

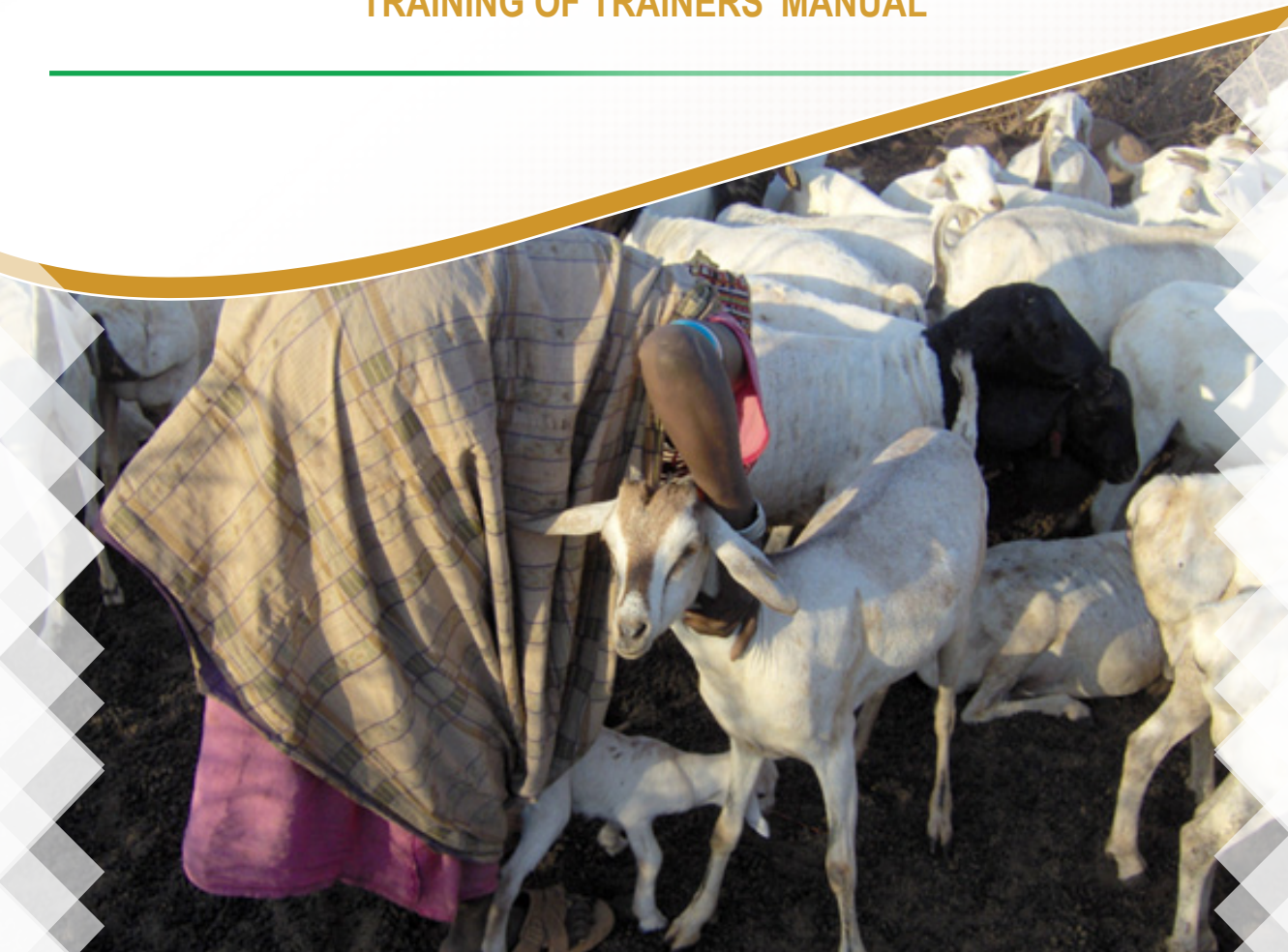


Kenya Climate Smart  
Agriculture Project



# Climate Smart Agricultural Technologies, Innovations and Management Practices for Sheep and Goat Value Chain

## TRAINING OF TRAINERS' MANUAL



Adongo A.O., Changwony K., Wandera F.P., Nyambati E., Walaga H., Golicha D.D.,  
Qabale D.B, Bulle H.D., Chemuliti J., Mugambi J.W., Kipronnoh A. , Sagala I.J.,  
Olum M. and Njoroge G.W.

**MARCH 2020**

## **Disclaimer**

The information presented in this manual is for advisory use only. Manual users should verify site specific appropriateness with regard to the agro-climatic zone, farming system and the value chain.

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# **Climate Smart Agricultural Technologies, Innovations and Management Practices for Sheep and Goat Value Chain**

## **TRAINING OF TRAINERS' MANUAL**

**MARCH 2020**



## Foreword

Kenya Climate-Smart Agriculture Project (KCSAP) tasked the Kenya Agricultural and Livestock Research Organization (KALRO) with the implementation of the project's Component 2 on 'Strengthening Climate-Smart Agricultural Research and Seed Systems'. The component activities are geared towards the development, validation, adoption and delivery of context specific climate smart agriculture (CSA) technologies, innovation and management practices (TIMPS). The other responsibility was development of sustainable seed production and distribution systems for priority value chains to enhance availability and access to seed, breeds and fingerlings by target beneficiaries under Components 1 (Up scaling Climate-Smart Agricultural Practices). Against this background, KALRO and her NARS partners have developed, validated and availed CSA TIMPS for dissemination and adoption. The TIMPS have further been unpacked during the development of Training of Trainers (ToT) Manuals for use in training public and private extension service providers and lead farmers.

The ToT Manuals are instructional guides to be used for teaching and learning step-by-step procedures of implementing CSA innovations for each of the 13 value chains being addressed. The training content is drawn from the CSA TIMPS that support respective value chains. The content are arranged in progressive modules supported by extensive information from research information and background data drawn from the TIMPS. Their relevance are based on the needs teased out of the value chains and the project objectives. The ToT Manuals training design takes into consideration the delivery system, the partners and their roles, the duration of training and logical flow of the sessions. Similar content requiring similar delivery systems are grouped together while the roles of the partners are tapped in the training and planning of the training sessions.

The Manual is divided into modules, which have a uniform outline that ensures every aspect of the TIMPs are fully covered in way that the trainees can absorb and relate to. Various delivery methods are deployed and where possible demonstrations and practical work are incorporated to enable the trainees learn by participating in the actual field activities. Furthermore, to ensure that the training across various groups is standardized, trainers guidelines, detailed descriptions of the trainees, program, training methods and a training evaluation have been provided in the manual. Adhering to these guidelines, therefore, enables possibility to replicate the training in several locations without loss of details regardless of whether conducted by different trainers.

It is highly advised that the ToT Manuals should be used in conjunction with the respective value chains' TIMPs documents and facts sheets in order to provide valuable resource for both public and private extension service providers. The use of this Manual is expected to enable achievement of the envisaged 'Triple Wins' of increased productivity, enhanced resilience and reduction of greenhouse gases emissions.

I am greatly indebted to the value chain leaders and all those who participated in the preparation of the Manual, which is expected to herald a new way of delivering training content in a changing agricultural environment.

**Eliud K Kireger, PhD, OGW**

**Director General, KALRO**

## Preface

The Kenya Climate-Smart Agriculture Project (KCSAP) is a Government of Kenya project with support from both the World Bank and the government. It is a five - year project implemented in 24 counties, mainly in the arid and semi-arid lands (ASALs), at a cost of Ksh. 25B. The project development objective (PDO) is *“to increase agricultural productivity and build resilience to climate change risks in the targeted smallholder farming and pastoral communities, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response.”* This objective is to be achieved through the implementation of five key components, which are 1) Up scaling Climate-Smart Agricultural Practices, 2) Strengthening Climate-Smart Agricultural Research and Seed Systems, 3) Supporting Agro-weather, Market, Climate, and Advisory Services, 4) Project Coordination and Management and 5) Contingency Emergency Response.

Component 1 involves facilitating the empowering of farmers and communities to adopt technologies, innovations and management practices (TIMPs) to achieve the Climate Smart Agriculture (CSA) triple-wins of; increased productivity, enhanced resilience (adaptation), and reduced Greenhouse Gases (GHG) emissions (mitigation). Component 2 is charged with the responsibility of providing the TIMPs. Therefore, it supports the development, validation, and adoption of context specific CSA TIMPS to target beneficiaries under Components 1 and 3 as well as development of sustainable seed production and distribution systems.

To catalyze uptake of TIMPs, Kenya Agricultural & Livestock Research Organization (KALRO) in conjunction with partners in the National Agricultural Research Systems (NARS) and Consultative Group for International Agricultural Research (CGIAR) compiled inventories of TIMPs for each of the 13 prioritized value chains (cassava, green grams, sorghum, millet, pigeon peas, bananas, tomatoes, potatoes, apiculture, indigenous chicken (meat and eggs), dairy (cattle and camel), red meat (cattle, sheep and goats) and aquaculture and 3 cross cutting value chains (natural resource management, pastures & fodder and animal health). The TIMPs were categorized into those ready for upscaling, those that needed validation and gaps that required further research. Training of Trainers’ (ToT) manuals focusing on TIMPs that are ready upscaling for each of the value chains were subsequently developed and form the basis of training county extension staff, service providers and lead farmers. They are in turn expected to cascade this training to beneficiaries in the targeted smallholder farming, agro-pastoral and pastoral communities in the 24 project counties of Marsabit, Isiolo, Tana River, Garissa, Wajir, Mandera, West Pokot, Baringo, Laikipia, Machakos, Nyeri, Tharaka Nithi, Lamu, Taita Taveta, Kajiado, Busia, Siaya, Nyandarua, Bomet, Kericho, Kakamega, Uasin Gishu, Elgeyo Marakwet and Kisumu.

KALRO having the mandate of implementing of activities under Component 2 has been instrumental in using its information resources and those of partners and collaborators to come up with the inventories of TIMPs and corresponding ToT Manuals. The use of

these information resources coupled with the accompanying training and the contribution of the other project components, will go a long way in enabling the KCSAP to meet its development objective.

The National Project Coordination Unit is grateful to all who participated in the development and production of this *Training of Trainers' Manual for red meat (Sheep and Goats) value chain*. It is my hope that counties and other users will put this resource to good use as they transform and reorient their agricultural systems to make them more productive and resilient while minimizing GHG emissions under the new realities of a changing climate.

Francis Muthami

*National Project Coordinator*

Kenya Climate-Smart Agriculture Project

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## List of Abbreviations and Acronyms

<b>CCT</b>	County Coordination Team
<b>CTT</b>	Core Team of Trainers
<b>GHG</b>	Greenhouse Gases
<b>KALRO</b>	Kenya Agricultural and Livestock Research Organization
<b>KCSAP</b>	Kenya Climate-Smart Agriculture Project
<b>LP</b>	Lead Pastoralist
<b>MT</b>	Metric Tons
<b>TIMPs</b>	Technologies, Innovation and Management Practices
<b>ToT</b>	Training of Trainers
<b>VMG</b>	Vulnerable and Marginalized Groups



## **PART I**

This part consists of four sections including the background, module training content, training design and facilitator guidelines.

## **SECTION 1: BACKGROUND**

### **1.1 The Role of Sheep and goats in the Kenyan Economy**

Sheep and goat industry, which is a major component of the livestock sub-sector, plays an important role in the economic and social life of many Kenyans. Nationally sheep and goats contribute about 30% of the total red meat (estimated at 265,000 tonnes annually) consumed in the country. In addition, they produce other products such as wool, skins and, in the case of goats, milk. Kenya's meat sub-sector is hugely informal and fragmented. Livestock trade is dominated by middlemen with very few organized processors buying directly from livestock producers. With an annual meat deficit of 300,000 tonnes, Kenya's meat industry still largely operates sub-optimally, with huge post-harvest losses, low value addition, poor processing skills and low capacity for quality and safety standards.

### **1.2 The Role of Sheep and Goat in Livelihood and Nutrition Security**

Sheep and goats play an important role in supporting the social and economic safety nets of households and communities. They are central to people's livelihoods, food security and nutrition.

Traditionally, many communities have kept sheep and goats with their cattle. In addition to providing livestock products, they are often used to settle debts (dowry, loans, traditional fines etc.) as well as representing savings, wealth and security against risk and uncertainty. Due to their small body size, higher prolificacy and shorter generation intervals compared to large stock, goats and sheep are easier to de-stock and restock as required. Often, they are sold as recurrent for cash to procure other livelihood items that do not warrant selling large stock.

### **1.3 Sheep and Goats as a Climate Smart Innovation**

Sheep and goats are good for adaptation in agriculture to achieve food security under a changing climate while delivering co-benefits for environmental sustainability, nutrition and livelihoods. In pastoralist areas, where frequent droughts are experienced, sheep and goats are attractive since they can easily be de-stocked during drought and re-stocked afterwards, hence reducing the losses due to starvation. In the past, the sheep and goat industry has received relatively little attention in terms of research and development when compared to large stock. This has resulted in the huge potential of sheep and goats' industry not having been fully exploited. The feeding habits and small body size of sheep and goats make them the most suitable animals for food production in the arid and semi-arid parts of Kenya. As climate change continues to negatively impact on feed resource availability, the importance of sheep and goats will increase within the incrementally fragile ecosystems.

The Kenya Climate Smart Agriculture Project (KCSAP) aims to validate and upscale sheep and goats Technologies, Innovations and Management Practices (TIMPs) through (1) improving efficiency in the use of sheep and goats resources to produce meat (2) maintaining the resilience of sheep and goat systems and the dependent communities; and (3) gaining an understanding on how to reduce the vulnerability of communities negatively impacted by climate change in Kenya.

#### **1.4 Objectives of the Training**

The purpose of this training is to provide Master trainers with knowledge and skills on how to facilitate and support PFBS's for increased productivity through adoption of GAP. Specifically, the objectives of this training are:

1. Providing pastoralists trainers with relevant knowledge and skills in sheep and goat production as a business and market assessment techniques for market led production
2. Refreshing pastoralists trainer's knowledge and skills in sheep and goats GAP including breeds and breeding, lambs and kids husbandry practices, feeds and feeding, manure management and animal health
3. Providing pastoralists trainers with knowledge and skills in the potential in value addition to increase the enterprise profitability
4. Providing pastoralists trainers with knowledge and skills in participatory techniques for effective facilitation of adult learning processes through PFBS's and developing inclusive stakeholder partnership development for sustainable up scaling PFBS.

## SECTION 2: TRAINING CONTENT

### 2.1 Orientation of the Module

The training content is organized into seven (7) modules spread over a period of 56 hours. The modules are orientated to ensure adoption and upscaling of sheep and goats TIMPs to improve productivity, resilience and mitigation of harmful greenhouse gases (GHG). The purpose of these modules is to enhance the knowledge and capacities of trainers in understanding and applying climate smart agricultural practices in sheep and goat production.

### 2.2 Module Outline

Each of the seven modules has a similar outline consisting of eight (8) parts. These parts are:

1. Introduction to the module – context and background to training needs, knowledge and skill gaps being addressed
2. Module learning outcomes – what trainees are expected to learn
3. Module target group – trainee categories
4. Module users – facilitators
5. Module duration – the minimum number of hours of exposure to materials
6. Module summary – the sequence of sessions, training methods, materials and duration
7. Facilitators guideline – detailed sessions, training methods, materials and session guides
8. Participant’s handouts – detailed training notes and reference materials for trainees.

The outline for each of the 8 modules is presented in Table 1:

**Table 1: Summary of outline for 8 modules of the sheep and goats value chain**

No.	Module name	Need addressed	Expected training outcomes	Duration
1	Germplasm Improvement	<ul style="list-style-type: none"> <li>• Poor growth rate and milk production</li> <li>• Inbreeding</li> </ul>	Principles of production and good breeding practices explained and understood	8 hours
2	Housing for Lambs and Kids	Poor housing for lambs and kids leading to high mortality rates	Mobile house for lambs and kids which is environmentally friendly and reduces ecto-parasite load thus reducing mortality rates explained and understood	8 hours
3	Feeds and Feeding	Inadequate quality Sheep and Goat feeds.	Characteristics of important feeds and feeding management understood	8 hours
4	Health Management	<ul style="list-style-type: none"> <li>• High kid and lamb mortality</li> <li>• Low production</li> <li>• Morbidity</li> </ul>	Key aspects of health management explained	8 hours
5	Post-harvest and Value Addition	<ul style="list-style-type: none"> <li>• High losses along the chain due to lack of value addition</li> <li>• Poor sanitation and waste management</li> </ul>	Value addition options explained for consideration and adoption	8 hours
6	Sheep and Goat Business	<ul style="list-style-type: none"> <li>• Lack of business skills to commercialize sheep and goats</li> </ul>	<p>Various sheep and goats enterprises and commercialization skills appreciated by learners</p> <p>Business plans developed</p>	8 hours

7	Cross cutting issues in Goat/Sheep Production and Marketing	<ul style="list-style-type: none"> <li>• Low gender and youth participation in projects</li> <li>• Limited information of quantitative information on sheep and goat sector performance.</li> <li>• Limited group networks and cohesion among Pastoralists</li> </ul>	Gender, youth and VMG inclusion strategies learnt and disseminated	2 hours
			Quantitative indicators on sheep and goats sector performance learnt and developed	3 hours
			Strong and effective group networks developed and appreciated	3 hours
<b>Total duration</b>				<b>56 hours</b>

## SECTION 3: TRAINING DESIGN

### 3.1 Delivery System

The delivery system designed for this training consists of two stages:

#### 1. Establishment of a team of facilitators

- A Core Team of Trainers (CTT) trains Pastoralist trainers (service providers) as facilitators of a ToT course. This is done using this manual and modules contained therein.
- Each of the Master trainers will facilitate Pastoralists to acquire knowledge and skills in facilitating Pastoralist-led Field and Business Schools (FBS) through practical demonstrations.

**2. Upscaling** –This will be done by selecting Lead Pastoralist (LP) to be trained in facilitation skills.

### 3.2 Partners and Their Roles

The partners envisioned in this training plan are:

**1. Core Team of Trainers** – Master trainers drawn from KALRO, Universities, Tertiary Institutions offering sheep and goat courses (Griftu, ATCs ) and the State Department of Livestock will facilitate initial training of Pastoralist trainers. They also provide mentorship to Pastoralists’ trainers during the first year of LP training. They should also be available in the evaluation of the first round of LP training.

**2. County Government Department of Livestock** –Master trainers and their supervisors referred to as County Coordination Teams (CCT) to take the role of LF trainers, mentors and coordinators at sub-county level. They assist FBS schools form partnership with stakeholders for sustainability. They should also support LPs form their network.

**3. Lead Pastoralist Networks** - Association of LPs in the target counties to take up Pastoralist training and upscaling in the future. Lead Pastoralist networks and groups will conduct exchange visits to learn best practices in other project implementing counties.

**4. Private Sector Service Providers** – Inputs suppliers, financial and business development service providers, market players and processors to partner and support growth of individual or sheep and goats Pastoralist groups.

### **3.3 Training Duration**

The proposed initial ToT course for Master trainers for the 8 modules in the sheep and goats value chain shall take a total of 56 hours of the training period. This does not include break hours of mid-morning, afternoon and lunch breaks.

### **3.4 Logic of Design and Flow of Session**

The logic of design and flow of each module is that the facilitator, paying attention to the proposed methods and session guidelines shall:

1. Introduce the module
2. Draw out the participant's expectations
3. Relate participants' expectations with module objectives or learning outcomes
4. Explore the concept and content, switching to different methods of delivery of the content (group exercise, brainstorming, excursions, plenary discussions, role plays) as the session progresses
5. Review the module at the end using participatory approaches
6. Distribute handouts to the participants.

## **SECTION 4: FACILITATOR GUIDELINES**

### **4.1 Preparation of Training Materials**

The training materials suggested require adequate preparations and should be available before the actual training dates. Further:

1. The facilitators should familiarize themselves and internalize the guidelines provided by this manual prior to the training;
2. The stationery required should be available within the training institution 3 days before the training. These include name tags, writing materials, a paper punch and medium size box files for participants' handouts filling;
3. Flip charts and good quality felt pens could be used interchangeably with LCD projections. Each participant will require one felt pen while the trainers will require two sets of felt pens;
4. Visual aids like field equipment and tools should also be arranged in time before the sessions start;
5. There should be adequate copies of participants' handouts (one per participant) to be distributed at the end of each session or as may be suitable; and
6. Copies of the modules shall be distributed at the end of each module.

### **4.2 Preparation of Training Venue and Sites**

The training venue will include the training room, field demonstration sites and market areas.

1. Training Room – should have adequate space for 25 participants seated in a semi-circle or U shape arrangement ensuring access and unobstructed view of the front. There should be adequate space for a desk and seats for 3 trainers preferably at the sides or at the back of the training room. There should also be a desk for the trainer, their training materials and LCD projector, a flip charts holder and white wall to act as a projector screen.
2. Demonstration Site – should be within walking distance
3. Market Sites – these include sheep and goats' product retail outlets. The operators should be informed in advance about the visits. These should not be very far away preferably less than 10 minutes' drive.

### **4.3 The Trainees**

The trainees who will participate are extension officers, lead Pastoralists, educators, and researchers with an elaborate training background in extension and advisory services.

They will be drawn from public and private sector based on considerable experience in training Pastoralists but with minimal facilitative advisory or technology transfer approaches. The trainer should, therefore, act more as a facilitator than a lecturer and draw out and build on their knowledge, skills and experience that they shall bring in. As a golden rule, facilitators should not lecture participants but facilitate and listen and let them feel like equals to each other and the CTT team members.

#### 4.4 Training Program

The training program consists of the actual training modules. Health breaks should be considered when drawing the training program. The training program should preferably be based on the outline presented in Annex 1 to allow the flow of ideas and topics. However, should the situation demand, the sequence and day of coverage for whole or parts of the modules can be modified to suit emerging requirements. The training program assumes that the trainees report on Sunday evening as the first day and leave on the next Friday afternoon or Saturday morning.

#### 4.5 Training Methods

The training methods for each session are suitable for adult learners and appropriate for addressing knowledge, skills and attitudes of the participants. The choice of the methods has been informed by the competency issues being addressed, available time and experiences of the author of this manual. Depending on time available, the facilitator can modify these training methods but as a golden rule no presentation by the facilitator should take more than 30 minutes continuously; but should be separated by the other participatory training methods. The list of available training methods is presented in Table 2.

**Table 2: Description of training methods during ToT trainings**

Training Method	Description of Method
Plenary presentations	Use of PowerPoint or flip charts and plenary discussions in situations where knowledge and opinion or consensus is required
Group exercises, visits and brainstorming sessions	To be considered where skills are an issue requiring sharing and trying
Role plays and problem-solving exercises	Plenary discussions have been considered as training methods where attitude is an issue
On-farm practical demonstration and exchange visits	To be considered where hands-on practical skills are acquired through sharing and demonstration

#### 4.6 Planning Schedule and Guidance for ToT preparation

While planning for this training, the CTT leader will ensure the following activities before the training as outlined in Table 3.

**Table 3: Duration of activities to be done before training**

Duration to Training	Activities to be Done
Two months	Recruit master trainers, compose CTT, identify the practical demonstration sites
One month	Send out invitation letters to participants and special guests detailing purpose, venue and program. Follow up on demonstration sites. Brief CTT members
Two weeks	Confirm names of participants; reproduce training materials for facilitators and package, confirm preparedness of the field sites to be visited. Hold briefing of CTT members to finalize training plan. Confirm special guests if any
Four days	Confirm training sites preparedness, prepare sitting arrangements, and brief assistants
One day	arrange training room furniture, place materials, equipment and stationery on the tables. Arrange for the reception of trainees at residence proposed
On the first day	Arrange for the reception of trainees at the training venue. Ensure climate setting is done before the course is officially opened. This includes: (i) registration, (ii) welcome to the venue by host; (iii) elaborate introduction of CTT and participants; setting of ground rules; and (iv) formation of groups.

#### 4.7 Evaluation of Training

At the end of each module, participants will evaluate it through questionnaire (Table 4) while a final training evaluation will be carried out on the last day using questions in Table 5. Individual trainees will fill the evaluation forms without discussing with each other. The evaluation forms are then collected and analyzed by the CTT members. Time will also be allocated on the last day for each County to discuss and present their way forward.

**Table 4: Individual Sample Evaluation Form**

**MODULE:** \_\_\_\_\_ **COUNTY** \_\_\_\_\_

What <b>new things</b> did you learn from the topic?
What <b>other important aspects/topics</b> were <b>omitted</b> ?
<b>Any other comments?</b>

**NB:** Expand the form into one page to give enough room for comments

**Table 5. Final evaluation of KCSAP piloting of Red meat (sheep and goats) ToT manual**

**VENUE:** \_\_\_\_\_ **DATES** \_\_\_\_\_

Thank you for participating in the \_\_\_\_\_ value chain ToT Training Workshop which has just ended. Kindly take a few minutes to complete this Evaluation Form and return it to the Training Coordinator. The information you provide will be used to improve on the planning, organization, and management of future workshops and training.

**Tick once in the box for each category**

**1.0 Rate the training venue in terms of food and workshop facilities as:**

Very Good  Good  Average  Poor

**2.0 How would you rate the ToT in attainment of your expectations:**

Very Good  Good  Average  Poor

**3.0 Please indicate two things that you liked about this ToT:**

3.1
3.2

**4.0 Please indicate two things that you did not like about this ToT:**

4.1
4.2

**5.0 Suggest two things about the course you would like done differently in future**

5.1
5.2

**NB:** Please provide adequate space in the rows for participants to comment

**4.8 Participants’ Handouts**

**4.8.1. List of sheep and goats’ publications**

Two key references should be provided for each module plus a list of other relevant publications for reference.

**4.8.2 Guide on the use of the information**

The trainers will be advised to issue pastoralists with at most 2 publications for each of the training sessions. This is because if they go away with, for instance, 10 publications in one visit they may be overwhelmed with the material load and thus limit knowledge uptake. Also, some will just take away as many as they can if allowed.

The list of all individual publications will be stored and available as electronic copies – mainly PDFs. The service providers are strongly advised to keep these electronic copies on a memory stick, or portable hard drive to enable Pastoralists easily access and if necessary print any of them out at a local internet café.

Trainers will be advised to issue a General Goat management Manual to be accompanied by 2 other publications e.g. information sheets, brochures, factsheets, posters, among others.

## PART II

This part consists of 8 modules namely: Germplasm improvement, Housing for lambs and kids, Feeds and feed management, Health management, Post-harvest management, Marketing and supply chains, Sheep and goat keeping business and Cross-cutting issues (gender, youth, vulnerable and marginalized group inclusion, social and environmental performance assessment and group dynamics and cohesion). All modules will be divided into the following:

- 1.1. Introduction to the Module
- 1.2. Module Learning Outcomes
- 1.3. Module Target Group and Categories
- 1.4. Module Users
- 1.5. Module Duration
- 1.6. Module Summary
- 1.7. Facilitator's Guidelines
- 1.8. Participant's Handouts

# MODULE 1

## Germplasm Improvement

### 1.1. Introduction to the Module

This module exposes service providers, LP and facilitators to the different types of sheep and goats breeds and their breeding practices. The most common meat breeds of sheep in Kenya are Red Maasai, Blackhead Persian and Dorper while goats are Small East African, Galla and Boer. Milk production and cold dressed weight per animal is on the decline despite improvement in health management. These declining production trends call for training on improved management practices for sheep and goats. A better understanding of the meat goat breeds will help in guiding on what sheep and goat to keep, and where, depending on environment and the intention of keeping them.

### 1.2. Learning Outcomes

By the end of the module, the following shall be achieved:

1. Different goat /sheep breeds in Kenya described and understood
2. The best breeding practices to ensure high productivity and resilience explained and understood
3. The best management practices in sheep and goats under different production systems discussed and understood

### 1.3. Module Target Group and Categories

This module targets public and private extension service providers and lead farmers or pastoralists.

### 1.4. Module Users

This module is intended for use by master trainers who are members of the CTT. The trainers using this module should thoroughly familiarize themselves with the participant's handouts.

### 1.5. Module Duration

The module is estimated to take **8 hours**

## 1.6. Module Summary

<b>Sheep and Goats Germplasm Improvement</b>			
<b>Sessions</b>	<b>Training methods</b>	<b>Training materials</b>	<b>Time</b>
<b>1.6.1 Introduction, objectives and expectations</b>	<ul style="list-style-type: none"> <li>▪ Personal introductions</li> <li>▪ Presentations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Projector</li> <li>▪ Training program</li> </ul>	30 minutes
<b>1.6.2 Importance of sheep and goats</b>	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Handouts</li> <li>▪ Projector</li> </ul>	30 minutes
<b>1.6.3 Goats and Sheep breeds and characteristics</b>	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Field demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Brochures, banners/poster</li> <li>▪ live animals (breeds)</li> <li>▪ Manual</li> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	3 hours
<b>1.6.4 Selection of suitable goats breeds for different environment</b>	<ul style="list-style-type: none"> <li>▪ Presentations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hour 30 minutes
<b>1.6.5 Breeding and management practices</b>	<ul style="list-style-type: none"> <li>▪ Presentations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Posters</li> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ PowerPoint</li> <li>▪ Handouts</li> </ul>	2 hours
<b>1.6.6 Module review</b>	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	30 Minutes
<b>Total</b>			<b>8 hours</b>



<p><b>1.7.3. Meat goat/sheep breeds and characteristics (3 hours)</b></p>	<p><b>Session Guide</b></p>
<p><i>(The facilitator should be able to guide the participants to distinguish the different sheep and goats breeds).</i></p> <p><b>General guidelines (30 minutes)</b></p> <p>Take the participants through the characteristics of the different goat breeds</p> <p><i>(Ensure there is there are different live breeds near the training sites).</i></p> <p>Visit the sites where different breeds are kept and help them identify the different breeds.</p> <p><b>Discussion</b></p> <p>Immediately after the practical ask the participants to recall what they have learned. Discuss any arising issues related to sheep and goats breeds and their characteristics.</p>	<ul style="list-style-type: none"> <li>• Distribute handouts to participants</li> <li>• Brochures</li> <li>• Leaflets</li> <li>• Live animals</li> </ul>
<p><b>1.7.4. Selection of suitable meat goat breeds for different environment (1.5 hours)</b></p>	<p><b>Session Guide</b></p>
<p>Point out the suitability of breeds to different environments and uses</p> <ul style="list-style-type: none"> <li>▪ Describe the different attributes of environments (for example topography, feed) suitable for each breed</li> </ul> <p><b>Discussion</b></p> <p>After the presentations allow participants to raise any issues and discuss them.</p>	<ul style="list-style-type: none"> <li>▪ Distribute handouts to participants</li> <li>▪ Brochures</li> <li>▪ Leaflets</li> </ul>
<p><b>1.7.5. Sheep and Goat Breeding and management practices (2 hours)</b></p>	<p><b>Session Guide</b></p>
<p>The facilitator should be able to highlight:</p> <p>Inbreeding, natural mating, selection of breeding males (rams and bucks)), culling as well as management practices in sheep and goats.</p>	<ul style="list-style-type: none"> <li>▪ Distribute handouts to participants</li> <li>▪ Brochures</li> <li>▪ Leaflets</li> </ul>

1.7.6. Module review (30 minutes)	Session Guide
<p><i>(The facilitator should be able to lead the participants to review the module)</i></p> <ul style="list-style-type: none"> <li>▪ Summarize the main points of the training</li> <li>▪ Together with the participants review the main points about meat sheep and goats breeds, breeding and management practices in Kenya.</li> <li>▪ What new things did you learn from this Module?</li> <li>▪ What other important aspects/topics were omitted?</li> <li>▪ Any other comments</li> </ul>	<p>Summary of the main points from the module on a flip chart and display</p>

## 1.8 Participants' Handouts

Goat Manual

## MODULE 2

### HOUSING FOR LAMBS AND KIDS



*Resayon mobile house*

#### 2.1 Introduction to the Module

In this module, participants will learn how to design, assemble and manage efficient smart meat goat Resayon mobile house for kids and lambs. The module highlights the design of Resayon mobile kids and lambs house. In addition, the module will focus on best management practices (BMPs) and why they are important. Additionally, the module will highlight other modern technologies used in housing of kids and lambs in different environmental conditions and production systems.

#### 2.2. Module Learning Outcomes

By the end of the module, the following shall be achieved:

- Characteristics of the mobile kids/lambs' house explained and understood
- Importance of housing in sheep and goats' production explained and understood
- Housing types in sheep and goats' production and routine maintenance discussed and understood

### 2.3. Module Target Group

This module targets Service providers who include County extension staff and private service providers.

### 2.4. Module Users

This module is intended for use by master trainers who are members of the Core Team of Trainers (CTT). The facilitator using this module should thoroughly familiarize themselves with the participant's handouts.

### 2.5 Module Duration

The Module is estimated to take **7 hours 30 minutes**

### 2.6 Module Summary

<b>Climate Smart Resayon mobile house for kids and lambs</b>			
<b>Sessions</b>	<b>Training methods</b>	<b>Training materials</b>	<b>Time</b>
<b>2.6.1</b> Introduction, objectives and expectations	<ul style="list-style-type: none"> <li>▪ Personal introductions</li> <li>▪ Presentations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ PowerPoint</li> </ul>	30 minutes
<b>2.6.2</b> Characteristics of the mobile kids/ lamb house and construction	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Resayon Mobile house and construction materials</li> </ul>	2 hours
<b>2.6.3</b> Importance of housing in sheep and goat production	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Resayon Mobile house</li> </ul>	2 hours
<b>2.6.4</b> Housing types in sheep and goat production and routine maintenance	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Resayon Mobile house</li> </ul>	2 hours 30 minutes
<b>2.6.3</b> Module review	<ul style="list-style-type: none"> <li>▪ Individual evaluation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Evaluation forms</li> </ul>	30 minutes
<b>Total duration</b>			<b>7 hours 30 minutes</b>

## 2.7 Facilitators Guidelines

Resayon Mobile kids and lambs house	
2.7.1 Introduction, objectives and expectations (30 minutes)	Session Guide
<p><b>Introduction</b></p> <p>The facilitator welcomes participants to the module and introduces themselves by stating their profile and experience</p> <p>The facilitator invites the participants to introduce themselves and state their expectations).</p> <p><b>Module Objectives</b></p> <p><i>(The facilitator presents modules objectives)</i></p> <p>By the end of the module participants should be able to:</p> <ul style="list-style-type: none"> <li>• Explain the characteristics and construct the mobile kids/lambs’ house</li> <li>• Explain the importance of housing in sheep and goat production</li> <li>• Housing types in sheep and goat production and routine maintenance discussed and understood</li> </ul>	<p>Summarize participants “expectations” and display</p> <p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Module objectives</li> <li>• Training Program</li> </ul>
2.7.2 Resayon mobile house characteristics and construction (2 hours)	Session guide
<p><i>(The facilitator should describe the design, construction and operations of Resayon mobile house</i></p> <ul style="list-style-type: none"> <li>• Design and construction of Resayon mobile house for kids and lambs</li> <li>• Critical factors for the success of the mobile house</li> <li>• Characteristics of the mobile kids’ house</li> <li>• Materials for construction in different environments (hot/cold)</li> <li>• Cost-benefit analysis of the house</li> <li>• Challenges associated with the mobile house</li> </ul> <p><b>Discussion</b></p> <p>After the practical demonstration, let the participants recall what they learned and discuss any issue that may arise.</p>	<p>Distribute handouts to participants</p> <p>Resayon mobile house leaflet brochures</p> <p>Materials for constructing the house</p>

<b>2.7.3. Importance of housing in sheep and goat production (2 hours)</b>	<b>Session guide</b>
Plenary presentation and discussion on the importance of housing	
<b>2.7.4. Housing types in sheep and goat production and routine maintenance (2 hours 30 minutes)</b>	<b>Session guide</b>
Plenary presentation on Housing types in sheep and goat production and routine maintenance  General discussion themed around existing housing practices by different communities	
<b>2.7.3 Module review (30 minutes)</b>	<b>Session guide</b>
<p><i>(The facilitator should lead the participants in reviewing the module)</i></p> <p><b>Individual Exercise</b></p> <p>Review the main points about principles of the module by answering the following:</p> <ol style="list-style-type: none"> <li>1. <i>What new things did you learn from this topic?</i></li> <li>2. <i>What other important aspects/topics were omitted?</i></li> <li>3. <i>Any other comments</i></li> </ol>	<ul style="list-style-type: none"> <li>▪ Distribute Module review questionnaire</li> </ul>

## 2.8 Participants' Handouts

1. Brochure on 'Resayon Mobile House'. A KALRO Leaflet

## MODULE 2

### HOUSING FOR SHEEP AND GOAT (Resayon Mobile House)



*Resayon mobile house*

#### 2.1 Introduction to the Module

This module outlines the learning outcomes, the category of trainees targeted, module duration, users and summary, facilitator’s guidelines and participants’ handouts. In this module, participants will learn how to design, assemble and manage efficient smart meat goat Resayon mobile house for lambs and kids. The module highlights the design of Resayon mobile lambs and kids’ house. In addition, the module will focus on BMPs and why they are important. Finally, it shall discuss the roles of Pastoralists and other stakeholders in implementing BMPs. Additionally, the module will highlight other modern technologies used in housing of lambs and kids in different environmental conditions and production systems.

#### 2.6 Module Learning Outcomes

By the end of the module, participants will have acquired knowledge and skills on:

- Simple, low cost housing technologies for rangelands, for example, Resayon technology
- Production of the Resayon mobile house for lambs and kids

## 2.7 Module Target Group

This module targets public and private extension service providers and lead farmers or pastoralists.

## 2.8 Module Users

This module is intended for use by master trainers who are members of the Core Team of Trainers (CTT). The trainers using this module should thoroughly familiarize themselves with the participant’s handouts.

## 2.5 Module Duration

The Module is estimated to take **8 hours**.

## 2.6 Module Summary

Climate Smart Resayon mobile house for lambs and kids			
Sessions	Training methods	Training materials	Time
<b>2.6.1</b> Introduction, objectives and expectations	<ul style="list-style-type: none"> <li>▪ Personal introductions</li> <li>▪ Presentations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ PowerPoint projector</li> </ul>	30 minutes
<b>2.6.2</b> Characteristics of the mobile kids house	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Resayon Mobile house</li> </ul>	2 hours
<b>2.6.3</b> Importance of housing in sheep and goat production	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Resayon Mobile house</li> </ul>	3 hours
<b>2.6.4</b> Housing types in sheep and goat production and routine maintenance	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Resayon Mobile house</li> </ul>	2hours 30 minutes

<b>2.6.3</b> Module review	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ PowerPoint Projector</li> <li>▪ Handouts</li> </ul>	30 minutes
<b>Total duration</b>			<b>8 hours</b>

## 2.7 Facilitators Guidelines

Resayon Mobile lambs and kids house	
2.7.1 Introduction, objectives and expectations (30 minutes)	Session Guide
<p><b>Introduction (15 minutes)</b></p> <p>The facilitator welcomes participants to the module and introduces themselves by stating their profile and experience</p> <p>The facilitator invites the participants to introduce themselves and state their expectations).</p> <p><b>Module Objectives (45 minutes)</b></p> <p><i>(The facilitator presents modules objectives)</i></p> <p>By the end of the module participants should be able to train on:</p> <ul style="list-style-type: none"> <li>• Be exposed to different types of traditional housing based on environment and cultural inclinations (e,g Boran, Rendille and Gabra housing types among others).</li> <li>• Design, assembly and management of Resayon mobile house</li> <li>• Increased productivity through use Resayon mobile house (reduce mortality by keeping ectoparasites away)</li> <li>• Efficiency of Resayon mobile house technology, requirements and applications for increasing meat goat production</li> <li>• Climate-smart technologies, innovations and best management practices in the meat goat value chain</li> </ul>	<p>Summarize participants “expectations” and display</p> <p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Module objectives</li> <li>• Training Program</li> </ul>

<b>2.7.2 Resayon mobile house construction (5 hours 45 minutes)</b>	<b>Session guide</b>
<p><i>(The facilitator should describe the design, construction and operations of RMH (5 hours 15 minutes)</i></p> <ul style="list-style-type: none"> <li>• Design and construction of Resayon mobile house for lambs and kids(RMH)</li> <li>• Critical factors for the success of RMH</li> <li>• Characteristics of the mobile kids’ house</li> <li>• Materials for construction RMH for different environments (hot/cold)</li> <li>• Cost-benefit analysis of the house</li> </ul> <p>Challenges associated with RMH</p> <p><b>Discussion (30 minutes)</b></p> <p>After the practical demonstration, let the participants recall what they learned and discuss any issue that may arise.</p>	<p>Distribute handouts to participants</p> <p>RMH Leaflet</p> <p>Brochures</p>
<b>2.7.3 Module review (30 minutes)</b>	<b>Session guide</b>
<p><i>(The facilitator should be able to lead the participants in reviewing the module)</i></p> <p>Summarize the main points of the training</p> <p>Together with the participants review the main points about climate-smart sheep and goats systems and best management practices</p> <ul style="list-style-type: none"> <li>• What new things did you learn from this module?</li> <li>• What are some of the problems and issues that you have become more aware of in the module?</li> </ul>	<p>Group discussions</p> <p>Q&amp; A session</p> <ul style="list-style-type: none"> <li>▪ Recap the main points</li> <li>▪ Test understanding</li> <li>▪ Link to the way forward</li> <li>▪ Participatory evaluation of the session</li> </ul>

## 2.8 Participants’ Handouts

### 1. Brochure on ‘Resayon Mobile House’. KALRO Leaflet

# MODULE 3

## FEEDS AND FEEDING

### 3.1 Introduction to the Module

There is a high demand for Chevon and mutton in Kenya. There is therefore need to improve sheep and goat productivity through proper feeding and consequently enhance the production of quality mutton and chevron. The understanding of the various feed resources available as well as conservation, management and efficient use of these feed resources will be necessary for improved productivity of sheep and goats.

### 3.2 Module Learning Outcomes

By the end of the module, the following shall be achieved:

- Meat goat and sheep feeding
- Appropriate feeding techniques in sheep and goat rearing
- Production of quality sheep and goat feeds which can meet pastoralist's demands
- Skills on goat feed preservation and feeding for increased production
- Mortality reduction by reducing starvation to minimal levels
- Reduction of feed challenges

### 3.3 Module Target Group

This module targets public and private extension service providers and lead farmers or pastoralists.

### 3.4 Module Users

This module is intended for use by master trainers who are members of the Core Team of Trainers (CTT). The trainers using this module should thoroughly familiarize themselves with the participant's handouts.

### 3.5 Module Duration

The module is estimated to take **8 hours**.

### 3.6 Module Summary

<b>Feeds and Feeding</b>			
<b>Sessions</b>	<b>Training Methods</b>	<b>Training Materials</b>	<b>Time</b>
3.6.1 Introduction, objectives and expectations	<ul style="list-style-type: none"> <li>▪ Personal introductions</li> <li>▪ Presentations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Projector</li> </ul>	30 minutes
3.6.2 Sheep and Goat feeding techniques	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ On-farm demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	2 hours
3.6.3 Pasture production	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	2 hour
3.6.4 Practical aspects of feed production/ collection, and storage	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	3 hours
3.6.5 Module review	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ flips charts</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	30 minutes
<b>Total duration</b>			<b>8 hours</b>



3.7.3 Pasture production (1 hours)	Session guide
<p><i>Present the following on PowerPoint slides and flip charts:</i></p> <ul style="list-style-type: none"> <li>▪ Type of feeds natural, propagated</li> <li>▪ Methods of feeds production</li> <li>▪ Procedures for forage seeds collection</li> <li>▪ Storage of fodder seeds to control dormancy</li> </ul> <p><b>Discussion</b></p> <p>After the presentation, guide the participants to recall what they learned and discuss issues that may arise.</p>	<p>Distribute handouts to participants</p> <p style="padding-left: 40px;">manuals, poster, brochures and leaflets</p> <p>Discuss the task in groups and come with a presentation for plenary discussions/ inputs</p> <p>Q &amp; A sessions</p>
3.7.4 Practical aspects of feed production/collection, and storage (4 hours)	Session guide
<p><i>Take the participants to the Field/range and show them how harvest and store (3 hours 30 minutes):</i></p> <ul style="list-style-type: none"> <li>▪ Type of fodder/grasses available</li> <li>▪ Harvesting techniques</li> <li>▪ Storage facilities suitable for different areas</li> <li>▪ Factors affecting stored hay</li> <li>▪ Record keeping</li> </ul> <p><b>Discussion (30 minutes)</b></p> <p>After the presentations allow participants to raise any issues and discuss them.</p>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>▪ Manuals on sheep and goats breeding</li> <li>▪ Brochures</li> <li>▪ Posters</li> <li>▪ Leaflets</li> </ul>
3.7.5 Module review (30 minutes)	Session guide
<p><i>(The facilitator should be able to lead the participants in reviewing the module)</i></p> <p>Summarize the main points of the training</p> <p>Together with the participants review the main points about sheep and goat feeds and feeding techniques to increase sheep and goat production</p> <ul style="list-style-type: none"> <li>▪ What new things did you learn from this Module?</li> <li>▪ What other important aspects/topics were omitted?</li> <li>▪ Any other comments</li> </ul>	<p>Group discussions</p> <p>Q &amp; A session</p> <ul style="list-style-type: none"> <li>▪ Recap the main points</li> <li>▪ Test understanding</li> <li>▪ Link to the way forward</li> <li>▪ Use Review Questionnaire</li> </ul>

### 3.8. Participants' Handouts

1. Goat Training Manuals
2. Procured training materials for Pastoralist groups



# MODULE 4

## SHEEP AND GOAT HEALTH MANAGEMENT

### 4.1 Introduction to the Module

This module is designed for use in training facilitators on general principles of animal health management targeting most prevalent diseases and parasites in sheep and goats in pastoral areas. This is necessary in order to improve their knowledge and skills to enable livestock production become market oriented, competitive and profitable. Poor animal health impacts negatively on animal productivity and welfare. There are many causes of poor health in animals including presence of diseases pests and parasites. Knowledge of what causes the diseases and infestation of pests and parasites, number of animals affected or infected helps to design prevention and control strategies.

### 4.2 Module Learning Outcomes

By the end of the module, participants will have acquired knowledge and skills on:

- The concept of health and diseases in sheep and goats explained and understood.
- Causes of diseases in sheep and goats discussed and understood
- Requirements for keeping healthy sheep and goats discussed and understood
- Safe and effective use of veterinary drugs, vaccines and pesticides explained and understood
- Farm bio-security explained and understood.

### 4.3 Module Target Group

This module targets public and private extension service providers and lead farmers or pastoralists.

### 4.4 Module Users

This module is intended for use by master trainers who are members of the Core Team of Trainers (CTT).

### 4.5 Module Duration

The module is estimated to take **8 hours**.

## 4.6. Module Summary

<b>PRINCIPLES OF ANIMAL HEALTH MANAGEMENT</b>			
<b>Sessions</b>	<b>Training Methods</b>	<b>Training Materials</b>	<b>Time</b>
<b>4.6.1</b> Introduction to the module and leveling the expectations	<ul style="list-style-type: none"> <li>• Buzz groups</li> <li>• Sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Handout on Module Objectives</li> <li>• Felt pens, masking tape or sticker glue, note books and pens</li> <li>• PowerPoint presentations</li> </ul>	30 minutes
<b>4.6.2</b> Concept of health and disease in farm animals	<ul style="list-style-type: none"> <li>• Lecture presentation</li> <li>• Group discussions</li> </ul>	<ul style="list-style-type: none"> <li>• Flip charts, felt pens, participants' handouts</li> </ul>	1 hour 10 minutes
<b>4.6.3</b> Causes of disease in farm animals	<ul style="list-style-type: none"> <li>• Lecture presentation</li> <li>• Group discussions</li> </ul>	<ul style="list-style-type: none"> <li>• Flip charts felt pens, participants' handouts</li> </ul>	1 hour 40 minutes
<b>4.6.4</b> Requirements for keeping healthy farm animals	<ul style="list-style-type: none"> <li>• Lecture presentation</li> <li>• Group discussions</li> </ul>	<ul style="list-style-type: none"> <li>• PowerPoint presentations</li> <li>• Handouts</li> <li>• Flip charts</li> </ul>	1 hour 20 minutes
<b>4.6.5</b> Safe and effective use of veterinary drugs, vaccines and pesticides	<ul style="list-style-type: none"> <li>• Presentation</li> <li>• Discussion and feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Sample drugs and pesticides and containers</li> <li>• Note books, handouts</li> <li>• Flip charts and PowerPoint presentations</li> </ul>	1 hour 20 minutes
<b>4.6.6</b> Farm biosecurity	<ul style="list-style-type: none"> <li>• Group discussions</li> <li>• Presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Flip charts, flash cards, felt pens</li> <li>• PowerPoint, colored pictures, handouts</li> </ul>	1 hour 10 minutes

4.6.7. Module review	<ul style="list-style-type: none"> <li>• Participants' questions and answers</li> <li>• Facilitator's summary</li> </ul>	<ul style="list-style-type: none"> <li>• Participants' Handouts module review</li> </ul>	50 minutes
<b>TOTAL</b>			<b>8 hours</b>

## 4.7 Facilitators' Guidelines

4.7.1 Welcome and Levelling Expectations (30 minutes)	Session Guide
<p><i>(Facilitator welcomes participants to the module principles of animal health management and introduces him/herself by stating his/her profile and experience of working with farmers).</i></p> <p><b>Introduction (15 Minutes)</b></p> <p>The facilitator invites the participants to state their expectations.</p> <p><i>(The facilitator presents modules objectives)</i></p> <p><b>Module Objectives (15 Minutes)</b></p> <p>By the end of the module participants should be able to:</p> <ul style="list-style-type: none"> <li>• Understand and explain the concept of health and diseases in sheep and goats</li> <li>• Discuss and understand causes of diseases in sheep and goats</li> <li>• Discuss and understand requirements for keeping healthy sheep and goats</li> <li>• Explain safe and effective use of veterinary drugs, vaccines and pesticides</li> <li>• Understand farm bio-security</li> </ul>	<p>Distribute participants' handout on: Module Objectives and Session guide</p>



4.7.3. Causes of disease in animals (1 hour 25 minutes)	Session Guide
<p><i>(The facilitator should be able to help the participants to understand the causes of disease/poor health in farm animals).</i></p> <p><b>Discussion (30 minutes)</b></p> <p>A discussion on the causes of disease in animals will be initiated by the facilitator.</p> <p><b>Presentation (60 minutes)</b></p> <p>After the discussion, the facilitator gives a presentation to describe the different causes which include; bacteria, viruses, fungi, protozoa, pests/parasites, metabolic disorders, poisoning (Phyto- and zoo-toxins), environmental problems (hardware, plastic bags), mineral/vitamin deficiencies, allergies (photosensitivity, insect bites), congenital conditions (hydrocephalus, freemartins)</p> <p><i>(The facilitator should then let the participants to share experiences on the above causes of disease/poor health in their farms).</i></p>	<p>Distribute participants' handouts on: Causes of disease (poor health) in farm animals</p>
4.7.4. Requirements for keeping healthy farm animals (1 hour 10 minutes)	Session Guide
<p><i>(The facilitator should be able to explain to the participants the essential requirements for keeping healthy farm animals).</i></p> <p><b>Discussion (30 minutes)</b></p> <p>After outlining the signs of health and diseases in farm animals, a discussion on essential requirements for keeping healthy animals is be initiated by the facilitator.</p> <p><b>Presentation (40 minutes)</b></p> <p>After the discussion, the facilitator gives a presentation on the essential requirements which include; feeding and nutrition, breeding, housing, hygiene (cleanliness, farm bio-security, waste management, de-contamination), disease diagnostics (e.g. mastitis), disease, pests/parasite prevention and control (vaccination, movement control, tick control, deworming).</p> <p><i>(The facilitator should then let the participants to share experiences on the application and benefits of the above requirements in their farms).</i></p>	<p>Distribute participants' handouts on: Requirements for keeping healthy farm animals</p>

#### 4.7.5. Safe and effective use of veterinary drugs, vaccines and pesticides (1 hour 20 minutes)

*(The facilitator should seek opinions of participants on safe use of veterinary drugs and pesticides and outline key issues on safety and impacts on the environment).*

##### **Plenary Discussion (30 minutes)**

*(The facilitator should lead in a candid and honest evaluation of the safe use of veterinary drugs and pesticides training. He/she should also facilitate on how safe and effective use of drugs and pesticides can be taken up by dairy farmers).*

A discussion should take place first since most of the staff have some knowledge on safe and effective use of veterinary drugs and pesticides. Ask the participants:

1. What they know about safe use of veterinary drugs and pesticides
2. Ask those with knowledge on the above what they know but do not practice (as farmers) and why they do not practice?
3. What opportunities exist in ensuring practice of safe use of veterinary drugs and pesticides?

Ask the participants to mention types of veterinary drugs and pesticides commonly used in dairy animals. They should also mention examples of their respective brands.

1. Veterinary drugs used in dairy animals include; antimicrobials, de-wormers, trypanocides, anti-protozoal, anaesthetics.
2. Pesticides include; acaricides and insecticides
3. Vaccines include; live vaccines, killed vaccines and sub-unit vaccines. Blood vaccines can also be mentioned.

##### **Presentation (50 minutes)**

Present in PowerPoint an overview of safe and effective use of veterinary drugs and pesticides.

*(In plenary discussion ask them to list the precautions for safe and effective use of drugs and pesticides in animals)*

Distribute handout on: Safe and effective use of veterinary drugs, vaccines and pesticides

4.7.6. Farm biosecurity (1 hour 10 minutes)	Session Guide
<p><i>(The facilitator will guide the participants in identifying farm biosecurity measures for preventing introduction and spread of infectious agents within and between farms and apiaries).</i></p> <p><b>Presentation (30 minutes)</b></p> <p>Present in PowerPoint notes on farm bio-security measures necessary for keeping healthy animals.</p> <p>Inform participants that the following issues will be covered in this session; housing, clear demarcation of clean and dirty areas within the farm, disinfection points at farm gates, waste disposal, security fencing, signage for restricted areas within the farm, disinfectants</p> <p><i>(In plenary discussion ask them to share their experience with farmer practices in on-farm biosecurity - 40 Minutes)</i></p>	<p>Distribute handout on: Farm biosecurity</p>
4.7.7 Module Review (30 minutes)	Session Guide
<p><i>(The facilitator should be able to lead the participants in reviewing the module).</i></p> <p>Let's review together the main points about principles of animal health and management <b>(30 Minutes)</b></p> <ul style="list-style-type: none"> <li>▪ What new things did you learn from this Module?</li> <li>▪ What other important aspects/topics were omitted?</li> <li>▪ Any other comments</li> </ul> <p><i>(This last participants' hand out summarizes the main points from the Module).</i></p> <p>Thank participants</p>	<p>Group discussions</p> <p>Q &amp; A session</p> <ul style="list-style-type: none"> <li>▪ Recap the main points</li> <li>▪ Test understanding</li> <li>▪ Link to the way forward</li> <li>▪ Use Review Questionnaire</li> </ul>

## 4.8 Participants' Handouts

# MODULE 5

## SHEEP AND GOATS PRODUCTS POST-HARVEST AND VALUE ADDITION

### 5.1 Introduction to the Module

This module specifies the training competencies as a way of improving products with the intention of increasing the quality of the products and in return raise the income generated from their sale for operators in the value chain. Value addition aims at seizing opportunities offered by markets. Specifically, post-harvest and value addition involves several processes including transportation and handling sheep and goat hygienically; processing products using different value addition techniques; preparation of different recipes; maintenance of good quality; packaging, branding and certifying products as well as storage for longer shelf life. There are two possibilities to add value: (1) value capturing: through the improvement of current production, processing, trading processes to increase productivity, reduce wastage and reduce costs, and by entering new markets with existing products. (2) value creation: through product innovation (e.g. new processed products).

### 5.2 Module Learning Outcomes

By the end of the module, participants will have acquired knowledge and skills in sheep and goat value chain on:

- Sheep and goats handling and hygiene discussed and understood
- Types of mutton and chevon products preservation explained and understood
- Mutton and chevon value addition methods and recipes explained and understood
- Benefits and factors to consider in mutton and chevon value addition discussed and understood.

### 5.3 Module Target Group

This module targets public and private extension service providers and lead farmers or pastoralists.

### 5.4 Module Users

This module is intended for use by master trainers who are members of the Core Team of Trainers (CTT). The trainers using this module should thoroughly familiarize themselves with the participant's handouts.

## 5.5 Module Duration

The module is estimated to take **8 hours**.

## 5.6 Module Summary

Postharvest and value addition			
Sessions	Training methods	Training materials	Time
5.6.1 Introduction, learning outcomes and expectations	<ul style="list-style-type: none"> <li>▪ Personal introductions</li> <li>▪ Presentation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ PowerPoint</li> </ul>	30 minutes
5.6.2 sheep and goat handling and hygiene requirements	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hour 30 minutes
5.6.3 Types of mutton/chevon products preservation methods	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	2 hours 20 minutes
5.6.4 Mutton/chevon value-addition production methods and recipes	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	2 hours
5.6.5 Benefits and factors to consider in mutton/chevon value addition	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> </ul>	1 hour
5.6.6 Module review	<ul style="list-style-type: none"> <li>• Presentations</li> <li>• Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>• flips charts</li> <li>• Projector</li> <li>• Handouts</li> </ul>	40 minutes
<b>Total duration</b>			<b>8 hours</b>

## 5.7 Facilitator’s Guidelines

Post-harvest and value addition	
5.7.1 Introduction, objectives and expectations (30 minutes)	Session Guide
<p><b>Introduction (15 minutes)</b></p> <p>The facilitator welcomes participants to the module and introduces themselves by stating their profile and experience</p> <p>The facilitator invites the participants to introduce themselves and state their expectations).</p> <p><b>Module Learning Outcomes (15 minutes)</b></p> <p><i>(The facilitator presents the modules learning outcomes)</i></p> <p>By the end of the module participants should be able:</p> <ul style="list-style-type: none"> <li>• To provide the learner with skills on post-harvest handling of sheep and goat</li> <li>• To be able to learn basic practices and skills of sheep and goat handling.</li> <li>• To give the learner knowledge and skills personal hygiene in sheep and goat product handling</li> <li>• To enable the learner adequately comprehend methods of sheep and goat value addition.</li> <li>• To provide skills on best management practices in sheep and goat value addition.</li> <li>• To equip the learner with the knowledge and practical skills on c value sheep and goat addition.</li> <li>• To enable the learner to monitor the quality and safety of sheep and goat value-added products</li> <li>• To equip the learner with practical skills of sheep and goat packaging and branding</li> </ul>	<p>Summarize participants “expectations” and display</p> <p>Distribute handouts to participants highlighting:</p> <ul style="list-style-type: none"> <li>• Module outcomes</li> <li>• Training Program</li> </ul>

5.7.2 Sheep and Goat handling and hygiene requirements (1 hour 30 minutes)	Session guide
<p><i>(The facilitator should explain how to prevent mutton/chevon contamination).</i></p> <p><i>Present on PowerPoint slides and flip charts sheep and goats handling and hygiene requirements</i></p> <ul style="list-style-type: none"> <li>• Washing hands before handling</li> <li>• Wearing clean overalls, hats, aprons and gumboots</li> <li>• Cleaning the working space, equipment and utensils to be used</li> <li>• Keeping your tables and benches clean</li> <li>• What mutton/chevon quality is and its importance</li> <li>• Factors affecting chevon/mutton quality in farmed sheep and goat</li> <li>• Apply the good product handling practices in their farms to reduce mutton/chevon contamination</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Good Sheep and goats Practices Manual</li> </ul>
5.7.3 Types of mutton/chevon preservation methods (2 hours 20 minutes)	Session guide
<p><i>Present the following on PowerPoint slides and flip charts:</i></p> <ul style="list-style-type: none"> <li>• Why it is good to consume mutton/chevon and sheep and goat products</li> <li>• Demonstrate, on how to assess mutton/chevon for freshness</li> <li>• Types of chevon/mutton preservation e.g. sun drying, chilling and freezing, cooking and dip fat storage, and canning.</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Sheep and goats Recipe Book and Brochures</li> </ul>

<b>5.7.4 Mutton/Chevon value addition production methods and recipes (2 hours)</b>	<b>Session guide</b>
<p><i>Present the following on PowerPoint slides, flip charts and also practically demonstrate application of preservation and packaging techniques:</i></p> <ul style="list-style-type: none"> <li>• Improved handling: washing the product, clean package, use plastic buckets in cleaning, transporting dried sheep and goats in plastic bags/ cooler boxes</li> <li>• Examples of value-added products and their recipes e.g. mutton/chevon fillets, samosas, meat balls, sausages, mutton/chevon sauce, soup, skewers, pie and burger</li> <li>• Improved quality/ standardization: Improved technologies: Advanced sheep and goats technology.</li> <li>• Improved marketing: advertising product with an emphasis on its values, branding to transcend across all market chains, proper marketing strategies, be honest and reliable to customers, advertisement, neat packaging,</li> <li>• Use clear labels/Eco-labeling, Use colourful packaging materials.</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Sheep and goats Recipe Book Information Sheet</li> </ul> <p>Q&amp; A session</p>
<b>5.7.5 Benefits and factors to consider in mutton/chevon value addition (1 hour)</b>	<b>Session guide</b>
<p>The facilitator should be able to guide participants on factors to consider in sheep and goats value addition:</p> <ul style="list-style-type: none"> <li>• Quality standards</li> <li>• Cost-benefit analysis</li> <li>• Increased product shelf life</li> <li>• Better product prices</li> <li>• The increased product mix in the market</li> <li>• Product quality assurance</li> <li>• Product traceability</li> <li>• Easy and safe commodity handling</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Sheep and goats Recipe Book</li> </ul> <p>Q&amp;A Session</p>

5.7.6 Module review (40 minutes)	Session guide
<p><i>(The facilitator should be able to lead the participants in reviewing the module)</i></p> <p>Summarize the main points of the training</p> <p>Together with the participants review the main points about sheep and goats breeding and genetic techniques to increase sheep and goats production</p> <ul style="list-style-type: none"> <li>• What new things did you learn from this Module?</li> <li>• What other important aspects/topics were omitted?</li> <li>• Any other comments</li> </ul>	<p>Group discussions</p> <p>Q&amp; A session</p> <ul style="list-style-type: none"> <li>• Recap the main points</li> <li>• Test understanding</li> <li>• Individual + evaluation of the session</li> </ul>

## 5.8 Participants' Handouts

1. Video clips on Hygienic slaughter and handling of raw meat
2. Brochures on preparation of Nyirinyiri

# MODULE 6

## BUSINESS IN SHEEP AND GOATS

### 6.1 Introduction to the Module

The new approach to sheep and goats is based on the paradigm that, with a focus on commercial operations, goats must be a viable business. This understanding represents a significant shift in technical assistance requirements. Whereas early limiting factors were biological (i.e., identifying and disseminating the best technologies), it is now understood that biotechnology must be accompanied by effective capacity building in business and market planning.

### 6.2 Module Learning Objectives

By the end of the module the following shall be achieved:

- Sheep and goats farming business discussed and understood
- The basics of developing a business plan explained and understood
- Techniques of business planning explained and understood
- Record keeping and analysis of sheep and goats farms discussed and understood
- Marketing and supply chain in sheep and goat enterprise discussed and understood

### 6.3 Module Target Group

This module targets public and private extension service providers and lead farmers or pastoralists.

### 6.4 Module Users

This module is intended for use by master trainers who are members of the Core Team of Trainers (CTT). The trainers using this module should thoroughly familiarize themselves with the participant's handouts.

### 6.5 Module Duration

The module is estimated to take **8 hours**

## 6.6 Module Summary

Sheep and goats Business			
Sessions	Training methods	Training materials	Time
6.6.1 Introduction, learning outcomes and expectations	<ul style="list-style-type: none"> <li>▪ Personal introductions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> </ul>	30 minutes
Introduction to business management			
6.6.2 Sheep and goats farming business	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hour 30 minutes
6.6.3 The basics of developing a business plan	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical exercises</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hour 30 minutes
6.6.4 The techniques of business planning	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical exercises</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hour 30 minutes
6.6.5 Record keeping and analysis for sheep and goats farms	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Practical exercises</li> </ul>		1 hours 15 minutes
6.6.6 Marketing and supply chain in sheep and goat enterprise	Presentation Group Discussion Visit to nearby Meat Goat market	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hours 15 minutes
6.6.7 Module review	<ul style="list-style-type: none"> <li>• Presentations</li> <li>• Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>• flips charts</li> <li>• Projector</li> <li>• Handouts</li> </ul>	30 minutes
<b>Total duration</b>			<b>8 hours</b>

## 6.7 Facilitator’s Guidelines

Sheep and goats Business	
<b>6.7.1. Introduction, objectives and expectations (30 minutes)</b>	<b>Session Guide</b>
<p><b>Introduction (15 minutes)</b></p> <p>The facilitator welcomes participants to the module to introduce themselves by stating their profile and experience</p> <p>The facilitator invites the participants to introduce themselves and state their expectations).</p> <p><b>Module Learning Outcomes (15 minutes)</b></p> <p><i>(The facilitator presents the modules learning outcomes)</i></p> <p>By the end of the module participants should be able:</p> <ul style="list-style-type: none"> <li>• Discuss sheep and goats farming business</li> <li>• Explain the basics of developing a business plan</li> <li>• Discuss record keeping and analysis for sheep and goats</li> <li>• Discuss marketing and supply chain in sheep and goats enterprise.</li> </ul>	<p>Summarize participants “expectations” and display</p> <p>Distribute handouts to participants highlighting:</p> <ul style="list-style-type: none"> <li>• Module outcomes</li> <li>• Training Program</li> </ul>
<b>6.7.2. Sheep and goats farming business (1 hour 30 minutes)</b>	<b>Session guide</b>
<p><i>(The facilitator to present on PowerPoint slides and flip charts on sheep and goats farming business</i></p> <ul style="list-style-type: none"> <li>• Factors considered in sheep and goats farming business</li> <li>• Facilities needed by Pastoralists for sheep and goats farming business</li> <li>• Advantages of practicing sheep and goats farming as a profitable enterprise</li> <li>• The short- and long-term goals in sheep and goats farming</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Good Sheep and goats Practices Manual</li> </ul>
<b>6.7.3 The basics of developing a business plan (1 hour 30 minutes)</b>	<b>Session guide</b>
<p><i>Present the following on PowerPoint slides and flip charts:</i></p> <ul style="list-style-type: none"> <li>• What is a business plan?</li> <li>• Why is a business plan important?</li> <li>• How long does it take to develop a complete business plan?</li> <li>• Fundamental questions addressed with a business plan?</li> <li>• Evaluating and selecting suitable marketing alternatives</li> </ul> <p>Practical exercises</p> <p>Develop components of a business plan.</p>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Aqua-Business Training Notes</li> <li>• Marketing Basics Factsheet</li> </ul>

<b>6.7.4 The techniques of business planning (1 hour 30 minutes)</b>	<b>Session guide</b>
<p>The facilitator should guide participants through PowerPoint presentations and practical exercises on the following:</p> <ul style="list-style-type: none"> <li>• Elements of an enterprise budget</li> <li>• Uses of an enterprise budget</li> <li>• The basic structure of an enterprise budget</li> <li>• Principle and steps in partial budgeting</li> <li>• Investment capital analysis e.g. payback period, net present value, internal rate of return</li> <li>• Financial analysis in sheep and goats e.g. profit income statement, solvency and liquidity</li> <li>• Cash flow budget in an sheep and goats enterprise</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Aqua-Business Training Notes</li> <li>• Marketing Basics Factsheet</li> </ul> <p>Q&amp; A session</p>
<b>6.7.5 Record keeping and risk analysis for sheep and goats farms (1 hour 15 minutes)</b>	<b>Session guide</b>
<p>The facilitator should be able to guide participants on the following:</p> <ul style="list-style-type: none"> <li>• Types of farm records (input records, output record, annual (seasonal) records)</li> <li>• Examples of record tables and sheets</li> <li>• Sensitivity analysis in sheep and goats</li> <li>• Types of risks in sheep and goats (social, economic, political etc.)</li> <li>• Risk management</li> <li>• Practical exercises</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Aqua-Business Training Notes</li> <li>• Q&amp;A Session</li> </ul>
<b>6.7.6 Marketing and supply chain in sheep and goat enterprise - (1 hour 15 minutes)</b>	
<ul style="list-style-type: none"> <li>• Types of sheep and goat markets, supply and demand patterns</li> <li>• Marketing strategies, Functions and market planning for sheep and goat</li> <li>• Sheep and goat channels, value chain and distribution networks</li> <li>• The 4 P of marketing</li> </ul>	<p>Presentation</p> <p>Field Visit to Livestock Market and butchers</p> <p>Q &amp; A session</p>

6.7.7 Module review (30 minutes)	Session guide
<p><i>(The facilitator should be able to lead the participants in reviewing the module).</i></p> <p>Summarize the main points of the training</p> <p>Together with the participants review the main points about sheep and goats breeding and genetic techniques to increase production</p> <ul style="list-style-type: none"> <li>• What new things did you learn from this Module?</li> <li>• What other important aspects/topics were omitted?</li> <li>• Any other comments</li> </ul>	<p>Group discussions</p> <p>Q&amp; A session</p> <ul style="list-style-type: none"> <li>• Recap the main points</li> <li>• Test understanding</li> <li>• Individual evaluation of the session</li> </ul>

## 6.8 Participants' Handouts

### 1. Marketing Basics: A SMART Skills Manual

# MODULE 7

## CROSS-CUTTING ISSUES

### 7.1 Introduction to the Module

This module introduces cross-cutting issues in the sheep and goats value chain that incorporates gender and youth, vulnerable and marginalized groups, social and environmental performance assessments as well as group dynamics and cohesion.

### 7.2 Module Learning Objectives

By the end of the module, the following shall be achieved:

- Gender, youth and VMG inclusion in sheep and goats enterprise discussed and understood
- Socioeconomic impacts of sheep and goats discussed and understood
- Environmental impacts of sheep and goats discussed and understood
- Group dynamics and cohesion explained and understood

### 7.3 Module Target Group

This module targets public and private extension service providers and lead farmers or pastoralists.

### 7.4 Module Users

This module is intended for use by master trainers who are members of the Core Team of Trainers (CTT). The trainers using this module should thoroughly familiarize themselves with the participant's handouts.

### 7.5 Module Duration

The module is estimated to take **8 hours**

## 7.6 Module Summary

<b>Cross-cutting Issues</b>			
<b>Sessions</b>	<b>Training methods</b>	<b>Training materials</b>	<b>Time</b>
<b>7.6.1</b> Introduction, learning outcomes and expectations	<ul style="list-style-type: none"> <li>▪ Personal introductions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> </ul>	30 minutes
<b>7.6.2</b> Gender, Youth and VMG Inclusion in Sheep and goats	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	2 hours
<b>7.6.3</b> Socioeconomic Impacts of Sheep and goats	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical exercises</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hour 30 minutes
<b>7.6.4</b> Environmental impacts of sheep and goats	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical exercises</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>▪ Handouts</li> </ul>	1 hour 30 minutes
<b>7.6.5</b> Group dynamics and cohesion	<ul style="list-style-type: none"> <li>▪ Presentations</li> <li>▪ Plenary discussions</li> <li>▪ Practical exercises</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flips charts</li> <li>▪ Felt pens</li> <li>▪ Projector</li> <li>Handouts</li> </ul>	2 hours
<b>7.6.6</b> Module review	<ul style="list-style-type: none"> <li>• Presentations</li> <li>• Plenary discussions</li> </ul>	<ul style="list-style-type: none"> <li>• flips charts</li> <li>• Projector</li> <li>• Handouts</li> </ul>	30 minutes
<b>Total</b>			8 hours

## 7.7 Facilitator’s Guidelines

Cross-cutting Issues	
<b>7.7.1 Introduction, objectives and expectations (30 minutes)</b>	<b>Session Guide</b>
<p><b>Introduction</b></p> <p>The facilitator welcomes participants to the module to introduce themselves by stating their profile and experience</p> <p>The facilitator invites the participants to introduce themselves and state their expectations).</p> <p>Module Learning Outcomes (15 minutes)</p> <p><i>(The facilitator presents the modules learning outcomes)</i></p> <p>By the end of the module participants should be able:</p> <ul style="list-style-type: none"> <li>▪ Discuss gender, youth and VMG inclusion in sheep and goats enterprise</li> <li>▪ Discuss social impacts of sheep and goats enterprise</li> <li>▪ Discuss environmental impacts of sheep and goats enterprise</li> <li>▪ Explain the group dynamics and cohesion</li> </ul>	<p>Summarize participants “expectations” and display</p> <p>Distribute handouts to participants highlighting:</p> <ul style="list-style-type: none"> <li>• Module outcomes</li> <li>• Training Program</li> </ul>
<b>7.7.2 Gender, Youth and VMG Inclusion in Sheep and goats (2 hours)</b>	<b>Session guide</b>
<p><i>(The facilitator to present on PowerPoint slides and flip charts)</i></p> <ul style="list-style-type: none"> <li>• Gender mainstreaming and inclusion</li> <li>• Strategies for Inclusion of Vulnerable and Marginalized groups</li> <li>• Youth empowerment in the sheep and goats value chain</li> <li>• Women empowerment in the sheep and goats value chain</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• Good Sheep and goats Practices Manual</li> </ul>

<b>7.7.3 Socioeconomic Impacts of Sheep and goats (1 hour 30 minutes)</b>	<b>Session guide</b>
<p><i>Present the following on PowerPoint slides and flip charts:</i></p> <ul style="list-style-type: none"> <li>• Roles of sheep and goats in food and nutrition security</li> <li>• Role of sheep and goats in poverty reduction and livelihoods</li> <li>• Role of sheep and goats in County and national economy</li> <li>• Socio-cultural and economic limitations to gender mainstreaming in sheep and goats</li> </ul> <p>Practical exercises</p> <p>Group discussions to determine the role of sheep and goats in the local economy and food security</p>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• SMART Sheep and goats Manual</li> <li>• Gender Fact sheets</li> </ul>
<b>7.7.4 Environmental impacts of sheep and goats (1 hour 30 minutes)</b>	<b>Session guide</b>
<p>The facilitator should guide participants through PowerPoint presentations and practical exercises on the following:</p> <ul style="list-style-type: none"> <li>• Water pollution control</li> <li>• Environmental risk assessment</li> <li>• Environmental performance of sheep and goats</li> <li>• Environmental impact assessment and audit of sheep and goat farms</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• SMART Pastoralists Manual</li> <li>• Q&amp; A session</li> </ul>
<b>7.7.5 Group dynamics and cohesion (2 hours)</b>	<b>Session guide</b>
<p>The facilitator should be able to guide participants on the following:</p> <ul style="list-style-type: none"> <li>• Group dynamics and behavioural change</li> <li>• Role plays and cooperation</li> <li>• Social networks in sheep and goats</li> <li>• Cultural roles and dynamics</li> </ul>	<p>Distribute handouts to participants</p> <ul style="list-style-type: none"> <li>• SMART Pastoralists Manual</li> <li>• Q &amp;A Session</li> </ul>

7.7.6 Module review (30 minutes)	Session guide
<p><i>(The facilitator should be able to lead the participants in reviewing the module)</i></p> <p>Summarize the main points of the training</p> <p>Together with the participants review the main points about sheep and goats breeding and genetic techniques to increase sheep and goats production</p> <ul style="list-style-type: none"> <li>• What new things did you learn from this Module?</li> <li>• What other important aspects/topics were omitted?</li> <li>• Any other comments</li> </ul>	<p>Group discussions</p> <p>Q &amp; A session</p> <ul style="list-style-type: none"> <li>• Recap the main points</li> <li>• Test understanding</li> <li>• Individual evaluation of the session using a questionnaire</li> </ul>

## 7.8 Participants' Handouts

## ANNEX 1: TRAINING PROGRAM

The training program presented here assumes that the trainees report on Sunday evening as the first day and leave 9 days later on Friday afternoon or Saturday morning.

Time	Day 0 (Sunday)	Duration	Remarks / Facilitator
Late Evening	<ul style="list-style-type: none"> <li>• Arrival of participants and registration – Host</li> <li>• Setting up and prepare training venue and materials – CTT</li> </ul>	2 Hours	The training venue and materials are ready for use
<b>Close of Day 0</b>			
Time	Day 1 (Monday)	Duration	Remarks / Facilitator
	<b>Session 1: Introduction and Climate Setting</b>		The trainees relax and climate set for the ten-day training
8.00-9.30am	<ul style="list-style-type: none"> <li>▪ Welcome by host and Prayers</li> <li>▪ Self-introductions –(CTT)</li> <li>▪ Introduction to KCSAP project</li> <li>▪ Official opening Ceremony (CDF)</li> <li>▪ Introduction to the training program (CTT)</li> <li>▪ Formation of groups and setting norms (CTT)</li> <li>▪ Overview of Red Meat (sheep and goat) in Kenya and Role in GDP</li> </ul>	10 minutes 10 minutes 20 minutes 10 minutes 10 minutes 10 minutes 20 minutes	
10.00-10.30am	<b>Session 2: Understanding climate change</b>		
	<ul style="list-style-type: none"> <li>▪ What is climate change</li> <li>▪ What causes climate change</li> <li>▪ What are the effects</li> <li>▪ How to address climate change</li> </ul>	10 minutes 15 minutes 15 minutes 20 minutes	

10.30-11.00am	Tea Break (Group Photo)	Health Break
11.00am-1.00pm	<p><b>Session 3: Climate change impacts on agriculture and food security</b></p> <ul style="list-style-type: none"> <li>▪ Effects of climate change on agriculture</li> <li>▪ How does agriculture contribute to climate change?</li> <li>▪ The link between climate change and food security</li> <li>▪ Plenary Discussions and Group Work</li> </ul>	<p>30 minutes</p> <p>30 minutes</p> <p>20 minutes</p> <p>10 minutes</p> <p>1 hour</p>
1.00-2.00pm	Lunch Break	1 hour
2.00-4.30pm	<p><b>Session 4: Climate smart agriculture</b></p> <ul style="list-style-type: none"> <li>▪ Definitions and characteristics</li> <li>▪ Why climate smart agriculture</li> <li>▪ Principles of climate smart agriculture</li> <li>▪ Context specific practices</li> <li>▪ Plenary discussions</li> </ul>	<p>20 minutes</p> <p>20 minutes</p> <p>30 minutes</p> <p>40 minutes</p> <p>40 minutes</p>
4.30-5.00pm	<p><b>Session 5: Module review</b></p> <ul style="list-style-type: none"> <li>▪ Conclusions and review of Module 1</li> </ul>	30 minutes
5.00-5.30pm	Coffee Break	30 minutes
<b>Close of Day 1</b>		
<b>Module 1. Sheep and Goats Germplasm improvement (Breeds and Breeding)</b>		

<b>Time</b>	<b>Day 2 (Tuesday)</b>	<b>Duration</b>	<b>Remarks / Facilitator</b>
	<b>Session 1:</b> Introduction, objectives and expectations		The trainees relax and set climate for the day's training
	Welcome by host and Prayers	10 minutes	
8.00-8.30am	Introduction to the training module	20 minutes	
8.30-9.00am	<b>Session 2:</b> Importance of sheep and goats	30 minutes	
9.00-10.00am	<b>Session 3:</b> Sheep/Goats breeds and characteristics (presentation)	1 hour	
10.00-10.30am	Tea Break	30 minutes	Health Break
10.30-12.30	<b>session 3:</b> Sheep/Goats breeds and characteristics (presentation)	2 hours	
12.30am-1.00pm	<b>Session 4:</b> Selection of suitable sheep/goats breeds for different environment	30 minutes	
1.00-2.00pm	Lunch Break	1 hour	
2.20-3.00pm	<b>Session 4:</b> Selection of suitable goats breeds for different environment	1 hours	
3.00-5.00pm	<b>Session 5:</b> Breeding practices	2 hour	
5.00-5.30pm	<b>Session 5: Module review</b>	30minutes	
	Conclusions and review of Module 3		
5.30-6.00pm	Coffee Break	30 minutes	
<b>Close of Day 2</b>			

Module 2. Housing for lambs and kids			
Time	Day 3 (Wednesday)	Duration	Remarks /Facilitator
8.00-9.30am	<b>Registration</b>	10 minutes	Climate-setting For the day's training
	<b>Session 1:</b> Introduction, objectives and expectations	20 minutes	
9.30-10.30am	<b>Session 2:</b> Characteristics of the mobile kids house	2 hour	
10.30-11.00am	Tea Break	30 minutes	Health Break
11.00am-1.00pm	<b>Session 3:</b> Importance of Resayon mobile house	2 hours	
1.00-2.00pm	Lunch Break	1 hour	
2.00-4.30pm	<b>Session 4:</b> Housing types in sheep and goat production and routine maintenance.  General discussion themed around existing housing practices by different communities	2 hours	
4.30-5.00pm	<b>Session 5: Module review</b>	30 minutes	
	Conclusions and review of Module 2	30minutes	
5.00-5.30pm	Coffee Break	30 minutes	
<b>Close of Day 3</b>			

Module 3 Feeds and Feeding		
Time	Day 4 (Thursday)	Remarks/ Facilitator
8.00-8.30am	<p><b>Registration</b></p> <p><b>Session 1:</b> Introduction, objectives and expectations</p> <p>Welcome by host and Prayers</p> <p>Introduction to the training module</p> <p><b>Session 2:</b> Feeding habits of sheep and goats, preferred browse and grass species and their distribution</p> <p><b>Group Discussion</b></p>	The trainees relax and climate set for the day's training
8.30-10.30 am	<p>10 minutes</p> <p>10 minutes</p> <p>10 minutes</p> <p>1 hour 20 minutes</p> <p>40 minutes</p>	
10.30-11.00am	<p>Tea Break</p> <p><b>Session 3:</b> Pasture production and collections techniques</p>	Health Break
11.00am-12.00pm	<p>Lunch Break</p>	2 hour
1.00-2.00pm	<p><b>Session 4:</b> Practical aspects of feed production/collection, and storage</p>	1 hour
2.00-5.00pm	<p><b>Session 5: Module review</b></p> <p>Conclusions and review of Module</p>	3 hours
4.30-5.00pm	<p>Coffee Break</p>	30 minutes
5.00-5.30pm	<p>Coffee Break</p>	30 minutes
<b>Close of Day 4</b>		

Principles of animal health management			
Time	Day 5 (Friday)	Duration	Remarks / Facilitator
8.00-8.30am	Registration <b>Session 1:</b> Introduction to the module and leveling the expectations Welcome by host and Prayers Introduction to the training module <b>Session 2:</b> Concept of health and disease in farm animals	10 minutes  10 minutes 20 minutes 1 hour 10 minutes	The trainees relax and climate set for the day's training
8.30-9.40am	<b>Session 3:</b> Causes of disease in farm animals	50 minutes	
9.40-10.30am	Tea Break	30 minutes	Health Break
10.30-11.00am	<b>Session 3:</b> Causes of disease in farm animals	40 minutes	
11.00-11.40am	<b>Session 4:</b> Requirements for keeping healthy farm animals	1 hour 10 minutes	
11.40am-12.50pm	Lunch Break	1 hour	
12.50-1.55pm	<b>Session 5:</b> Safe and effective use of veterinary drugs, vaccines and pesticides <b>Session 6:</b> Farm biosecurity	1 hour 20 minutes 1 hour 10 minutes	
1.55-3.15pm	<b>Session 7: Module review</b> Conclusions and review of Module 5	30minutes	
3.15.00-4.25pm	Coffee Break	30 minutes	
4.25-4.55pm			
4.55-5.35pm			
<b>Close of Day 5</b>			

Postharvest and value addition			
Time	Day 6 (Saturday)	Duration	Remarks / Facilitator
8.00-8.30am	<b>Registration</b> <b>Session 1:</b> Introduction to the module and leveling the expectations Welcome by host and Prayers Introduction to the training module	10 minutes 10 minutes 10 minutes	The trainees relax and climate set for the day's training
8.30-10.00am	<b>Session 2:</b> sheep and goat handling and hygiene requirements	1 hour, 30 minutes	
10.00-10.30am	Tea Break	30 minutes	Health Break
10.30am-12.50pm	<b>Session 3:</b> Types of sheep and goat products preservation methods	2 hours 20 minutes	
12.50-1.50pm	Lunch Break	1 hour	
1.50-3.50pm	<b>Session 4:</b> sheep and goat value-added production methods and recipes	2 hours	
3.50-4.30	Benefits and factors to consider in mutton/chevon value addition	1 hour	
4.30-4.50pm	<b>Session 5: Module review</b> Conclusions and review of Module 6	20 minutes	
4.50-5.20pm	Coffee Break	30 minutes	
<b>Close of Day 6</b>			

Day 7 (Sunday)

The groups will prepare presentations on the link between meat goats, sheep and the rural economy. Presentations to be made at the end of the training.

Module 7 Sheep and goats Business		
Time	Day 8 (Monday)	Remarks / Facilitator
8.00-8.30am	Registration Session 1: Introduction to the module and leveling the expectations Welcome by host and Prayers Introduction to the training module	10 minutes 10 minutes 20 minutes 1 hour
8.30-9.30am	<b>Session 2:</b> Sheep and goats farming business	1 hour
9.30-10.30am	<b>Session 3:</b> The basics of developing a business plan	1 hour
10.30-11.00am	Tea Break	30 minutes
11.00am-1.00pm	<b>Session 4:</b> The techniques of business planning	2 hours
1.00-2.00pm	Lunch Break	1 hour
2.00-3.00pm	<b>Session 5:</b> Record keeping and analysis for sheep and goats' farms	1 hour
	<b>Session 6:</b> Marketing and supply chain in sheep and goat enterprise	2 hours
5.00-5.30pm	<b>Session 7: Module review</b> Conclusions and review of Module 8	30minutes
5.30-6.00pm	Coffee Break	30 minutes
<b>Close of Day 8</b>		

Module 8. Cross-cutting Issues			Remarks / Facilitator
Time	Day 9 (Wednesday)	Duration	
8.00-8.30am	<b>Registration</b>	10 minutes	The trainees relax and climate set for the day's training
8.30-10.30am	<b>Session 1:</b> Introduction to the module and leveling the expectations Welcome by host and Prayers Introduction to the training module  <b>Session 2:</b> Gender, Youth and VMG Inclusion in sheep and goats farming	10 minutes 10 minutes 2 hour	
10.30-11.00am	Tea Break	30 minutes	Health Break
11.00am-12.30pm	<b>Session 3:</b> Socioeconomic Impacts of Sheep and goats	1 hour 30 minutes	
12.30-1.30pm	Lunch Break	1 hour	
2.00-3.30pm	<b>Session 4:</b> Environmental impacts of sheep and goats	1 hour 30 minutes	
3.30-5.30pm	<b>Session 5:</b> Group dynamics and cohesion	2 hours	
5.30-6.00pm	<b>Session 5: Module review</b> Conclusions and review of Module 9	30 minutes	
5.30-6.00pm	Coffee Break	30 minutes	
<b>Close of Day 9</b>			
<b>Day 11 Departure</b>			

## ANNEX 2: GENERAL REFERENCE MATERIALS

Category / Modules	Publication title	Reference types	No Pages	Farmer Category A= New entrant-Sheep/goat farmer B= Established Sheep/goat Farmer
Germplasm Improvement	Goat Manual	Manual	55	B
Housing for Lambs and kids	Brochure on 'Resayon Mobile House'		2	
Feeds and Feeding	Goat Manual	Manual	55	
Health Management	Effects of climate change on the occurrence and distribution of livestock diseases	Manual		A/B
	A field manual of animal diseases by syndromes			A/B
	Climate Change And Links to Animal Diseases and Animal Production			A/B
	Draft National Livestock, Kenya			A/B
	Public Health Training of Trainers Manual			A/B
Post-harvest and Value Addition	Goat Keepers' Animal Health Care Manual			A/B
	How to process Nyirinyiri	Brochure	2	A/B

Sheep and goat Business	Marketing Basics: A SMART Skills Manual	Manual	55	A/B
Cross cutting issues in Goat/Sheep production and marketing		Manual	1	A/B
		Poster	1	A/B
		Poster	1	A/B





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