated that the training manual could be updated in terms of evidence to suit the Uganda context but not in terms of structure.
- It was suggested that if the course is to get buy-in from Government, it should be designed with reference to important national documents such as the National Development Plan and Agenda 24.
- It was agreed that research would be done about existing policies and other forms of evidence that are pro-pastoralist and that these would be repackaged to support the arguments that align with the language of policy makers. However, legal backing and guidance will be necessary to avoid contradictions in the future.
- It was unanimously agreed that civil society, research institutions, and academia will not operate as stand-alones but rather work together to build a critical mass.
- Development of curriculum is a crucial step that requires involvement of a wider range of stakeholders. Thus, there must be enough time and a lot of advocacy to get buy-in.
- In order to ensure sustainability of this course in academic institutions, ambassadors should be recruited to carry on training long after those who introduced it have left the institution.
- Ced emphasized the need to have a harmonized M&E plan for all the stakeholders.
- It was agreed that all stakeholders should think outside the box regarding a sustainability plan for funding the process.
- Most of the participants were of the view that the course should be taken on as a common course within the academic institution rather than as a stand-alone. However, this would require packaging the course in a manner that is attractive to other disciplines; for example, with regard to the name.

Group Work
- How will you institutionalize (roll out) the East Africa Pastoralism and Pastoral Policy Course (PPPC) in your institution? What are the main activities?
- How will you organize the institutional process? Who is involved within and outside the institutions? Who is the focal point?
- What final outputs/deliverables will you produce? For example, adapted facilitators manual, university common course.
- How will you harmonize the course materials between Makerere and Gulu Universities?

Presentations of group answers to the four questions

CBR

Question 1: How will you institutionalize (roll out) the ea pppc in your institution? What are the main activities?
- Conduct research on pastoralism and pastoral rangelands to generate evidence needed to inform and benchmark the PPPC (review existing and undertake new research studies).
- Establish a documentation and archival center for information on pastoralism.
- Collect secondary materials on pastoralism and rangelands (published and unpublished).
- Design/adapt the PPPC (will be marketed as a course in which pastoralism is enriched with methodological imperatives, in consultation with colleagues from the sciences—veterinary sciences and rangelands):
  - Field excursion trip for all trainees;
  - Trainee will be examined (written exam) and will write an extended essay after the field trips (2,500 words);
  - Research for PPPC trainers and facilitators will be the basis for the teaching in the course, in addition to other materials.
- Design an M&E system, including lessons learned and best practices.

- Advocacy:
  - Policy briefs;
  - Tailored seminars and workshops for various policy audiences;
  - Media activities and events.
- Market the course:
  - Interest has already been generated by Uganda People's Defence Force (UPDF) who are part of Operation Wealth Creation (OWC);
  - Projected audiences include: Parliament of Uganda; ministries, departments, and agencies (MDAs); local governments; CSOs.
- Seek accreditation of the PPPC with the NCHE.

Question 2: How will you organize the institutionalization process? Who is involved within and outside the institution? Who is the focal point?

- Our institutional framework has an institutional mechanism that allows co-option of external expertise to reinforce the technical requirement of projects. Dr. Edward Okori, Dr. Paul Okullo, and Daphne Nabirye will become research associates.
- Veterinary scientists, range scientists, and ecologists will be invited to participate in the facilitation of the course for targeted instructions (calories per unit, nutritional characteristics of different vegetation, rainfall data and statistics, etc.).
- The reference group (RG) member is Executive Director Prof. Sallie Simba Kayunga.
- The focal point person is Dr. Frank Emmanuel Muhereza.
- Adaptation team:
  - Prof. Sallie Simba Kayunga;
  - Dr. Frank Emmanuel Muhereza;
  - Prof. Samson Opolot;
  - Dr. Lawyer Kafureka;
  - Dr. Okori Edward;
  - Dr. Paul Okullo (Nabuin);
  - Richard Sewakiryanga;
  - Ms. Daphne Nabirye.

Question 3: What final outputs/deliverables will you produce? For example, adapted facilitators manual, university common course.

- PPPC Certificate of Merit (with a written examination).
- Manual.
- Policy briefs.
- Working papers.
- Workshop reports.
- Extended essay of 2,500 words.
- Proposals for research funding at master and PhD level for sustainability of the program.

Question 4: How Will You Harmonize The Course Materials Between Makerere University And Gulu University?

- Members of Makerere and Gulu University, KDF, and other stakeholders will be invited to all CBR seminars, workshops, and events associated with the Pastoralism and Pastoral Policy Course.

Table 12. Work plan

	Activity	April 2018	May 2018	June 2018	July 2018	Aug 2018	Sept 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019
1	Institutional process (RPC, FA, General Meeting)										
2	Research										
3	Development of training manual										
4	Pilot training										
5	Policy advocacy workshop										
6											
7	Publications										
8	M&E										

- There will be research affiliates, internships, and access to library and documentation centers.
- Research publications on pastoralism arising from activities associated with the course, including working papers, occasional papers will be shared.

Comments/feedback

- Document whatever exists and use information from past to inform and argue for the present.
- Target Permanent Secretaries to get buy-in from ministries.
- CBR should aim to reach out to a wider audience.

Gulu University

Question 1: How will you institutionalize (roll out) the ea pppc in your institution? What are the main activities?

- Develop a course that can be incorporated into the existing course unit if it does not constitute 30%. If it cannot be incorporated, it has to be developed into a separate course, but it would require accreditation and not be a stand-alone course, e.g., rangeland management program.
- Have a short course to retool the different stakeholders with interest or those working in pastoral areas. This could be looked at as a way to kick-start the current ongoing development of a Karamoja Constituent College.
- At postgraduate level (MSc. and PhD), it could come into the program as a course unit. For PhDs, it could be a thematic area. But it could also build a body of knowledge through carrying out research directed at these areas, which will be a rich knowledge source.
- The course could be part of recess term activities.

Main activities

- Internal dialogue to identify the entry point of this course in the university mandate.
- Ground the team and familiarize them with data (empirical data) that justify pastoralism as a needed course.
- Engage stakeholders.
- Development of manuals, textbook.
- Review the current curriculum (describing course outlines and incorporating the PPPC into it).
- Seek approvals.

Question 2: How will you organize the institutionalization process? Who is involved within and outside the institution? Who is the focal point?

Who is involved within? All heads of departments, the adaptation team, the reference group, and the Karamoja Constituent College.

Who is involved outside? Nabuin, KDF, CBR, Makerere University, KRSU, IIED, International Institute of Rural Reconstruction (IIRR), local government, pastoral communities, MAAIF, DINU (Development Initiative for Northern Uganda).

Who is the focal point? Head of Department (HOD), Rural Development and Agri-business (Dr. Basil Mugonola).

Question 3: What final outputs/deliverables will you produce? For example, adapted facilitators manual, university common course.

- Training materials for the short course (modules, instructors manual).
- Brochures, fliers, talk shows, and posters.
- Stakeholder workshop.
- Modified course units within the existing curricula.
- Ratified documents showing progress.

Question 4: How will you harmonize the course materials between makerere university and gulu university?

Organize a meeting, workshop, etc. for the two universities to harmonize the contents of the working documents.

Timeframe

See Table 13 for a timeframe for activities.

Comments/feedback

- Gulu has institutional rules it abides by, so consultations have to be made with the administration.
- Recess term activities: students are taught hands-on practice.
- Main activities: review curriculum and look for entry point, might rename course accordingly.
- KRSU, KDF, Makerere University in Kampala (MUK), and CBR will have input into textbook.
- The Government is in the process of approving the right personnel to provide extension services

Table 13. Timeframe for activities

Activity	Timeframe	Output
Internal dialogue	2 months (April–June)	
External stakeholder engagement	1 month (July)	
Development of manuals and textbook	1 year (June 2018–May 2019)	
Reviewing the current curriculum (describing course outlines and incorporating the PPPC into it)	4 months	
Seeking approval	3 months	
Pilot course		

for agriculture; will take this opportunity to retool experts.
- Karamoja Constituent College is in its advanced stages; possibility of introducing the course as one of those that are demand driven and relevant to the region. There will be a short course targeting policy makers and other stakeholders.
- Marketing the course in the beginning to sell it to a wider audience.

KDF, Veterinaires Sans Frontiers Belgium (VSF-B), Mercy Corps (MC), Welthungerhilfe (WHH)

Question 1: How will you institutionalize (roll out) the ea pppc in your institution? What are the main activities?

- Strengthen existing pastoralist working groups within organizations:
  - Welthungerhilfe (WHH) and working groups;
  - VSF-B has key strategic focus on pastoralism;
  - MC has a key focus on livestock in Karamoja;
  - KDF is a pastoralist organization;
  - Market the course.
- **There is a need to internalize the holistic integration of the course within the organizations:**
  - A working group among organizations has been set up (today, 23rd March 23, 2018) and will include other stakeholders working in pastoralism across the region;
  - **Comment: institutions to propose contact persons later.**
- The operations and ToRs for working group to be developed and agreed upon by May 2018.
- A **feedback session** will be held on understanding the East Africa PPPC course and processes among the organizations. By the end of May, the first phase will be done.
- Develop a knowledge sharing and capitalization system or mechanism between and within organizations **(M&E):**
  - Data collection: livestock markets, pasture management, and food security.

Question 2: How will you organize the institutionalization process? Who is involved within and outside the institution? Who is the focal point?

- Establish a working group and create a platform.
- The working group will include WHH, VSF-B, MC, and KDF. It will later open up to other partners.
- The working group will be hosted at KDF.
- The focal point person will be Teba.
- Project development and fundraising for development and roll-out of the EA PPPC.

Question 3: What final outputs/deliverables will you produce? For example, adapted facilitators manual, university common course.

- Establish a working group and create a platform.
- The working group will include WHH, VSF-B, MC, and KDF. It will later open up to other partners.
- The working group will be hosted at KDF.
- The focal point person will be **Teba**.
- Project development and fundraising for development and roll-out of the EA PPPC.

It was agreed that in order to foster **coordination between the various groups**, the focal people will meet and share information: Frank Mugonola, Teba, Dr. Sam Oketch (MUK).

MAKERERE UNIVERSITY

Dr. Sam Oketch, Dr. Sara Nalule, and Dr. Kalyango R. Sebba

Question 1: How will you institutionalize (roll out) the ea pppc in your institution? What are the main activities?

- Focus on mind change about pastoralism.
- Identify course champions within schools and departments:
  - Meet Deans and Heads of Departments to brief them about the training;
  - One pager on the outcomes of this training;
  - Dialogue and promote the PPPC.
- Have a course run in the recess term, shortly after examinations:
  - Multi-disciplinary, bringing together students from different disciplines;
  - Certificates of Participation/Recognition given to PPPC course graduates.
- Research agenda and publications for the Ugandan case.
- Field attachment:
  - For undergraduate and master's students in pastoral institutions and organizations;
  - Field reports written and graded.
- Organize seminars and workshops for students.
- Facilitators manual.
- Workshops and stakeholder consultations:
  - Dialogue and promote the PPPC;
  - Experiential learning.

Question 2: How will you organize the institutionalization process? Who is involved within and outside the institution? Who is the focal point?

Table 14. Makerere University proposal for stakeholder involvement in adaptation process

Academic	Non-academic
• Busitema University • Gulu University • Kampala University	• MC • National Agricultural Research Organisation (NARO)

Academic (cont.)	Non-academic (cont.)
• CBR • Feinstein, Tufts University • IIED	• Water Supply and Sanitation (WSS) • CARITAS • Karamoja Livestock Development Forum (KLDF) • KRSU • Political, local, and community leaders

Focal point

- Dr. Sam Oketch, College of Veterinary Medicine.

Question 3: What final outputs/deliverables will you produce? For example, adapted facilitators manual, university common course, deliverables

- Training manual.
- Adapted and tailored facilitators manual.
- Cross-cutting course developed—to run in the recess term proposed above.
- List of stakeholders.
- List of learners.
- List of potential scholars.
- Review existing curriculum and identify gaps.
- Cross-cutting course within the Migration and Human Mobility program under College of Humanities and Social Sciences (CHUSS)—being designed for CHUSS with support from International Organization for Migration (IOM).
- Incorporation of elements of the PPPC into existing courses:
  - Such as in School of Law, Borderlands Training under Sociology, Women in Conflict and Post-Conflict Situations (MA Gender Studies), Peace and Conflict Studies;
  - Research publications: journals, technical reports, and blogs.
- List of stakeholders.
- List of identified learner groups:
  - Traceability of PPPC graduates over time entered into a database of PPP professionals.

Question 4: How will you harmonize the course materials between makerere university and gulu university?

- Establish a mailing list and update each other on steps covered and make comments.

DAY FIVE

- Share materials developed.
- Harmonization workshop/retreat for Gulu and Makerere University.

Comments/feedback

- The naming of the course is important. Putting the course under departments like Peace and Conflict would give it a poor image. Find ways to make the course attractive to students from other disciplines.
- Facilitate inter-linkage with other institutions by offering opportunities for external supervisors.
- Offer scholarships for the course, e.g., for field attachments. Consider other funding organizations.

CLOSURE

CLOSING REMARKS BY LEAD FACILITATOR CED

Ced was impressed by the level of participation in the training. However, he cautioned the participants about being too ambitious. He noted the following as cross-cutting issues from the presentations made earlier on:

- Coordination of the institutions involved in the roll-out (KRSU will foster the process);
- Alignment of timeframes and key tasks to avoid duplication of efforts;
- Align final products to complement each other;
- Internships are a great way to create a link between organizations;
- M&E should be harmonized across the institutions;
- Pool resources for roll-out of course;
- Agree on key actions to take on before next ToT.

He concluded his remarks by thanking the stakeholders for their input into the process.

CLOSING REMARKS BY CHIEF OF PARTY MESFIN AYELE

Mesfin noted that the week of training was a very productive one and expressed his delight at the level of the engagement exhibited by the participants. He thanked all the institutions and civil societies for agreeing to work with IIED and KRSU to support the agenda of pastoralism in Uganda.

He expressed his appreciation to IIED for partnering with Feinstein to make the course a reality in Uganda, and most especially to Ced for his patience.

CLOSING REMARKS FROM REPRESENTATIVE OF PARTICIPANTS

Dr. Sara Nalule gave a vote of thanks on behalf of the participants. She thanked the participants for their active participation and resilience throughout the five-day training and urged them to synergize efforts and roll out the course in Uganda. She appealed to the partners to support the entire initiative, including scholarships for students to take the course. Dr. Nalule concluded her remarks by thanking KRSU/Feinstein, IIED, and all other stakeholders for their contribution towards the successful training.

WORKSHOP EVALUATION

Table 15. Workshop evaluation

What do you like about PPPC?	Key learning points/most striking	Future recommendations for training
• Exposure to different perspectives about pastoralism as a means of utilizing drylands • The experiential learning approach of the course • Participants' experiences on pastoralism • It is an eye opener for better and inclusive development. • The ability to achieve a holistic systematic approach to pastoralism advocacy/research	• Pastoralism is not just simply a lifestyle but a system that niches well with areas with seasonal, low, and unpredictable precipitation regimes. • Rainfall versus biomass production • Mobility vis-à-vis productivity • The negative narrative about pastoralism • The possibility to unlearn the negative narrative and turn it into a positive one	• Carrying capacity/stocking rates for sustainable pastoral rangeland use and management • Soft copies should be given out to individuals, not shared. • Localized case studies and references • Five days is too much in one hotel/place. • Get updated data (2000-2018) • Increased inter- and multi-disciplinary approaches • Strengthen co-institutional linkages • KRSU/IIED should strategically commit resources/logistical support to the process.

APPENDICES

APPENDIX I. PARTICIPANT QUESTIONNAIRE

	Agree strongly	Agree a little	Don't know	Disagree a little	Disagree strongly
Pastoral environments are heavily degraded	5	10	2	9	3
Pastoral environments are fragile ecosystems	16	7	2	1	3
Scattered and variable pastures in pastoral areas are a major constraint to livestock productivity	12	6	0	5	6
Pastoralists burn pastures, which degrades the environment	7	7	1	6	8
Pastoralists keep more animals than they need; this causes desertification	6	5	1	5	12
Because pastoralists have no land, they roam around	1	2	2	3	21
Livestock mobility causes desertification and destroys the environment	2	3	1	10	13
Livestock mobility causes conflict	10	15	0	3	1
Livestock mobility reduces livestock productivity	5	6	2	8	8
Pastoralists keep animals of poor genetic quality	1	5	2	9	12
Pastoralists don't sell their animals and contribute little to the economy	0	4	0	6	19
Modern livestock keeping like ranching, where fewer higher producing animals are kept, contributes more to the economy than pastoralism	3	7	3	7	9
Pastoralists live off milk and meat alone	3	1	2	2	21
Pastoralists are resistant to change	3	3	3	5	15
Pastoral work is easy and not very time consuming	0	3	3	2	21
Men are the sole or main "bread-winner" in pastoral societies	4	0	1	7	17
Women are completely marginalized in pastoral societies – they have no power of decision-making	5	6	4	7	7
There is no future for pastoralism in Uganda because of population growth, climate change, land degradation, and the loss of pastoral land; instead we need a modern livestock sector based on sedentary production and irrigated agriculture	1	7	1	2	18

APPENDICES

APPENDIX II. ATTENDANCE LISTS

No.	Name	Organization	E-mail address	Tel. contact
1	Longoli Simon Peter	KDF	ed@kdfug.org	0776 775 775
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4	Kolwo John Micahel	Welthungerhilfe	michaelkolwo@welthhungerhilfe.de	0772 361 895
5	Irene Lynette Akidi	Gulu University	lynetteireneakidi@yahoo.com	0775 858 846
6	Dr. Edward Okori	Consultant	edwardokori9@gmail.com	0772 957 019
7	Prof. Samson James Opolot	CBR	sopolot2002@gmail.com	0774 875 133
8	Dr. Paul Okullo	NARO	paul.okullo@gmail.com	0772 368 667
9	Dr. Sidonia Achieng A.	Gulu University (Moroto)	sidoniaa@yahoo.com	0772 654 704
10	Dr. Mugonola Basil	Gulu University	basil.mugonola@gmail.com	0772 459 745
11	Dr. Elly K. Ndyomugyenyi	Gulu University	ellyndyomugyenyi@gmail.com	0772 886 613
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13	Tebanyang Emmanuel	KDF	teba@kdfug.org	0773 044 710
14	Dr. Frank E. Muhereza	CBR	frankmuhereza@gmail.com	0781 168 808
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16	Dr. Dethie Faye	VSF-B	dfaye@vsf-belgium.org	0784 453 488
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18	Julius Lwegaba	Welthungerhilfe	juliuslwegaba@welthungerhilfe.de	0752 969 754
19	Dr. Boma Paul	NARO-Nabuin	boma.paul@gmail.com	0781 558 819
20	Dr. Ejobi Francis	MUK	ejobi.francis@gmail.com	0772 492 236
21	Robert Tweyongeirye	Lecturer	trobert966@gmail.com	0701 817 220
22	Dr. Clovice Kankya	MUK	clokankya@yahoo.com	0772 545 999
23	Dr. Nalule Sara	MUK(CoVAB)	snalule@gmail.com	0772 588 010
24	Waiswa David	Gulu University	cdwaiswa@gmail.com	0772 818 812
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26	Dr. Kafureka Lawyer	CBR	kalawyer1@yahoo.co.uk	0701 421 394

27	Charles Hopkins	KRSU	charles.hopkins@tufts.org	0779 848 260
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