

MINISTRY OF ANIMAL RESOURCES AND FISHERIES  
REPUBLIC OF SOUTH SUDAN



**Training Manual for Community Animal Health Workers  
of South Sudan**

Final Draft

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## **Foreword**

The Training Module for Community Animal Health Workers in South Sudan is a guide that outlines topics that are relevant for training of CAHWs on basic veterinary clinical skills. It is intended to be used by facilitators to prepare for training events as well as during training delivery. The guide only gives relevant topics, objectives for topics, suitable methodology, estimated timing, materials and content outline. Much attempt has been made to adapt the content to the context of SS. It should be noted that participatory principles should be adhered to, and thus the guide provides for flexibility in actual delivery of training. The methodologies given are merely specified as suitable hence, may be adjusted to suite the training environment and mood of participants. It is advisable that the modules are delivered as separate training events, taking into account that targeted participants are adults who may be involved in other socio-economic activities. The guide also recommends a list of references that are useful for preparation and delivery of training. It is hoped that this guide will be found helpful by facilitators on training events for CAHWs.

## 1.0 Introduction

Livestock rearing is the mainstay of the rural economics in pastoral areas of South Sudan. However, due more than two decades of civil war and social unrest, the livestock sector has been seriously disrupted at the image of the veterinary services, which were inexistent. As a result, the livestock population became vulnerable to diseases. In the 1990s, interventions by development agencies have introduced the concept of Community Animal Health Workers (CAHWs) to provide basic animal health service delivery at community level. The CAHWs are members of a community, and are actively involved in livestock keeping and live within the communities. To become CAHWs, such members undergo training on basic veterinary clinical skills and business management. The Training Module for Community Animal Health Workers in SS is a guide to assist facilitators in preparation and delivering training of prospective CAHWs on basic veterinary clinical skills. It is comprised of five modules, I, II, III, IV, and V; each developing the relevant topics, their objectives, the suitable methodology to achieve those objectives, within a specific timeframe, the materials needed, and the outline of the content. As so, module I aims at enabling the participants with required skills for sound disease diagnosis and treatment approaches while keeping record of field activities, with a particular emphasis on disease control and prevention standards. The aim of module II is to update the trainees with specific concepts related to disease reporting, vaccination protocols, and surgical procedures. While the aim of module III is to equip the trainees with concepts of related to business strategies as applied to CAHW practice, the module IV focuses on Animal Production, with a particular emphasis on short cycle animal species and gender-sensitive aspects for the promotion of rural income, social equity, and food security and therefore, poverty alleviation in SS. Finally, module V deals with equipping the CAHW with proved extension skills needed to be multifaceted development agents, more likely to play key roles in the social, economic, and environmental development of their communities. .

## **2.0 Module I: Herd Health and Livestock Production**

The aim of module I is to enable trainees to make diagnosis and undertake treatment of diseases, keep treatment records, and assist in control and prevention.

### ***2.1 Topic: The Role of Community Animal Health Workers, Experience sharing, Lessons Learnt***

#### **Objectives**

At the end of the topic, the trainee should be able to:-

- i). List the roles of CAHWs.
- ii). Outline activities which they are expected to undertake after training.
- iii). Outline possible challenges that they may encounter in their work as CAHWs and how the challenges may be tackled.

#### **Suitable Methodology**

Open plenary discussion.

**Duration:** 2 hours.

#### **Materials:**

News prints, flip charts and felt pens.

#### **Content:**

The roles of CAHWs. What is the experience of participants on animal health? What lessons had participants learnt on animal health.

### ***2.2 Topic: Healthy Animals and Unhealthy Animals***

#### **Objectives**

At the end of the topic, the trainee should be able to:-

- i). List features of a healthy animal.
- ii). List features of a sick animal.
- iii). Describe the meaning of disease.
- iv). Outline the differences between the healthy and the sick animal.

### Suitable Methodology

Group discussions and practical demonstration with pictures and charts of drawings.

**Duration:** 2 ½ hours.

### Materials

Pictures and/or drawings of animals in good health, pictures of sick animals, practical session with healthy and sick animals.

### Content

Appearance and behaviors of a healthy (normal) animal, the healthy appearance and behaviors of various animal species, general signs of sickness in animals, the appearance and behaviors of various animal species during sickness, definition of the term “disease”.

Table 1. *A few Examples* of differential signs of healthy and unhealthy animals

Signs of a healthy animal	Signs of unhealthy animal
smooth hair coat	rough hair coat
no lacrimation	diarrhea
alert and active	difficult breathing
normal urine and dung	ticks and flies
no flies	thin (see the ribs)
good body condition fat	limping
breaths normally	lacrimation
lots of milk	lying down
nose is wet	discharge from nose, ears
no parasites on the body	
breeding normally	

## **2.3 Topic: Body Organs and Functions**

### **Objectives**

At the end of the topic, the trainee should be able to:-

- i). List and identify the basic anatomical structures of cattle, shoats, camel and poultry.
- ii). Outline the main functions of, and interactions between, the basic anatomical structures of cattle, shoats, camel and poultry.
- iii). Outline the characteristics (changes in function as well as appearance) of the anatomical structures during disease.

### **Suitable Methodology**

Group discussions using pictures and charts of drawings; practical demonstrations with live and sick animals; post-mortem practical.

**Duration:** 3 ½ hours.

### **Materials**

Drawings of anatomical parts of animals, live animals, post-mortem carcasses.

### **Content**

External parts of the male bovine, female bovine, goat/sheep, and poultry. Functions of the external parts – eye, ear, nose, mouth, limbs, skin, and hair. Basic structure and functions of the digestive system, circulatory system, urinary system, reproductive system, nervous system and the immune system.

**Observation:** This topic can be taught in several ways. It can be given through lecture sessions where the trainees listen first and later on will see what was taught (Post Mortem). A second method is by having each trainee name a body part of the animal and explains its function. The trainees continue naming the parts until all body parts are listed. Start with the parts of the animal's body like the eyes, ears, legs, hump, etc.; then the internal organs. The main organs need to be identified. Use local names where possible. A third method is for the trainees to describe to each other what each organ does. They can correct each other if necessary. But when disagreeing, the facilitator can assist and clarify. An example of some external and internal organs is given below.

**Table1:** External and Internal organs in Nuer Language and their function

English Name	Local Name	Function
ears	Kith	Hearing, chasing flies
Eyes	Wang	Seeing enemies, water.
l 'egs	(hk	food, other COWS Walking, running, kicking, swimming
Skin	Gwop	protection from sun, cold, flies, keeps in blood, flair protects aHd keeps warm
Abdomen	l es	-
Oesophagus	Pou	-
Liver	Chuew	-
Lungs	Poth	-
Spleen	Tak	-

### Function of Each Organ and System

- **Digestive system:** from the mouth food goes to esophagus and accesses to the rumen, where it is subject to regurgitation and come back into the mouth for refined chewing before going back again through esophagus to rumen and then to reticulum. From reticulum, it proceeds to omasum, then to the true stomach (abomasum), from where it accesses to the large intestines. Further, it continues to the rectum, from where it is ready to pass out through the anus as a waste product.

**Role of digestive system:** It is to break down grass so that nutrients are absorbed into the blood; remaining waste material in form of feces.

- **Circulatory system:** allows the flow of the blood from the heart through the blood vessels to all parts of the body.

**Role of circulatory system:** the heart pumps the blood and distributes it throughout the body. Blood absorbs oxygen from lungs and carries it to all parts of the body.



- **Urinary system:** kidneys filter blood and remove waste products. Water as *urine* goes into the bladder.
- **Role of reproductive system:** to create offspring.
- **Defense system:** to protect the organism against diseases and adverse environmental conditions.

## ***2.4 Topic: Diseases of Livestock***

### **Objectives**

At the end of the topic, the trainee should be able to:-

- i). List significant diseases of livestock in South Sudan.
- ii). List and describe the main clinical signs of significant diseases of livestock in Somalia.
- iii). Outline the diseases of significance in their localities.

### **Suitable Methodology**

Open plenary discussion in which trainees are asked to list diseases; then form group discussions in which trainees are asked to draw animals presenting particular disease symptoms. Outcome of group work is then discussed with all trainees together and amendments made. Group the participants according to their localities and ask each to select diseases common in their areas.

**Duration:** 2 hours.

### **Materials**

News prints, flip charts and felt pens.

### **Content**

The most important diseases in South Sudan, their clinical signs, and the animal species affected.

## ***2.5 Topic: Causes of Diseases***

### **Objectives**

At the end of the topic, the trainees should be able to:-

- i). list the main groups of organisms that cause diseases.

ii). list examples of diseases caused by each group.

**Suitable Methodology**

Open plenary discussion in which trainees are asked to list what causes diseases in their areas. The groups are then informed about the disease-causing mechanisms.

**Duration:** 2 hours.

**Materials**

News prints, flip charts and felt pens.

**Content**

Groups of organisms that cause diseases.

**2.6 Topic: Transmission, Prevention, and Control of Diseases**

**Objectives**

At the end of the topic, the trainees should be able to:

- i). List various modes of transmission of diseases.
- ii). Explain how various control and prevention strategies are applied to different disease causes.

**Suitable Methodology**

Structured lectures, guided discussions, illustrations and practical.

**Duration:** 1 ½ hours.

**Materials**

News prints, flip charts, felt pens, pictures, drawings, samples of parasites e.g ticks, tsetse fly.

**Content**

Method of disease transmission, biological agents and transmitting vectors, how the diseases can be prevented and controlled based on cause and mode of transmission.

**2.7 Topic: Restraining Animals**

**Objectives**

At the end of the topic, the trainee should be able to:

- i). Explain reasons for restraining animals.
- ii). List methods of restraining animals.

iii). Demonstrate methods of restraining animals.

**Suitable Methodology**

Practical demonstration on live animals.

**Duration:** 1 hour.

**Materials**

Live animal (preferably cattle), restraining ropes, crush, other equipment for diagnosis (stethoscope and thermometer).

**Content**

Reasons for restraining animals, Use of ropes, use of the crush, tethering, casting by use of ropes, halter, muzzling, other methods – use of chemicals (sedatives, tranquilizers). Remember to explain methods for approaching each animal species.

***2.8 Topic: Clinical Examination, and Diagnosis***

**Objectives**

At the end of the topic, the trainees should be able to outline the purpose and procedures of a clinical examination.

**Suitable Methodology**

Practical demonstrations, structured lecture.

**Duration:** 2 hours.

**Materials**

Animals, facility for physical restraining depending on animal used for demonstration (crush) other equipment for diagnosis (stethoscope and thermometer).

**Content**

Purpose of a clinical examination, procedures and steps for clinical examinations. Obtaining information on history of condition and management; observation from a distance without touching; close examination involving touching such as feeling pulse, respiration, temperature, digestive movements, testing for pain and feeling for swellings. Further diagnosis involves taking samples, laboratory testing and post-mortem examination.

## **2.9 Topic: Post Mortem (practical)**

**Objectives:** after this session the trainees will be able to identify the main organs and systems in an animal and know the procedures of a good and hygienic meat inspection. On top of that, they will be able to:

- notice the position of organs and systems within the animal
- examine carcass if fit for human consumption
- explain the way post-mortem can serve as a diagnostic tool

### **Suitable Methodology**

The participants stand in one group around the carcass.

**Duration:** 3 hours

### **Materials**

- animal for demonstration
- butchering knives, and cutlers
- sharpening stone
- plastic sheet
- table
- bowl with water
- piece of soap
- pan for collecting blood (optional)
- Pan for the meat
- Pan for condemned material

### **Content**

1. external carcass examination — look for discharges, wounds, general body conditions, evidence of diarrhea, external parasites, lesions, etc.
2. Skinning the carcass—make sure not to cut any organ in the body cavity.
3. Laying the carcass on its back and cutting along the midline of the abdomen, taking care not to cut into any organs.
4. Examining the abdominal organs in position and checking the abdominal fluid.
5. Cut opening the diaphragm and pooling the organs in the chest cavity.
6. Examining the organs of the chest and checking the fluids in the chest cavity.
7. Demonstrating the sack around the heart and the fluid in it.

8. Showing the spongy texture of the lungs; demonstrate blowing the lungs and releasing the air. indicate the major blood vessels from the heart to the lungs. Cut into the lungs tissue to show normal appearance. Cut into the chambers of the heart to display the structure.
9. Cutting the esophagus and the rectum; tie the ends. Remove the whole digestive track and demonstrate the passage of food through the tract.
10. Opening each section of the tract to demonstrate normal contents and surfaces. For worms, especially in the rumen, abomasum, small intestine and caecum. Show the blood vessels which carry nutrients from intestine to the liver and to the rest of the body.
11. Removing the liver and gall bladder. Cut open the bile canals to check for liver flukes.
12. Check and open the spleen for consistency of structure.
13. Removing the kidneys and demonstrating the pathway of urine from kidneys to the bladder.
14. cut open the kidney to show structure

At each step of the post mortem, stress what is normal if signs of disease are present; explain how these differ from the normal. Use demonstrations to illustrate the earlier discussions of organs and systems. If lesions are present which make part or the entire animal unfit for human consumption, explain the apparent reason to that.

## ***2.10 Topic: Introduction to veterinary Drugs***

### **Objectives**

At the end of the topic, the trainees should be able to:

- i). Describe traditional methods of treatment used in the local area.
- ii). Give a brief overview of how drugs work.
- iii). List the drugs used in modern veterinary treatments with reference to South Sud.
- iv). Explain in brief the importance of the modern medicines.
- v). Outline the movement of drugs in the body.

### **Suitable Methodology**

Open discussion coupled with structured lecture.

**Duration:** 1 hour.

### **Materials**

Samples of drugs.

**Content**

Local traditional methods of treatment, how drugs work – by killing ‘germs’ and parasites. Give a listing of drugs (modern) for diseases of importance in South Sudan. Importance of the modern medicines – have been tested, are more purified, and are simplified for ease of use (administration, handling, packaging, storage life and other factors). Briefly discuss the endpoint the drugs and their elimination.

**2.11 Topic: Drugs and Dosages****Objectives**

At the end of the topic, the trainees should be able to:

- i). Outline how drugs are classified in terms of physical form, route of administration, diseases agent acted upon, spectrum of drugs and what long acting drug is.
- ii). Describe modern treatment options used in South Sudan in terms of medicines and their use

**Suitable Methodology**

Practical demonstration using various drugs, equipment and live animal (s). Summary of topic by structured lecture and discussion.

**Duration:** 2 hours.

**Materials**

Samples of drugs, syringes, needles, restraining equipment and live animal(s).

**Content**

List the drugs used in modern veterinary treatments, classification of drugs and their administration, dosage, and withdrawal periods.

Naming of drugs; generic name, brand name. It should be mentioned that some diseases, particularly viral diseases, are not curable and only supportive therapy and good care may be done.

## ***2.12 Topic: Rationale Use of Drugs***

### **Objectives**

At the end of the topic, the trainees should be able to:-

- i). Distinguish between unethical use of drugs and ethical use.
- ii). Outline the consequences of unethical use of drugs.

### **Suitable Methodology**

Open discussion, cases studies.

**Duration:** 1 hour.

### **Materials**

Samples of drugs.

### **Content**

CAHWs should adhere to a code of ethics while handling and using drugs. What are the consequences of unethical practice? – intentional under-dosage, use of wrong drugs, expired drugs, drugs of unknown origins, poor dosage, and human drugs for animal.

## ***2.13 Topic: Handling of Drugs and Vaccines***

### **Objectives**

At the end of the topic, the trainees should be able to:

- i). Describe measures for storage and transportation of drugs and vaccines.
- ii). Outline the consequences of poor handling of drugs and vaccines.
- iii). Outline necessary actions to prevent undesired consequences.

### **Suitable Methodology**

Practical demonstration using various drugs and vaccines; structured lecture and discussion. A role play may fit. The example of a child being intoxicated as a result of in taking diluted veterinary drug in a soda bottle.

**Duration:** 1 hour.

### **Materials**

Samples of drugs/vaccines, empty soda bottle; and water

**Content**

Consequences of poor handling of drugs and actions to be instituted; validity dates, breakages, spillages, accidental ingestion by children, contamination of drugs and deterioration e.g due to sunlight and/or heat. Measures for proper transportation and storage of drugs/vaccines. Source of supply (mention the main sources for the area).

**2.14 Topic: Importance of Record Keeping****Objectives**

At the end of the topic, the trainees should be able to:

- i). Outline reasons for keeping records.
- ii). List some consequences of poor (or not records keeping).

**Suitable Methodology**

Open discussions, case studies, role play about some bad consequence of poor records or lack of record.

**Duration:** 1 hour.

**Materials**

News prints, flip charts and felt pens, samples of record keeping forms

**Content**

Reasons for record keeping, consequences of poor and lack of records.

**2.15 Topic: Practical Session on Record Keeping****Objectives**

At the end of the topic, the trainee should be able to:

- i). List and describe relevant details to be recorded for treatment and drug usage.
- ii). Prepare records for disease treatment and drug usage.
- iii). Outline other records important in clinical work.

**Suitable Methodology**

Guided discussions, exercise and practical demonstrations with forms.



**Duration:** 1 hour.

**Materials**

News prints, flip charts, felt pens and samples of records, and forms

**Content**

Daily records for treatments and drugs used; the location, the name of the client, and the amount received.

### **3.0 Module II: Disease Reporting, Vaccinations and Surgical Procedures**

The aim of module II is to enable trainees with understanding needed to implement sound livestock vaccination and disease control/prevention campaigns.

#### ***3.1 Topic: Record Keeping during Disease Outbreaks***

**Objectives**

At the end of the topic, the trainees should be able to:

- i). List and describe relevant details to be recorded during disease outbreaks.
- ii). Record and report disease outbreaks.

**Suitable Methodology**

Guided discussions, exercise and practical demonstrations with forms .

**Duration:** 1hours.

**Materials**

News prints, flip charts, felt pens and samples of disease report records.

**Content**

Records for disease outbreaks, dates of start, location, number of households affected, animal species, age groups, actions taken, reporting CAHW, etc.

## **3.2 Topic: Notifiable Diseases and Trade**

### **Objectives**

At the end of the topic, the trainees should be able to:

- i). List the notifiable diseases of South Sudan and other diseases affecting livestock trade.
- ii). Describe the procedure for reporting notifiable diseases.

### **Suitable Methodology**

Guided lecture, brainstorming and open discussions.

**Duration:** 1 hours.

### **Materials**

News prints, flip charts and felt pens, samples reporting forms.

### **Content**

List the notifiable diseases of South Sudan. Describe the procedure for reporting

## **3.3 Topic: Disease surveillance and monitoring (early warning system)**

### **Objectives**

At the end of the topic, the trainee should be able to:-

- i). Explain the meaning of disease surveillance and its importance.
- ii). Outline the roles of CAHWs in disease surveillance.
- iii). Outline the main activities in disease surveillance.
- iv). Describe reporting procedures in cases of disease outbreaks.
- v). Produce surveillance reports.

### **Suitable Methodology**

Group discussions, exercises and case studies.

**Duration:** 3 hours.

### **Materials**

Surveillance reporting forms (including samples).

## **Content**

What is disease surveillance? Why is it important? What is early warning system? Roles of CAHWs in disease surveillance and early warning system. Activities in disease surveillance. Reporting procedures during disease outbreaks.

### **3.4 Topic: Diseases Reporting**

#### **Objectives**

At the end of the topic, the trainees should be able to:

- Outline reasons for disease reporting.
- Understand the necessity of a sound disease reporting process
- Adhere to the principle of systematically filling in the monitoring forms

#### **Suitable Methodology**

Guided discussions, exercise and practical demonstrations with forms.

**Duration:** 1 hours.

#### **Materials**

News prints, flip charts and felt pens, disease reporting forms (new and old).

## **Content**

Reasons for disease reporting, structure and content of disease reports.

### **3.5 Topic: Sample Collection**

#### **Objectives**

At the end of the topic, the trainees should be able to:

- i). List types of samples used in disease diagnosis.
- ii). Describe the procedures for collection and submission of samples for analysis.
- iii). Demonstrate the process of sample collection.

#### **Suitable Methodology**

Practical demonstration on live animal and guided discussions.

**Duration:** 1 ½ hours.

**Materials**

Live animal, restraining facilities, and various material and equipment for sample collection (syringes, needles, glass slides, sterile swabs, scalpel blades, vacutainer sets, gloves, gown, aprons, vaccine carriers with ice packs, marker pen, car, etc.).

**Content**

List of samples necessary in diagnosis. Procedures for sample collection and handling.

**3.6 Topic: Drugs care and limitations of Veterinary Drugs****Objectives**

At the end of the topic, the trainees should be able to:

- i). Outline the practices for good care of drugs.
- ii). List some consequences of poor care of drugs.
- iii). List the limitations of use of drugs.

**Suitable Methodology**

Lecture, case study, open discussion.

**Duration:** 1 hour.

**Materials**

News prints, flip charts, felt pens and samples of drugs.

**Content**

Proper care of drugs ensures safety of users, children and other non-professionals, proper storage and transportation, and proper reconstitution. Drugs will only work under specific conditions - correct diagnosis, correct choice of drug, correct dosage, right route of administration.

**3.7 Topic: Vaccination****Objectives**

At the end of the topic, the trainees should be able to:

- i). Explain what vaccination is, and the purpose.
- ii). List the various types of vaccines, and their administration.

iii). Outline an appropriate vaccination regime for various livestock species of South Sudan.

### **Suitable Methodology**

Practical demonstration of various vaccines and routes of administration; structured lecture on vaccines. Vaccination regime for various livestock of South Sudan.

**Duration:** 2 hours.

### **Materials**

Samples of vaccines, syringes (including automatic syringe) and needles for administration, vaccine carrier with ice packs, sterile water, record forms.

### **Content**

What is vaccination and why is it done? List of vaccines for diseases common in South Sudan: Foot and Mouth Disease, Contagious Bovine Pleuro-Pneumonia (CBPP), Contagious Caprine Pleuro-Pneumonia (CCPP), Blackquarter, Anthrax, Pestes des Petits Ruminants (PPR), Rabies, Hemorrhagic Septicemia, Vaccines poultry (Newcastle Disease). Storage and routes of administration.

## **3.8 Topic: Vaccine Handling and Reconstitution**

### **Objectives**

At the end of the topic, the trainees should be able to:

- i). Explain reasons for proper handling of vaccines.
- ii). Describe transportation and storage of vaccines.
- iii). Describe procedures for reconstitution of specific vaccines.

### **Suitable Methodology**

Practical demonstration on equipment, facilities for vaccine transportation, and storage. Structured lecture and demonstration of vaccine reconstitution.

**Duration:** 2 hours.

### **Materials**

News prints, flip charts and felt pens. Samples of vaccines, syringes (including automatic syringe) and needles for administration, vaccine carrier with ice packs, live animal, crush.

**Content**

Vaccine transport and storage. Reasons for possible spoilage of vaccines. Vaccine reconstitution.

**3.9 Topic: Cold Chain****Objectives**

At the end of the topic, the trainees should be able to:

- i). Explain the meaning of cold chain.
- ii). Explain the reasons for using cold chain.
- iii). Describe a cold chain system (i.e the path).
- iv). Describe equipment used in cold chain and how to decide which ones to use.

**Suitable Methodology**

Structured lecture, practical demonstration.

**Duration:** 1 hour.

**Materials**

News prints, flip charts, felt pens, cold chain equipment.

**Content**

What is a cold chain? Why is cold chain necessary, the cold chain system and steps in the cold chain system, types of cold chain equipment.

**3.10 Topic: Introduction to Surgical Instruments****Objectives**

At the end of the topic, the trainees should be able to:

- i). Identify scalpel blades, clinical thermometer, disbudding iron, dehorning wire, hoof knife, hoof trimmer, burdizzo, and thumb forceps.
- ii). Explain what the equipment are used for.
- iii). Demonstrate how they are used.

**Suitable Methodology**

Demonstrations and practical exercises.

**Duration:** 2 hours.

**Materials**

Scalpel blades, clinical thermometer, disbudding iron, dehorning wire, hoof knife, hoof trimmer, burdizzo, and thumb forceps.

**Content**

Surgical equipment, and their use.

**3.11 Topic: Handling of Surgical Instruments****Objectives**

At the end of the topic, the trainees should be able to:

- i). Explain appropriate process of handling the equipment between uses.
- ii). Explain important maintenance procedures for surgical equipment.

**Suitable Methodology**

Demonstrations and practical exercises.

**Duration:** 1 hours.

**Materials**

Scalpel blades, clinical thermometer, disbudding iron, dehorning wire, hoof knife, hoof trimmer, burdizzo, and thumb forceps.

**Content**

Cleaning and storage of surgical equipment (sterilization and asepsis to be emphasized).  
Important maintenances procedures for surgical equipment.

**3.12 Topic: Basic Surgical Procedures****Objectives**

At the end of the topic, the trainees should be able to:

- i). Demonstrate proper procedures in de-horning, ear notching, closed castration, wound care, hoof trimming, care for abscess, care for fractures, care for dislocations and control of bleeding.
- ii). Explain when de-horning, castration and hoof trimming are indicated.

**Suitable Methodology**

Practical demonstrations, illustrations and structured lectures.

**Duration:** 3 hours.

**Materials**

Disbudding iron, scalpel blades, dehorning wire, hoof knife, hoof trimmer, burdizzo, syringes, swabs, bandages and drugs, antiseptics., cotton wool, thumb forceps

**Content**

Procedures in de-horning, ear notching, closed castration, wound care, hoof trimming, care for abscess, care of fractures, care of dislocations and control of bleeding. When de-horning, castration and hoof trimming are indicated.

## **4.0 Module III: Business Skills for CAHWs**

The aim of module III is to equip the trainees with appropriate business skills applicable to the CAHW system.

### **4.1 Topic: Financial Management (Record Keeping)**

**Objectives**

At the end of this topic, the participants should be able to:

- Understand the importance of recording the financial activities related to their daily practice
- Effectively record the financial operation in the frame of their daily practice
- Differentiate their personal finance from the finance related to their activities as CAHW
- Explain how to calculate profits and losses.
- Explain how to cost goods and services in business

**Suitable Methodology**

Open discussion, case studies, and illustrations, role plays.

**Duration:** 2 hours.

**Materials**

Samples of financial records (forms), records previously submitted by CAHWs.

**Content**

Include discussions on problems generally encountered in field about record keeping and how these should be avoided. Records in business, profit and loss calculations, costing, cash flow,



credit management, stock management, marketing, business ethics, basic requirements for starting business.

## **4.2 Topic: Cost recovery**

### **Objectives**

At the end of the topic, the trainees should be able to:

- i). Explain why the delivery of animal health service should be economical both to the livestock owner as well as to the CAHW; none of them should make losses.
- ii). Explain why animal owners should pay the costs of service(s) received from CAHW.
- iii). List elements of costs incurred during service delivery and explain how to cost services delivered.
- iv). Calculate profits and losses in service delivery.
- v). Outline appropriate dialogue for discussing costing with livestock owner for specific animal health services.
- vi). List various forms of support for animal health services.

### **Suitable Methodology**

Structured lecture, exercises, illustrations and role plays.

**Duration:** 2 hours.

### **Materials**

News prints, flip charts and felt pens. Samples of drugs, note books.

### **Content**

Explain why the delivery of animal health service should be economical both to the livestock owner as well as to the CAHW; responsibility of the livestock owner in service sustainability. Responsibility of CAHW is system sustainability (culture of trust and efficacy). Computation of final costs that is charged to the livestock owner. Calculation of profits and losses in service delivery. How to hold a dialogue with livestock owner for discussion of costing for specific animal health service (s). Various forms of support for animal health services.

## 5.0 Module IV: Animal Production

**Objective:** equip the participants with appropriate skills required for the production and management of each animal species, starting from poultry, and ending with cattle, with small ruminants in between.

### Suitable Methodology

Structured lecture; open discussion; case studies...

**Duration:** 6hrs (1hr for cattle, 5hrs for poultry and small ruminants)

### Material:

News prints, flip charts, felt pens

### Content:

- Focus on the advantages of short cycle animals as a reliable income source and food security for the poor. Compare the reproduction cycle of poultry, small ruminants, and cattle, and then link these facts to the opportunities of making money (which one allows to make money more easily to solve household problems?)
- Moreover, ask the participants to share their ideas about the minimum financial needs to start the husbandry/production of each of the three animal species. Which is easier to initiate? Which requires less financial input? Which pays back more swiftly?
- Emphasize on the reproduction parameters for each species (number of females for each male; average reproduction age by species; duration of gestation/incubation of eggs; ideal number of offspring per female; management (feeding, housing requirements/parameters, health) of the parents and the offspring/babies (chicks especially)).
- Emphasize on the important role plaid by women in short animals production and husbandry.

Another practical aspect of the short cycle animal production is related to that it can easily be practiced by any age group (the teenage, the elderly, the disabled, women)

- Emphasize on the importance of the manure obtained from short cycle animals (high quality) for backyard agriculture—enhanced food security, household health and income, and therefore, poverty alleviation

## 6.0 Module V: CAHWs as Extension Agents

**Objective**

At the end of this module, the trainees will understand that they are not going to focus exclusively on livestock issues. Instead, they will contribute to all the initiatives needed to improve the community's livelihood.

**Suitable Methodology**

Structured lecture, group discussions, role plays, case studies

**Duration:** 2 hrs

**Material**

News prints, flip charts, felt pens

**Content**

Develop aspects of CAHW as a link between their community and the MARE/MAF to which local problems are reported, and from which relevant technical information come to the community. This contribution is also expected to help any governmental department or ministries (Health, Education, Water Resources...), or any NGO legally operating in the area. The CAHW will understand that only by staying in close contact with the community, will they be able to effectively help the people addressing their problems.

**Annexes:**

Table 2: Names of Medicines and their indicative dose rates

Name of Drug	Size of animal (cow)	Dose given per cow (ml)	Size of animal (Sheep/goat)	Dose given per sheep or Goat (ML)
Oxytetracycline L.A	Big (Adult 300kg)	30	Big(adult 30kg)	3
	Medium (heifer 200kg)	20	Medium (20kg)	2
	Small (Calf-100 Kg)	10	Small (10Kg)	-1

Homidium (1 tablet in 10ml)	Big Adult-250kg)	10	Big (adult 30Kg)	-
	Medium (Heifer-150kg)	8	Medium (20kg)	-
	Small (Calf-150kg)	3	Small (10Kg)	-
Alberndazole (e.g Valbazen)	Big Adult 300kg)	30	Big (Adult 30Kg)	3
	Medium (Heifer 200kg)	20	Medium (20kg)	2
	Small (calf-100Kg)	10	Small (10Kg)	1

Take 3. Local names of Rinderpest and their meaning

Pastoral group	Local name	Reason for this name	Definition
Didinga	Nawony	From 'wony to blow off light husks from sorghum	A fatal disease of cattle oil light husks from that spreads like wind in affected herds.
Boya	Lopit	From 'adaum pit' meaning 'to finish completely'	A disease that wipes out most of the cattle in the herd or entire villages.
Nuer of' lou	Nyapee	from 'cuapec' meaning 'to raid'	A fatal disease of cattle that raids or takes away all time affected cattle.

Nuer of Jikany, Bul (of' Leer)	Jok Rieni  Gieng	'disease of bloody diarrhoea'  Being left with very little food	A fatal disease of cattle maui iistcd by severe bloody diarrhea A disease of cattle that causes complete despair among stock owners by killing very many animals leaving just a few.
Dinka Bor and Mundari	Nyanlek Jilpiny	One cal that survived the disease that 'swept all the cattle dead'	A fatal disease of cattle that kills very many animals in a herd or village.
Moros	Joy	Diarrhoea	A disease of cattle that characterized by severe diarrhea and death.
Topotha	Ata Nachoke	The meat which is tasteless like the fruists of a fig tree	A <b>fatal</b> disease that kills so many animals in a herd and villages such that mean becomes tasteless.
A far (Ethiopia)	Degahabe	Empty Kraal	A fatal of disease of cattle that kills all the animals leaving the kraay empty.
Dinak Rek	A wet	From 'wet piny' to scatter or spoil like a hen scattering sorghum grains as it eats	A fatl disease in cattle characterized by discharges from eyes nose and mouth and high mortalities.
Lutuko	Lopirit	From 'pirit' projectile diarrhea	A highly fatal disease in cattle characterized by widespread

			diarrhoea in affected and high mortalities.
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