



**Resource Manual 05:
Animal Health, Vaccinations And GITA
For Community Animal Health Worker
Trainers Working with The Livestock
Vaccine Value Chain**

KARAMOJA SUB REGION, UGANDA

ADVANCING WOMEN'S PARTICIPATION IN LIVESTOCK VACCINE VALUE CHAINS IN
NEPAL, SENEGAL AND UGANDA
UNIVERSITY OF FLORIDA



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LVIF and Advancing Women’s Participation in Livestock Vaccine Value Chains in Nepal, Senegal and Uganda

The Livestock Vaccine Innovation Fund (LVIF) is a multimillion dollar partnership within Canada’s International Development Research Centre (IDRC) that supports the development and production of innovative vaccines for livestock health and smallholder livelihoods. To learn more about LVIF visit <https://www.idrc.ca/en/initiative/livestock-vaccine-innovation-fund>.

The Leveraging Intersectionality in Livestock Vaccine Value Chains for Gender Transformation (LIVT) in Nepal, Senegal and Uganda is a four-year project implemented by the University of Florida with funding from the LVIF. The goal of the LIVT project (which is currently called the **Advancing Women’s Participation in Livestock Vaccine Value Chains in Nepal, Senegal and Uganda (Advancing)**) is to understand women’s role and participation in the selected poultry and small ruminant value chains by evaluating issues of intersectionality on women’s involvement in the livestock vaccine value chains (LVVCs) and providing capacity development to community animal health workers (CAHWs) and/or district-level veterinary officers (DVOs) to increase female livestock keepers’ participation in LVVCs.

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Acronyms and Abbreviations

Advancing	Advancing women's participation in livestock vaccine value chains in Nepal, Senegal and Uganda (current name of the UF project)
BMGF	Bill & Melinda Gates Foundation
CAHW	Community animal health worker
DVO	District veterinary officer
GAC	Global Affairs Canada
GBV	Gender-based violence
GITA	Gendered intersectional transformative approach
IDRC	International Development Research Centre
LVIF	Livestock Vaccine Innovation Fund
LIVT	Leveraging intersectionality in livestock vaccine value chains for gender transformation in Nepal, Senegal and Uganda (old name of the UF project)
LVVC	Livestock vaccine value chain
ND	Newcastle Disease
PPR	Peste des petits ruminants
UF	University of Florida
VVC	Vaccine value chain

Background

The manuals in this series were produced in response to increased interest in ensuring that gender and intersectional factors that impact livestock vaccinations be understood and addressed. Research undertaken by this project showed an overall gender-blind approach to livestock vaccinations, from the top of the value chain to the end users. In each country (Nepal, Senegal and Uganda), the *Advancing women's participation in livestock vaccine value chains in Nepal, Senegal and Uganda* project mapped the entire livestock vaccine value chain. Using a value chain approach to identify actors along the value chain highlighted where ignoring gender and intersectional issues could cause problems in livestock disease control which is the focus of the projects funded by the LVIF.

Understanding gender and intersectional factors are key to addressing behavior change. The approach taken by the project – a gendered intersectional transformative approach – is based on both a women's empowerment ideology as well as an intersectional theoretical framework. The context in which livestock vaccinations take place is as important, if not more important, than animal health factors. When sex, class, ethnicity, race, disability, and age (among other factors) prevent owners from getting their animals treated and blind animal health workers to the needs of these owners, then unvaccinated animals continue to present a disease risk.

These manuals serve several purposes:

- They are targeted to animal and veterinary workers who have the technical background (e.g., BSc) in animal health and who have been trainers. The content of the manuals focuses on social science content, e.g., gender, and soft skills, e.g., communication, to assist these trainers to become better at training, facilitating and being behavior change agents.
- By unpacking gender and intersectional factors and the linkages between these and technical aspects of animal disease control, we envision positive change in the vaccine value chain including having more women-owned livestock vaccinated, involving women and other vulnerable people more in animal health management decisions, and attracting and retaining more female and other vulnerable populations to become animal health workers.
- The manuals are designed for face-to-face training; notes on adapting to virtual training are included.
- The manuals contain many lessons and activities that can be used as needed. Not all lessons or activities have to be used.
- From these manuals, the trainers can develop appropriate trainings for village and community animal health workers.

Introduction to the manual

This manual is part of a series of manuals to be used by those who work with animal health workers to become change agents in communities that increase the use of livestock vaccines through using a gendered intersectional transformative approach (GITA). It is adapted to the local context as much as possible, and designed to be interactive with workshop participants.

The lessons in this manual are specific to Animal Health Vaccinations and GITA. Other manuals focus on GITA (#01), Facilitation and Training (#02), Communication and Conflict Resolution (#03), and Agri-/Vet-preneurship (#04).

The lessons are designed to be used both separately and together, depending on the needs of the various kinds of animal health workers. Most lessons include several sessions; each session is from 30 minutes to one hour long and can be combined. Not all of the lessons or activities need to be used. All of the lessons in this manual would make up a two-day training of trainers curriculum and program. Trainers can select appropriate lessons to use when they train different participants who could range from district veterinary officers to community animal health workers. While there is an order to the manual, lessons and sessions can be moved around.

It should be noted that this manual has an accompanying PowerPoint presentation slides (Slides for Resource Manual 05).

At the end of the manual is a set of lesson plans for animal health worker training which are to be filled in by the trainers to be specific to their training context. Additional training materials for non-literate animal health workers will be developed as well.

Notes for the Facilitator/User of this manual

The manual is designed to be used in a training of trainers' course but it is also designed to be used by those trainers to develop their own training courses for animal health workers.

Each lesson has objectives, the GITA component, the relevant slides from the PowerPoint presentation for the course, activities and handouts, the length of time and guidance for advance preparation and materials needed. Handouts are designed to fit onto one page for ease of printing.

Many of the activities are based on critical reflection, dialogue, and self-reflection. Participants will be asked to bring in their own experiences.

Each lesson contains at least an introductory slide, which could be a mini-lecture or a plenary discussion, one or more activities, and handouts if needed.

Behavior change discussions can bring up gender, power, and social norms including gender based violence. There is a lesson and activities on the topic of gender-based violence (GBV) with references for further work if needed.

References are cited where needed. The three manuals (Williams, SSA, and MMCA) and relevant references are to be given to the trainees at the beginning of the course on a USB. This manual can also be printed and given to the trainees at the end of the course.

For the virtual training component: Ensure that the computer(s) are set up and working, the audio and visual works, that the projection can be seen by all in the room. If the course is done by Zoom, have the participants check in early to trouble shoot any technical issues. Ideally, someone with technical skills will be available. Back up computers or phones, even a generator if possible, might be needed.

Please note that almost all of the activities are designed for face to face training. Each lesson will have to be adapted for virtual training.

For the face-to-face training component: Ensure the meeting room is set up in a U-shape or similar format so participants can move freely during the training activities. Have a separate table for training materials: markers, pens, nametags, tape, flipchart paper, energizers, etc. Secure a flipchart stand and flip chart paper. Prepare and print handouts. Prepare flipcharts in advance of each session.

Additional Notes for the Virtual User of this Manual

This manual was designed for face-to-face training but can be adapted to virtual use with the following tips in mind. [Thank you to ICTworks, 9 EduTech Lessons Learned During COVID-19 Digital Response, September 2, 2020](#), for these lessons.

1. Consider using the digital infrastructure that already exists. In other words, use what you have, know how to use and can afford.
2. Owning a device isn't enough for learning. Uwezo data from Kenya show that while 62% of households own a radio, only 19% of Kenyans tune into radio lessons. Furthermore, while a smaller percentage owns television (45%), 42% of Kenyans tune into educational TV.
3. Sometimes paper works just fine.
4. Distance learning needs pedagogy. Interactive lessons, meeting needs of individual learners, engaging students.
5. Curate content rather than create it. This manual is an example of that – using content that already exists and curating it to our learning objectives.
6. Hardware needs to be targeted and supported. Beyond hardware, though, digital literacy support and how to maintain devices is also important.
7. Involve other “teachers” – parents, community leaders – and use low-tech and no-tech options.
8. Be careful with incentives and accountability.
9. Stay nimble.

Lesson #1: Welcome and Introductions

Achievement-Based Objectives

By the end of this lesson participants will have:

- Introduced themselves to the group
- Agreed upon norms and learning expectations for the session
- Completed a pre-test to assess their current knowledge of facilitation and training
- Received a brief overview of the LVIF project and its purpose, and how this TOT relates to previous TOTs

GITA component

Review the importance of GITA principles from TOT #1

Activities

- Registration and Pre-Test for participants
- Introductions of participants
- Review of Lesson Objectives and Purpose of Overall Workshop, including LVIF
- Establish Workshop Norms and Behaviors

Duration

Approximately 60 minutes

Materials

- Flip chart, markers, tape
- Name tags, notebooks, pens for participants
- Pre-written flip charts
- Room will have computer access, connectivity and screen to be able to engage with virtual trainers
- Handouts – pre-test and registration sheets, copies of workshop agenda if available

Why This Lesson?

Workshop participants need to know the purpose of the training, who else is attending the training, including the lead trainers and facilitators. This lesson introduces the agenda and content of the training, sets norms of behavior for the training, and helps to bridge the divide between the virtual and face to face training programs for this series of workshops.

Advance Preparation

Prepare the following flip charts and copies in advance of the workshop:

On a blank sheet of flip chart paper, write at the top in large letters, “Workshop Norms and Behaviors”

On another blank sheet of flip chart paper, copy the workshop agenda in letters that are large enough for participants to see from the back of the room.

Make enough copies of the Pre-Test for each participant to receive one to complete before the workshop begins.

Make enough copies of the workshop registration template for all participants to sign in before the workshop starts. The registration sheets will be necessary for documentation at the end of the workshop.

On a blank sheet of flip chart paper, write at the top in large letters Key Takeaways from TOT#1 (GITA)

Tasks/Discussion/Activities

Registration and Pre-test

Have all participants sign the registration sheet for attendance at the workshop. Have all participants complete and return the pre-test before the workshop starts.

Review the training objectives with participants and answer any questions that might arise.

Review the workshop agenda on the flip chart.

Using the blank flip chart with "Workshop Norms and Behaviors," ask participants what they think are appropriate and acceptable behaviors for a workshop setting. You can use "Turn off cell phones, or put them on mute" as an example. Write down participant responses on the flip chart and post on the wall when completed for everyone to be reminded during the workshop.

Have participants introduce themselves with their name, organization and one thing that surprised them from TOT #1 on GITA. Capture the participant responses on a flip chart and discuss.

Handouts

Handout 1.1: Pre-training assessment

Handout 1.1: Pre-Training Assessment for Animal Health, Vaccinations and GITA

Name: _____

Please rate your **ability to complete** the following activities using the following scale:

3=To A Great Extent **2**=Somewhat **1**=Very Little **0**=Not At All

_____ **List** the characteristics of healthy and sick animals.

_____ **Explain** why understanding the gendered roles and responsibilities of men and women within agricultural settings is important for animal health workers.

_____ **Describe** the differences between vaccinations and injections and when each could be used.

_____ **Identify** and **discuss** why women's animals are less likely to be vaccinated and strategies for overcoming this.

_____ **List** and **describe** some common diseases in your region of sheep and goats.

_____ **Describe** why it is important to vaccinate everyone's animals.

The **main outcomes** I hope to gain from this training: _____

Please put your initials **on at the top of the** assessment sheet.

Thank You!

Lesson #2: Determining Healthy vs. Sick Animals

Achievement-Based Objectives:

By the end of this lesson participants will have:

1. Learned to identify characteristics of sick and healthy animals
2. Understand the importance of treating sick animals promptly
3. Understand the significance of gender roles and animal health care

GITA component

Discuss gender roles associated with animal care, why women may have more difficulty getting animals treated, and recommendations to improve their access

Activities

- Mini-lecture on Healthy vs. Sick animals
- Reflective exercise on Gender Roles and Animal Care

Duration

Approximately 60 minutes

Materials:

- Handout 2.1: Reflective Exercise on Gender Roles and Animal Care
- Handout 2.1: Gender Roles and Animal Care

Why This Lesson?

Many times smallholder farmers do not recognize signs or symptoms of disease in their animals. This is particularly important for smallholder farmers in isolated areas as they may not have access to, or can afford veterinary assistance. Women farmers are especially affected by this issue as they are often the primary caretakers of smaller livestock such as sheep and goats. Because of gender roles and responsibilities, and inability to make decisions on whether to contact outside veterinary assistance, women's livestock maybe at greater risk of not receiving adequate attention when they are sick.

In this lesson, we will review the characteristics of healthy and sick animals and how to detect these early to avoid prolonged illness or death in small livestock. We will also explore ways to assist women farmers in becoming more proactive in identifying these characteristics, and seeking outside assistance to increase vaccination of their animals.

Advance Preparation

Using a blank flip chart, write at the top "Characteristics of Healthy Animals"

Using a blank flip chart, write at the top "Characteristics of Sick Animals"

Make enough copies of "Reflective Exercise on Gender Roles and Animal Care" for all participants

Tasks/Discussion/Activities

Review “Why Animal Health Management is Important” with participants

Discuss some of the basics of animal management that can affect health and productivity.

Ask participants “What are the characteristics of healthy animals”? Capture responses on prepared flip chart. Ask participants “What are the characteristics of sick animals”? Capture responses on prepared flip chart.

Ask participants to select healthy and sick animals in the photos. Discuss why they selected the animals they chose.

Review “Characteristics of Sick and Healthy Animals” with participants.

Review the “Importance of Prompt Treatment for Sick Animals”. Discuss with participants why it might be difficult in the communities they work into get prompt veterinary treatment, especially for women livestock owners.

Break participants into small groups of 4-5 and handout reflective exercise on “Gender Roles and Animal Care”. Give participants about 20 minutes to review and respond as a group. Share responses in plenary when they are finished.

Handouts

Handout 2.1: Reflective Exercise on Gender Roles and Animal Care

Handout 2.1: Reflective Exercise on Gender Roles and Animal Care

You are working in a rural, isolated region with smallholder farmers who rely heavily on government animal health workers to provide veterinary assistance. There are a number of livestock diseases prevalent in the area that the government wants to eradicate including PPR (Peste des petits ruminants). The government holds periodic vaccination campaigns in specific locations that maybe far from the farmers based on reporting of disease outbreaks. Because of the isolated conditions, communications about these campaigns are erratic, and many times women do not hear about them before they happen.

Women and men have fairly traditional roles in regard to agricultural work. Women are responsible for feeding and care of small livestock and men of cattle and any work off the farm. Women are also responsible for most of the domestic labor, childcare, cooking and any additional income generating activities they can fit into their schedules. Because of these duties, it is difficult for them to take their livestock to vaccination sites which requires leaving their children behind. You have been asked to create a vaccination strategy for PPR that will increase vaccinations of small livestock and accommodate women's ability to participate.

Using the information you have acquired in all the previous TOTs, create a strategy that will incorporate: a) building awareness of the need for vaccination; b) effective communications to announce vaccination sites in advance; c) increasing women's ability to get their animals vaccinated. Use bullet points rather than text to outline the strategy.

Strategy for Increasing Access to Women's Livestock Vaccinations:

Lesson #3: Vaccinations vs. Treatments – What’s the Difference?

Achievement-Based Objectives:

By the end of this lesson participants will have:

1. Learned the differences between vaccinations and Treatments
2. Learned different methods of administering vaccinations
3. Learned different methods of restraining animals for vaccinations

GITA component

Discuss why women might be less likely to vaccinate their animals than men

Activities

- Mini-lecture on vaccinations and Treatments
- Mini-lecture on different methods of administering vaccinations and Treatments
- Mini-lecture on methods of restraining animals for vaccinations
- Reflective activity on community vaccination of small livestock and GITA

Duration

Approximately 60 minutes

Materials

Handouts – Community vaccination of small livestock and GITA

Why This Lesson?

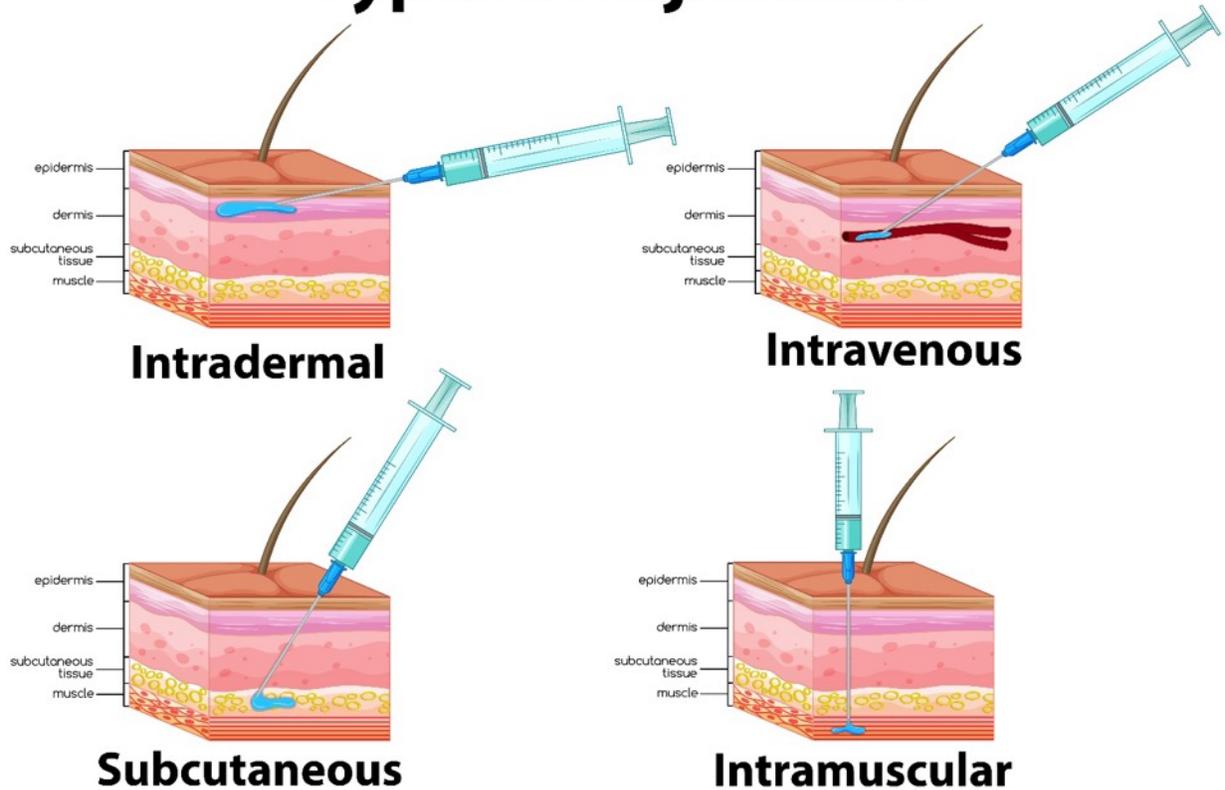
Many people do not understand the differences between “treatments” and “vaccinations”. They believe the terms and principles are interchangeable. The reasons for understanding the differences are important, as some vaccines protect animals from diseases that can be transmitted to people. The term used for disease being transmitted from animals to people is called “zoonotic” and it occurs with diseases like brucellosis in cattle, and tuberculosis in unpasteurized milk from goats among others.

Another reason it is important for farmers to understand the differences between vaccinations and treatments is that they may confuse *treatment* of a disease with *preventing* a disease. “Vaccines” are products designed to help the animal fight *future infections*. The animal does not have the disease or infection. They stimulate the animal’s immune system to produce antibodies which are responsible for identifying and fighting infections if the animal gets them. Vaccines are given to protect whole populations, known as “herd immunity”.

An “treatment” is a drug that is administered to fight an infection the animal has. It may contain a vaccine, or a drug such as an antibiotic. Drugs are normally used to benefit individual animals who are

sick, not multiple animals. There are various ways that injections can be given but the most common are subcutaneous, intramuscular, intravenous and intradermal. “Subcutaneous” injections are given just beneath the skin. “Intramuscular” injections are administered within the muscle mass. “Intravenous” injections enter through a vein, directly into the blood stream. “Intradermal” injections occur within the dermis layer of the skin. See illustrations below for the correct method of each injection.

Types of Injections



From: Module 2: Vaccines and drugs: Similarities and differences, WHO Collaborating Center for Advocacy and Training in Pharmacovigilance, 2015. <https://isoonline.org/wp-content/uploads/2015/10/Differences-on-drugs-and-vaccines.pdf>

Vaccines are usually administered through needle injections but can also be administered by mouth or sprayed into the nose. Vaccines are almost always “biological products” and require special storage, usually cold. They may require repeated doses to create sufficient protection in the animal against the disease. Drugs, such as antibiotics, don’t generally require cold storage. It is critical to check the expiration dates on both vaccines and drugs to make sure they have not expired and are still good to use. Remember – vaccinations and treatments require different modes of application – check on the package or with a veterinarian.

Methods of Administering Vaccinations

For Goats:

Subcutaneous injections for goats are normally administered by pulling up a pinch of skin to a “tent,” inserting the needle into the base of the tent and parallel to the long axis of the animal's body. Be careful not to penetrate through to the other side and discharge the medication on the skin.



Subcutaneous injection site

For Sheep:

1. **Subcutaneous** injections for sheep are given by grabbing a fold of skin in the neck area about 50mm behind and below the ear or behind the shoulder and injecting into the “tent” of skin.



2. **Intramuscular** injections are given by inserting the needle at 90 degrees into the neck about 50mm behind and below the ear or into the rump.

Subcutaneous injection

From: <https://www.agriorbit.com/applicable-injection-sites-for-livestock/>

Restraining Animals for Vaccinations

To administer vaccinations or injections it will be necessary to restrain an animal. The most important thing when doing this is to place the least amount of stress on the animal as possible. Use slides to demonstrate methods of restraining sheep and goats for either vaccinating or giving injections.

Advance Preparation

Review “Why This Lesson” above for information and references on providing the mini-lectures.

Make copies for participants of “Community vaccination of small livestock and GITA”

Tasks/Discussion/Activities

Start the Lesson by asking participants, “What is the difference(s) between vaccinations and treatments”? Capture responses on a blank flip chart and discuss.

Give mini-lecture on “What are the differences between vaccinations and treatments”?

Give mini-lecture “Different methods of administering vaccinations and treatments” using information above.

Give mini lecture on “Restraining animals.” Ask participants – “How do you restrain animals you are vaccinating? Are there easier methods for women to do this? What are they?” Discuss with participants.

Break participants into small groups of 4-5 and handout “Community vaccination of small livestock and GITA” reflective exercise. Allow participants 20 minutes to read and respond. Have small groups present their responses in plenary and discuss.

Handouts

Handout 3.1: Community Vaccination of Small Livestock and GITA

Handout 3.1: Community Vaccination of Small Livestock and GITA

You have been asked to work with a rural community to increase vaccination rates in their sheep and goat herds. Women are primarily responsible for caring for the sheep and goats, and you particularly want to encourage them to get their animals vaccinated.

There are various challenges in getting their animals vaccinated, including:

Inadequate supply of vaccine in region

Perceived ineffectiveness of the vaccine by many community members

Women have limited decision-making power on whether they can get their goats and sheep vaccinated without the husband's permission

Women may have limited mobility and are not able to bring their animals to a vaccination site.

Vulnerable people, as well, may have limited mobility and the distance to government sponsored vaccination sites is a factor preventing their participation.

What type of program will you create to accommodate the above challenges and increase women and vulnerable people's vaccination rates for their animals? Discuss as a group, and list three things you will do to increase vaccination rates among these types of livestock owners. Share your responses in plenary and discuss.

- 1)
- 2)
- 3)

Lesson #4: Why Vaccinate your Animal? Myths Around Vaccination

Achievement-Based Objectives:

By the end of this lesson participants will have:

1. Learned why it is important to vaccinate all livestock in a community
2. Understand myths associated with vaccinating animals

GITA component

Reflective exercise to understand why women need to vaccinate their animals

Activities

- Mini-lecture on the importance of vaccinating all animals, including myths of vaccination
- Reflective exercise on need for women to vaccinate their animals

Duration

Approximately 60 minutes

Materials

Handout “Reflective exercise on Need for Women to Vaccinate their Animals”

Why This Lesson?

Vaccines protect community livelihoods. About 70% of the world’s poor are dependent on livestock – vaccines protect livestock and the many communities that rely upon them for milk, meat and eggs, as well as their income. By greatly reducing the risk of disease, vaccination makes many different kinds of businesses viable, whether that is keeping large volumes of animals together or small scale farming.

Vaccines also help control antimicrobial resistance (or AMR). By proactively protecting animals from diseases, livestock producers can reduce the need for antibiotic treatment for infections. Vaccinating animals also means healthier people. When we vaccinate animals against a zoonotic disease like rabies, which can be transferred to people, we prevent it from ever reaching us.

Finally, vaccines eradicate disease. Rinderpest had a devastating effect on cattle populations across three continents for decades. But through the production of standardized vaccines and a globally coordinated effort, the disease was declared to have been eradicated in 2011.

From: The State of Food and Agriculture: Livestock in the Balance, 2009.

<http://www.fao.org/3/i0680e/i0680e03.pdf>

<https://healthforanimals.org/vaccines.html>

Even though vaccines are incredibly important in controlling and preventing diseases, there are stories or “myths” surrounding them that prevent people from getting their animals vaccinated. Some of these myths include:

- Vaccines don’t work, so why spend the money to have them done
- Vaccines have negative side effects that outweigh the benefits
- Exposure to disease is necessary to strengthen the immune system
- Traces of vaccines are found in our food
- Vaccinating animals has no impact on human health
- Vaccines are expensive and only available to large farmers

Yet, we know from available data that vaccines do work, are affordable (compared to the loss of livestock), have minimal side effects, and can help with preventing zoonotic diseases in humans. For groups of livestock to reach “herd immunity” where illness is unlikely to occur, at least 95% of the herd need to be vaccinated. Using regular vaccination against common diseases (such as PPR) saves animals, reduces veterinary costs and makes overall productivity of all livestock better.

From: https://healthforanimals.org/downloads/library/healthforanimals_vaccinationmyths.pdf

Advance Preparation

Using a blank flip chart, write “Why do we vaccinate our livestock?” at the top

Using a blank flip chart, write “What are myths surrounding vaccinating livestock?” at the top

Make sufficient copies of reflective exercise “Need for Women to Vaccinate their Animals” for all participants

Tasks/Discussion/Activities

Ask participants “Why do we vaccinate our livestock?” Capture responses on the flip chart. Discuss.

Give mini-lecture on the importance of vaccinating livestock and information above.

Ask participants “What are some myths surrounding vaccinating livestock?” Capture responses on the flip chart. Discuss.

Review other myths and information above.

Break participants into small groups of 4-5 and hand out reflective exercise “Need for Women to Vaccinate their Animals”. Allow participants 20 minutes to read and respond to exercise as a group. Reconvene all groups in plenary and discuss responses. Ask the plenary “Is there consensus why it is important that all farmers’ livestock, including women- owned livestock, are vaccinated regularly?”

Handouts

Handout 4.1: Need for Women to Vaccinate their Animals

Handout 4.1 Need for Women to Vaccinate their Animals

You are an District Veterinary Officer who interacts frequently with women-only groups in rural Uganda. The majority of women raise goats for meat and milk, and have small herds of 3-5 animals. The government has asked you to work with the groups to increase vaccination rates, especially for PPR. Many of the women do not believe that vaccines work, or confuse them with treatment needed for animals who are experiencing disease. They also do not always have the final decision on whether their animals can be vaccinated, as frequently the husband's cattle are the priority.

You are creating a program for the women that will not only educate them about the benefits of vaccinating their animals, but assist them with getting it done regularly. Describe steps in the process you will use to create a program using the bullets below. Add more bullets as needed. The first bullet is an example:

- 1) Identify the women's groups you wish to have involved in the program
- 2)
- 3)
- 4)

Lesson #5: Animal Diseases Requiring Vaccination for Small Ruminants and Poultry

Achievement-Based Objectives

By the end of this lesson participants will have:

1. Identified key diseases that affect small ruminants, including symptoms and control
2. Explained which small ruminant diseases are controlled by vaccinations
3. Described obstacles facing women farmers in vaccinating their livestock
4. Reviewed Newcastle's Disease in Poultry

GITA component

Reflective activity on helping women farmers seek veterinary assistance

Activities

- Mini-lecture on the key diseases, symptoms and treatments that affect small ruminants in Uganda
- Exercise on obstacles facing women farmers to vaccinating livestock
- Reflective activity on “Helping women farmers seek veterinary assistance”

Duration

Approximately 90 minutes

Materials

- Handout: Helping women farmers seek veterinary assistance

Why This Lesson?

The livestock and poultry sectors are integral parts of the Ugandan economy and lifestyle. However, infectious diseases such as Foot and Mouth Disease (FMD), Peste des Petits Ruminants (PPR), Sheep and Goat Pox, Contagious Caprine Pleuro Pneumonia (CCPP) and Newcastle disease (ND) constitute major health challenges to the livestock and poultry industry. Vaccinations are an efficient means of preventing the occurrence and spread of several diseases in animals and birds.

Common diseases in goats and sheep in Uganda include PPR, pneumonia, foot and mouth disease, sheep and goat pox, brucellosis, contagious ecthyma with less common diseases such as black quarter, Rift Valley fever and Nairobi sheep disease. It is important for farmers to recognize basic symptoms of disease and how and when to treat their animals to avoid death and transmission. This is particularly true for female farmers as they are often the primary caretakers of small ruminants.

In this lesson, we will review some of the more common diseases of small ruminants in Uganda, their basic symptoms, treatment and prevention. We will also explore ways to encourage women farmers to

get their livestock vaccinated more frequently. This lesson supplements training that was received by animal health workers on animal health and management, but includes a focus on integrating GITA.

From: Diseases of Small Ruminants: A Handbook. VETAID, Center for Tropical Veterinary Medicine. 1996.
<http://www.fao.org/docs/eims/upload/agrotech/1906/diseasesofsmallruminants.pdf>

[CABI: Contagious Caprine Pleuro Pneumonia \(CCPP\) https://www.cabi.org/isc/datasheet/88092](https://www.cabi.org/isc/datasheet/88092)

Advance Preparation

Using a blank flip chart, write in large letters at the top “Most common diseases of sheep and goats in Uganda”

Using a blank flip chart, write in large letters “What are the obstacles to getting animals vaccinated?”

Using a blank flip chart, write in large letters at the top “Ways to get women to vaccinate their livestock”

Make sufficient copies of Helping Women Farmers Seek Veterinary Assistance for all participants.

Tasks/Discussion/Activities

Using the flip chart to capture responses, ask participants “What are the most common diseases of sheep and goats in Uganda?”

Provide mini-lecture on Key Diseases of Sheep, Goats and poultry in Uganda.

Using the flip chart to capture responses, ask participants “What are the obstacles to getting animals vaccinated?” Discuss responses. Ask participants “Are there differences between men and women getting their animals vaccinated? Why or Why not?” Discuss responses with participants.

Using the flip chart to capture responses, ask participants “What are ways to encourage women to get their animals vaccinated?” Discuss responses.

Break participants into small groups (4-5/group). Hand out “Helping Women Farmers Seek Veterinary Assistance” for individuals to read and respond to questions as a group. Allow groups 20 minutes to read and respond to questions. Have groups select a spokesperson to share responses with plenary. After plenary sharing, ask participants “What are three of the most feasible solutions that you could implement in your work to help women farmers seek veterinary assistance when needed?” Discuss.

Handouts

Handout 5.1: Helping women farmers seek veterinary assistance

Handout 5.1 Helping Women Farmers Seek Veterinary Assistance

Women frequently own (or are responsible for) smaller livestock such as goats, sheep and poultry. Part of this responsibility includes veterinary care when needed. However, women are often unable to attend trainings on animal health and management as often as men due to their other domestic responsibilities, have limited ability to travel away from the house, and lack decision-making authority from their husbands around contacting veterinarians. Women also are hesitant to contact veterinarians because the veterinarians are unrelated males outside the household.

You have been asked to assist a women's group in learning when it is important to contact a veterinarian and to increase the women's ability to do so. Using what you have learned in this workshop (and previous TOTs), create a workshop that will assist women farmers to better access veterinary services when needed by knowing when it is important to contact a veterinarian. Consider when creating the workshop that the women have limited literacy and exposure to previous training. Use bullets to outline the steps needed for the workshop. Consider also the role of CAHWs, veterinary extension and NGO workers in this exercise.

Lesson #6: Training Wrap Up and Evaluation

Achievement-Based Objectives

By the end of this lesson, participants will have:

- Evaluated the training using the ORID approach
- Completed the post-training assessment
- Participated in a final reflection activity
- Received a training certificate

GITA component

Recognizing the importance of providing service to all members of a community, regardless of gender, caste, class, ethnicity, or other socially constructed factors

Activities

- ORID Evaluation (30 min)
- Post-Training Assessment (20 min)
- Final Reflection Activity (30 min)
- Presentation of Training Certificates (10 min)

Duration

1.30 hours

Materials

- Flip chart paper, markers
- Ball of yarn or string
- Training Certificates
- Manila envelope 9" x 12"
- Handout: ORID Reflection
- Handout: Post-Training Assessment

Why This Lesson?

The purpose of the final lesson is to determine the effectiveness of the workshop for individual participants and use the information from the assessments to improve future trainings. Using the ORID approach, (**O**bjective, **R**eflective, **I**nterpretive and **D**ecisional), the questions of “So What and Now What?” encourage participants to identify concrete “next steps” to follow up after the workshop to determine what difference the training has made and how participants will utilize the information in their work.

Advance Preparation

Prepare the following items in advance of the lesson:

1. On two blank flip chart papers, write the *ORID* reflection questions; two questions per sheet
2. Sufficient copies of the *ORID* Reflection for all participants
3. Sufficient copies of the post-training assessment for all participants

4. Copies of the training certificate with participant's names

Tasks/Discussion/Activities

ORID Reflection

Facilitator: Gather the participants together and briefly review the training by conducting a gallery walk throughout the meeting room. Ask participants to line up, either standing or sitting, facing one another...so each participant is directly across from one other participant. Using the first ORID question written on the flipchart, have the pairs take turns asking each other the question. After 5-6 minutes/question, have participants on one side move one place to the right...so everyone now has a new partner. Using the second ORID question with new partners, repeat the previous process. Before unveiling the third and fourth ORID questions, have one line of the participants continue to move one place to the right...always having a new partner. At the conclusion, hand out copies of the ORID Reflection and discuss how to use the activity during a training with CAHWs.

Post-Training Assessment

Facilitator: *Hand out the assessment and provide 20 minutes for the participants to complete and return the forms in a manila envelope.*

Closing Reflection

Facilitator: Gather the participants into a circle. Holding a large ball of yarn or string, the facilitator briefly shares one "take away" from the training with rest of the group. While holding onto the end piece of the yarn, the facilitator throws the ball of yarn to a participant standing in the circle. Continue throwing the ball of yarn around the circle until everyone has shared a "take away." When all participants have shared, reflect on the web that has formed by asking:

*What does the web of yarn represent?
What happens when **one person** lets go of the yarn?
What happens when **all of the women** let go of the yarn?
How can we ensure that the web stays connected?*

Presentation of Certificates

Facilitator: *Present certificates thanking participants for their attendance at the training and for their commitment to improving the efficacy of livestock vaccinations in Uganda communities.*

Handouts

Handout 6.1 An ORID Reflection

Handout 6.2 Post-Training Assessment: Animal Health, Vaccinations and GITA

Handout 6.1 An ORID Reflection

What – happened? (**Q**bjective Questions)

- *What images from the training are most memorable?*

Gut – how do you feel about what happened? (**R**eflective Questions)

- *What was a high point of the training?*
- *A low point?*

So What – difference does this make? (**I**nterpretive Questions)

- *What did you learn about your knowledge and skill levels regarding the integration of GITA with animal health and vaccinations?*

Now What – do we do? (**D**ecisional Questions)

- *What will you do differently in your interactions and work because of participating in the training?*

Handout 6.2 Post-Training Assessment: Business and Entrepreneurship

Please rate your **ability to complete** the following activities using the scale:

3=To A Great Extent

2=Somewhat

1=Very Little

0=Not At All

_____ **List** the characteristics of healthy and sick animals.

_____ **Explain** why understanding the gendered roles and responsibilities of men and women within agricultural settings is important for animal health workers.

_____ **Describe** the differences between vaccinations and injections and when each could be used.

_____ **Identify** and **discuss** why women’s animals are less likely to be vaccinated and strategies for overcoming this.

_____ **List** and **describe** some common diseases in your region of sheep and goats.

_____ **Describe** why it is important to vaccinate everyone’s animals

The **best parts** of this training: _____

A **new insight** I gained from participating in this training: _____

An action I will **commit to completing** because of this training: _____

Suggestions for **improving** this training: _____

Please put your initials **on at the top of the** assessment sheet.

Thank You!

Slide deck for this Resource Manual

Slides for Resource Manual 05:
Animal Health, Vaccination and GITA
for Community Animal Health Worker trainers working
with livestock vaccine value chains in Karamoja Sub
Region, Uganda



Note from authors

The PowerPoint slides should be used in tandem with the resource manual 05 for animal health worker trainers working with the livestock vaccine value chain: Animal Health, Vaccination and GITA.

The slide and the manual in this series were produced in response to increased interest in ensuring that gender and other intersectional factors that impact the delivery of veterinary service and extension (including vaccination) to livestock keepers be understood and addressed. Research undertaken by Advancing Women's Participation in Livestock Vaccine Value Chains in Nepal, Senegal and Uganda project showed an overall gender-blind approach in the animal health and livestock vaccination sector. In each target country (Nepal, Senegal and Uganda), the project mapped the entire livestock vaccine value chain. Using a value chain approach to identify actors along the value chain highlighted where ignoring gender and intersectional issues could cause problems in livestock disease control which is the focus of the projects funded by the Livestock Vaccine Innovation Fund.

Understanding gender and intersectional factors are key to addressing behavior change. The approach taken by the project – a gendered intersectional transformative approach (GITA) – is based on both a women's empowerment ideology as well as an intersectional theoretical framework. The context in which livestock vaccinations take place is as important, if not more important, than animal health factors. When sex, race, disability, and age (among other factors) prevent owners from getting their animals treated and blinds animal health workers to the needs of these owners, then unvaccinated animals continue to present a disease risk.

Pre-training test

1 Welcome and Introduction

Review of Lesson Objectives and Purpose of Overall Workshop

2 Determining Healthy vs Sick Animals

Why is animal health management important?

- Managing the health of your animals is important because when an animal is sick, production decreases and this can affect family food security and income. Basic animal management, which includes feeding and shelter, also contributes to healthy animals.
- Diseases that spread from animals to humans (zoonotic diseases) pose a serious risk to the community.
- The best way to stop a disease is to prevent it from happening – vaccinations can help!

Basics of goat management- Nutritional needs

- **Water** - Clean, fresh water must always be available to your goats. Use heavy containers to prevent spilling.
- **Minerals** - Minerals should always be available to your goat. Goat minerals come in multiple forms, including loose minerals and mineral blocks. If you are keeping sheep and goats together, make sure that the minerals you use are formulated for both species because sheep cannot tolerate copper.
- **Feed** - As ruminants (animals with stomachs that have four chambers), goats rely mainly on hay or pasture to fulfill their dietary needs. They need at least eight hours of grazing time per day with good quality forage.

Basics of goat management- Nutritional needs

What should goats eat to grow well and be healthy?

Need a diverse diet consisting of grass, shrubs and tree leaves

If pasture and forages not good, or it is the dry season, cut and give crop residues (maize, sorghum, cassava, peanuts, etc.), vegetable leaves (cassava, sweet potato, pumpkin, etc.), vegetable leftovers (sweet potato, pumpkin, cassava, etc.), native and planted vegetation (Leucaena, mulberry, velvet bean, etc.)

Important for goats to eat leaves from trees and shrubs that give pods because they are usually rich in minerals and vitamins that are important for development of the animals

Basics of goat management- Goat shelters

- Protects animals from rain and adverse weather conditions
- Provides shade (goats like the shade and suffer when there is too much sun)
- Easier to restrain animals when they need treatment and/or observation
- Protects animals against thieves and predators
- Should be built on an elevated and dry location
- Allow sunlight to enter in the mornings and late afternoons to ensure it stays dry and well ventilated
- Should be at least 1.5m² (one and half square meter) for each doe with kid and 1m² (one square meter) for other animals

How do you decide if an animal is sick?



- What are some of the characteristics you look for in healthy animals?
- What are some of the characteristics you look for in sick animals?

Which sheep look healthy? Which sheep look sick?



Which goat looks healthy? Which goat looks sick?



Characteristics of healthy and sick animals

Healthy Livestock	Unhealthy Livestock
Alertness	Lethargic/Listless
Chewing cud	Ruminants not chewing their cud
Sleek coat	Rough hair coat
Bright eyes and pink eye membrane	Dull eyes
Normal feces and urine	Abnormal feces and Discolored urine
Normal temperature	High temperature
Gait steady, no limping	Limping
Normal respiration	Labored breathing/coughing
Stays in herd or flock	Separates self from herd or flock
Eats and drinks normally	Loss of appetite
Contentment	Runny nose
Normal pulse rate	Swelling on any body part

Why is it important to get prompt treatment for sick animals?



3 Vaccination vs. treatment

Differences between vaccination and treatment

Vaccination vs. treatment – what's the difference?



Vaccinations



- Vaccines are products designed to help the animal fight *future infections*. The animal does not have the disease or infection
- They stimulate the immune system to produce “antibodies”. These antibodies are the ones responsible for identifying infections, and will destroy the disease organisms
- **Example of a vaccine:** In a prevention campaign for PPR (Peste des Petits Ruminants), the product administered is a vaccine against the PPR virus. This will give the animal protection against PPR

Vaccines can be given orally



Vaccines can be injected by using a syringe



Credit: Shade, 2021

Safety precautions with vaccines

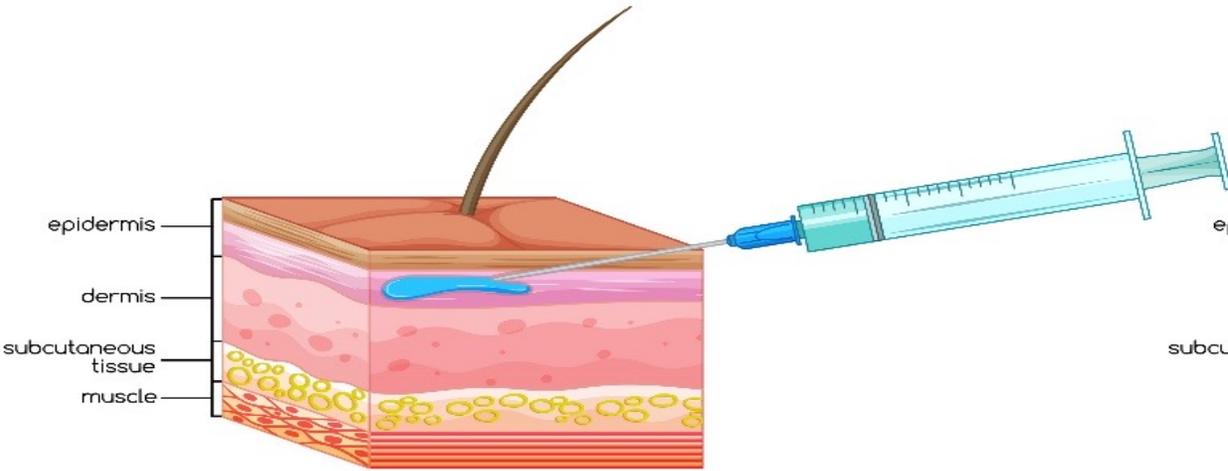
- Check the expiration date on the label.
- Do not save partially used bottles of vaccines. They will not be effective for later use and may be contaminated.
- Some drugs, and most vaccines, need to be refrigerated but not frozen. Keep an accurate thermometer in your refrigerator to monitor the temperature.
- Use disposable syringes. Use clean needles to draw contents from multi-dose bottles. Change needles at least every 10 to 15 animals to minimize disease spread and drug contamination. Do not store medication in syringes, as they cannot be labeled easily.
- Avoid exposing vaccines and other medicines to direct sunlight. This may degrade the product. Use an insulated cooler for storing syringes and drugs while working on animals to avoid sunlight and maintain the proper temperature.
- Collect used needles in a rigid plastic container. Dispose of them by returning them to your veterinarian. Destroy disposable syringes so they cannot be reused or misused.

Injections and treatments

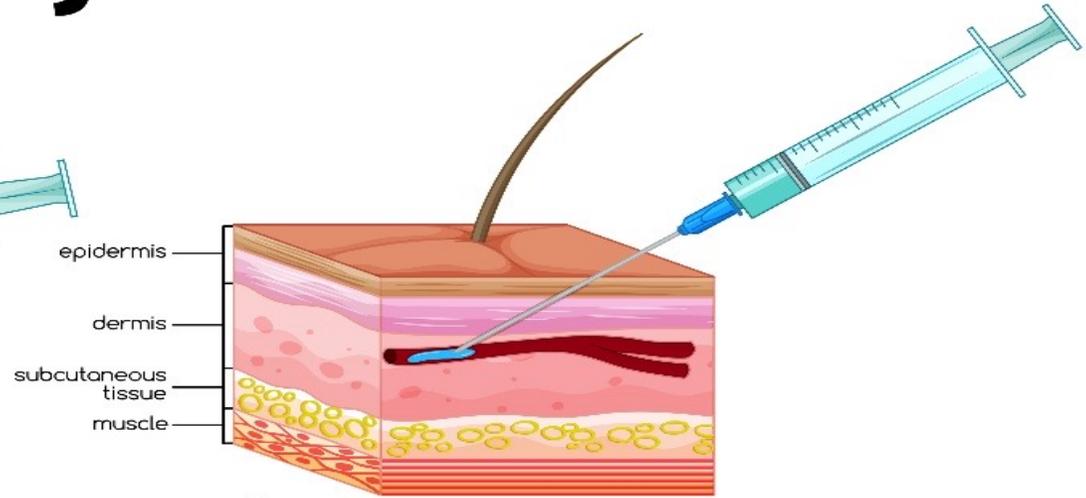


- An *injection* is a drug that is administered to fight an infection the animal has. There are various ways that injections can be given but the three most common are: subcutaneous, intramuscular, and intravenous. You can *treat* disease conditions with injections.
- **Example of an injection:** You can inject the drug Penicillin (which is an antibiotic) into your sheep if they have pneumonia.

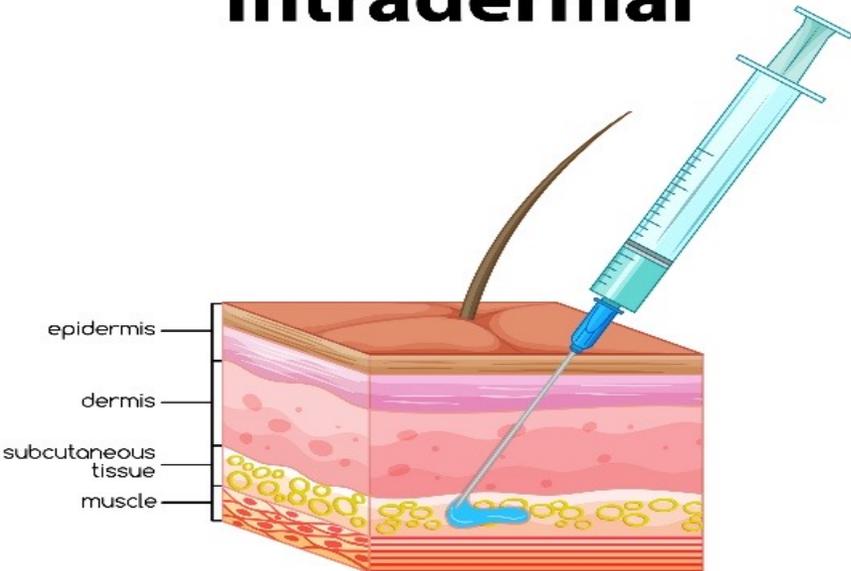
Types of Injections



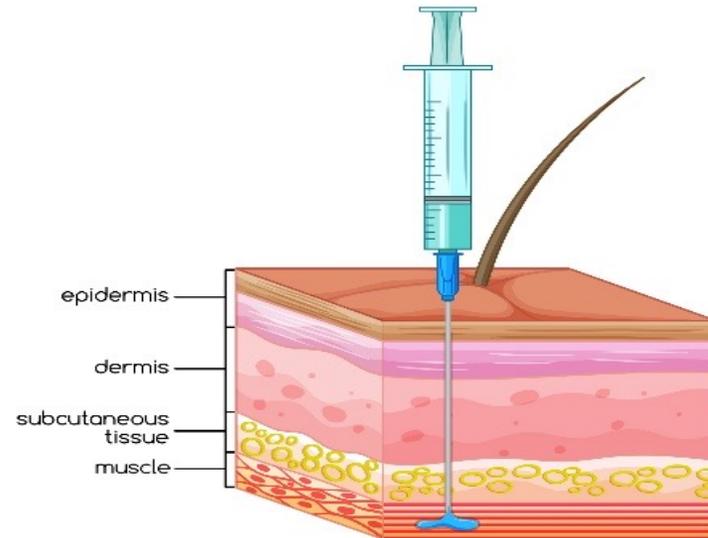
Intradermal



Intravenous



Subcutaneous

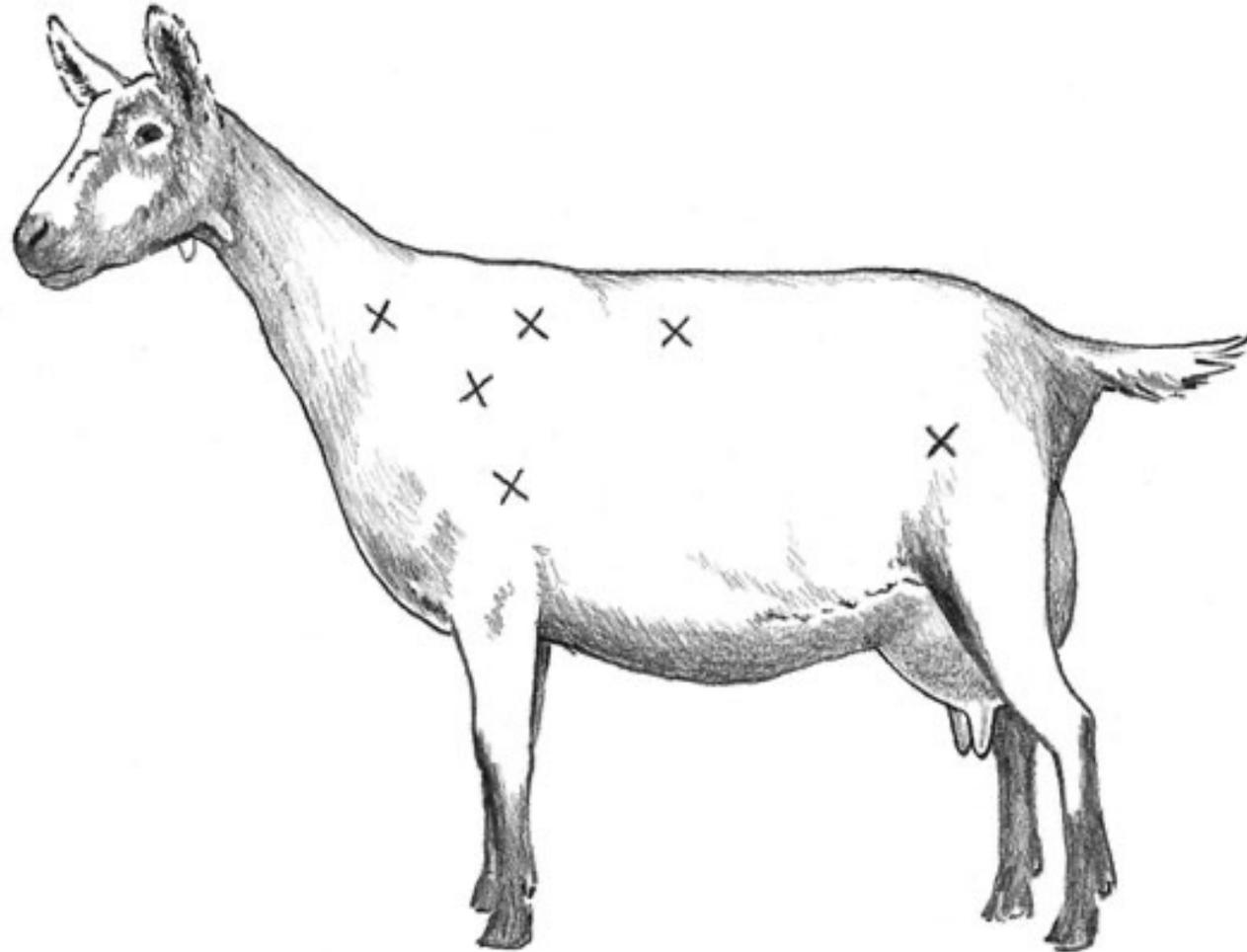


Intramuscular

Types of Injections

- “Subcutaneous” injections are given just beneath the skin
- “Intramuscular” injections are administered within the muscle mass
- “Intravenous” injections enter through a vein, directly into the blood stream
- “Intradermal” injections occur within the dermis layer of the skin

Best places to give injections on a goat



Subcutaneous injection on sheep



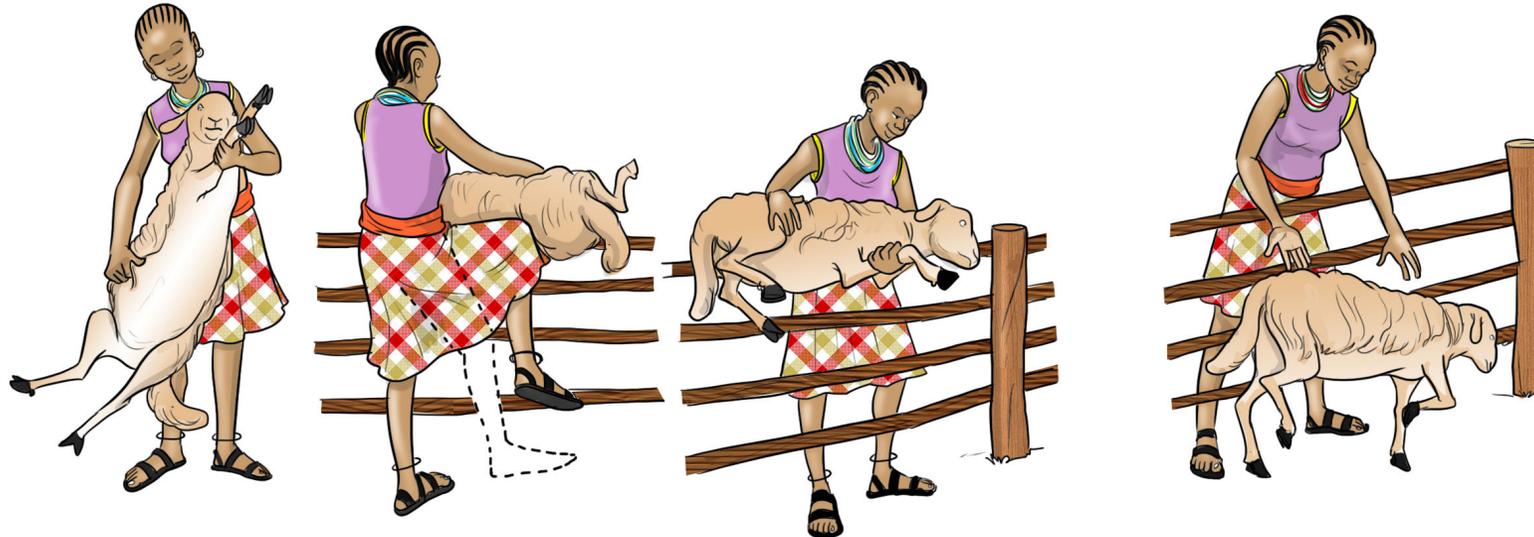
How do you restrain an animal? Especially if you don't have equipment....

- Animal restraint is done by using manual (hands) or mechanical (tools) to limit the animal's movement.
- These methods are used to protect both the animal and the person handling the animal.
- Restraint is used during:
 - ✓ Manipulation of the animal – to provide diagnosis or treatment
 - ✓ Collection of samples – urine, feces, discharge, blood
 - ✓ Drug administration
 - ✓ Vaccination
 - ✓ Therapy - treatments

How to use restraining methods properly

- There are different methods for restraint. They should be used according to the type of procedure that is needed.
- Restraining methods should be performed correctly and minimize fear, pain, stress, and suffering for the animal.
- The animal we are handling needs to feel safe, as it will make the procedure much easier for you and the animal and minimize risk of injury.
- If we are using a device/tool, we need to get the animal used to the device, so they do not experience fear or distress.

Restraining sheep: Techniques and approaches



Restraining sheep: Techniques and approaches (2)



- Sheep are held by one hand around the neck and placing the other hand on their rump (rear end).

Restraining sheep: Techniques and approaches (3)



- Another type of handling includes putting the animal in a corner, i.e., stall or fences.
- You can gently straddle the animal between both of your legs and squeeze the sheep's shoulders to maintain the animal in this position.
- You can control their head and neck by holding the head with one hand and gently grasping the neck with the other.

Lamb restraint



- Lambs are handled by putting one hand under the body and between the forelimbs to support their chest and the other hand should be placed on their neck without applying too much pressure.

Things to remember while restraining sheep

- Individual sheep need to be separated from the flock. This is usually done by cornering the desired sheep or putting them against the wall.
- Sheep have a very strong flocking instinct which means they want to be with the other sheep at all time. This instinct will make them try to escape when they are separated from the rest.

DO NOT:

- ✓ Grab the sheep by the wool, you can pull off the wool and bruise their skin.
- ✓ Grab the sheep by the horns (if they have) you can break them or hurt yourself.

Restraining goats: Options for restraining a goat in a position to trim front and back hooves



Restraining goats: Techniques and approaches (1)



A. One arm is used to hold the beard and the other is used to hold the neck



B. The head is held with both hands

Restraining goats: Techniques and approaches (2)



If they have horns, you can hold the horns at the base of the head for restraining

Restraining kids



The kid is held on the handler's lap with the two front limbs in between the handler's legs, and their hands should be holding the head.

4 Why vaccinate your animals?

Myth around vaccination campaigns

Why should we vaccinate our animals?



Image credit: IDRC

- Discuss the reasons that vaccinating livestock is important in plenary
- What makes it easier or more difficult for women to vaccinate their animals?

Importance of vaccinating animals

- Vaccines protect livestock and communities that rely upon them for milk, meat and eggs, as well as income
- By proactively protecting animals from diseases, livestock producers reduce the need for antibiotic treatment for infections
- Vaccinations help reduce transmission of zoonotic diseases to people
- Vaccines eradicate diseases



Myths surrounding vaccinating livestock

- Vaccines don't work, so why spend the money to have them done
- Vaccines have negative side effects that outweigh the benefits
- Exposure to disease is necessary to strengthen the immune system
- Traces of vaccines are found in our food
- Vaccinating animals has no impact on human health
- Vaccines are expensive and only available to large farmers



Vaccination myths in Karamoja Sub Region

- 1) Vaccination causes abortion
- 2) Women are weak or too gentle to restrain animals during vaccination campaign
- 3) Women can't enter kraals because they are menstruating (widespread in Amudat)
- 4) There are no female goat owners in our area (focus group with male livestock keepers) to target for vaccination
- 5) Other myths?

5 Key diseases in sheep and goats in Uganda

Includes recognition of symptoms, control and prevention

Brucellosis

- This is a **zoonotic** disease caused by a *bacteria*.
- Transmission can occur via ingestion of or contact with infected placenta, fetus, fluids from the fetus, discharge from the vagina, semen, urine, milk. Saliva, feces, nasal, and eye fluids can be infective, but they are not as dangerous.

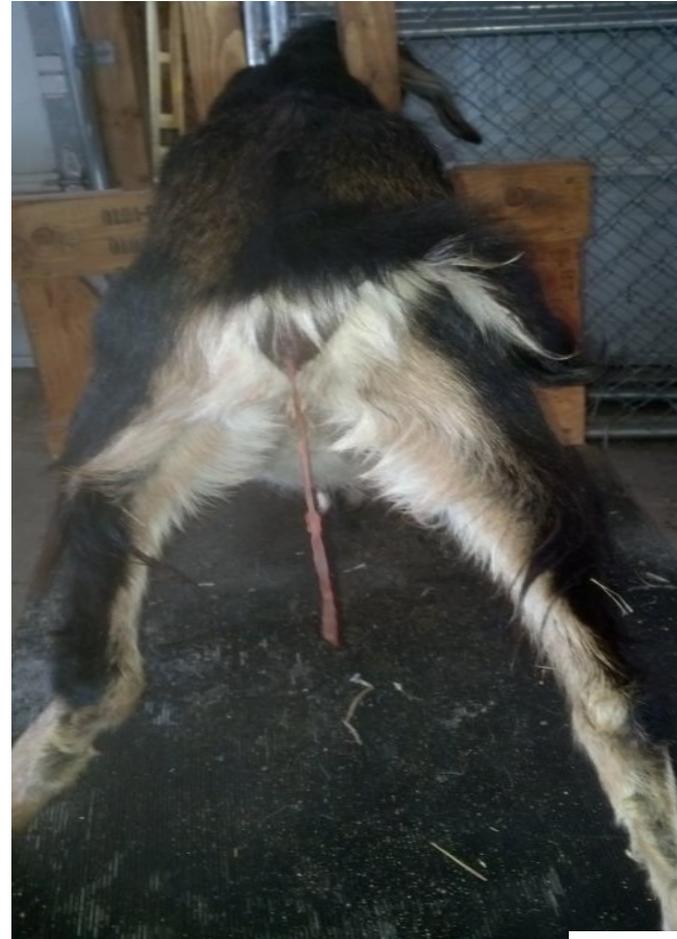
Symptoms include:

- ✓ Reproductive issues (late term abortions, retention of placenta). Abortions tend to occur once and afterwards the female can have normal gestations (birth cycle).
- ✓ Orchitis (inflammation of male reproductive organs) will cause reproductive issues.

Brucellosis (2)



Inflamed testicles in male from brucellosis



Abortion in goat.

Control and prevention of brucellosis

- **Vaccinate** sheep and goats.
- Remove and destroy placenta and aborted fetus and clean the area where this occurred.
- For people: avoid eating undercooked meat, unpasteurized dairy products.
- If an animal is known to be infected, wear protective clothing around the animal. (ie. gloves, mask, overcoat and boots)
- Sick animals should be separated from healthy animals.

PPR (peste des petits ruminants)

- PPR is a disease caused by a *virus*.
- Animals become infected by having close contact with other infected animals. The virus is excreted in tears, nasal discharge, coughing, and feces.

Symptoms include:

- ✓ Fever, depression, loss of appetite
- ✓ Nasal discharge (sometimes it becomes so thick it blocks the nostrils)
- ✓ Thick discharge from eyes making it very hard to open the eyes.
- ✓ Ulcers (sores in the gums, mouth)
- ✓ Diarrhea and dehydration
- ✓ Death can occur between 5-10 days after fever occurs

PPR symptoms



Significance of PPR

- PPR morbidity and fatality rate can be as high as 80–100%
- It can range from 10 to 100% in endemic areas due to factors such as previous immunity, age, and species of the infected animal
- PPR is found throughout Central and Eastern Africa, and parts of Asia and the Middle East, including the Karamoja Region of Uganda

Control and prevention of PPR

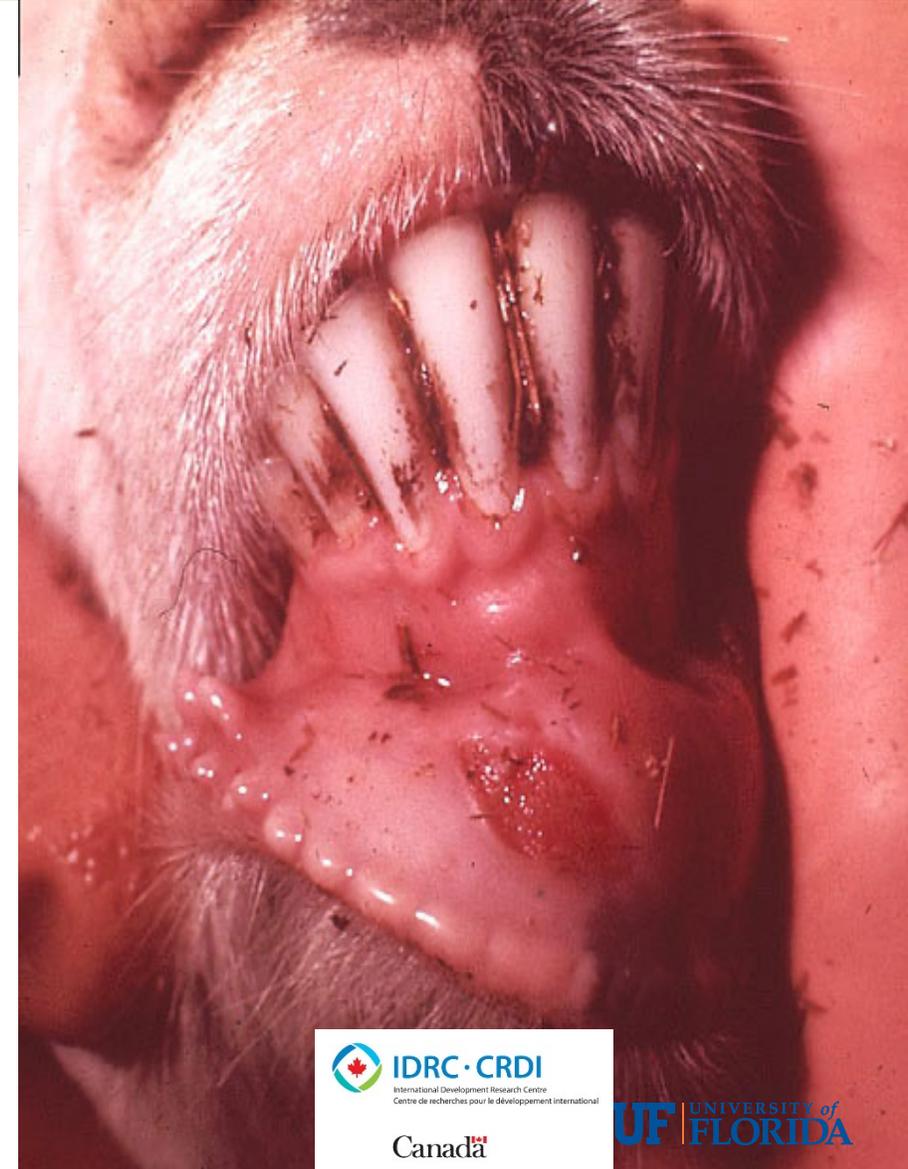
- Quarantine sick animals
- Control movement of animals
- Sanitary slaughter – dispose of carcasses properly
- Clean and disinfect area where sick animals are located
- **Vaccinate** animals

Foot and Mouth Disease

- Highly contagious disease caused by a *virus*.
- Animals become infected by contact with any type of fluids from an infected animal (saliva, respirations, milk, urine, feces, semen).

Symptoms include:

- ✓ Fever
- ✓ Lameness (limping)
- ✓ Sores around the mouth, on the feet, and on the mammary glands, they can be found on other parts of the body as well.
- ✓ Reduction in milk production
- ✓ Lambs and kids may die due to wasting or heart issues.



Control and prevention of FMD

- Humans can carry the virus on their shoes or clothes. If working with animals you suspect may have this disease, take extra precautions when going from sick to healthy animals.
- Restrict movements of affected humans or animals
- Slaughter infected and exposed animals appropriately. Infected carcasses must be incinerated or buried.
- Clean and disinfect the premises, equipment, and vehicles.
- Pest control is important since rodents can carry the disease.
- There is a [vaccine](#) for this disease.

Pneumonia

- Pneumonia is an inflammation of the lungs and is caused by *bacteria or viruses*
- It affects young animals more and can be caused by stress (like transporting animals), overcrowding, poor ventilation, and infected animals transmitting. Death may occur when the animal can't breathe fully or there is a systemic infection caused by the bacteria or viruses

Symptoms include:

- Reduced appetite
- Rapid, shallow breathing
- Nasal or eye discharge
- Coughing

Control and treatment of pneumonia

Treatment:

- Use broad spectrum antibiotics if bacterial pneumonia
- Use antihelminthic wormers if caused by lungworms
- Isolate sick animals
- Anti-inflammatory drugs can be used in valuable animals

Prevention:

- Avoid mixing new animals – quarantine first
- Reduce crowding and poor ventilation
- Treat rapidly to avoid spreading and death

Contagious caprine pleuro pneumonia (CCPP)

CCPP is a contagious disease of goats in Africa, the Middle East and Western Asia. It is spread through the inhalation of airborne droplets from coughing/sneezing animals.

Symptoms include:

- Fever
- Weakness
- Lethargy
- Coughing
- Difficulty breathing
- Frothy nasal discharge
- Stringy saliva
- Anorexia (poor appetite)
- Exercise intolerance



Contagious caprine pleuro pneumonia (CCPP)

- If caught early, CCPP may be treated with antibiotics.
- Morbidity is considered to be 100% with mortality being between 60-100%.
- Quarantine of affected individuals is the best form of preventing herd infection.
- There is a [vaccine](#) for CCPP



Sheep and goat pox (SGP)

Sheep and Goat Pox is caused by a *virus*

- It is spread through infected animals' oral, nasal and eye discharges

Symptoms include:

- Fever
- Blisters and lesions on the skin – often on mouth, ears, udder
- Discharge from eyes and nose
- Death can occur if untreated

Prevention and Treatment:

- Avoid mixing new animals – quarantine first
- SGP can be controlled by an annual **vaccine**



Contagious Ecthyma (Sore mouth)

- Caused by a *virus*
- It is a **zoonotic** disease and can be transmitted to humans
- Transmitted by other infected animals through direct contact

Symptoms include:

- Sores on the lips and mouth
- Possible sores on lower legs and teats – difficult for lambs or kids to nurse if they are infected

Prevention and Treatment:

Disinfect surfaces where infected animals have been. Isolate new animals.

There is a **vaccine** available



Rift Valley Fever (RVF)

- This is a **zoonotic** disease caused by a *virus*
- RVF is transmitted by mosquitoes. People get it through contact with blood or body fluids of infected animals or consuming raw or undercooked animal products

Symptoms include:

- Fever and weakness – especially with young animals. High mortality rates.
- Abortions in nearly 100% of infected animals

Treatment and Prevention:

- There is a **vaccine** available for RVF

Newcastle disease in poultry

- Newcastle disease is a highly contagious disease caused by a *virus*
- The disease affects chickens, turkeys, geese, ducks, pheasants, partridges, guinea fowl and other wild and captive birds
- Humans aren't normally affected, but people in direct contact with infected birds may develop a very short-term eye infection
- The disease is spread primarily through direct contact between healthy birds and the bodily discharges of infected birds through droppings and secretions from the nose, mouth and eyes

Newcastle disease

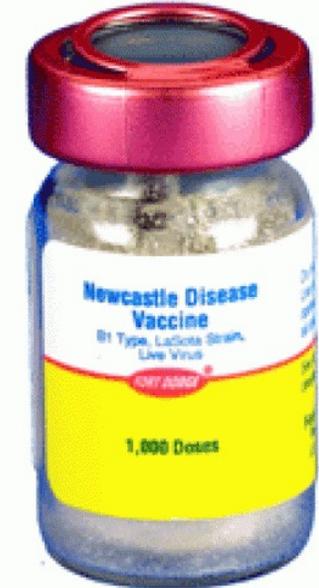
Symptoms include:

- sneezing
- nasal discharge
- coughing
- greenish, watery diarrhea
- depression
- muscular tremors
- drooping wings
- complete paralysis
- swelling of the tissues around the eyes and in the neck
- sudden death
- increased death loss in a flock



Newcastle disease

- The virus can survive for several weeks in a warm and humid environment on birds' feathers, manure, and other materials
- Virus-bearing material can also be picked up on shoes and clothing and carried from an infected flock to a healthy one
- There is a **vaccine** available that can be given orally



Post-training test

Next steps

Developing CAHW lesson plans – suggested topics

- Determining healthy vs sick animals
- Vaccination vs treatment – what's the difference?
- Why vaccinate your animal?
- Myth around animal vaccination
- Animal diseases requiring vaccination for small ruminants
- Animal diseases requiring vaccination for poultry

Other manuals in this series

- Resource Manual 01: Gendered Intersectional Transformative Approach (GITA) for animal health worker trainers working with livestock vaccine value chains in Karamoja Sub Region, Uganda
- Resource Manual 02: Training and facilitation. For animal health worker trainers working with livestock vaccine value chains in Karamoja Sub Region, Uganda
- Resource Manual 03: Communication and conflict resolution. For animal health worker trainers working with livestock vaccine value chains in Karamoja Sub Region, Uganda
- Resource Manual 04: Business and agri-/vet-preneurship. For animal health worker trainers working with livestock vaccine value chains in Karamoja Sub Region, Uganda

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