



Food and Agriculture
Organization of the
United Nations



Gender animal health and information communication technology

Sustainable business in animal health service
provision through training for veterinary
paraprofessionals

Lessons learned n.3

European Commission for the Control of Foot-and-Mouth Disease

EuFMD's programme, tools and initiatives

FAST

Foot-and-mouth And
Similar Transboundary
animal diseases

Dt

eufmd digital
transformation

vlearning

eufmd virtual learning
centre

microLearning

eufmd virtual learning

vlc EA

virtual learning centre
for East Africa

Tom

eufmd training
management system

SimExOn

simulation exercises
online

KnowBank

eufmd knowledge bank

GetPrepared

emergency preparedness toolbox

RiskComms

risk communications

SQRA

a method for spatial qualitative
risk analysis applied to fmd.

Pragmatist

prioritization of antigen management
with international surveillance tool

EuFMDiS

european foot-and-mouth disease
spread model

RMT-FAST

risk monitoring tool for foot-and-mouth
and similar transboundary animal diseases

Vademos

fmd vaccine demand
estimation model

GVS

global vaccine
security

PQv

vaccine
prequalification

PCP

progressive control
pathway

PSO

pcp practitioner
officers

VPP

veterinary
paraprofessionals

PPP

public private
partnership

Sustainable development goals, UN-SDGs. EuFMD's programme has a focus on



Together against wasting resources, think twice before printing.

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Introduction

Livestock diseases have gender implications. Women, who make up 60 percent of the world's poor livestock keepers, (World Bank et al, 2009 cited in Galie' et al, 2017) can be particularly affected and are therefore an important target group for last-mile animal health services. In low-to-middle-income countries, veterinary paraprofessionals¹ (VPPs) play an important role for smallholder farmers who often lack adequate access to veterinarians. Women VPPs, who are an important channel for reaching women smallholder farmers, often make up only a minority of the VPP workforce and may face gender barriers to accessing training and upscaling their businesses.

To promote the provision of comprehensive and inclusive animal health services the "Sustainable Business in Animal Health Service Provision through Training of veterinary paraprofessionals" project, aims to develop and evaluate a gender-sensitive training model to improve VPP services in three pilot countries: Nigeria, South Africa and Uganda. This will be done through Continuing Professional Development (CPD) delivered through a blended learning approach that includes both online and practical face-to-face training courses.

Information and communication technology (ICT) is not gender neutral. The digital divide, or existing inequalities in ICT ownership, access, and control, is closely linked to structural inequalities and gender norms and still prevents many women from reaping the benefits of ICT on a global scale (Sida, 2015, p. 1). Women's limited access to ICTs is a barrier to animal health and one of the reasons why women tend to be less productive and efficient than men in livestock sector, negatively impacting household food and nutrition security (FAO, 2012a cited in Acosta et al, 2019, p. 49).

To inform the gender-sensitive project design for virtual training of VPPs, dissemination of information to smallholder farmers, and digital engagement to connect VPPs with smallholder farmers, a desk study was conducted on gender, animal health, and ICT in Africa. This report summarizes key findings and lessons learned from this research.

The project will use ICT for:

- The provision of both **in person** and **virtual** training of technical and business skills of existing veterinary paraprofessionals.
- The provision of **digital communication strategies** to disseminate information to smallholder farmers on animal health topics.
- Improving **digital communication** between VPPs and smallholder farmers.

¹ A person who is authorized by the Veterinary Statutory Body to carry out designated tasks. Their work mainly focuses on preventative healthcare and minor treatments (OIE, 2020). In the target countries of the project, VPPs have a minimum of 2 year post high-school academic diploma.

What are the reasons behind the gender digital divide?

ICTs offer many opportunities to strengthen animal health services. This can be achieved through several actions, such as virtual training of health professionals, disseminating information to livestock producers, and fostering linkages as well as improving communication among key stakeholders, including smallholder farmers, VPPs, veterinarians, laboratory and pharmaceutical supply chain actors. However, access to ICTs is not equally distributed between women and men, nor is their transformative potential. The digital divide particularly disadvantages women in rural areas in low-income countries: Only 15 percent of women in low-income countries used the Internet in 2019, compared with 86 percent in high-income countries (ITU, 2021). Then there's the location barrier: in high-income countries, Internet access is 81 percent in rural areas and 87 percent in urban areas, in stark contrast to low-income countries, where the figures are 10 percent and 25 percent, respectively (Ibid). In addition, adult female literacy rates tend to be significantly lower in rural areas than in urban areas (The World's Women, 2010, p. 46). The problem of gender digital inequality is therefore particularly severe for women living in low-income countries and residing in remote areas. They face what has been called the "triple divide": digital, gender, and rural (Treinen et al, 2018, p. 1).

The below figures derive from the three countries where the project will be implemented (Uganda, South Africa and Nigeria) and show (i) the percentage of women (yellow) and men (green) that own a mobile phone, (ii) the percentage of women and men who use mobile internet and (iii) the gender gap percentage (blue) in mobile ownership and mobile internet users.

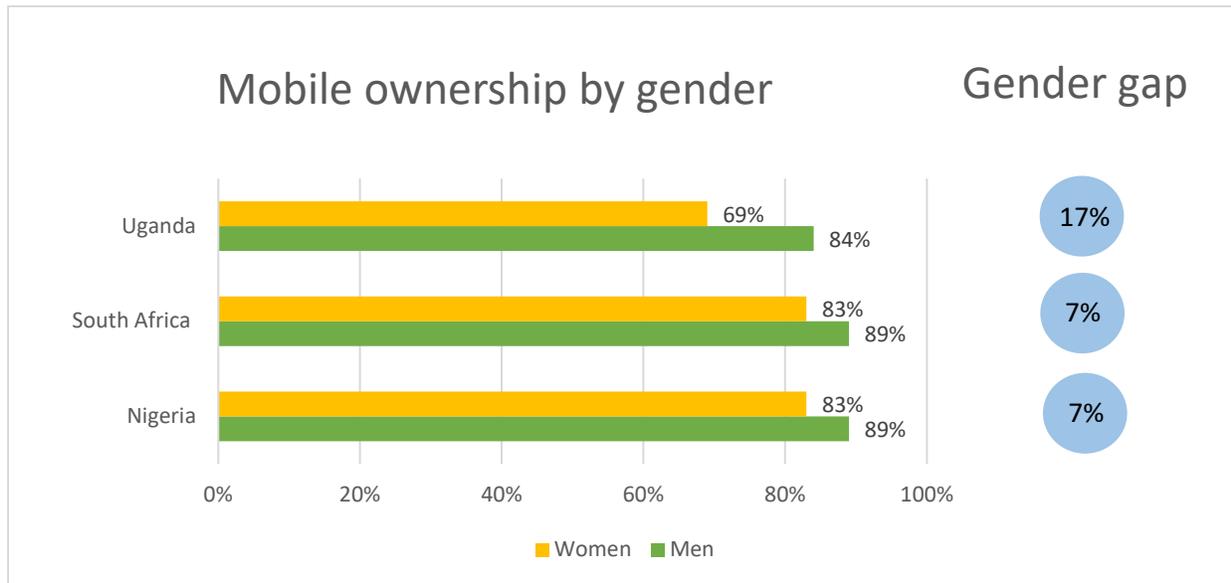


Figure 1 – Gender disaggregated mobile ownership (percentage) and gender gap in mobile ownership (percentage) in Uganda, South Africa and Nigeria (2020 data). The Mobile Gender Gap Report, GSMA, 2020

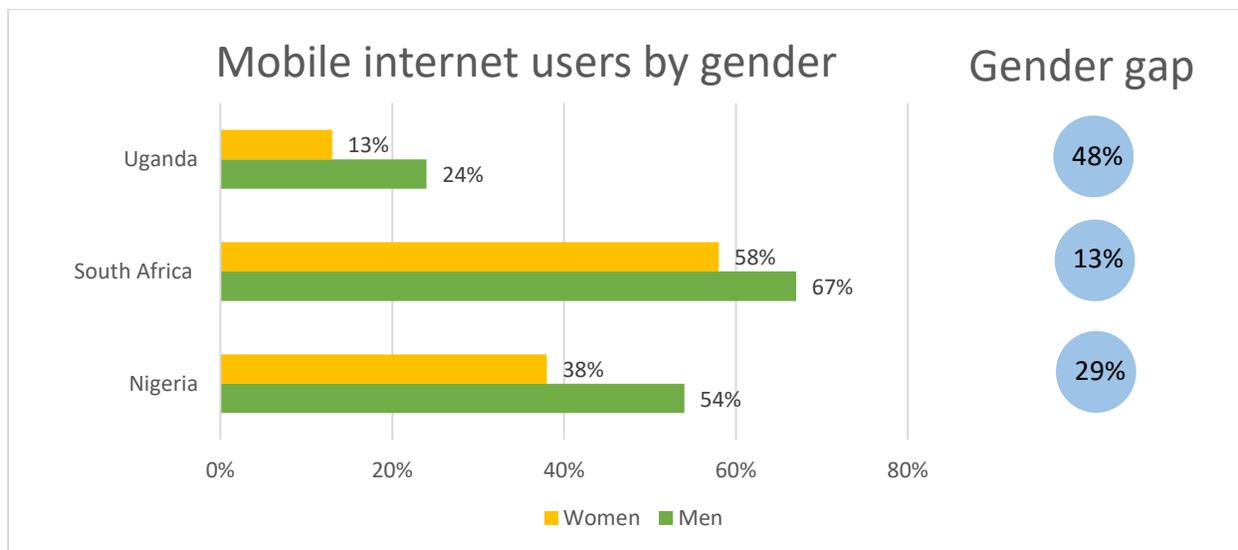


Figure 2 - Gender disaggregated mobile internet users (percentage) and gender gap in mobile internet users (percentage) in Uganda, South Africa and Nigeria (2020 data). *The Mobile Gender Gap Report, GSMA, 2020*

Women smallholder farmers, in particular have less access to productive resources, services, and opportunities, including education and agricultural information. They manage smaller farms and keep fewer and smaller livestock than men (Acosta et al, 2019). They also bear a disproportionate burden of household chores and time-consuming manual labor. Customary rules and traditions, including norms of seclusion, can also limit women's mobility and ability to leave the home (IFAD, 2003 cited in Distefano, 2013, p. 8). Together, these factors limit women's disposable income and their capacity, time, and opportunities to access and actively engage with ICTs (FAO, 2011a).

Women's limited bargaining power and control over resources also hinder their access to ICTs. Although power dynamics in rural households vary widely from region to region and even from household to household, a gendered element in decision making is very common (Isenberg, 2019. p. 11). For example, men's role as farmers and heads of families favors their bargaining power and control over the income of other household members. Thus, when it comes to important financial decisions, such as the purchase of ICTs, men are often the main decision-makers. A study conducted in Uganda found that women in female-headed households who own their own piece of land have better access to information than their female counterparts in male-headed households (S. Cardey, 2017 cited in Isenberg, 2019, p. 11).

How to address the gender digital divide?

The project will conduct a **Participatory Rural Appraisal (PRA)** comprising both **quantitative** and **qualitative** gender research at VPP and smallholder farmer levels in Uganda, Nigeria, and South Africa. The primary output of the study will be recommendations regarding how to mainstream gender and youth into project design (in general or specifically within the VPP project?).

With regards to ICT, the study objective is to **identify gender-sensitive modalities** in each country for:

- 1) Training VPPs
- 2) Disseminating information to smallholder farmers
- 3) Connecting VPPs to smallholder farmers

The study will also inform **the content development** of the project's ICT strategy by identifying:

- 1) **For VPPs:**
Priority capacities and competencies for the training programs developed by the project.
- 2) **For smallholder farmers:**
Priority topics regarding animal health for the outreach strategy developed by the project.

1. Identify gender-specific needs for ICT development, access and distribution

While technology is becoming easier to develop, its adaptability to different users remains a challenge. A prerequisite for digital inclusion is to identify the different needs, concerns, and constraints of both women and men from different locations, age groups, and education and income levels. Such inclusive outcomes can be facilitated by carrying out a **gender analysis** to examine the differences that may affect stakeholders' ability to benefit from ICT's to ensure appropriate project design and implementation.

In the context of ICT access, gender analysis, including the collection of gender-disaggregated data, may be helpful on the following issues:

- Participation in the information society at the local level
- Ownership, use, and control of digital devices
- Attitudes toward the use of technology
- Education levels, and language skills
- Animal health/production roles and responsibilities
- Local norms and customs, including distribution of productive and reproductive labor

Evaluations have shown that many of the recurring shortcomings of ICT projects could have been mitigated or eliminated through a gender-sensitive, communication-oriented approach to implementation (Isenberg, 2019, p. 41). Case studies that incorporate these methods confirm their

effectiveness in meeting user needs. One example is Elanco Animal Health's collaboration with Farm Radio International to pilot an interactive radio program that allowed callers to engage with radio broadcasts. The initiative aimed to provide smallholder farmers with information on topics such as fly, tick and rodent control, coccidiosis, mycoplasmosis, poultry vaccination and product training (Business Wire, 2018). During the preparatory stages of the program, Farm Radio International conducted formative gender research with livestock farmers in the Tanga region of Tanzania (Ibid). This allowed the project to identify radio as the most appropriate ICT channel to reach women. The research also provided valuable information on radio listeners' preferences (e.g., preferred broadcast time) and gender gaps in knowledge about animal health, which were later incorporated into the content design of the radio program.

The Dimitra Clubs, an ongoing FAO initiative in sub-Saharan African countries, also highlight the usefulness of inclusive, participatory approaches to adequately meet the needs of ICT users. Dimitra clubs are groups of women, men, and youth from rural areas that come together to play an active role in organizing collective action to find solutions to their common problems in the community and solve them using local resources. The clubs are characterized by several features, including improving access to information through radio. Through partnerships with local radio stations, the experiences of the Dimitra clubs are broadcasted. Gender equality and community participation are key principles in the production of radio programs. Participants, both women and men, conduct a critical analysis of the media from a gender perspective to ensure that the concerns of all users are addressed. There is also discussion about the most appropriate format/type of participatory broadcasting, in order to reach a broad audience (FAO, 2019, p. 55). There are currently 6000 established Dimitra clubs with 180,000 members, 60 percent of whom are women (FAO, 2022).

2. Use ICT channels adapted to the needs of women: good practices

When technology is accessible, affordable, easy to use, and provides content that meets users' needs, it is more inclusive. Some ICT devices are more effective than others in overcoming location, cost, illiteracy, and language barriers. For example, mobile phones, which do not require Internet access, are a cheap, accessible, and simple digital tool often used in ICT programs for rural women (Treinen et al., 2018). By providing information on the added value of investing in preventive animal health, and beneficial livestock practices, including correct feeding, safe husbandry practices, and animal health and reproductive care, mobile phones have proven effective in increasing livestock productivity, lowering veterinary costs, and decreasing livestock mortality rates among women farmers (Acosta, 2019, p. 5). Mobile phones can also be used to communicate with service providers and information centers about market prices, availability of products in local stores, weather forecasts, etc. (Ibid).

Overcoming language barriers is another important aspect of gender inclusion in ICT development and delivery. Many programs are not delivered in the local language but in the official languages of the country, which women in some countries are less likely to have been taught, especially if they live in remote rural areas (Quisumbing et al, 1995 cited in Petrics et al, 2015, p. 14).

Radio, a cheap, localized, and text-free ICT, is still one of the most effective tools for disseminating information, especially in rural areas, as it does not require electricity or the Internet (Ibid). Radio also has the added advantage of being broadcast in the local language and allowing multitasking while listening. Given that Africa has the lowest number of households with Internet access and the largest gender gap in Internet access (ITU, 2017a cited in Isenberg, 2019, p. 6), it is not surprising that radio has remained an important source of information and a means of community engagement for many rural women and men. Radio and new ICTs are not mutually exclusive technologies, but rather tools that can be used in complementary ways. Many people use their phones to listen to and engage with radio broadcasts, which allows them to access online information in their own language, for example (FAO, 2014; UNESCO, 2013; Partnership on Measuring ICT for Development, 2014 cited in Isenberg, 2019, p. 6).

Considerations for adapting ICT channels to the respective needs of women veterinary paraprofessionals and smallholder farmers

Veterinary Paraprofessional:

- Illiteracy and language should not constitute ICT barriers for VPPs given their postsecondary level of education.
- Anecdotal evidence of in-person training programmes switching to virtual due to the Covid-19 pandemic led to significant drops in female participation rates.
- Anecdotal evidence of providing quality internet for virtual training facilitated female participation rates.
- VPPs might have greater access to smartphones compared to smallholder farmers. However, female VPP smartphone access may still be lower than male VPP counterparts.
- Women may face issues with regards to ICT control at household level.
- Internet connectivity constitutes a barrier.

Smallholder Farmer:

- Language adaptability may be necessary.
- Less access to mobile phones/smartphones.
- Verbal ICTs such as radio and mobile phones, as well as Images and nonverbal content communication are good solutions for overcoming cost and literacy barriers.
- Content and time adaptability can facilitate female outreach.
- Women may face issues with regards to ICT control at household level.
- Internet connectivity constitutes a barrier.
- The added cost of ICT usage i.e. data and calls may constitute financial burdens.

3. Use blended learning

The shift to virtual teaching has opened up new opportunities for inclusive learning. These include being able to learn at your own pace, whenever it suits you, and saving the cost and travel time to teaching institutions. This added flexibility benefits many women, especially mothers, who are more likely than men to face time and mobility constraints due to their caregiving responsibilities (Perez, 2016). However, increasing digitization has also created new challenges that can exacerbate inequalities, many of which have gendered implications. These include low levels of private ICT access or ownership, poor Internet access, digital illiteracy, limited digital freedom and decision-making power, and limited time and mobility for personal learning. While learning from home can facilitate multitasking, it can also impede women's ability to participate and fully engage in virtual learning and productive activities outside the home. This can make it difficult to prioritize education at home, even when it comes to animal healthcare and animal disease detection, prevention, mitigation and control. For this reason, blended learning, which combines both virtual and in-person training, lends itself to inclusion. Providing training on specific digital platforms, tools, and software, as well as early review and planning for the availability of female participants, can be useful to ensure that participants can attend regardless of their prior digital skills (FAO, 2022). Providing

women-only support and learning groups and child-friendly learning facilities has also been shown to facilitate higher female participation (Perez, 2016).

4. Avoid gender blindness in content creation

If ICT content is gender-blind, there is a risk that it will have little applicability to the activities with which women are most engaged. Women and men who keep livestock often engage in different practices and are involved in different value chains and at different nodes in those chains (Köhler-Rollefson, 2012; Distefano, 2013). Women tend to care for smaller animals such as sheep, goats, and poultry, and are also considered the primary guardians of many local, indigenous, and exotic livestock breeds (Ibid). On the other hand, men tend to have more control over larger animals such as cattle and buffalo. In addition to different roles with different species, women and men also have different responsibilities in caring for animals. For example, in Sub-Saharan Africa, women are usually responsible for milking dairy animals, while men are usually responsible for marketing and slaughtering the animals (Beck, 2001 cited in Distefano, 2013, p. 7).

Due to the lack of representation of women in local and national organizations concerned with livestock, as well as their general lack of voice, animal health research has been geared towards larger commercial, higher value animals, i.e., those whose owners, men, are represented and have been able to voice their needs. As a result, animal health research has often overlooked small animals and exotic breeds over which women have more control and overall involvement (CGIAR Consortium, 2011 cited in Galie et al, 2017, p. 47). Consequently, men are the primary beneficiaries of animal health technologies and innovations (Ibid). Similarly, animal health education that focuses too much on large animals and less on smaller species can lead to gender bias. Prioritizing large animals may negatively impact the ability of animal health professionals to provide high-quality services that are more important to and needed by women livestock keepers.

These examples illustrate how gender-blind content development that does not take into account the gender division of labor can compromise inclusion. This underscores the importance of prefacing ICT program design with gender analysis, including the collection of gender-disaggregated data on stakeholder needs, concerns, and priorities to facilitate understanding of invisible gender dynamics and inequalities (Vota, 2018).

5. Representation of women in ICT

A 2015 report by the Global Media Monitoring Project (GMMP) found that women "make up only 24 percent of the people heard, read, or seen in newspaper, television, and radio news" (GMMP, 2015, p.8). Only 20 percent of stories on the subjects "rural economy, agriculture, farming, land rights", and 25 percent of stories on the topics: "science, technology, research, discoveries" include women as subjects (Iceberg, p. 8). The continued underrepresentation of women in ICT management and content development risks perpetuating thoughts, misconceptions, and stereotypes about ICT as a "male" domain. Representation of women can change this perception (Ibid). As ICTs become a larger part of working and learning environments, there is an opportunity to ensure that digital modalities reinforce principles of inclusion.

Women's vital contributions to animal health and production are often undervalued and underrepresented (Galie', et al, 2017). Representation creates more inclusive, supportive, and productive spaces for interaction, mentoring, and learning. ICT content such as audio voices, images, and photos should include women to ensure gender balance. The topics, objects, images, and illustrations used in

training materials are also more likely to resonate with female users if they reflect their lived and professional experiences. Therefore, it is recommended to use language, stories, examples, and images that reflect the local context of the users.

Although radio facilitates the inclusion of rural women in the information society, it remains a heavily male-centric medium. Most local radio stations are male-owned, and radio programs are also hosted by men, with topics often chosen by and most relevant to men (Treinen et al, 2018, p. 48). Her Farm Radio, supported by the International Fund for Agricultural Development (IFAD), is an example of an agricultural radio program that focuses on women's representation and the needs of women farmers in Africa (Farm Radio International, 2014, p. 49). Her Farm Radio focuses on amplifying female voices and perspectives in every broadcast, engaging female hosts and guests, airing shows at times when women can tune in, and establishing community listening groups just for women.

Conclusion

This paper summarizes the findings of a literature review on gender, ICT, and animal health. It has highlighted the most important aspects to consider in project planning to be aware of the risks and opportunities that ICT interventions in animal health pose in relation to gender. Successful implementation of ICT infrastructure is essential to creating a model for animal health that is compatible with sustainable development. However, at the global level, women are excluded from equal participation in and benefit from ICTs due to structural gender inequalities such as poverty, illiteracy, time and mobility constraints, and gender norms. The gender digital divide is particularly acute for rural women in low-income countries. However, because women are key actors in the livestock sector, their successful inclusion in ICT has the potential to holistically improve and sustain animal health and production, thereby achieving social development goals. To overcome barriers to equitable ICT access, the Sustainable Business in Animal Health Service Provision through Training for veterinary paraprofessionals project will conduct a gender analysis at the VPP and smallholder farmer level. This analysis will inform the project's digital and training strategy by identifying, first, the most appropriate ICT modalities and, second, the priority animal health topics to be addressed in each project country's training plan. This approach will facilitate gender- and youth-responsive programming and adapt the project design to national and local circumstances. The results of the study will be summarized in a report.

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Hold-FAST tools

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