

Advancing Women's Participation in the Livestock Vaccine Value Chain in Nepal,  
Senegal and Uganda

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# **Mapping the Peste des Petits Ruminants Vaccine Value Chain in Karamoja, Uganda: An Intersectional Analysis to Understand the Barriers to Livestock Vaccination**

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## Abbreviations

CAHW	Community Animal Health Workers
DVO	District Veterinary Officer
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
GITA	Gendered Intersectional Transformative Approach
KII	Key Informant Interview
LVVC	Livestock Vaccine Value Chain
MAAIF	Ministry of Agriculture, Animal Industries, and Fisheries
NGO	Non-governmental organizations
OIE	World Organization for Animal Health
PPR	Peste des Petits Ruminants
UF	University of Florida

## Introduction

*"The average Ugandan is a fourteen-year-old girl. She is one of six children, living in a rural area; her family is poor, and finds itself vulnerable to economic, political and environmental shocks. She has a one-in-four risk of becoming pregnant during adolescence, is at high risk of being engaged in early marriage and will likely drop out of school before reaching secondary level. Her status is the result of a combination of factors: poor nutrition, low performance in school, cultural expectations related to early marriage and family size, and systems not supporting her ambitions to thrive."* (USAID, 2016).

Agriculture is central to Uganda's economy with 70% of employment coming from this sector and a 22.8% share of the GDP for 2018 (World Bank, 2018). Livestock are one of the main sources of livelihoods for many Ugandans across the country with 60% of smallholder farmers raising livestock for sale and home consumption (Anderson et al., 2016). Livestock alone contributed 4% of the GDP in 2018 (World Bank, 2018). It is important to understand all factors surrounding livestock in order to inform intervention strategies that aim to increase productivity. Gender and intersectionality are factors often overlooked that are key in developing successful agricultural interventions. Even though there has been progress towards gender equality in Uganda overall, the Karamoja subregion still lags behind in this regard (African Development Bank Group, 2016). When it comes to livestock interventions in the Karamoja subregion, interventions are often gender blind as culturally men are viewed as the decision makers in the household regarding livestock.

The Karamoja subregion is frequently described as the poorest region of Uganda with most of its population relying on livestock as a main source of livelihood. Veterinary services have been identified as one of the constraints for livestock development in Karamoja (Aklilu, 2016). The lack of infrastructure and the overall neglect the subregion has been subjected to makes access to veterinary care and controlling disease outbreaks a challenge. For instance, Peste de Petits Ruminants (PPR) is a viral disease endemic across East Africa that affects both sheep and goats. The Karamoja subregion alone has two critical foci of virus transmission on the Uganda-Kenya border (Nkamwesiga et al., 2019). PPR causes losses across the world estimated around 1.5-2 billion USD a year (OIE & FAO, 2015). Vaccinating against PPR in Karamoja is crucial to combat the spread of the disease in East Africa, however, the region faces many logistical challenges such as poor road infrastructure, limited electric grid coverage, inadequate coverage of cellular network, and minimal cold-chain capacity. Although logistical challenges are of great importance, other key issues surrounding livestock vaccination are often ignored, as vaccination strategies and campaigns rarely consider gender and intersectionality in their interventions (Acosta et al., 2019). The aim of this

study is to better understand the livestock vaccine value chain (LVVC) in Karamoja with a focus on how gender and intersectionality interact along the value chain. Who owns which livestock are important questions to ask and answer before undertaking a vaccination program. Karamoja being such a remote and culturally diverse setting, an intervention strategy to increase vaccination uptake should include an analysis of different intersectional factors as end-users and other actors in the value chain might have different needs and barriers to vaccination.

## Background and Contextual framework

Historically, government interventions have aimed to transition Karamoja from a pastoral to a crop based agricultural setting with a decided lack of pro-pastoral policies and most programs supporting crop based livelihoods rather than herding (Levine, 2010; Stites et al., 2016). Currently, livestock vaccinations are mostly, if not entirely, done by the government and NGOs (Levine, 2010), however, funding for livestock vaccines is insufficient, information is scarce, and cold chain capacity is inadequate (Acosta et al., 2019). The private sector is weak in Karamoja and does not have the capacity to maintain vaccines for sale. Overall, veterinary supplies are insufficient and inconsistent (Abebe, 2016). Analyzing and understanding the vaccine value chain will inform stakeholders and allow them to generate strategies to increase vaccination uptake but including a gender and intersectional lens to ensure the inclusion of those who are most vulnerable would improve these strategies as well.

Gender and intersectionality in Karamoja are complex as this subregion has different ethnic groups with different cultural norms and practices surrounding livestock and food (Muggaga et al., 2017). Moreover, this semi-arid region experiences chronic food insecurity with 61% of the population living in poverty, a fertility rate with an average of eight children per woman, and accounts for less than 1% of Uganda's total GDP (Rafa et al., 2017; UBOS, 2018; UN Women Watch, 2017). This region also shares borders with Kenya and South Sudan, with freedom of movement across borders especially in the dry season when pastoralists migrate in search of pastures and water. Karamoja has a violent history; despite the disarmament of communities just a decade ago, which reduced significantly systematic cattle raiding, violence in other forms such as sporadic cattle raiding, theft, sexual assault, communal violence, clan-related warfare, and gender-based violence are still common(Stites & Marshak, 2016; UN Women Watch, 2017; USAID, 2017b). Up to 53% of women have experienced physical violence, with 49% of women and 43% of men believing it is justified for a man to beat his wife (UN Women Watch, 2017).

Women's involvement in livestock has one constant across all the region: livestock are controlled by men in practice, norms, and beliefs. Some women might be involved in certain activities and decisions, but

rarely can sell livestock without permission of her husband. Women usually are in charge of crop production, sorghum and maize being the main crops grown in the region(USAID, 2017a). Sorghum beer has been called “the cattle of women” as for some women it has become the main source of livelihood (Dancause et al., 2010). Although most women are engaged in crop production rather than livestock, some women do own livestock, mainly small ruminants and poultry; although, women ownership of small ruminants rarely means decision making power. Others might not own livestock but have responsibilities for managing and taking care of the livestock of their household. Even though most women do not have decision making power over the sale and management of livestock, small ruminants remain important for the household in terms of sources of cash and protein for women and children (Nkamwesiga et al., 2019).

## Methods

In order to conduct surveys and interviews in Karamoja, it was necessary to hire local enumerators as there are many dialects and languages that are only spoken in the Karamoja subregion of Uganda and these vary depending on the ethnicity and education levels of respondents. Facilitators and note-takers were selected based on their language skills as well as experience collecting qualitative data. There were two teams of data collection for Focus Group Discussions (FGDs), Individual Interviews, and Key Informant Interviews (KII). Teams included one “Pokot Team” with facilitators and note takers from Amudat whose first language was Pokot, and one “Northern Karamojong Team” with team members being fluent in Karamojong (both Jie and Matheniko dialects) as well as Lebthur language for Abim district. Both groups were supervised by researchers from the University of Florida and a master’s student of Preventive Veterinary Medicine from Makerere University, also fluent in some of the local languages. Participants did not receive monetary compensation for their participation, only snacks and sodas where provided in FGDs. Data collection was done in two phases, the first one in November-December 2019and the second one in January-February 2020.

### Focus group discussions

A total of 40FGDs were conducted across the Karamoja Subregion distributed as shown in Table 1. FGDs with livestock keepers were separated by sex to ensure women could speak freely. FGDs with Community Animal Health Workers (CAHWs) were also sex disaggregated, but in some cases due to the lack of women CAHWs the FGDs were mixed. Single sex groups ensured that the ambience allowed for women to talk freely. All the FGDs were recorded and transcribed for the data analysis. The topic of the FGDs was their experience with livestock vaccines, the experiences of past vaccinations, any barriers towards vaccinating, and the perception of who had the greatest barriers when trying to access vaccination services.

*Table 1: Focus Group Discussions in Karamoja*

District	Number with Livestock Keepers	Number with CAHWs
Moroto	7*	4
Kotido	6	3
Abim	4	2
Amudat	12	2

\*Three were done with men, three with women, and one was mixed.

#### Individual interviews

A total of 20 individual interviews were conducted at the community level. Livestock Keepers, CAHWs, and agrovet owners across the Karamoja subregion participated in these interviews. The interviews, like the FGDs, aimed to understand the livestock vaccine value chain, the barriers faced by different actors, and probe a little more into the constraints faced by service providers. A section with basic demographic questions was also included in the questionnaire.

#### Key informant interviews

A total of 22 Key Informant Interviews (KIs) were conducted during the study at different levels of the value chain. Table 2 summarizes the number of interviews conducted at each level. Interviews targeted key actors from international organizations (national level), private sector (national level), government (national and district level), NGOs (regional level), political leaders (community level), and community leaders (community level).

*Table 2: Key Informant Interviews per level*

Level	Number of KIs
National	7
Regional	5
District	6
Community	4

#### Analysis

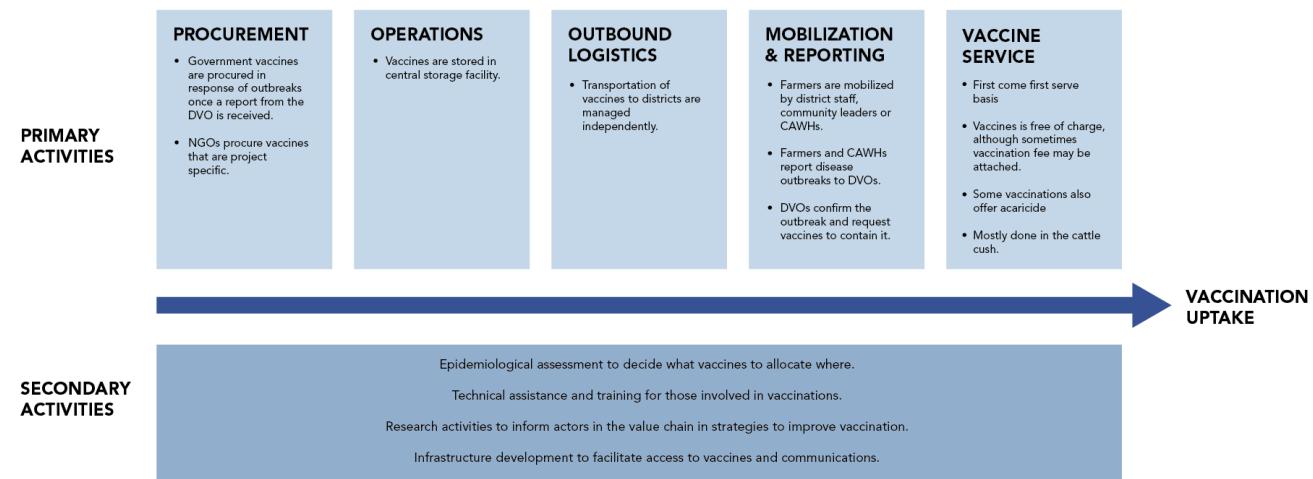
Focus Group Discussions and Individual Interviews were recorded, transcribed and translated. Data from the transcripts was de-identified in accordance to the guidelines from the Internal Review Board at the

University of Florida. These transcripts were studied using Exploratory Thematic Analysis, which is a content-driven approach to data analysis (Guest et al., 2012). Key Informant Interviews were not recorded but relied on detailed note taking by the research team. Notes from the KIIs were also included in the analysis.

### **Results and feedback from stakeholders**

Preliminary results were presented in a stakeholder workshop on January 16<sup>th</sup>, 2020 in Kampala, after phase one of data collection was completed and before launching phase two. Key stakeholders from every level (national, regional, district, and community) attended the workshop. This participatory approach allowed the research team to identify gaps in the data collection and adjust for the remainder part of the field activities. The data collection instruments were not changed, but further probing was carried out on emerging themes in the data already collected.

### **Results**



*Figure 1 Livestock Vaccine Value Chain of Karamoja*

Figure 1 shows the activities along the value chain dividing primary and support activities of the LVVC in the Karamoja subregion. There is a lack of activities in both the primary and support categories addressing gender and intersectionality. Even though vaccinations are mostly offered to everyone who shows up at vaccination points, women, elderly, and people who live further away from designed vaccination points are disadvantaged by this presumed equal access approach. The primary activities - Mobilization, Reporting, and Vaccination Service - lack an active initiative or intention to increase women's participation in the LVVC. While these activities are currently directed towards communities in general, the communities usually have gender and intersectional disparities which are not addressed in the design and

implementation of the activities of the LVVC. Additionally, procurement of vaccines is done after an outbreak is reported which delays the capacity of district veterinary services to react in a timely manner. Vaccines could take months to reach farmers after the initial outbreak was detected, which in many cases was already too late.

## Actors

Figure 2 shows the PPR vaccine delivery and distribution chain in Karamoja and all the actors involved in primary activities. Actors involved directly in vaccine flow, or primary activities, can be separated in four major groups: International Organizations, Government, Non-Governmental Organizations (NGOs), and Animal Health Care Services. Actors that solely carry out supporting activities are not shown in the Figure 2.

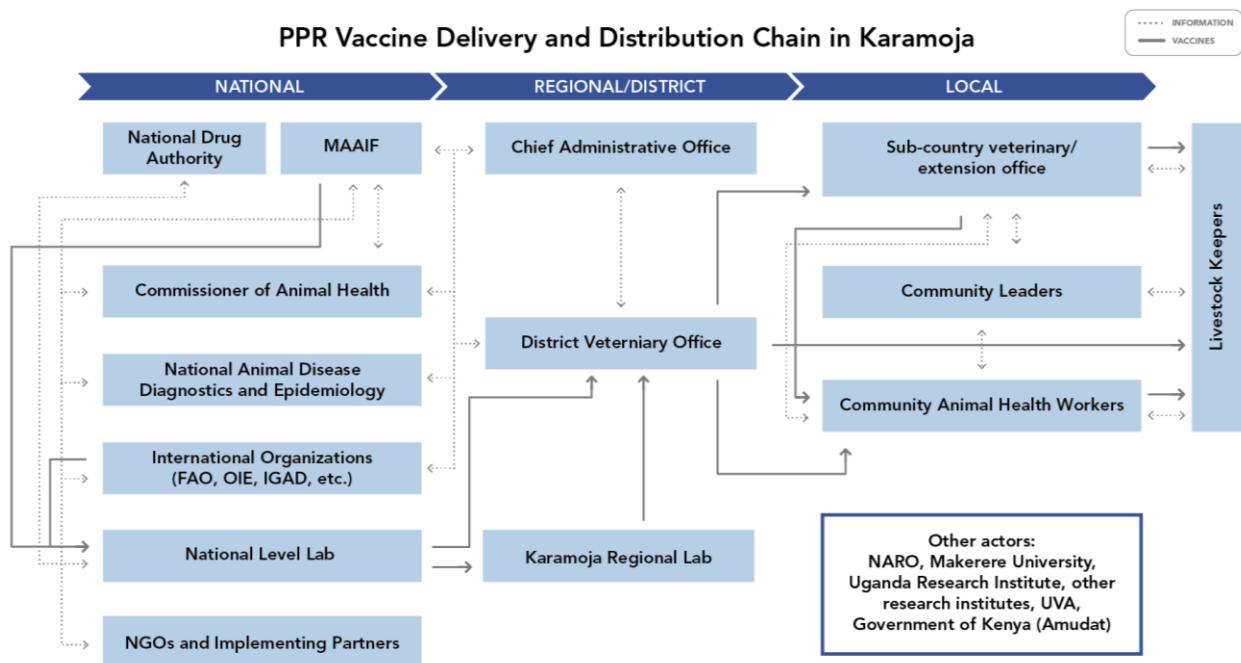


Figure 2: PPR Vaccine Delivery & Distribution Chain in Karamoja

## International organizations

International organizations such as the Food and Agriculture Organization of the United Nations (FAO), or the World Organization for Animal Health (OIE) provide project specific support towards vaccination efforts. FAO had a significantly large project in Karamoja that started in 2015, where they trained staff at

every level and provided over 2 million vaccines for large and small ruminants, including PPR vaccines (FAO, 2018). FAO works closely with MAAIF to continue to provide technical support and livestock vaccines when possible.

### *Government*

Animal health falls under the responsibility of the Ministry of Agriculture, Animal Industries, and Fisheries (MAAIF). They are the main source of PPR vaccines for Karamoja and all other regions of Uganda. The national government procures and stores vaccines in the capital and upon request of the districts local governments they allocate vaccines to each district. District Veterinary Officers (DVOs) work under the local government of each district. They request vaccines upon detection of outbreaks to MAAIF, which then allocates vaccines depending on availability and the epidemiological risk the district faces.

### *Non-governmental organizations*

International Non-Governmental Organizations (NGOs) play an important role in Karamoja when it comes to veterinary services. There are many NGOs operating in the subregion due to the dire needs of the communities. Given the high number of projects being undertaken by different organizations, most NGOs work alongside with the local governments of each district in order to streamline their operations. NGOs also provide trainings for CAHWs, equipment, and infrastructure to support veterinary activities in the region. Certain projects also provide vaccines for livestock, but as they are project specific their coverage might not be widespread, thus leaving disease reservoirs of unvaccinated animals. This model is proven to be unsustainable in the long term.

### *Animal health care services*

CAHWs support veterinary services in Karamoja by treating of sick animals, disease surveillance, control of external parasites, animal production, and vaccination(Bugeza et al., 2017). The Karamoja Subregion is the only place in Uganda where CAHWs can operate legally due to the lack of licensed animal healthcare providers. CAHWs are a very important part of last mile delivery of vaccines, and should be part of the strategy in the eradication efforts of PPR (Acosta et al., 2019). Trainings of CAHWs vary depending on the implementing organization, with some having a higher quality of training than others. Some CAHWs have been trained over a decade ago without any refresher training since while others have remained active and continued to be involved. CAHWs have associations in most of the districts, but the lack of institutional support makes them almost invisible for purposes other than sporadic mobilization of members.

## Barriers for vaccination

### International/National level

There are two main sources of PPR vaccines in Karamoja: those coming from NGOs/international organizations and those coming from the government. Although the sources might be different, organizations and the government at district level work hand in hand whenever there is availability of vaccines from a national source. The government system for distributing vaccines is set up around containing outbreaks, while the NGOs and international organizations vaccine distribution systems are project specific and not necessarily triggered by an outbreak. Once an outbreak report is received at MAAIF, an assessment of the epidemiological risk is done and depending on the results, a number of vaccines are allocated to the district that reported the outbreak. This is contingent on availability of vaccines at central storage or funds to purchase vaccines from an international producer, as Uganda has no local PPR vaccine producers. Results show that quantity of vaccines are generally insufficient, either coming from the government or from other sources. Large ruminants are considered more important than small ruminants at the national level both for economic and cultural reasons, which is why the government tends to prioritize vaccines like Foot and Mouth Disease (FMD) over PPR. As data collection for this study was ongoing, there was an outbreak of FMD in some districts of Karamoja, underscoring that the prioritization of FMD vaccines by the government is not unwarranted. By prioritizing FMD vaccines and large ruminants over PPR and small ruminants, less women are involved as end-users of vaccines as well as farmers who have no large ruminants. National level stakeholders must make decisions of the overall livestock health with the scarce resources at their disposal, which inherently will end up limiting involvement of certain groups. The endemic nature of livestock diseases in Karamoja, the poor infrastructure, and the large herd size renders the government's capacity insufficient to respond to all disease outbreaks, let alone roll out vaccinations in form of prevention rather than outbreak response. The need to import vaccines generates an additional layer of bureaucratic barriers to get vaccines in a prompt manner to the livestock keepers. Additionally, there is a lack of representation of people from Karamoja in the upper nodes of the LVVC. Even though Karamoja alone has around 19.8% of the cattle, 16.3% of the goats, and 49.4% of the sheep of the country(Robinson & Zappacosta, 2014), they are extremely misrepresented at the national level.

A new veterinary practitioner bill is currently under development in Uganda. In this bill Karamoja will remain the only subregion where CAHWs can continue operating legally in Uganda, but with trainings now following a standardized curriculum. Even though CAHWs are needed in Karamoja, the fact that they remain the only subregion in Uganda in need of CAHWs reflects the historical neglect Karamoja has been

subjected to. The sentiment that Karamoja is behind the rest of the country and that Uganda must advance without waiting for Karamoja to catch up has been a justification for its neglect for decades (Ayoo et al., 2013). Private veterinary suppliers do not consider Karamoja a potential market opportunity as they don't see opportunities for their businesses to thrive in this hostile region; this is partially due to the historical neglect Karamoja has been subjected to by the government, but mostly for the inadequate infrastructure and low purchasing power of the Karamojong's. Even though national level government is supporting and leading the effort to combat livestock diseases in Karamoja, policies and projects tend to be more oriented towards crop-based agriculture rather than pastoralism (Levine, 2010; Stites et al., 2016). Despite the effort to increase food security through crop-based interventions, crop production is limited mostly to sorghum and maize with subpar yields and vulnerability to climatic shocks (USAID, 2017a). Even when lacking pro-pastoralist policies, men from Karamoja will continue to rear livestock, while women are left with crop-based agriculture in a region that is not suited to most agricultural crops due to low rainfall. This adds another barrier for women to be engaged in the livestock value chain, as there are more crop-based opportunities which are more culturally accepted, even though productivity is low and these options more susceptible to extreme climate events.

#### **Regional/District level**

Considering that the strategy for livestock vaccinations in Uganda is to respond to outbreaks, each district needs to report outbreaks to the central government as soon as possible in order to get vaccines allocated. Once vaccines are allocated to a certain district, the DVO secures the procurement of vaccines directly. In most cases, DVOs travel to the national storage facility with cold boxes and then return to secure vaccines at district level storage. In many cases the vaccines requested do not match the number of those allocated, as the central government usually allocates less than what the district asked for. Allocation of vaccines is determined by availability and epidemiological assessment of the needs within each district. Budgetary constraints at national level limits the quantities they can procure, which results in lower number of vaccines made available at the district level. Even though each district in Karamoja functions independently, district level officials in Karamoja coordinate closely with each other and monitor outbreaks constantly. Farmers and their livestock usually migrate across the region during the dry season and cross district borders in the process. When a district is vaccinating, it may end up vaccinating animals from other districts.

*"We vaccinate animals regardless of where they come from"*- Quote from a DVO

Government and NGO vaccinations are not biased in terms of gender, ethnicity, or other factors when it's time to deliver the vaccines; however, when mobilizing communities for vaccines there is seldom an effort to look for women and other marginalized groups. Regional and district level mobilization is done through sub-county staff, local leaders, and focal points within the communities. As men control most of the livestock and sources of information about vaccination (e.g., through various communication channels and mobile phones), they are the ones who mostly end up receiving information on vaccines.

Another constraint district level veterinary services face is understaffing, with not enough resources to hire the personnel needed to cover the whole district. Additionally, the lack of qualified personnel that is knowledgeable of the language and culture of communities limits the District Veterinary Office's options. Karamoja in general has a low level of education, as Figure 3 shows, most children don't go to primary school. Over 70% of the population aged 10+ has never been to school, most of them women (UN Women Watch, 2017). Few to no women apply for positions related to animal husbandry or veterinary services, both because there is lack of qualified applicants, and the still deeply engrained cultural belief that veterinary medicine is better suited for men. Bringing professionals from other regions is also challenging as Karamoja has been stigmatized as a harsh and lawless place to work due to the violent conflicts that troubled the region in the past, and occasionally still occur. The low levels of education also thwart the DVOs efforts, as lack of knowledge by livestock keepers on what vaccines are and how they work makes their mobilization efforts harder.

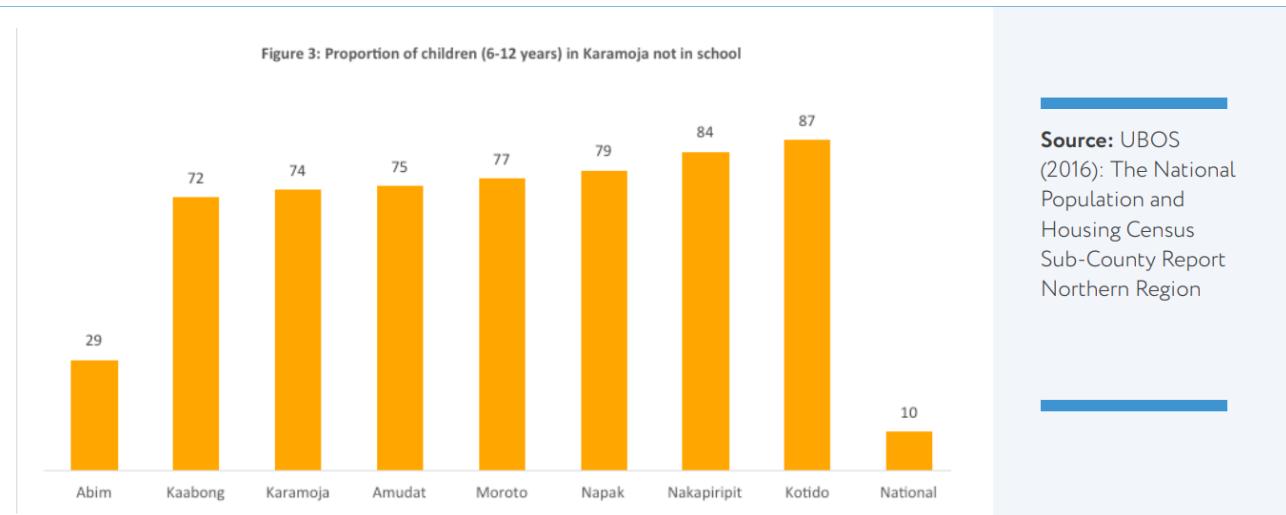


Figure3: Proportion of children not in school by district (UBOS, 2018; UN Women Watch, 2017).

At district and regional level, DVOs and other stakeholders identified infrastructure as one of the main constraints, and one of the most daunting challenges for development in general for the Karamoja subregion. Moroto town serves as a hub for many NGOs in Karamoja as it is one of the few places in the region where roads are paved and has an electric grid, though it is unreliable as power outages are common. The Karamoja Veterinary Lab in Moroto is the largest government refrigerated storage node for livestock vaccines in the whole region; however, it is seldom used to store vaccines for other districts. Cold-chain capacity, roads, vehicles, fuel, and vaccination equipment are insufficient or non-existent in certain cases. These issues limit the physical reach and ability of the district to serve communities which are more isolated.

At regional level, DVOs and local government have some degree of coordination when it comes to veterinary services, but the way allocation of vaccines works at national level skews districts to operate independently from each other. A regional approach where vaccines are allocated to the Karamoja Subregion, rather to each independent district, might be more suited due to the higher level of transhumance population compared to the rest of the country. This would require more coordination from DVOs but can potentially alleviate bureaucratic constraints when an outbreak that starts in one district spreads to another due to travelling herdsmen. Another constraint faced at district level is the lack of infrastructure and funds to carry out vaccinations. Once vaccines are allocated, resources such as fuel, automatic syringes, coveralls, gumboots are not always provided by the national government. It falls with the local government at district level to provide this resources that will enable carrying out vaccinations properly. Due to the lack of resources at the disposal of local governments, DVOs often turn to NGOs for support in vaccination activities, which proves effective, but it's highly unsustainable and not always available.

### Community level

#### *Community leaders:*

A community leader is a person who is either elected by communities as part of the local government or someone who is well known in the community and might be a focal point for NGOs or government programs (e.g., elders, religious leaders, associations and cooperatives leaders, etc.). The role of community leaders is to both help with the reporting of disease outbreaks to the DVO, as well as mobilize communities for vaccinations done by government or NGOs. Because most livestock are in control of men, and men are usually in leadership positions, information is mostly passed to them. Even though most

women might not have decision making over the sale of livestock, some play a key part on managing small ruminants. When vaccines come, her husband might be migrating, and information of vaccinations would not reach her household. Another group that is constantly left out are widows, who can own and control livestock in most cases, but information about vaccines does not always reach them.

*"Culturally, women are not allowed to own animals including goats and sheep. When women buy animals, that animal belongs to her husband."*

*"The animal of women is the granary; they have to look after sorghum, millet, groundnuts in the granary"*

-Quotes from a KII with a community leader.

### *Community animal health workers*

Community Animal Health Workers are meant to be the first line of response to livestock diseases in the Karamoja subregion. One of their roles in the LVVC is surveillance of disease outbreaks. If they suspect of an outbreak they report to the district or subcounty officials, who then must verify the veracity of the information. As stated above, only when there is an outbreak reported would vaccines come from the government, so the task of CAHWs of identifying and reporting potential outbreaks is crucial for the DVO to start the process of acquiring vaccines. Once vaccines arrive at district level the DVO or the subcounty veterinary officer recruits several CAHWs to assist with the vaccination. Sometimes mobilization of livestock keepers for vaccination is also done through CAHWs.

Community Animal Health Workers face many constraints in providing veterinary services. One of the most recurring and common themes is that there are not enough CAHWs to cover Karamoja, exacerbated by the fact there is little to no support to active CAHWs. In many cases, there are no pre-requisites to become a CAHW, some of them are illiterate and the training they receive is insufficient for them to carry out their tasks properly. Some CAHWs were trained over a decade ago and have not received refresher trainings since. After an organization trains CAHWs little is done to monitor and follow up how CAHWs are carrying out their activities. Even though CAHWs are instrumental in reporting potential outbreaks to the DVO, when it comes to treatment or vaccines, they are constrained to what's available in the veterinary shops or the markets, which in many cases is nothing.

*"The first problem we face is that in most cases these community animal health workers have no deep understanding when it comes to vaccination of the livestock"*

*"Another problem we face is that these vaccines are very expensive and even then, they are very hard to find." -Quotes from livestock keepers when asked about challenges of CAHWs.*

There is a lack of incentives for CAHWs, as they seldomly get paid for their work. Regarding their involvement in vaccination programs, CAHWs reported that they are not provided payment, transportation, food, or water. Those who receive payment say it comes several days after the work is done and the amount is inferior to what they expect due to the intensity and risk in their line of work. It is highly demotivating for CAHWs to perform activities under these conditions; however, they take pride on being able to help their community by keeping livestock healthy. There is a need for additional support and training of CAHWs in order to increase vaccination uptake and overall livestock health. National level stakeholders are aware of the shortcomings CAHWs face in terms of training, which is why there is a joint effort to unify a CAHW training curriculum in the new Veterinary Practitioner Bill.

Very few CAHW in Karamoja are women. The perception from communities that women are weak and not able to handle livestock makes it harder for women to be accepted as CAHWs. Some livestock keepers have doubts about the knowledge of CAHWs in general and hesitate even further if the CAHW is a woman. Additionally, women can only engage in activities after they finish their household chores, so attending trainings and work as a CAHW becomes challenging as household chores are extremely time demanding. Furthermore, being a CAHW requires travel on foot, which is perceived as perilous for women to do in a society where sexual violence is rampant. Moreover, cultural beliefs also bar women from going near livestock when they are breastfeeding, or during their menstrual cycle. For instance, some kraals, which are mobile enclosed cattle camps (USAID, 2017a), do not allow women to go in, which are additional deterrents for women to become CAHWs.

*"No training because we women are most time not called for training programs in livestock" -Quote from a woman when asked about access to trainings*

*"You as a woman like us cannot enter the cattle crush to collect dung.*

*It's a bad omen. We don't know if we are bad omens..."*

*"Also, when you are a breastfeeding mother you are not allowed to enter the kraal that the infant animals will die." -Quotes from women when asked about cultural barriers*

### *Livestock Keepers*

The main barrier overall is the lack of livestock vaccines available in the whole Subregion. Some livestock keepers interviewed had not participated in vaccination activities for any of their livestock in several years even though they are willing to vaccinate. The historical lack of access to veterinary services has made pastoralist in the region mostly reliant on ethnoveterinary knowledge to treat livestock diseases (Gradé et al., 2009); however this is insufficient against diseases like PPR which can diminish the small ruminant population if not contained properly. The lack of engagement with veterinary services, and with vaccinations specifically, has resulted in misinformation and myths surrounding vaccines across Karamoja. In all the districts studied, participants reported that members of their communities were hesitant to vaccinate as they thought vaccines had negative effects, such as abortions, animal tails falling off, and death of animals after receiving vaccines. Lack of knowledge about vaccines in general is very prevalent, which makes vaccination efforts harder as expectations are not handled well. Some farmers claimed they were mobilized to get vaccines, but mobilizers failed to identify what vaccines were going to be provided, and in some more extreme cases, mobilizers would claim that it was for vaccines and treatment of all diseases. These specific cases, upon further probing where usually associated with vaccination programs that also had acaricides for cattle .Education and training of farmers also plays an important role in their access to vaccines, as some farmers distrust vaccines as they associate vaccines with negative consequences and animal deaths.

*“But when doctors come, they don’t tell us what they are vaccinating because we are not told what they are doing.”*

*“We take animals for vaccinations but not knowing the disease vaccinated”*

*“In the past two years, the community animal health workers came to our village and told us to take our animals for vaccination. The goats that were vaccinated that year started becoming sick and they died and we wondered whether it was the vaccines making the animals to die.”*

*“At a certain point when the goats were vaccinated, they all died and now this year most people refused their animals to be vaccinated. Those veterinary workers who vaccinated at the time came from Abim. I swear I still wonder were those vaccines expired or what? Now people developed a fear for vaccination.”*

*“This thing follows what someone said earlier on, animals sometimes die right after vaccines have been administered. You find that you estimated that the animal would live abit longer but right after vaccination, it just dies, in fact drops dead! Huh...now the vaccine just killed the animal and this discourages one at heart and now I just say ahhh, I no longer want any vaccines from the government!! So, when I hear that there is vaccination going on, I gather all my goats and go and graze them behind the mountains so that they don’t kill my animals again.”*

Alcoholism is also a problem many livestock keepers identified as a barrier to access vaccines and veterinary services in general as farmers who drank heavily would fail to drive their livestock for vaccination. Alcohol consumption per capita in Uganda was the highest in the World's Health Organization 2004 Global Status Report on Alcohol (WHO, 2004). During data collection it was recommended to schedule meetings with communities as early as possible in order to avoid intoxicated participants in the discussions. In a few FGDs, after the discussion had ended, participants went as far to request the research team for alcoholic drinks in lieu of the sodas provided. Conflict and violence are another prevalent issue among livestock keepers in Karamoja, and although it was not commonly referred as a deterrent for vaccination, several FGDs with the Jie ethnic group made it clear that during conflict Mathenikos could not access vaccines in their area.

### [Gender and intersectionality](#)

While the section above noted instances where gender and intersectionality – and lack of attention to such – impact any vaccination program, it is at the community level where these issues became more prevalent and complex. Using a Gendered Intersectional Transformative Approach (GITA) lens helped identify barriers for women and other misrepresented groups to participate in the LVVC. Without a GITA lens, most of the social barriers identified would have remained invisible in the value chain, therefore, using a GITA lens becomes a pathway to understand and reduce social barriers to vaccination. For instance, there are significantly less women than men CAHWs throughout the whole Karamoja, with some communities reporting that they had not women CAHWs at all. Some women said access to CAHWs was not a problem even if the CAHW was a man; however, a considerable number of women expressed their desire to see more women CAHWs within their village. Stakeholders at district level acknowledge that there is a lack of female CAHWs, however, they are constrained by cultural beliefs of communities who can sometimes shun women who are CAHWs. Some women are also hesitant to get involved as CAHWs due to time poverty caused by the overwhelming amount of household chores. Women CAHWs are a key in communicating information to female livestock keepers, which is why some women participants in FGDs expressed their need for more female CAHWs within their communities.

*"We want the number of the female doctors also to increase maybe per ward three female doctors"-  
Quote from women in FGD, in this context, she was referring to CAHWs as doctor.*

At community level, it's not only women who are marginalized by the way vaccines and veterinary services are operationalized. Men owning livestock and being sole decision makers on all livestock related activities

does not mean some men don't face greater barriers than others in accessing vaccinations. Elderly, disabled, and men who live far from vaccination points were identified as those having more barriers accessing vaccines. Some men also said that vaccinations sometimes have a fee attached to it, therefore people who had less economic resources would face an additional barrier. In some cases, communities reported livestock being vaccinated in the manyattas or kraals rather than a set point where they drove the livestock to. This way vaccines would come to the farmers rather than the farmers to the vaccine. This proved effective towards the inclusion of elders, women, and those not able to drive animals to vaccination points, but it was seldom done and though it reduced barriers for some, it still marginalizes those who live in places inaccessible to or otherwise unserved by veterinary service providers.

All livestock keepers in Karamoja want their livestock to be healthy, but practices and beliefs can vary greatly depending on the ethnic group. Overall women are relegated to poultry or crops when it comes to agriculture, however, some ethnicities are more restrictive than others. The Ethur ethnic group in Abim was the most restrictive based on the data collected, not even allowing widows to make decisions regarding livestock. The Matheniko, Tepeth, and Pokot had similarities regarding the role of women in vaccinations, either relegating them to carry water, or to drive animals for vaccination only if the man was not able to do so.

*Facilitator: "Aren't you women told the names of those vaccines?"*

*"No, they don't tell us the names of those vaccines. That is because we are not involved, and we are not allowed to go there and so we don't go to the cattle crash where the vaccinations are taking place."*

*"It is the men who are supposed to know the names of those vaccines."*

*-Quotes from FGD in Abim with female livestock keepers*

*"The problem is not only are women uninterested and they are very unconcerned but also the men do not want women around and they don't think that women also have a role to play in animal vaccination."*

*"There are widowed women though, who can sell the animals on their own. It is not right under culture. She should consult the male heads in her family. The widows should consult with her male in-laws, older male children.".*

*-Quotes from FGD in Abim with male livestock keepers*

For the Jie ethnic group in Kotido, women had more engagement in livestock and in vaccinations than women from other ethnic groups, though they were still lagging far before men in this engagement. The Jie ethnic group in general had fewer livestock keepers claiming that vaccines had negative effects, and overall showed great willingness to vaccinate. These results however might be in part because during data

collection there was a district wide quarantine for FMD and vaccines from the government were expected to come soon. The Jie were also reluctant to accept other ethnic groups into vaccination points during times of conflict, such as it was during data collection.

*“The Matheniko and Turkana will not access the vaccines but the Dodoth and Bokora will taste the vaccines. (...) The Turkana and Matheniko are busy raiding our livestock and selling since their livestock market is open, they sell what they have stolen from us, yet our livestock market is closed because of quarantine.”*

*“If any of the tribes you have mentioned get us in the bush, you have no idea how they will chase us to kill. (...) they even slaughter you those people.”*

*-Quotes from 2 separate FGDs with livestock keepers in Kotido*

Livestock keepers from Moroto, both Matheniko and Tepeth, seemed to have similar barriers in accessing vaccines, except for greater distance to vaccination point on the side of the Tepeth ethnic group as they are settled further away from towns and vaccination points. This geographical isolation makes it harder for veterinary services to mobilize and reach some Tepeth communities as there is no cellular network in most of their settlements and infrastructure is poor. Even when mobilization is successful, Tepeth livestock keepers still have to move greater distances which can be discouraging as many reported that when they finally arrive to the vaccination point, vaccines were insufficient and they were not able to get their livestock vaccinated. The district veterinary office has made great efforts to ensure inclusion of the Tepeth ethnic group in vaccinations as they were often overlooked in the past, however, logistical challenges remain a barrier for which they do not have the capacity to react.

Some livestock keepers from the Pokot ethnic group faced similar barriers in accessing vaccinations, as being far from town centers often resulted in exclusion or demotivation to obtain vaccines. They were the only ethnic group that mentioned getting vaccines from Kenya, as their border is shared with West Pokot county in Kenya and they move freely between the borders. Regarding ownership and the ability to make decisions for Pokot women, it seems there is a lot of variation between villages on whether a woman can be or not involved in small ruminants. Decision making power for the sale of any livestock relies with men, but in some villages, women were able to help with driving small ruminants to vaccinations and soliciting treatment from CAHWs. An additional barrier women face when accessing veterinary services is that sale of acaricides and other pesticides to women is banned in certain places as women were using it to commit suicide. Anecdotal data stated this is mainly due to intra-household violence and abuse. During the FGDs, men described it is as a way out for annoyance or misunderstandings at home

*Facilitator: "is there any cultural norms that prohibit women or any other person from buying veterinary drugs?"*

*Respondent 1: "yes, it is there. Women are not allowed to buy Acaricides, doom and diaconal because they can easily take these chemicals and they poison themselves out of annoyance or any misunderstanding at home."*

Most women in Karamoja have a very limited involvement in livestock management and production. Only a few are involved in livestock decisions, and for most, their involvement in vaccinations is limited to carrying water to the vaccination point. This marginalization on livestock activities has made women less involved overall which leads to even less knowledge about vaccines and veterinary services. Some women, like widows, or those who acquire livestock through NGO projects are suddenly a part of the livestock value chain, but at a great disadvantage to their male counterparts as they have had less exposure to veterinary services. Women rarely have the decision-making power to sell livestock without permission from their husbands.

*"You will be beaten"- Quote from a woman when asked if she could sell a goat without asking her husband*

Women livestock keepers share some of the same barriers female CAHWs face in accessing vaccines, time poverty and cultural beliefs being the major ones. Even if they managed to get the information about upcoming vaccinations, they were culturally accepted to do so, and have finished household chores, some women are still unable go as they can't leave their young children alone. In these cases, they either miss the opportunity to take animals to vaccination or entrust a man to do it.

*"Even if you are a woman who owns livestock, you take it to male owned cattle kraal, that's it. The men will handle the rest. Now at this point you have no knowledge of when they wash or spray the animals, when they vaccinate. You just hear rumors that the government has brought vaccines"- Quote from female livestock keepers about access to livestock vaccines.*

All these barriers contribute to women being almost invisible to veterinary services or vaccination programs. Those providing vaccines are already stretched and have little incentive to mobilize women for vaccination as they have less animals and face greater barriers to drive them to the vaccination point. Even though vaccine providers do not discriminate against women when they bring animals to

vaccination, little effort is done to ensure information about livestock vaccines reaches women. It is perceived that involving women in the LVVC in Karamoja is a high-cost/low-benefit scenario as women overall are not decision makers in livestock related issues. Nevertheless, there are women who are highly involved in small ruminant rearing, and even if they do not have decision making power when it comes to selling the animals, they might be responsible for looking after them.

The neglect women face in the LVVC can result in pockets of unvaccinated livestock where diseases, such as PPR, can become entrenched and never fully be eradicated. While the percentage of small ruminants that is owned by women is small, they would remain a reservoir for PPR and other diseases if not vaccinated, hindering the eradication efforts. It's important that those in charge of mobilization of livestock keepers start reaching out to women when it comes to any veterinary service information. This would increase the chances of women who own livestock to become involved in vaccination. The systematic exclusion of women has led to a lack of knowledge in veterinary practices and limited their opportunities to become more involved in the LVVC as end-users or service providers.

Training of actors involved in the LVVC rarely includes gender, business, or conflict management topics. Even though there is a government mandate to streamline gender into all activities, it is a particularly challenging task to implement in Karamoja due to how disempowered and disenfranchised women overall are when it comes to livestock. Even constraints that one would assume are gender neutral have an amplified effect on women. Insufficient vaccines affect all, however, women can only go to vaccination after their household chores are done and by the time a woman is able to drive her livestock to the vaccination point, vaccines might already be finished. The lack of infrastructure might also seem to be an issue affecting men and women equally, nevertheless, unpaved roads and lack of a cold chain means livestock keepers must walk long distances to obtain vaccines, which is perilous for a woman to do without a man as violence against women is widespread in the region. Additionally, there are weak information systems in place to communicate to farmers in general with network connectivity being a challenge even in some town centers. Even though this would theoretically affect men and women in the same way, women are more affected as they have less access to cellphones and travel much less than men.

*"When a woman has no husband, it is challenging for her to take animals for vaccination"-Quote from  
livestock keeper*

Overall better communication and sensitization of what vaccines are and how they work is recommended, as those with lower levels of education might lack knowledge on the importance of vaccination. Women

in general face other issues of more immediate need than being left out of the LVVC. Most projects or interventions aim to address these issues, such as low access to education, gender-based violence, HIV, food insecurity, etc., however, it is important to work in parallel in sustainable long-term solutions for issues regarding livestock management, such as inclusion of women in the LVVC.

### [Limitations of the study](#)

In some cases, it was not possible to have a women only FGD who are CAHWs due to how few there are. Mixed FGDs were done in place when not enough women could be mobilized, trying to create a safe and comfortable ambience for women to talk freely. Another limitation is that due to the importance of large ruminants, farmers would sometimes skew the conversation towards cattle as for them, these are what is worth talking about. The data collection team had to emphasize constantly in some FGDs that this was solely about small ruminants, but farmers remained adamant in certain occasions to talk about cattle. Moreover, some farmers had never received vaccinations for small ruminants, and their engagement with veterinary services was very limited, or only limited to large ruminants. Furthermore, local languages had different names for diseases, and in some cases diseases such as PPR were named based on the animal's symptoms, which are common symptoms for other diseases. Unraveling barriers of gender and intersectionality for PPR vaccines often led to thought-provoking discussions with unexpected findings which would have been very hard to identify without a GITA lens. Ensuring the questions were appropriately formulated for each local context proved to be effective in disentangling the complex social issues surrounding vaccines in the intricate setting of Karamoja.

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