Strengthening Adaptive Capacity of Extensive Livestock Systems for Food and Nutrition Security and Low-emissions Development in Eastern and Southern Africa

Regional Planning Workshop Report

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Contents

Introduction

Livestock production is a major economic activity in Africa, contributing significantly to food security, income generation, and employment. Extensive livestock systems support most of Africa's livestock population, with 63%, 82%, and 70% of the continent's cattle, sheep, and goats, respectively, raised in arid and semi-arid areas. Despite having one-third of the world's livestock population, the sector faces several challenges, including low productivity, disease, and poor marketing infrastructure, often exacerbated by climate variability and change.

Climate change negatively impacts pastoralists and agro-pastoralists in Eastern and Southern Africa through changes in rainfall patterns, temperature, pests, and diseases. These changes make it more difficult for pastoralists to find grazing land and water for their livestock, leading to increased livestock mortality. The livestock keepers are also often caught up in conflict and violence between themselves and other groups leading to the loss of livestock, property, and even life. The expansion of agriculture and other land uses is another challenge leading to the loss of grazing land, forcing them to move their herds to new areas, which can lead to conflict. Other challenges include lack of access to basic services, such as education, health care, and markets. These challenges highlight the need for extensive livestock-keeping households and communities to build greater adaptive capacities to absorb and/or buffer the impacts of shocks on their system, food and nutrition security, and livelihoods.

The Australian Centre for International Agricultural Research (ACIAR) funded project on "**Strengthening Adaptive Capacity of Extensive Livestock Systems for Food and Nutrition Security and Low-emissions Development in Eastern and Southern Africa** aims to support stakeholders engaged in extensive livestock systems in Eastern and Southern Africa to design and implement scalable, sustainable interventions that promote adaptive capacity and food and nutrition security of men and women livestock keepers, while reducing greenhouse gas emissions (GHG) from livestock production. The project is implemented by a consortium of three international partners: ILRI Accelerating the Impact of CGIAR Climate Research for Africa (**AICCRA**) Eastern and Southern Africa, UNIQUE forestry and Land Use (www.unique-landuse.de); and the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN - www.fanrpan.org). The focus countries include Ethiopia, Kenya, and Zimbabwe, and the project addresses the following research questions:

- What have been the effects of previous and ongoing interventions in extensive livestock systems on the FNS and adaptive capacity of men and women livestock keepers and GHG emissions from livestock production?
- What additional interventions should be implemented in conjunction with promising interventions identified in RQ1 to increase the synergies and address trade-offs between adaptive capacity, FNS and GHG emissions, and to ensure gender- and socially inclusive benefits?
- What context-specific factors, including actor-networks, partnerships, institutional arrangements, and policy processes, are important for scaling-up promising livestock innovations for inclusive benefits for men and women livestock keepers in ESA?

Workshop objectives and expected outputs

This planning workshops follows from the the project inception workshop in September 2022. The country teams have had a series of inception workshops (in Kenya, Ethiopia, and Zimbabwe) to raise awareness and understanding of the project among the relevant stakeholders and partners in Ethiopia, Kenya, and Zimbabwe. In addition, the country inception workshops have explored possible synergies with ongoing initiatives and policy processes in the countries, identified relevant implementing partners, and develop preliminary work plans for the various work packages.

This workshop aims to review progress, develop a detailed work plan for the different work packages and synchronize project activities among the lead partners. Participants include partner institutions (AICCRA, UNIQUE, and FANRPAN) and collaborating researchers.

- Detailed and synchronized work plans developed at regional, national, and work package levels
- Project sites and implementing partners identified, including the ongoing projects to build on

This report summarizes the workshop discussions, including the key action points.

Session 1. Introduction and setting of the scene

Overview of the project by Dawit Solomon

The extensive livestock system supports millions of smallholder livestock keepers in Africa and beyond. However, livestock keepers within the system face climate and non-climate-related challenges, such as meeting food and nutrition security needs, diseases, feed shortages, climatic extremes, seasonal fluctuations, etc. Therefore, the ACIAR project aims to support stakeholders engaged in extensive livestock systems in Eastern and Southern Africa and design and implement scalable and sustainable interventions to promote inclusive, adaptive capacity, food, and nutrition security while reducing greenhouse gas emissions from the livestock

sector. Nationally determined contributions (NDCs) of many African countries show the livestock sector is a major contributor to GHG emissions, so looking into synergies for mitigation on top of nutrition security and adaptive capacity is very important.

The project has components of generating knowledge, products, innovations, and decision support tools; building capacity and linking technologies to transfer packages and innovating enabling components for facilitating scaling via relevant stakeholders and partners, big-ticket

items, or sector development projects. Within the project, the key activities or research areas are

- Review evidence on climate risk in extensive livestock systems in Eastern and Southern Africa – prepare risk profile and identify climate-related risks in the region, then zoom into Kenya, Ethiopia, and Zimbabwe and study impacts on extensive livestock systems.
- Review evidence on the effect of livestock interventions on food and nutrition security, adaptive capacity, and GHG emissions – looking into emissions footprint and synergies with mitigation.
- Political economy analysis of key intervention areas (marketing, CBBP, animal health, and rangeland management) – report on political economy factors affecting intervention, design, promotion, adoption, and outcomes and report on opportunities to enhance research policy linkages.
- Retrospective or ex-post surveys of gendered effects on food and security, adaptive capacity, and GHG effects of adopting these interventions and analysis of synergies and trade-offs – publication on gendered effects on food and nutrition security and adaptive capacity interventions, GHG effects (maybe scenario analysis) and GHG synergies and trade-offs.
- Gender and social analysis – development of gender strategy
- Identifying additional nutrition and gender-sensitive interventions – selecting interventions for trial implementation.
- Stakeholder analysis to inform the design of deep-dive studies - report setting out stakeholder engagement strategies for pastoralists (ensuring gender equality).
- Establishing collaborative research partnership for a deep dive study – site-based research partnership agreements and implementation plans (MoUs and letters of collaboration)
- Implement nutrition and gender-sensitive trial interventions with monitoring and deep-dive studies – report on selective interventions' effectiveness, synergies, and trade-offs.

Finally, the presentation focused on the PDOs (Project Development Objectives) and IPIs (Intermediary Progress Indicators) in the areas of development of climate-resilient livestock knowledge products, decision support tools, and services and how achievements against activities/outputs/milestones will be monitored.

The four broad intervention areas have been identified, and the country teams indicated their specific interventions of fo and presented in Table 1.

Table 1. Country-specific intervention areas.

Intervention areas	Ethiopia	Kenya	Zimbabwe
Livestock Marketing	X	X	X
Community-based Breeding Program	X		
Rangeland management		X	X
Animal Health	X		X

Other issues raised included:

- Importance of assessing access and investigating the improvement in productivity, income, and resilience
- Using the gender empowerment index to measure gender inequality in different dimensions of empowerment, such as economic participation, decision-making power, political participation, control and access over assets, etc
- Importance of considering how the key interventions within the extensive livestock system will benefit not only women but also marginalized communities and youth
- Using meta-analysis of existing data for projects where the team can not do surveys
- Importance of involving cooperatives in some of the intervention areas, e.g., the Community-Based Breeding Program (CBBP), where bundled activities such as marketing, breeding, health, feed, and nutrition are being implemented
- Importance of involving universities running CBBP programs in their proximity
- Need for site-specific climate risk analysis in the three core countries.
- Need for a guideline for data requirements for climate risk analysis and gender analysis.

The need for identifying indicators was also discussed, and each county lead came up with food and nutrition security, adaptive capacity, GHG emission, and gender indicators, as presented in Table 2. Some of these indicators are captured in the project proposal.

Table 2. Food and nutrition security, adaptive capacity, GHG emission, and gender indicators

Activities	Indicators
Food and nutrition security	- Demographics – for Gender disaggregation - Income/Livelihoods- for livelihoods classification - Assets – for asset score, wealth ranking - Expenditure – for % share of food - Food Consumption and Coping – overall food security classification - Water Sources, Sanitation and Access – for food utilization - Health – diseases and access to facilities, treatment, etc. – for utilization - Prevalence of moderate and severe food insecurity in the population based on the Food Insecurity Experience Scale (FIES) - The proportion of children aged 6-23 months receiving a minimum acceptable diet (at least five out of eight food groups excluding breastfeeding) in the last 24 hours. - The proportion of children aged 6-23 months achieving minimum dietary diversity (at least five of eight food groups, including breastfeeding) in the last 24 hours. - Global Acute Malnutrition (GAM), a measurement of the nutritional status of a population, based on the weight-to-height index of children aged 6-59 months. - The proportion of women of childbearing age (15-49 years) achieving a minimum dietary diversity score (at least five out of ten food groups) in the last 24 hours (MDD-W) - Consumption of animal-source foods (e.g., milk and meat) by women and children under 5.
Adaptive capacity	- Economic – for the availability of resources - Available technology and adoption – for availability and ability to adopt technologies. - Equity – for availability and entitlement to resources - Institutions – the impact of policies and regulations and the capacity of institutions - Capacities and skill/ information (Local adaptive capacity index (LAC), Women's Empowerment in Livestock Index (WELI))
GHG emission	- Total herd - Herd structure and herd dynamics, - Feeding and feed basket - animal management practices, - animal performance - Manure management
Gender	- Number of men, women, and people with disabilities participating in activities, e.g., capacity building - Percentage of men, women, and people with disabilities with access to income from livestock and livestock product sales - Percentage of livestock keepers in control of incomes segregated by sex. - Percentage of men and women involved in Decision-making regarding livestock production, use (sale or consumption)

Session 2. Progress by country

Kenya by Charles Odhong – UNIQUE Land Use

Country inception workshop was held in April 2023 to raise awareness of the project and to discuss strengthening the adaptive capacity of extensive livestock keepers involving 22 participants from the State Department of Livestock, UNIQUE, ILRI, University of Nairobi, Kenya Animal Genetic Resource Center, the Livestock Marketing Council, Center for Research and Development in dry lands and Gatsby Africa.

The four takeaways from the workshop included:

- Need for linkage between project components and the adoption of intervention,
- Livestock marketing and value chain development,
- Need to evaluate the impact of different rangeland management interventions,
- Policies – no adequate policies to support some of these development processes within the areas of interest in the rangelands and smallholder production systems in arid and semi-arid areas.

Three main partners were identified: University of Nairobi, Kenya Livestock Marketing Council, and the Ministry of Agriculture and Livestock Development (State Department for Livestock Development). Discussions are ongoing with local partners to select the project sites. In addition, a review evidence on the effects of livestock interventions on food and nutrition security, adaptative capacity, and greenhouse gas emission has been started. In addition, the University of Nairobi initiated the process of recruiting students.

Zimbabwe by Simba Sibanda – FANRPAN

The inception workshop was held to introduce the project, discuss preliminary country-level plans, and look at the budget. Regarding capacity building, the team has agreed to 4–5 graduate students as the main human resource to conduct the actual research work with supervision from partners and co-PIs.

In terms of partners, two universities (the University of Zimbabwe and the Chinhoyi University of Technology), the ILRI Country office, the Livestock and Meat Advisory Council (LIMAC), and the Agricultural Research Council (Coordination) have been selected. The appointment of supervisors from the partner institutions as associates and co-PIs has been completed. For prospective students, contracts have been prepared, and currently waiting for the identified students to be formally engaged.

Based on advice from country partners, an official launch of project organized on 1 June 2023 to create awareness and provide information to high level government officials and to facilitate operations at sub-national levels. Participants included representatives of Government ministries, technical implementing partners and the Australian Ambassador (for ACIAR).

Ethiopia by Shigdaf Mekuriaw – UNIQUE Lan Use

In Ethiopia, an inception workshop was held in April 2023 to raise awareness, foster understanding of the project among the relevant stakeholders, and explore the potential synergy with ongoing initiative and policy processes in Ethiopia. Twenty-eight participants from the Ministry of Agriculture, UNIQUE, AICCRA, ICARDA, Universities, research institutes, NGOs, private sectors etc, were involved. A panel discussion to prioritize research topics and interventions was held during the inception workshop.

The selected implementing partners include International Center for Agricultural Research in the Dry Areas (ICARDA), the University of Gondar (UoG) and Addis Ababa University (AAU), Research institute (ARARI & SARI). The interventions of focus in Ethiopia include Community-based breeding (CBBP), livestock marketing and animal health. A Memorandum of Understanding has been signed with the University of Gondar, and two students are in the process of recruitment.

The Longitudinal data collected over the years on small ruminants by ICARDA will be used for GHG emission analysis, and one Ph.D. student has been assigned. The data by ICARDA on animal breeding will be analyzed in relation to FNS, GHG emission, gender, and adaptive capacity. The potential research areas or sitre will be in Amhara and the Southwest regions.

Discussions

- There is need to investigate the impacts of the interventions separately for men and women. In addition, the list of interventions needs to be aligned with the identified risks in the project areas.
- Since one intervention area in Ethiopia is animal health, its impact on the three components, namely GHG emissions, adaptive capacity, and food and nutrition security, must be looked at. Gender must also be considered.

Session 3. Progress by work package

Review of evidence of climate risks in extensive livestock systems in ESA and study sites by Teferi Demissie (ILRI)

The extensive livestock sector encompasses 45% global surface area with a value of at least $1.4 trillion. However, the sector is impacted by climatic and non-climatic factors such as shortage of feeds, heat stress, water stress, livestock diseases, and disease vectors.

The trend analysis of temperature shows an increasing trend in almost the whole region of Eastern Africa. Different literature also supports this analysis. The rainfall trend analysis in most livestock-producing areas of Southern and Southeastern parts of Ethiopia, Kenya, and Somalia shows an increasing trend in MAM (March, April, and May). Whereas in OND (October, November, December), the rainfall in large parts of Ethiopia and Kenya shows an increasing trend. In JAS (July, August, and September), rainfall in Northern Ethiopia shows an increasing trend.

In terms of the future projection, rainfall in Ethiopia during the months of OND will start to increase again in the 2050s and 2080s. The temperature projection also shows an increasing trend in both scenarios (ssp245 and ssp585). An increase in extreme events, such as floods and droughts in most parts of East Africa, is also projected, increasing the demand for water, energy, and food. The changing climate will also impact the livestock sector by reducing milk production, decreasing dairy and beef production.The importance of producing a suitability map

using climate, agronomy, socioeconomic parameters, and future water availability has also been discussed.

Discussions

- The need to produce suitability maps for animal species and breeds in the three core countries. Understanding what is happening in Borana, i.e., their shift from cattle to camel, is an excellent example of why the suitability map is essential
- Availability of long-term data on milk and health in Ethiopia

Review of evidence on effects of livestock intervention on FNS, adaptive capacity and GHG emissions by Charles Odhong (UNIQUE)

The presentation covered an an of the methodology of conducting the review based on the research questions, including the protocol for screening the articles, appraising them for quality, analyze/synthesize the studies, and finally writing up of the review.

The selected interventions of focus in the review for Ethiopia and Kenya include: i) Livestock marketing through self-help groups, livestock cooperatives, livestock market co-management committees, mobile auctions, and the National Livestock Market Info System (NLMIS); ii) Community-based rangeland management (CBRM) through conservancies, group ranches, multi-stakeholder platforms, local government regulation. Others include grazing management practices and institutional arrangements in rangeland management and reseeding; iii) Community-based small ruminant breeding and marketing through herder cooperatives, and community breeding objectives to increase performance (productive, reproductive, and survival) are included; and iv) Animal health interventions include vaccination and parasite control.

The effects of the four intervention on FNS, adaptative capacity, and GHG emission in terms of increasing productivity, increasing resilience, enhancing livestock asset base, increasing livestock offtake, improving livestock disease controlare also part of the ongoing literature review.

Discussions

- The need for inclusion of activities that assess food and nutrition security. To help with this, FANRPAN will help formulate the questions and the kind of assessments Can be done.
- The importance of involving community-based organizations in Community Based Range Land Management. The indigenous knowledge from the community within the CBOs will contribute to improving FNS, adaptive capacity, and GHG emissions.

Political economy analysis of key intervention areas for extensive livestock systems in ESA by Simba Sibanda (FANRPAN)

The presentation highlighted the existing regional and country level policy frameworks related to extensive livestock systems. At the regional and continental level, these frameworks include the African Union Agenda 2063, Malabo Declaration, COMESA (a regional livestock policy framework), East African Community that aims to enhance livestock production, The IGAD

Centre for Pastoral Areas and Livestock Development (ICPALD), SADC Regional Agricultural Policy (2013), Climate Change Strategy and Action Plan (2014) and the Regional Food and Nutrition Security Strategy (2015-2025). The existence of the policy frameworks shows there is support at the political level.

At country level, Ethiopia has a range of frameworks such as a Growth and Transformation Plan (GTP-II), Climate Resilient Green Economy (CRGE) strategy, National Adaptation Plan, among others. These strategies consider FNS, adaptive capacity and synergies with GHG mitigation, and gender as priority objectives. Similarly, in Kenya, the existing policy frameworks include Agriculture Sector Growth and Transformation Plan (Flagship 6), National Agriculture Investment Plan (Anchor 3), National Climate Change Action Plan (NCCAP, 2018-2022), Kenya Climate Smart Agriculture Implementation Framework (2018-2027). The National Agriculture Investment Plan prioritizes boosting the adaptive capacity of food systems in ASAL regions through increased livestock productivity and marketing, while Kenya's updated NDC (2020) prioritizes efficient livestock production. Gender in Kenya's NCCAP as critical to achieving 'triple wins' among food security, agriculture, and climate change. In Zimbabwe, FNS, livestock productivity, and animal health are priorities in the Comprehensive Agricultural Policy Framework and are reflected in the country's mid-term agriculture investment plans, including the Agriculture and Food Systems Transformation Plan. On top of this, Zimbabwe's National Climate Change Response Strategy (NCCRS) includes generic measures to support livestock adaptation to climate change.

The presentation also covered the importance of livestock at a household level, the decision-making power of men and women, community-level issues in terms of land tenure, conflicts due to grazing lands, gender-biased exclusionary social norms in communal pastures, which the team needs to consider while doing the surveys in the three core countries. The presentation also stressed the need for stakeholder/actor analysis and looking at the different actors' interests, influence, and impact on the three project components.

Gender Strategy by Therese Gondwe

Presentation provided an update on the progress made in developing the gender strategy and how gender will be mainstreamed into the different activities and analyses. In terms of progress, a literature review on gender-related challenges in extensive livestock systems, consultations with the ILRI gender team, and drafting of components of the gender strategy have been initiated. Components of the strategy included justification, objectives, and proposed draft theory of change.

In terms of approaches, primary and secondary data will be critical to the gender analysis to understand the current gender relations and women's empowerment or disempowerment and how they influence livestock technology adoption and FNS in the face of climate change. The need for country-level context-specific gender analysis has also been suggested. Division of labor, access to resources/opportunities, control of resources/opportunities, and influencing factors (norms, policies, culture, religion) will be analyzed. After the analysis, a gender action plan will be developed, which is the basis for operationalizing the results and recommendations from the gender analysis. Three major outcomes are expected: i) Enhanced participation of women in Community Based Organisations; ii) Generation of evidence for the understanding of gender issues in extensive livestock systems; and iii) Enhanced of project staff, livestock keepers, and extension workers on GHG emission, Food and Nutrition Security and Gender. The next steps are to have country-level consultations to have country-specific activities based on the challenges and opportunities, develop indicators, and monitor the strategy annually.

Discussion

- Gender needs to be integrated into the review of evidence on climate risks, FNS, adaptive capacity, and political economy is necessary
- There is need to develop guiding questions that help to look at a gender lens in the reviews
- Suggestion to prepare a Theory of Change clearly showing impact, outcomes, intermediates and see how gender fits into the scheme
- Youth and marginalized groups also need to be included in the strategy
- The Theory of Change needs to be translated into a diagram for easy understanding and see the linkages
- In the first bullet of the theory of change (i.e., knowledge products are developed in extensive Livestock Production Systems for enhanced nutrition and reduced Green

House Gas emissions), it is recommended to show what process will be taken to make that linkage into the informed policy decisions

- Need to strengthen existing women-led community-based organizations (CBOs) and establish new CBOs to empower women
- Suggestion to include components such as activities, outputs, short-term and immediate outcomes, overall objectives, capacity building, partnership, etc, in the theory of change

Session 4. Detailed planning of activities, including timelines

Climate Risks in Extensive Livestock Systems by Teferi Demissie

Presentation covered what has been done in terms of climate risk analysis in extensive livestock systems with the objectives of developing livestock sector-specific extreme indices in the three core countries, enhancing understanding of the current and future extreme climate hazards of climate change impacts, developing suitability maps under current and future climate conditions, and assessing the availability of water under current and future scenarios. He mentioned that a lot of work had been done in Ethiopia and Kenya, but the plan is to extend the work to Zimbabwe. In addition, the work will be downscaled into specific sites within the three core countries.

Regarding the models and analysis period, the Coupled Model Intercomparison Project Phase 6 (CMIP6) and a reference/historical period of 1985-2014 has been used. For future climate analysis, mid-future (2041-2070) and far-future (2071-2100) and two representative concentration pathways (SSP245 and SSP585) are selected. He also presented which observational data has been used to compare with the model to choose models with very good skill in the region.

Three stressors (heat stress, flood, and drought) that affect livestock by influencing milk production, health (survival and life expectancy), fertility, and fitness have been selected. The climate indices for heat stress and flood will be developed using CLIMPACT2 using CMIP6 daily, Tmax, Tmin, and precipitation datasets. The relevant climate indices will be developed for drought to indicate drought risk. The indicators for each climate stressor are also presented.

Discussion

- Need to develop suitability maps for species and breeds of animals
- Country leads to provide the threshold temperature that will affect, e.g. milk production, the productivity of animals, etc., for the specific site selected in each country. However, due to the shortage of information in this area, using default values has been recommended.
- The availability of multiple-year data in Ethiopia might be necessary for the analysis.
- Looking at the comfort zone of every species in terms of temperature, rainfall, etc., and if we can correlate the existing data we have on milk (from Holetta) and data on different parameters on small ruminants (ICARDA) with temperature and rainfall.

- Working together to produce a paper/blog/op-ed on the impacts of climate change on the future productivity of livestock (e.g., milk and meat production) in ESA the impact of temperature on physiological aspects of livestock, small ruminants.
- Need to prepare tips/guideline/template on the data needed for the climate analysis.
- Climate risk analysis needs to consider the onset of drought as its impact differs in the time of the season it starts.

Effects of livestock interventions on FNS, adaptive capacity, and GHG emissions by Charles Odhong

The session covered a detailed planning and synchronization of activities. He outlined the key expectations in the review as identification of livestock interventions, state of evidence gaps on the effect of interventions on FNS, adaptive capacity, and GHG emission, and identification of key knowledge gaps and demand to fill knowledge gaps. Regarding the retrospective (ex-post) surveys of gendered effects on FNS, adaptive capacity, and GHG effects of adopting interventions, and analysis of synergies and trade-offs, the key expectations include preparation of survey tools, execution of the surveys, data analysis and reporting in collaboration with other partners.

Next steps:

- Gender: incorporation of gender in the review
- Risk analysis: data requirements for country-specific risk analysis
- Guideline requirements/Indicators for retrospective surveys: gender, FNS, political
- Module Development for capacity building: each partner to develop a component based on areas of competencies
- Timeline for development of the documentation: for guidelines and reports

Action points by each partner

- FANRPAN: Political economy data guideline
- FANRPAN: Data guideline on FNS
- ILRI: Guideline documents to collect and analyze gender and collect information on gender.
- ILRI: Risk analysis guidelines
- ICARDA: Evaluation of resilience at a project and household level
- ICARDA: Data on breeding for evaluation, guidelines on data tools
- ILRI/ FANRPAN: Design of deep dive studies

Discussion

- We need to formulate research questions about FNS, GHG emissions, and adaptive capacity while reviewing evidence on the effects of livestock interventions on the three components plus political economy
- The need to review the indicators for each component that is included in the research proposal

Political economy analysis by Simba Sibanda

The political economy analysis of key intervention areas for extensive livestock systems in the ESA region were presented. The analysis will be based on a case study approach (survey data) and a literature review. The literature review will be broader, and the case study in the selected locations (in the three countries) will be used as a proxy for what's happening in the country. The case study will explore the dynamics of policy-making and implementation practices relevant to the extensive livestock system. So, it enables us to analyze the political forces that limit the potential contributions to food and nutrition security, poverty regulation, and high-level development outcomes. So, he recommended while doing the analysis, we need to pay attention to the dynamics within the pastoral systems as well as the broader national and local government institutions.

Apart from the literature review, the survey will be based on qualitative interviews with key stakeholders to investigate and characterize the underlying interest incentives and the institutions that enable or frustrate change. Regarding approach, the Zimbabwe team will draft guidelines on general approaches and data collection tools and share them with the country teams in Ethiopia and Kenya to customize the guidelines and tools to the local context and the selected project areas.

Discussion

- Agreement on the indicators at the beginning and then jointly preparing questionnaires for the three countries has been suggested
- ODK-based surveying tools to administer the surveys have been recommended

Measuring and tracking adaptation outcomes: learnings and opportunities

Dawit summarized learnings from measuring progress and effectiveness of adaptation to climate change and shared ideas on a research and action agenda for advancing adaptation tracking. His presentation covered the adaptation effectiveness principles relevant to the ACIAR project. These principles are improved well-being, enhanced resilience, reduced vulnerability, avoided maladaptation, sustainable adaptation, and efficiency/utilitarian. He suggested looking at adaptive capacity from the social and economic side. However, ecology can also be considered depending on the intervention, e.g., GHG reduction in CBBP and animal marketing.

Data requirements and timelines

Output	Expected input/Feedback from Leading partner	Date of Delivery	Expected Input/Feedback from other partners	Date of Delivery
1.2. Review of evidence on climate risks in extensive livestock systems in ESA and study sites				
1.2.1. report on state of evidence and key knowledge gaps on climate risks and impacts on extensive livestock systems in ESA (**ILRI's AICCRA-ESA with ILRI and UNIQUE**)	-ILRI: Summary data collection tool/ detailed description of data required for risk analysis -Agree on a targeted publication/papers -Research questions for the papers, this should be based on the demand/needs of the users	By end of July	- Country teams to identify what kinds of livestock data they already have/exist - **UNIQUE:** Data on project sites in Kenya and Ethiopia. - **FANRPAN:** Data from Zimbabwe - Possibility of starting with data that exists on CBBP with ICARDA	**By end of Aug to September**
1.3. Review evidence on effects of livestock interventions on FNS, adaptive capacity and GHG emissions				
1.3.1 Report on state of evidence, key knowledge gaps and demand to fill knowledge gaps on the effects of livestock interventions on FNS, adaptive capacity and GHG emissions (**UNIQUE with FANRPAN and ILRI's AICCRA-ESA**)	- **UNIQUE**-Summary of livestock interventions in all countries - **FANRPAN -** Summary of interventions depends on the project selected -This includes details of interventions within the broader categories - UNIQUE to consolidate the reviews from the countries	**-By end of July**	- **ILRI:** Literature review search questions for inclusion of gender in the review process - **FANRPAN** - Search questions for the review on FNS and adaptive capacity - UNIQUE – GHG search questions - In-country literature review by UNIQUE and FANRPAN	**ILRI – Mid Aug** **Starting Mid-August to end of October**
1.4. Political economy analysis of key intervention areas (CBRM, breeding, animal health, marketing)				
1.4.1. report on political economy factors affecting intervention design, promotion, adoption, and outcomes (FANRPAN and UNIQUE with ILRI's AICCRA ESA)	-**FANRPAN**: Guideline on how to conduct the political economy analysis	**Mid Aug**	-UNIQUE: Country teams to do their own analysis and submit reports to FANRPAN	**Starting Mid-August to end of November** (**for the literature review**)
1.4.2. report on opportunities to enhance research-policy linkages (FANRPAN and	-**FANRPAN** to provide guidelines on how do the stakeholder engagement	**By end of the year (Q4 of Yr 1)**	-Stakeholder engagement activities, regularly by the in-country teams.	**Q4 of Yr1, every six**

Output	Expected input/Feedback from Leading partner	Date of Delivery	Expected Input/Feedback from other partners	Date of Delivery
UNIQUE with ILRI's AICCRA ESA)	-**FANRPAN** to consolidate information from the stakeholder engagements and policy briefs into a report (throughout the project period, interim reports)		-Develop country specific policy briefs. Key knowledge outputs to be summarized into a Policy Brief, the brief to be finalized with input from the stakeholder engagement	**months thereafter**
1.5. Retrospective (*ex post*) surveys of gendered effects on FNS, adaptive capacity and GHG effects of adopting interventions, and analysis of synergies and trade-offs				
1.5.1. Publications on gendered effects on FNS and adaptive capacity of interventions (FANRPAN with ILRI)	- **FANRPAN:** Political economy data collection guideline - **FANRPAN:** Data collection guideline on FNS and adaptive capacity across all the countries	**End of Q4 of Yr1**	- **ILRI:** Guideline documents to collect and analyze gender and collect information on gender	**Draft guideline by end of Yr1 (Q4)**
1.5.2. Publications on GHG effects of intervention adoption (UNIQUE)	- Consolidation of survey tools by UNIQUE	**Q1 of Yr 2**	- In-country teams to conduct the surveys - Local project partners to provide the required data - E.g: - **ICARDA:** Evaluation of resilience at project and household level - **ICARDA:** Data on breeding for evaluation, guideline on data tools	**Yr2 (Q2)**
1.5.3. Publications on FNS, adaptive capacity and GHG synergies and trade-offs (UNIQUE and FANRPAN with ILRI)	UNIQUE	**End of Yr2**	- **ILRI FANRPAN:** Design of deep dive studies	
3.4.1. Reports on local policy issues for promotion of food and nutrition- and gender-sensitive, low-emission livestock development at the community level (FANRPAN and UNIQUE with ILRI)	-FANRPAN to provide guidelines on how to conduct local and national stakeholder and policy engagements	**Mid Aug 2023**	- In-country teams to conduct stakeholder and policy engagements end of Q1 and Q3 every year	**Sept 2023**

Gender and social analysis

Dr. Therse presented some of the key areas of research based on the four areas of interventions. From the livestock marketing intervention, she has formulated research questions to look at gender effects and questions that help during the literature review and data collection. The research questions focus on the gendered effects of livestock interventions on women's economic empowerment and decision-making and look at gender relations and how those affect food and nutrition outcomes and adaptive capacity.

Discussion

- The country leads to share a summary of the intervention in advance with the gender team so that they prepare a guideline on where the aspect of gender comes in
- The questions presented are too broad, and the team suggested when each country produces data collection tools, they must share with the gender team so that they provide a guideline to embed gender within the technical questions

Capacity building by Suzanne Van Dijk (UNIQUE)

Regarding capacity building, the two key groups of beneficiaries are national research partner staff in the three countries and students who will conduct their research through this project in collaboration with national research institutions and/or local universities. The partners include Ethiopia's MoA, Kenya's Ministry of Agriculture Livestock and Fisheries (MoALF), Kenya's Livestock Marketing Council, Zimbabwe's Ministry of Lands, Agriculture, Fisheries, Water, and Rural Resettlement (MoLAWFRR), and Zimbabwe's Livestock and Meat Advisory Council, and networks among researchers, government officials, and other stakeholders. The importance of training students before conducting their research through this project were also presented. The training would help them acquire the new skills necessary to complete their tasks.

Discussion

- Training of Trainers (ToTs) approach to reach many beneficiaries is recommended
- Combining the two key categories of beneficiaries (research partners and students) when running the training is suggested
- Running training at the regional level in a blended approach (virtually and face to face based on the topic/subject and budget)
- Including universities in the first category of trainees is suggested

Suggested modules

1. Community-based breeding program in the areas of breeding and feed development – explore with ICARDA and ILRI
2. Existing Climate risk management for Agriculture (CRMA) and Agricultural Education (CRMAE) module/manual – extract from the two modules and make a shorter version for the ACIAR project targeting the livestock component – Prof Berhanu to work on it
3. Research methods module targeting students
4. Awareness creation module to create an understanding of the project output (targeting the community and stakeholders) – Teferi to lead

5. Basics of food and nutrition security – FANRPAN
6. A module around GHG emission – explore with UNIQUE

Capacity building update by country

Kenya

The recruitment of students will be done by the university in collaboration with the Kenyan Livestock Marketing Council. The recruitment process has been started, and the students will be onboarded by the end of 2023.

Ethiopia

The team has been discussing with the University of Gondar and Addis Ababa University to make an open call for the students who already completed their coursework. With ICARDA, one female Ph.D. student is already involved.

Zimbabwe

A total of 4-5 students (Food and nutrition security (Ph.D.), Animal Science – GHG emissions (Ph.D.), Political Economy and Resource Economics (2 Masters students), and Social and gender analysis (Ph.D.) will be involved as leading researchers.

Session 5. Way forward and closing remark

- Therese thanked everybody for the discussion and said the discussion has helped her to understand the project more and promised to reach out to everyone for further discussion.
- Charles also said the three days of discussion were very informative in understanding more about the project.
- Shigdaf said the meeting helped him understand the project more and promised to deliver outputs within the timeline. He underscored the need to help each other for the project's success.
- Simba said the last few days were very useful and informative. He said having the timelines and concrete intermittent outputs have made a difference. The only challenge is how to communicate that to the rest of the other teams and get them up to the same extent with the same understanding we have now.
- Berhanu said he enjoyed the workshop and hopes to produce very good results to help livestock keepers in Eastern and Southern Africa. He stressed the importance of good communication for the project's success.
- Teferi said he got quite a lot of information and pinpointed a lot of work to do together. He hopes to publish several publications considering the discussion in the three days. He stressed the importance of continuous engagement and regular communication.
- Maren thanked everyone for the fruitful discussions, promised to organize quarterly meetings, and hoped that we could come with some of the implementing partners in the next planning meeting.

- Dawit said we have been working in research for development, but we should also use this as an opportunity and build the knowledge base. In addition, he said we need to address areas that have not been addressed, for example, the nexus between climate change and extensive livestock system. He stressed that this project had opened an opportunity for organizations such as FANRPAN, UNIQUE, and ILRI to work together in Kenya, Ethiopia, and Zimbabwe to impact positively. The focus areas of this project, i.e., adaptation, gender, and social inclusion, food and nutrition security, low emission development, and political economy aspects, can be well aligned with what CGIAR is doing. Finally, he stressed that we are working for Africa, our region, and our countries, and he thinks that the document we are producing can help our policymakers and regional and continental organizations.

Annex 1. List of participants

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2	Suzannne Van Dijk	Dr.	UNIQUE	suzanne.vandijk@unique-landuse.de
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7	Maren Radeny	Dr.	ILRI	M.Radeny@cgiar.og
8	Berhanu Belay	Prof.	ILRI	berhanubelayab@gmail.com
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10	Gebermedihin	Mr.	ILRI	G.Ambaw@cgiar.org

Annex 2. Workpshop Program

Day 1: Tuesday July 4			
Time		**Responsibility**	**Moderator**
Session 1: Introduction and Setting the Scene			
08:30 – 09:00	Registration	ILRI	Maren (ILRI)
09:00– 09:15	Welcome remarks and introduction of participants	ILRI	
09:15 – 10:15	Overview of the project	Dawit (ILRI)	
10:15– 10:30	Discussion		
10:30 – 11:00	Coffee/Tea break		
Session 2: Progress Updates by Countries: Inception meeting, implementing partners, timelines, project sites			
11:00 – 11:30	Kenya	Charles (UNIQUE)	
11:30 – 12:00	Zimbabwe	Simba (FANRPAN)	
11:00– 12:30	Ethiopia	Shigdaf (UNIQUE)	
12:30– 2:00	Lunch break		
Session 3: Progress Updates by Work Package			
14:00 – 14:40	1.2. Review of evidence on climate risks in extensive livestock systems in ESA and study sites	Teferi (ILRI)	Charles
14:40 – 15:20	1.3. Review evidence on effects of livestock interventions on FNS, adaptive capacity and GHG emissions	Charles (UNIQUE)	
15:20 – 15:40	Tea break		
15:40 – 16:20	1.4. Political economy analysis of key intervention areas for extensive livestock systems in the ESA region	Simba (FANRPAN)	
16:20 – 16:40	Discussions		
Day 2: Wednesday July 5			
Session 4: Detailed Planning and Synchronizing of Activities by Work Package (Year 1 and Year 2)			

09:00 – 10:30	1.1.Gender strategy and discussions	Therese (ILRI)	Simba
10:30 – 11:00	Tea break		
11:00– 12:30	1.2. Review of evidence on climate risks in extensive livestock systems in ESA and study sites	ILRI (Teferi)	Dawit
12:30 – 14:00	Lunch break		
14:00 – 15:30	1.3. Review evidence on effects of livestock interventions on FNS, adaptive capacity and GHG emissions	Charles (UNIQUE)	
15:30 – 16:00	Tea break		
16:00– 17:30	1.4. Political economy analysis of key intervention areas for extensive livestock systems in the ESA region	Simba (FANRPAN)	
Day 3: Thursday July 6			
09:00 – 11:00	1.5. Retrospective (ex post) surveys of gendered effects on FNS, adaptive capacity and GHG effects of adopting interventions, and analysis of synergies and trade-offs	UNIQUE FANRPAN	
11:00 – 11:30	Tea break	15:30 – 16:00	
11:30 – 12:15	1.6. Gender and Social Analysis	Therese (ILRI)	
12:15– 13:00	Capacity building - Propose topics for the training by ILRI-AICCRA, UNIQUE, FANRPAN, including when and where the training will be done	Shimels (UNIQUE)	
12:30 – 14:00	Lunch break	12:30 – 14:00	
Session 5: Way Forward and Closing			
14:00 – 15:00	Bilateral meetings, Finance and Others		
15:00 – 16:00	Way Forward and Closing	Dawit (ILRI)	