

Minutes from Triple-L Workshop 12th– 13th November, 2018

Venue: Jacaranda Hotel, Westlands, Kenya

Participants present:

Aida BARGUES Tobella – SLU
Bori Wolde Mekuria– CGIAR Ethiopia
Charles Kilawe – Sokoine University
Caroline Kawira – Ghent University
Collins Ouma - UoN
David Otieno - UoN
Jonathan Nzuma - UoN
Deborah Muricho - UoN
Ewa Wredle – SLU
Gert Nyberg - SLU
Göran Bostedt - SLU
Per Knutsson - GU
Maddalena Cirani - GU
Stephen Mureithi - UoN
William Makokha - Vi Agroforestry
Linet Cherono - UoN
Risper Chelangat - UoN
Saada Mohamed - UoN
Chepkemoi Ritah – UoN
Geoffrey Mwangi – UoN
Rosa Goodman -SLU
Denis Mpairwe- Makerere University
Dereje Wakjira – IGAD
Lena Kalmelid – Vi Agroforestry
Selemani Mtengeti – Sokoine University, Tanzania

Minutes

12.11.18/01 – Welcome by Gert and a Summary of the year's activities

Gert welcomed all participants to the workshop and gave a summary of the year's activities. The growing population and per capita income creates a demand for livestock products. The production system needs to reorient itself to meet this demand. In Kenya as with most countries in Sub Saharan Africa, much of the livestock is found in the drylands. The case studies from West Pokot show a transition from transhumant to a more settled agro-pastoralism but livestock still

being the main source of food and income. This change in production requires new knowledge for sustainable production.

Enclosures come into play as a sustainable intensification tool in the drylands to intensify production to not only meet the rising food demands due to population growth but to adapt to climate change related shocks.

A number of studies conducted within the Triple L network have demonstrated the usefulness of enclosures from restoring degraded landscapes and improved livestock feed availability. Enclosures do fragment landscapes which restricts mobility for free grazing. This calls for knowledge on how enclosures can be used as a land management tool under different land tenure systems.

12.11.18/02 – Summary of the Paradox Project – Goran and Per

The pastoralists' paradox project is a comparative analysis of different land tenure systems in the drylands and their implications on climate variability. The long term resilience of the transition from traditional to a more sedentary and market oriented livelihood needs secure but still flexible access to land. This gives rise to a polarized debate as to whether pastoralists' land should be privatized or remain communal.

The purpose of the project is to conduct a comparative study of the relationship between land tenure and capacity for climate for climate adaptation in four arid pastoralists region in Kenya.

The project will:

- Identify and categorize different land tenure system in the 4 regions
- Analyze how incentives created by differentiated land tenure systems affect pastoralists land use practices
- Assess the relationship between pastoralists land tenure and climate variability

The project will be conducted in West Pokot, Baringo, Laikipia and Isiolo counties. The counties are dominated by Semi-Arid land where pastoralism is or has been the dominant livelihood. Laikipia has existing and emerging wildlife sanctuaries on what was communal land before. A major infrastructure project (LAPPSET) is to pass through Isiolo County. These new developments are expected to bring about land use changes and impact pastoralists' livelihoods.

The rights to access, withdraw, to reap economic benefits, manage, exclude other users, transfer, rent out and rent in public, private and communal land will be analyzed.

A choice experiment design will be used to understand people's perception of different hypothetical future scenarios.

12.11.18/03 – Presentations by Msc Students

12.11.18/03/01 – Linet Cheron

Her research focused on agro-pastoralists' participation in emerging land markets and its effects on their livelihoods in West Pokot and Laikipia Counties, Kenya. Land in pastoral areas is managed

through communal property rights-based land tenure system. The situation is changing from communal towards individual type of tenure. Land is now used as a tradable commodity giving rise to land markets. Land markets are an avenue through which rural households can access land. They are mostly informal and operate in customary settings. The study was done in West Pokot and Laikipia counties to ascertain the forms of land markets, participation and the determinants of renting, selling, buying and leasing of land by agro- pastoralists. The findings showed that renting land for a given period of time was more popular than selling land. Lack of title deeds for many households hindered participation in the land markets. The county government should improve on title deeds issuance to provide the guarantee of ownership and they will be more secure even after renting out land for agricultural production and policy formulation to smoothen the operation of the land rental markets.

12.11.18/03/02 – Saada Sala

Her study focused on the determinants of pastoralists' participation in commercial fodder value chain for livelihood resilience in Isiolo County, Kenya. Forage scarcity is a perennial challenge constraining livestock production in drylands, attributed to factors such as land degradation due to overgrazing & invasive shrubs, climate change, land use dynamics, population pressure among others. This causes massive livestock deaths, loss of livelihoods, high poverty rates and food insecurity. Commercial fodder production, through collective action and value-chain approach, is promoted in Isiolo County. The main challenges to commercial fodder production were recurrent droughts causing low volumes of fodder to be produced and migration, inadequate technical skills due to infrequent extension visits and insufficient inputs e.g. farming tools, harvesting and baling equipment. Households with more land, livestock, access to credit, market and weather information were more likely to participate in commercial fodder production. Strengthening fodder production groups through enhanced capacity building on more viable techniques for fodder production and storage to ensure continuity of the projects. Sustainable market-based strategies to reduce reliance on NGOs for inputs & institutional support services through promotion of public, private partnerships that encourage entry of more players in the chain for example linking fodder producer groups to potential buyers especially for grass seeds.

12.11.18/03/03 – Rita Setey

Her study focused on the role of land and livestock dynamics in livelihood diversification in Baringo County. The changes in land tenure have reduced transhumance. This threatens mobility which is key in pastoralists' livelihood production. The inability of the current resource base to support subsistence livestock production has given rise to other livelihood enterprises track the changes to understand the long term livelihood pathways among pastoral households. The results showed a transition from communal to more individual type of land tenure. Individual land sizes have been declining. There has been a change in livestock species numbers. Cattle

population has been declining in favor of small livestock such as goats, sheep and poultry. Livestock production is the main livelihood activity. However, other enterprises are gradually picking up. These include crops, fruit growing, bee keeping, fodder production and land markets. There is a need to support technical processes amidst the transitions such as formalizing land rights and capacity building on new enterprises that can be useful in minimizing risks.

12.11.18/03/04 – Risper Chelangat

Her research will look at determinants of farmers' participation in the milk value chain and its effect on livelihoods in Mount Elgon region, Kenya under the Mt. Elgon livelihoods project. The project aims to improve livelihoods in the Mount Elgon region by combining agricultural productivity, environment conservation and dairy value chain business. Training on sustainable practices, agro forestry, crop diversification, fodder production and livestock management is expected to increase yields. Farmers are involved in the project through cooperatives. The cooperatives are strengthened to help dairy farmers' bulk milk, obtain better supply contracts and to offer more services like AI and veterinary care. Her study will analyze determinants of household participation in the dairy markets in Mount Elgon region, analyze the effect of household participation in the dairy markets on household income and the effect of household participation in the dairy markets on dietary diversity and food frequency in mount Elgon region.

12.11.18/03/05 – Maddalena Cirani

Her research will focus on youth pastoralists and land. The research seeks to answer how young generation perceive, negotiate and or resist changes regarding land use and land tenure. The study will also look at the extent to which they perceive, evaluate and enact tradition and modernity. The study will be conducted in Baringo County.

12.11.18/03/06 – Geoffrey Mwangi

His research will look at pastoralists' livelihood diversification through non pastoral income generating activities in Laikipia County. This is particularly important in helping pastoralists cope with climate change and help in poverty eradication. The study will look at other viable livelihood options besides pastoralism, pastoralists' participation in them and the outcome on their livelihoods.

12.11.18/04 – Presentation by Lena Kamelid (Vi Agro forestry)

Vi Agro forestry operates in Kenya, Uganda, Tanzania and aims at further expanding collaboration in other countries in Sub-Saharan Africa. Vi Agro forestry is linked with research agro forestry network in Sweden and with ICRAF and SIFOR in Kenya for collecting data and scaling up to create evidence for agro forestry. The projects run with Vi strengthen farmers organizations to create more sustainability.

The Mt. Elgon livelihood project promotes farmers adaptation to climate change through training on Sustainable Agriculture and Land Management. Here sustainable practices in crop and livestock production such as mulching water harvesting and agro forestry are aimed at improving on farm productivity and mitigate climate change through carbon sequestration. Gender inclusion is ensured through household road mapping where both husband and wife are involved in decision making on the farm enterprises. The project also creates synergy with private partners e.g with Brookside Dairy Company that buys milk from the farmers. The farmers are assured of a reliable market for their milk and Brookside is assured of a constant supply of milk. The Vi agro forestry is also working on making agro forestry attractive to young generation.

12.11.18/05 – Presentation by Wolde Mekuria (CGIAR - Ethiopia)

Benefits and Challenges of Restoration of Degradation Landscapes

Over 25% (14.3 million hectares) of the land in Ethiopia is degraded. Exclosures have been a useful tool in reclaiming degraded landscapes. Exclosures are areas fenced off to prevent livestock from grazing and wood cutting for specified periods of time. This has resulted to reduced surface run-off of rain water, slowing down soil erosion and land degradation. Diverse plant species thrive within the exclosures offering tangible benefits such as increased fodder production, fuel wood availability and non-timber forest products. Exclosures serve as livestock fattening lots. Livestock gain weight fast within the exclosures due to reduced walking distances, fetching higher market prices. Other ecosystem benefits are increased carbon sequestration thus mitigating climate change.

The challenge with exclosures is that in the short run, communities and livestock have to be excluded from grazing and collecting fuel wood from the exclosures. There is also a welfare concern of the very poor that may become worse off when excluded from land and miss out on the benefits of exclosures.

12.11.18/06 – Presentation by Charles Kilawe (Sokoine University- Tanzania)

Land Use Intensification in Drylands of Tanzania – Pathways and Outcomes

Intensification is increase in output per unit land size through increase in inputs and change in management practices such as crop rotation. Land is under pressure due to exogenous and endogenous factors. Endogenous factors include population increase, increase in demand for cereals, livestock predation due to wildlife conflicts and pasture shortages. Exogenous factors include land grabbing, climate variability and change, increase in wildlife conservation efforts, change in national and regional policies, infrastructural developments and expanding national and regional markets. The pressures create a rise in demand for livestock products under constrained production system.

The pathways are:

1. Status quo - extensive grazing on the limited grazing grounds with same livestock population

- 2.Reducing livestock numbers and intensify production through provision of fodder
3. A shift from pastoralism to crop production, non-farm enterprises such as business and eco-tourism

The pathways interact and overlap.

The outcome for the pathway 1 is increased land degradation due to high livestock numbers with little vegetation, livestock quality deterioration and increased mortality leading to poverty.

For pathway 2, the outcome was increased productivity that resulted to higher incomes from well finished livestock. The constraints were low capacity on intensification, lack of inputs and technology and market constraints.

Pathway 3 was constrained by factors including land tenure and the socio-cultural importance of pastoralism as an identity and thus reluctance to quit pastoralism for other livelihood activities.

12.11.18/07 – Presentation by Denis Mpairwe (Makerere University- Uganda)

Case studies of Rangeland Intensification in Uganda

Rangelands cover about 43% of total land surface in Uganda. Ranches were introduced in Uganda in the 1950's under lease system. Ranches caused subdivision and fragmentation of communal land and a shift to a more individualized form of land ownership. This resulted in limited transhumance and with the same livestock population, the limited land space was overgrazed and degraded. Open gullies, bare patches, and degraded landscapes greatly jeopardized livestock production and threatened the livelihoods of rangeland communities.

A project supported by the EU conducted a research on the productivity of different livestock production systems and the impacts of current and future climate change scenarios on livestock production. Feedlot finishing and supplementary feeding of grazing animals for slaughter to improve meat quality and quantity was piloted. The result provided evidence that improved feeding management resulted in faster growth and high yield in carcass weights. Feedlot finishing was more effective compared to supplementing grazing.

12.11.18/08 – Presentation by Dereje Wakjira(IGAD)

IGAD operates in Sudan, South Sudan, Uganda, Kenya, Somalia. These countries are dominated (at least 70%)by arid and semi-arid lands (ASALs) receiving between 150mm and 700mm of rainfall annually. There are a lot of cross border interactions among the countries where resources such as water, grazing land, markets and health services are shared. Most of the pastoralist communities in these countries share similar culture and a sense of identity.

The rangelands face challenges such as recurrent droughts, land degradation, invasive species, inadequate feed availability and trans-boundary livestock diseases.

Despite the fact that most of the livestock population in these countries is found in the rangelands, there is still a huge untapped potential since most slaughter houses operate under capacity due to inconsistent and inadequate supply of marketable animals.

IGAD runs several programs that aim in address the challenges in the drylands.

These include IDDRSI, DDRSI and ICPALD. These programs aim at supporting pastoralists livelihoods through environment and natural resource management and improved market access.

Ongoing activities are rangeland rehabilitation through grass seed production, enclosures, emergency feed production and storage and managing bush and invasive plant species, water and infrastructure development and disease surveillance through cross-border vaccination.

There is need to secure land rights for communal range lands , defining rightful users and management structure and well defined land use plans such as wet and dry season grazing areas.

12.11.18/09 – Presentation by Selemani Mtengeti (Tanzania)

Ecological restoration of degraded communal rangelands: Success and Failure of traditional enclosures

Climate change and human activities such as overstocking, vegetation clearing and uncontrolled fire have resulted to degradation in the rangelands. The HASHI (Hifadhi Ardhi Shinyanga) program used a participatory approach that built on local knowledge in managing *ngitili*, communally owned enclosures aimed at restoring degraded lands. The program was established in North West Tanzania where the land was severely degraded. The HASHI program was a farmer-led initiative that ensured degraded areas were refrained from grazing and standing vegetation retained by the community from the onset to the end of the rainy season. Local village guards ensured this was adhered to and contributed to sustainability. Vegetation regeneration was supported through reseedling. The HASHI program shows how both local and scientific knowledge can be integrated for successful rangeland management.

12.11.18/10 – Presentation from Group Discussions

Thematic areas for future research that will be discussed extensively the following day are:

1. Trees and water: Biophysics of trees, useful tree species in respective area, need for more countries, trees and carbon sequestration in the soil, effects of trees on the ground. Ways of improving water infiltration to reduce soil erosion.
2. Livestock fodder: focus on livestock productivity and fodder production
3. Economics and socio economics - different countries with different institutions to allow comparisons
4. Land use, climate change and carbon sequestration.

Day 2

13.11.18 – Presentation from Group Discussions

13.11.18/01: Group 1 Trees and water

A prospective comparative study in West Pokot and Karamoja regions will look into water infiltration, run-off and soil erosion, how trees contribute to improved soil quality, water retention and social development, inventory of existing plants species, uses and functions across border, map shared grazing and water resources and study the potential of carbon sequestration and how it contributes to the global climate discourse. Gert will lead an application along those lines.

13.11.18/02: Group 2 Socio-economics

Different institutions influence sustainable practices that increase climate change adaptation and mitigation. This prospective study will look at examples of different land management practices under different institutional settings in the different countries (Kenya and Tanzania and Kenya and Ethiopia) but with the same geographical region, constraints and exposure to shocks and how they contribute to farmers' adaptation to climate change and other related shocks. The study will look at a historical perspective of the institutions, the changes over time and how the changes influence sustainable land management and helping pastoralists realize their full economic potential. Camilla Sandström will lead an application in close cooperation with Per and Göran.

13.11.18/03 Group 3 – Meat on your Plate, at What Cost?

This prospective study will look at the cost of meat production and the different feeding regimes. The study will document the local indigenous feeds, both grass and tree species and their nutritive value. The study will look at the potential of feed lots for livestock finishing from the Uganda case study and how the model can be upscaled in other drylands. The study will also explore the role of collective action such as organized cooperatives for livestock finishing before off-take. The study will also look at the changes in preferences of livestock species and breeds, the benefits and challenges of the shift in preferences. Ewa will lead an application.

13.11.18/04 Group 4 - Climate change

This prospective study will look at entry points of incorporating new technologies for management of climate change effects. The study will also look at land tenure changes and gender dynamics and how this affects carbon sequestration and emissions.

On climate change, the study will look at the changes in rainfall affect production of grass and fodder and how enclosures help in adapting to changing rain patterns. The study will also look at energy sources and the potential of integrating solar energy at the household level to reduce fossil fuel demand. Rosa Goodman will lead an application.

13.11.18/05 Triple L network application, SRL

Triple L will also apply for network funding from the Swedish Research Council. This application will be based on dryland dynamics, Land, Livestock and Livelihoods, in the drylands of Kenya, Ethiopia, Uganda and Tanzania. Gert and Per will lead the application.

13.11.18/06 New members to the steering committee

Denis Mpairwe, Makerere University,
Charles Kilawe, Sokoine University of Agriculture,
BoriWolde Mekuria, International Water Management Institute (IWMI),
Dereje Wakjira, IGAD, and
Deborah Muricho, UoN, joined the Triple L steering committee.

13.11.18/07: Concluding Remarks by Gert

Gert thanked all the participants for attending the workshop. Collaborators from Uganda, Tanzania and Ethiopia will help in expanding the scope of the network and will be the key partners for future research in their respective countries. Triple L will continue using Msc and PhD students to carry out research on the identified research questions that are pertinent to the development of the society. All the publications from the students' research will be uploaded on the Triple L website and linked with the respective universities.

Minutes Prepared by Deborah Muricho

Checked by Gert Nyberg