RESEARCH PROGRAM ON Livestock

More meat, milk and eggs by and for the poor

Gender integration in the Ethiopian agricultural extension system: a literature review

Mamusha Lemma, Solomon Gizaw, Abdi Etafa, Annet Mulema and Barbara Wieland

International Livestock Research Institute (ILRI)

December 2020

Implimented by

Funded by

CGIAR is a global partnership that unites organizations engaged in research for a food-secure future. The CGIAR Research Program on Livestock provides research-based solutions to help smallholder farmers, pastoralists and agro-pastoralists transition to sustainable, resilient livelihoods and to productive enterprises that will help feed future generations. It aims to increase the productivity and profitability of livestock agri-food systems in sustainable ways, making meat, milk and eggs more available and affordable across the developing world. The Program brings together five core partners: the International Livestock Research Institute (ILRI) with a mandate on livestock; the International Center for Tropical Agriculture (CIAT), which works on forages; the International Center for Agricultural Research in the Dry Areas (ICARDA), which works on small ruminants and dryland systems; the Swedish University of Agricultural Sciences (SLU) with expertise particularly in animal health and genetics and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) which connects research into development and innovation and scaling processes.

The Program thanks all donors and organizations which globally support its work through their contributions to the CGIAR Trust Fund

Editing, design and layout—ILRI Editorial and Publishing Services, Addis Ababa, Ethiopia.

Cover photo—ILRI/Apollo Habtamu

Citation: Lemma, M., Gizaw, S., Etafa, A., Mulema, A. and Wieland, B. 2020. *Gender integration in the Ethiopian agricultural extension system: A literature review.* Nairobi, Kenya: ILRI.

Patron: Professor Peter C Doherty AC, FAA, FRS
Animal scientist, Nobel Prize Laureate for Physiology or Medicine–1996

Box 30709, Nairobi 00100 Kenya
Phone +254 20 422 3000
Fax +254 20 422 3001
Email ilri-kenya@cgiar.org

ilri.org
better lives through livestock

ILRI is a CGIAR research centre

Box 5689, Addis Ababa, Ethiopia
Phone +251 11 617 2000
Fax +251 11 667 6923
Email ilri-ethiopia@cgiar.org

ILRI has offices in East Africa • South Asia • Southeast and East Asia • Southern Africa • West Africa

Contents

Introduction

In Ethiopia, both women and men farmers engage in agricultural and livestock production. However, gender inequality in access to agricultural extension services and control over resources negatively influence production and productivity. Constraining gender relations at household and community level affect women's access to and control over resources and extension services, which in turn affect their productivity. In Ethiopia, the gender productivity gap is 23% attributed partly to limited access to extension services tailored to women's needs (Aguilar et al. 2014). Advancing gender equality is essential to reducing poverty and increasing production and productivity. A report by the Food and Agriculture Organization of the United Nations (FAO) shows that reducing gender inequalities in access to productive resources and services could produce an increase in yields on women's farms of between 20% and 30% (FAO 2011). This shows that, if women were given equal access to productive resources that currently men own and advisory services that target men only, their yield will increase by 3–4%. This provides a compelling reason why addressing gender capacity limitations in agricultural extension matters in Ethiopia.

Since women make significant contributions to agriculture and livestock production, it is important that extension service planning and delivery is gender responsive and account for the differential information needs and constraints of women and men farmers and livestock keepers. The gender responsiveness of extension services can improve women's knowledge to make informed decisions and increase their ability to apply appropriate crop and animal husbandry practices. However, research shows that women adopt a small range of technologies than men mainly due to limited access to inputs and services (Ragasa 2012; Manfre et al. 2013). Women are also less targeted or involved in extension activities. Effective gender integration in extension services requires gender capacity development at all levels. Studies show that limited gender capacities of extension service organizations and development agents constrain women's access to information and advisory services, and thus their adoption of technologies (Mulema et al. 2015; Rijke 2017).

This report presents a review of literature on agricultural extension services in Ethiopia with a gender lens as a first step for conducting a gender capacity needs assessment of extension services providers. The literature review provides an understanding of the Ethiopia extension system, identifies the extent to which gender is integrated into the extension system, and suggests ways to better address gender in extension services with reference to livestock and animal health extension services. The objectives of the literature review were to:

- Assess women's constraints in accessing extension and advisory services,
- Assess the extent to which extension approaches and methods are appropriate for female farmers and livestock keepers,
- Identify the gender gaps contained in the literature with a focus on livestock and animal health extension services in Ethiopia, and
- Suggest ways in which extension and advisory services in Ethiopia can better meet the needs of women farmers and livestock keepers.

Overview of Ethiopian extension system

The provision of agricultural extension services has been a key strategy for agricultural development in Ethiopia (Berhane et al. 2020). The development strategies of governments in Ethiopia over the different eras (the Imperial, the Derg, and the Ethiopian People's Revolutionary Democratic Front [EPRDF]) have focused on agricultural development through technology package-centered approaches as the driving force for achieving overall development (Welteji 2018; Berhane et al. 2020).

Historically, different extension approaches have been presented and practiced in Ethiopia with common features and generic challenges (Abate 2007). Agricultural extension service provision over the different periods has generally been characterized by top-down, unimodal and public sector-dominated development approaches. The use of demonstration farms and 'model farmers' has been a key strategy for introducing and disseminating extension packages (Ayele 2016; Hailemichael and Haug 2020). Extension agents work through model farmers to increase extension coverage and serve more farmers.

Extension services during the EPRDF period were modeled along the lines of the Sasakwa Africa Association and Global 2000 of the Carter Center (SG 2000) pilot extension program, which employed a modified Training and Visit (T&V) approach. The program promoted the use of technology packages, inputs and credit through practical training and demonstration (Abate 2007; Berhane et al. 2020). Based on the SG 2000 extension approach, the Participatory Demonstration and Training Extension System (PADETES) was adopted as a national publicly-funded extension program, which implemented agro-ecologically differentiated extension packages, namely the minimum extension package, regular extension package and household extension package (Berhane et al. 2020). Structurally, the public extension service spans from the Federal Ministry of Agriculture to the regional bureaus of agriculture (including zonal and district offices) and extends down to kebeles (lower level administrative units or communities) through a set of frontline development agents (Leta et al. 2017).

The current extension system has gone through many developments both in focus and approaches over the past decades (Berhane et al. 2020). Based on assessments of the PADETES and the 'Rural development policies, strategies and instruments' document (FDRE 2001), a new extension system known as the Participatory Agricultural Extension System (PAES) has been put in place (MoA 2010). The pillars of this extension system include agro-ecology-based diversification and specialization, market orientation and value addition, scaling of good practices, farmer training, household and watershed-based full package and a good practices package. The PAES has also identified different extension user groups including women and youth.

The human resource and knowledge infrastructure of the extension system has been developed through the establishment of agricultural technical and vocational education and training (ATVET) colleges and farmer training centres (FTCs) (Abate 2007; MoA 2009). The ATVETs produce development agents who are the main change agents training and advising farmers. Core development agents specializing in crop, livestock and natural resource management have been deployed in each kebele (MoA and ATA 2017). Further, additional development agents working in animal health, cooperatives, irrigation and beekeeping have been deployed based on local needs and development potential. The FTCs were designed as local-level focal points for farmers to receive information, training,

and demonstrations. The FTC management guideline (MoA 2009) provides the principles for the operation and management of the centres.

Technology demonstrations on farms of model farmers and FTC farms, working through networks of farmer development groups (both men and women groups and mixed groups in some cases), farmers' field days and extension meetings have been the main extension methods (Leta et al. 2017; MoA and ATA 2017). Farmer development groups consist of 20 to 30 farmers comprised of sub-groups organized with five members, led by a model farmer (Berhane et al. 2020). Recently, the cluster approach, agricultural technology demonstration centre approach, pluralistic extension approach, and information and communication technology (ICT)-based extension delivery models have been introduced to the system. The changes in the extension system are reflected in the Growth and Transformation Plans (GTP I and II) of the government (FDRE 2010 and 2016) and in the new institutional arrangements such as the establishment of the Agricultural Transformation Agency (ATA), which is mandated to address systemic bottlenecks in the agricultural transformation process.

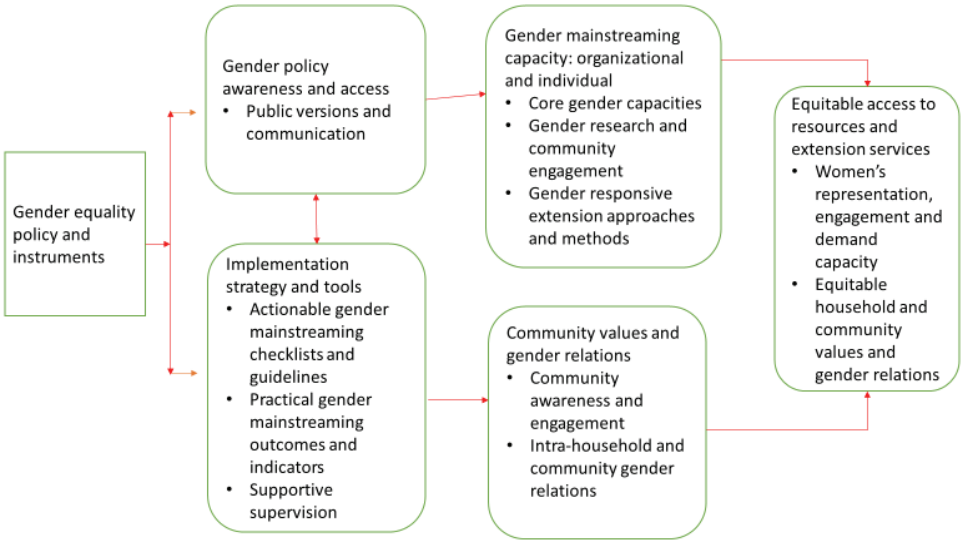
The ATA has been instrumental in developing various transformation strategies and testing innovative development programs and approaches. For example, the recently tested and scaled-up agricultural information hotline (Interactive Voice Response and a Short Message Service) is exemplary modernization of the extension system. ATA has also facilitated the development of a new extension strategy through a series of stakeholder consultations and assessments at various levels (MoA and ATA 2017). The new extension strategy is organized around nine pillars, among which, focus on client-orientation and pluralistic advisory services; market-oriented and value chain development approaches; gender, youth and nutrition mainstreaming; and environmentally sustainable agricultural practices show the changes in the scope and focus of the current extension system. These changes have implications for the organization and capacity development of extension and advisory service providers.

However, despite the changes in scope and approaches over the last decades, human and organizational challenges continue to constrain the extension service (Ashworth 2005; Davis et al. 2010). Development agents face many constraints and have limited soft skills competency to facilitate demand-driven and gender-responsive knowledge exchange and advisory services for diversified extension users including women and youth (Belay and Abebaw 2004). The national extension service has still a narrow livestock focus (MoA and ATA 2017) and livestock and animal health extension services are not yet mainstream services.

Review method

A conceptual framework was developed to inform and structure the literature review (Figure 1). It is assumed that policy commitment is key to mainstreaming gender equality in all agricultural development strategies and programs. However, this policy commitment to gender equality has to be popularized and translated into understandable and implementable formats, tools and actions. In addition, continuous gender capacity development and community engagement processes are required to create awareness and capability both at service providers and community levels. Organizational, individual and community values that underlie restrictive gender relations need to be addressed to empower women farmers and increase their access to and control over resources and extension services. It is expected that gender-capacitated extension organizations and individuals will design gender-responsive extension programs and employ extension approaches and methods that meet the needs of both women and men. Gender awareness at the community and household levels will increase women's representation and engagement capacity in group-based extension activities and consultation fora. Women's empowerment also increases their decision-making capacity and information sharing and influencing capacity at the household and community levels, thereby increasing technology adoption due to collaborative learning and action of household members.

Figure 1. Conceptual framework for gender review of extension literature in Ethiopia.



Based on the conceptual framework, the review looked at published and unpublished extension literature (gender-focused extension studies, project reports, extension strategy documents, extension packages, training materials and guidelines) in Ethiopia from a gender lens. The review generally looked at gender integration in extension services with reference to livestock and animal health extension.

A wide collection of extension literature was generated using online search and collection of materials using a snowballing method from government and non-governmental organizations. The online search was conducted using the following keywords and strings: gender integration in agricultural extension, gender in livestock extension, gender

of development agents, women's constraints accessing extension services, women farmers' contacts with male development agents, gender disparity in extension services, gender competencies of development agents, gender responsive extension approaches and methods, and gender equality strategies and mainstreaming guidelines. The keywords were rearranged to make them as close as possible to gender in agricultural, livestock and animal health extension in Ethiopia. The online search and physical collection of materials generated 105 publications, which were then screened for inclusion based on the conceptual framework and review questions. Accordingly, 15 publications were dropped, and 90 publications were used for the review.

A qualitative content analysis approach (Bengtsson 2016) was used to extract and analyse gender issues contained in the extension literature. We carefully reviewed the collected extension literature and sought for thematic patterns in gender issues that were addressed and the gender gaps identified in the literature. In reviewing the literature, we identified key descriptions, put these descriptions into analytical categories (subheadings), and used these subheadings to present and discuss the findings of the review.

Results and discussion

Accessibility of gender mainstreaming policy instruments

Gender equality is a national policy priority, and the government of Ethiopia has made progress towards recognizing the role of women in the agricultural sector and encouraging gender equality and women's empowerment (FDRE 1993). The national Growth and Transformation Plan (GTP II) identifies women and youth as key cross-cutting influences in all sectoral strategies and development plans (FDRE 2016). However, the reports provided by the government regarding gender show the number of women reached but fail to provide information on impacts of the polices on these women, and specifically on how the policies helped benefit or empower them. Additionally, there is a discrepancy between the measures of empowerment at the national level and the meaning of empowerment at community levels, which may create inconsistencies in how women's empowerment is framed in policy dialogues (Mulema and Nigussie 2019).

Gender equality strategies and mainstreaming guidelines facilitate gender integration in development strategies and programs (MoA 2011; Teshome 2018; Mamo 2020). In addition, the gender machineries at all administrative levels are strategic instruments for mainstreaming gender and ensuring gender is sufficiently integrated in extension planning, implementation and evaluation activities.

While capacity is still limited, the recognition for the need to address gender issues in extension has grown overtime. For example, a historical review of Ethiopia's agricultural policies from 1994–2018 by Drucza and Tsegaye (2018) reveals a progressive expansion of women's rights and gender equality. However, gender equality and women's empowerment policy commitments have not yet been fully translated into practical strategies and actions at the lower levels (Drucza and Tsegaye 2018), and gender capacities are very low within the national agricultural research and extension system (Mulema et al. 2015; Rijke 2017). Extension services are still inadequate to systematically mainstream gender thinking and practice in operational terms.

The limitations of extension services in reaching out to women farmers and livestock keepers lie mainly in the attitudes and skills of development agents and gender blindness of extension methods and tools (Buchy and Basaznew 2005). There is limited focused effort to develop gender mainstreaming capacities at all levels. Existing gender mainstreaming guidelines and tools are not sufficiently accessible to lower-level gender machineries and extension organizations in practical ways that support gender-responsive planning, implementation and evaluation (Mamo 2020). In addition, there is limited continuous supervisory and training support to develop gender capacities at the lower levels.

Organizational and individual gender capacities

Although a large number of development agents are trained and deployed, they have inadequate capacity to provide effective extension and advisory services (Buchy and Basaznew 2005; Leta et al. 2017). They had limited soft skills training including in social mobilization, gender analysis and participatory approaches to address the different needs and interests of women, men and youth community groups. A study by Davis et al. (2010) found that the ATVET

curricula has little room for soft skills training, does not provide enough practical training on extension communication skills, and is not sufficiently responsive to Ethiopia's evolving extension needs. The curricula contain few courses on communication skills, social marketing and community mobilization, which means that after graduation, development agents are unable to offer guidance on effective delivery, participatory planning and gender considerations in agricultural extension services (Ashworth 2005).

Box 1. Gender-blind curricula produce gender-blind development agents.

The curriculum guide for ATVET program's 'Agricultural extension and communication' course (MoA 2003) is gender blind. Throughout the curriculum, gender considerations are not reflected. Gender concepts and a gender perspective are not integrated into the objectives, content, methods and materials of instructional units. The language and terms used in the curriculum referring to farmers, target groups and extension personnel are not gender responsive and show gender bias. Since the curriculum's content does not reflect an inclusive approach, it is unlikely that learning activities and exercises based on it promote gender equality perspectives. With such pre-service training, development agents are unable to adequately address the needs of female farmers and livestock keepers.

An insufficient focus on the constraints women farmers face in agriculture and livestock production continues to limit their productivity and food security (Drucza and Tsegaye 2018). A participatory gender capacity needs assessment of research and development partners in Ethiopia shows that gender analysis, strategic planning, knowledge management, and gender-responsive monitoring and evaluation (M&E) skills are insufficiently developed or underdeveloped (Mulema et al. 2015; Rijke 2017).

Women's constraints to access extension services

Women farmers face many gender-based constraints to access and control over resources (Belay 2015; Tenna 2015; Mulema and Damtew 2016). Gender division of labour can limit women's mobility and access to extension services due to shortage of time and labour (Zahra et al. 2014; Desta et al. 2017). Since men traditionally play a decision-making role, they have mobility and can access information easily. The perception that men will pass on information to women (Fong and Bhushan 1996) does not necessarily work (Ragasa 2012; Fletscher and Mesbah 2011; Drucza and Tsegaye 2018). In addition, literacy or group membership (Kinati et al. 2018) and male extension agents' assumptions about women's roles in farming (Cohen and Lemma 2011) limit women's involvement in extension activities.

Although the GTP II document has a target to reach 50% of women-headed households and women in male-headed households (FDRE 2016), extension services often target male farmers or household heads who are the well-off (Davis et al. 2010; Aguilar et al. 2014; Buehren et al. 2018). Studies show that globally only 5% of extension resources are directed at women and 15% of extension agents are women (IFAD 2009; FAO 2011). In Ethiopia, the fact that male heads of households are about 5 times more likely to be visited by development agents compared to female heads of households results in gender inequality in extension services (Ragasa et al. 2012).

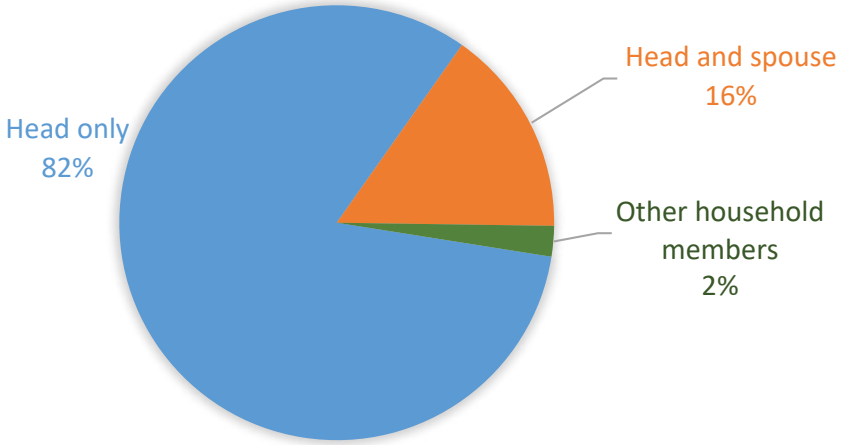
Also, women in male-headed households are generally not mainstream clients in agricultural extension services and household surveys. There is a scarcity of data, and very little is known about their needs and constraints (Belay and Oljira 2016). In an analysis of 35 case studies in various countries, Ragasa (2012) shows that gender is largely absent from impact assessments. Women in male-headed households face even more limitations than female-headed households, as gender norms and practices often exclude them from community power structures and access to services. They face barriers in accessing advisory and training support (Collett and Gale 2009). Even when they are targeted for training, it often involves traditional roles that perpetuate constraining gender norms and relations. In addition, men may not allow their wives to participate in training events outside the village.

The length of training and venue also influence women's ability to participate and access information and advisory services. Development agents often lack sensitivity to women's work burdens and fail to identify and plan for time

and place of extension activities that are appropriate to women (Cohen and Lemma 2011). Training may need to be divided into short modules to accommodate women's schedules and provide rural women with the ability to attend meetings and still manage their day-to-day tasks (Manfre et al. 2013).

As Figure 2 shows, male development agents prefer to work with men farmers, who are often household heads, as it may not be socially acceptable for a man to talk to a woman in some cultures (World Bank and IFPRI 2010). It may also be because male-headed households usually adopt new technologies more than female-headed households. Even female extension agents claim that working with women is more difficult, as they are less accessible and tend to delegate extension activities to their husbands (Collett and Gale 2009). This is because extension services have traditionally targeted men farmers, resulting in women having the perception that extension services are not relevant to their needs.

Figure 2. Household members who received extension advice on improved dairy production.



Source: LIVES baseline data, 2014

During participatory training events using the community conversations approach in the highlands of Ethiopia, women participants reported that when extension agents visit homes, they often talk to their husbands (Lemma et al. 2018). Due to their gender bias and/or limited gender capacity, male extension agents often fail to invite women in male-headed households to discussion during home visits. Husbands also do not invite their wives to discussions when extension agents visit their homes. Moreover, they may not allow their wives to participate in extension events even if women are purposefully invited (Drucza and Tsegaye 2018; Lemma et al. 2018). This shows that gender capacity limitations both in the service providers and community members is a major challenge that constrain women from having equal access to resources, services and decision-making in development activities.

While rural women are becoming more involved through participatory engagement approaches such as community conversations, relatively little attention has been given to gender issues in upstream research and extension (Meinzen-Dick et al. 2010; FAO 2011). Addressing constraining gender norms and practices requires sustained gender sensitization and community actions. It requires mobilization and engagement of women and men community members and local service providers in dialogues that help recognize the problems and take actions that free-up women to have equitable access to information and advisory services (Lemma et al. 2019). Group-based methods such as working through women's development groups, women's savings groups and women's research and extension groups can create space for women farmers to interact and access extension services (Farnworth and Hailegeorgis 2010). For example, in a review of the Agricultural Growth Program (AGP) gender integration experience, Belay (2015) shows that group approaches such as women common interest groups and innovation groups are promising ways of empowering rural women. Male extension agents may also find it easier to work with women groups rather than contacting women farmers individually (Cohen and Lemma 2010; Manfre et al. 2013).

Gender responsiveness of extension approaches and methods

In Ethiopia, extension services use different approaches and methods to deliver advisory and training services. These include individual or group visits; organized meetings; use of model farmers; networks of farmer development groups; demonstration plots; FTCs or farmer field schools; farmer field days and, more recently, digital tools such as mobile phones (MoA 2010; Abate 2007). It is assumed that the plurality of extension methods offers opportunity to reach out to various groups of farmers with different needs, interests and constraints in various social settings. In principle, extension delivery approaches and methods must ensure that both women and men farmers acquire the information they need. However, there is little evidence that gender issues influence the choice of extension approaches and advisory methods in Ethiopia. For example, an EEA/EEPRI (2006) evaluation report shows that extension package introduction and implementation methods in the PADETES did not consider the needs and resource endowments of female farmers and livestock keepers.

Group extension approaches, such as cluster extension and farmer development groups, are used to deliver training and advisory services to women and men farmers (Leta et al. 2017). The cluster extension approach focuses on developing adjacent plots of different farmer households, who work together and use similar recommended management practices to facilitate easy delivery of agricultural inputs, market and advisory services, and increase production and productivity. The social networks of farmer development groups are based on the 'model farmer' approach. While these community-based extension approaches offer opportunities for farmer-to-farmer information and knowledge dissemination through the demonstration effects of model farmers, they may have limitations on reducing the gender inequality. Due to gender bias of male development agents, the group extension approaches give little attention to the existing gender inequality and may unintentionally perpetuate the existing inequality (Leta et al. 2017). Addressing this gap calls for strengthening the capacity of development agents to diagnose gender issues, identify and apply more gender transformative group extension approaches (Drucza and Abebe 2017; Farnworth et al. 2018).

Women also face structural and institutional constraints in getting represented in relevant fora, and their voices are often not heard (Ragasa 2012). They can be poorly represented when extension services are delivered through group or community meetings. For example, in Ethiopia, 11% versus 28% of women and men, respectively, participate in community meetings (World Bank and IFPRI 2010). There is also a risk in the cluster extension approach that women farmers might be excluded due to their limited access to productive resources, distance between home and clustered farm plots, lack of capital to practice extension packages, limited access to finance, time poverty and other factors (Leta et al. 2017). Women farmers also have limited say and take no or have weak leadership positions in key community groups such as producer cooperatives (Kinati et al. 2018). Even when women farmers can participate in community meetings, gender norms may impede them from voicing their opinions and needs in the presence of men. It may be necessary in some places to work with women-only groups. Community conversations in rural Ethiopia show that women participate more actively in women-only groups than in mixed groups (Lemma et al. 2019). Women farmers build social capital within single-sex groups fostering communication and information sharing that is extremely valuable for disseminating extension messages (Manfre et al. 2013).

The FTC management guidelines (MoA 2009) have an inadequate approach on how to facilitate community training with women farmers. In addition, most FTCs do not provide services for women farmers who are mothers and may come with children, and this may not attract women to attend training programs (Ashworth 2005; Davis et al. 2010; MoA and ATA 2017). This is alongside the fact that the daily workloads of many rural women do not usually allow them to attend trainings.

Addressing training attendance challenges posed by women's reproductive roles requires women-friendly training approaches, such as making sessions shorter or spreading them out over a few days, proximity of training venue, and childcare arrangements at training sites. It requires designing extension messages and training materials that are easy for women farmers to understand and apply. In areas where women farmers have lower literacy rates than men farmers, it is crucial to adapt and use training materials that can be easily understood, possibly supported with illustrations (Ragasa 2012). Household and community-based extension and training approaches are convenient for women farmers and livestock keepers (Farnworth and Hailegeorgis 2010; Mbo'o-Tchouawou and Colverson 2014).

Community extension approaches, such as community conversations, couples training, household coaching and mentoring and women's development groups have been found promising to transform constraining gender relations and empower women (Lemma and Tesema 2016; Lemma et al. 2018).

Gender integration in livestock and animal health extension services

Providing information and advice on livestock production and health has rarely been a priority for national extension services in developing countries (Morton and Matthewman, 1996). In Ethiopia, the national extension system has been predominantly crop-based, and there has been generally less focus on livestock extension (Tegegne, Gebremedhin and Dirk 2010; ATA and MoA 2017). While the deployment of livestock development agents at the community level encourages integration of crop, livestock and natural resources in crop-livestock production systems, the animal health service is less integrated with livestock production extension. At the delivery level, livestock production, animal health and livestock marketing messages have not been fully integrated and the capacity to integrate gender is limited mainly due to the gender-blindness of animal health extension and communication curricula and lack of on-the-job training opportunities.

Box 2: Gender receives little or no attention in animal health extension courses.

The 'animal health extension and pastoralism' module of Wollega University, School of Veterinary Medicine (Abda 2014), exemplifies a lack of capacity to integrate gender perspectives into the Doctor of Veterinary Medicine modular curriculum. A review of the module shows that gender integration is at a minimum, and that the gender capacity of faculty is limited. The module mentions gender only two times in relation to technology assessment and grazing management. It lacks a purposeful effort to integrate gender awareness and perspectives. The promotion of gender equality and gender awareness needs to be integrated into the module description, objectives, learning outcomes, teaching methodologies, content, learning activities, learning materials, language use, classroom interaction, and learning assessment.

A number of policies and regulations have been designed to prevent and control the transmission of animal and zoonotic diseases in Ethiopia (MoA and ILRI 2013b,c; Shapiro et al. 2015), but this has not been matched with a streamlined approach for designing and delivering animal health extension services. Although the Livestock Extension Vision and Strategy for Ethiopia (MoA and ILRI 2013a) acknowledged the failure to devise appropriate strategies to narrow the gender gap as a challenge in the national extension system, the envisioned strategic interventions do not put specific gender targets (such as number of community animal health workers or female livestock extension agents trained) or specify the strategy or consider experiences elsewhere to address gender issues in the proposed livestock extension system. For instance, the FARM Africa Dairy Goat Development project trained mostly women as veterinary scouts in eastern and western Hararghe zones of Oromia region and Konso, Walayita and Dalocha areas of southern Ethiopia during its implementation (Admassu 2014). The capacity for translating animal disease prevention and control policy provisions and livestock extension directions into implementable strategies and community education approaches and actions is limited (Bekele et al. 2018). Addressing this limitation requires a full and inclusive livestock extension strategy for providing extension and advisory services to women and men livestock keepers by integrating livestock production, health and marketing issues. Developing the competencies of livestock production and animal health extension agents (Tarekegne et al. 2017) to provide gender-responsive and client-oriented extension and advisory services in an integrated way is also important.

A literature review by Kinati and Mulema (2019) show that labour, decision-making, ownership and control of livestock and access to knowledge and information are core gender issues in Ethiopia's livestock production systems. Access to livestock production and animal health extension services usually depends on who owns livestock and the type of livestock species owned. Women often prefer and own small animals such as sheep, goats or poultry that

are easy to manage and, therefore, do not increase their workloads (FAO 2012). However, these animal species are perceived as less valuable, and extension agents may not give attention to them (Miller 2011). In addition, women's access to animal health services is limited by their heavy work burdens and illiteracy, which limit the value of written extension materials and their confidence to seek out information on their own.

Rural women may also be excluded from livestock and animal health extension services as livestock value chains require resources and labour (Lemma et al. 2016; Tesema et al. 2017). Most livestock technologies require capital, and women have less capital resources compared to men. Studies show that women are predominantly at small-scale production stages of livestock value chains where income is very low (Herego 2017). Women face many barriers to upgrade their livestock value chain activities including lack of skills, resources, networks and services or even controlling their businesses or incomes (Rijke 2017). When women's livestock value chain activities become profitable, men often get involved and control women's businesses or income (MoA and ILRI 2013a).

Livestock health experts often use technical language that may be intimidating to uneducated women and men community members. Limitations in communication and participatory training and advisory skills constrain their ability to effectively provide animal health extension and advisory services. Community conversations on animal health issues in rural Ethiopia show that livestock health experts often find it challenging to communicate technical messages to women and men community members in understandable local terms and expressions (Lemma et al. 2019). It is important to contextualize technical messages in words and expressions that are familiar to women and men community members and fit their thinking and reasoning frameworks. This is a specific skill that needs to be addressed in the training of extension agents.

In addition, lack of mobility and lack of awareness of available services further decrease women's opportunity to learn about animal health and disease prevention. Many are unaware of the presence of either government or private health care offices, even when they are close by (Rota 2007). The gender division of labour in livestock production also limits women's mobility and ability to access information because most activities such as feeding, cleaning, watering and milking are carried out around the home (Kinati and Mulema 2019).

The MoA and ILRI (2013b) animal health strategy and vision for Ethiopia recognizes that current animal health extension services are generally poor, causing high mortality and morbidity rates. Veterinary services usually focus on preventive vaccination and treatment of sick animals. The thinking and practice of animal health extension and advisory services that aims at educating and advising women and men community members about integrated animal health management strategies and practices is limited (Atkinson 2010; Bard et al. 2017). Community members have limited access to animal health education, advisory and training services that target key areas like prevention of zoonotic diseases, reducing impact of highly endemic production diseases, rational veterinary drug use, or animal welfare.

The animal health strategy and vision document identifies strategic animal health management and knowledge sharing interventions, but it has given less attention to gender-responsive service delivery approaches and methods. It also gives little attention to capacity development of animal health service providers to succeed with the strategic interventions. On-the-job training and mentoring in gender-responsive community-based extension approaches and adult learning methodologies will be critical to improve animal health extension service delivery (Farnworth and Hailegeorgis 2010; Tarekegne et al. 2017).

The human health extension program of Ethiopia (MoH 2003, 2005) offers good plan for addressing gender issues in animal health through the training and deployment of female animal health agents, who are culturally acceptable to work with female livestock keepers. Health extension workers (mostly female except in pastoralist areas) are posted to rural communities where they provide equitable access to health services for women, children and men community members. Experiences from the human health extension program can offer many valuable lessons for the deployment and training of female animal health extension workers (Kok et al. 2015; Assefa et al. 2019).

Conclusion and recommendations

Conclusion

The review concludes that:

- The capacity to translate gender equality policy instruments into actionable strategies and to implement these in Ethiopia is limited at all levels. Gender mainstreaming guidelines and tools are not sufficiently translated into accessible and useable formats or popular versions.
- Livestock and animal health extension is least featured in the extension literature.
- Gender biases and capacity gaps both at the extension service and community levels are key gender integration challenges in extension services.
- Many factors constrain women's access to extension and training services, notably lack of time due to work burdens, lack of mobility due to time shortage or cultural influences and restrictive values and gender relations.
- Current extension approaches and methods are inadequate to address specific needs of women farmers and livestock keepers.
- Many innovative project-based approaches and methods exist to address gender in extension and increase women's access to information and knowledge on livestock and animal health issues.
- But the potential of group-based extension approaches and methods for gender inclusion and women's empowerment has not been exploited fully due to limited gender capacity of extension service organizations and frontline development agents.

Recommendations

The findings and conclusions of the literature review suggest the following action points to develop gender capacities at all levels of the extension system. The action points focus on addressing gender biases in the extension service through continual capacity development and mentoring support and transforming structural gender inequalities in communities through community-based approaches and processes.

Women-friendly training design and delivery approaches and methods

Male household head-only training can suffer training application challenges, as husbands rarely transfer learning to their household members. Recommended actions to reduce this challenge include:

- Use of gender-responsive training approaches and methods, such as couples training, household coaching and mentoring, and community conversations.

- Setting up women-customized training programs with a flexible time schedule and childcare services.
- Organizing women-only training programs supplemented with coaching and mentoring support
- Using female trainers and facilitators.
- Training and mentoring support to frontline development agents in adult learning methodologies.

Gender-responsive extension delivery approaches and methods

Working with women farmers may require different extension approaches and methods to those used when working with men farmers. Suggested gender-responsive extension approaches include:

- Community-based extension approaches, such as working with women development groups, farmer research and extension groups, farmer trainers and mentors.
- Business-oriented household extension approaches, such as household coaching and mentoring and advisory services that involve both household members, not only household heads.
- Recruiting and training more female development agents.
- Working with a combination of women-only and mixed-group approaches.
- Promoting and strengthening participatory and gender-responsive livestock and animal health extension approaches and methods.
- Developing and disseminating 'best practice' materials in working with women farmers and livestock keepers.

Community engagement to change constraining gender relations and practices

Impactful empowerment of women farmers and livestock keepers can be achieved by addressing cultural values and gender norms that constrain their full control of resources and participation in extension and advisory services. Recommended actions to reduce constraining gender norms and practices include:

- Popularizing gender policy instruments by developing popular versions that can be applied easily at the implementation level.
- Community awareness and engagement using community conversations and household methodologies.
- Strengthening women support structures, such as women development groups and women's associations to adequately represent and voice women's issues in consultative fora and decision-making platforms.
- Promoting women-focused stakeholder platforms at the community level.
- Strengthening group discussion methodologies and gender-responsive community engagement processes.

Expanding access to women-friendly information and advisory services

Weak capacity to identify the differential needs and constraints of women and men farmers and to appropriately customize extension messages, technologies and delivery methods to their needs and constraints has been a major challenge in extension practice in Ethiopia. Recommended actions to increase women's access to technologies and information include:

- Conduct needs assessment to identify gender differentiated priorities and preferences

- Developing women-friendly extension communication materials and diversify communication channels.
- Employing gender-responsive training and advisory methods.
- Working with and through women voluntary groups such as women's associations, common interest groups and women research groups.
- Training and recruiting more female extension agents and trainers.

Limitation of the review

While the review has highlighted the gender gaps in extension and advisory services in Ethiopia, like most literature reviews, it has some limitations. Firstly, we do not claim that the collection of the literature on Ethiopian extension is exhaustive, despite attempts to create a comprehensive collection of relevant extension literature. Some are grey literature and are not well archived in physical repositories or are not accessible. Secondly, the review is mainly based on online searches and may have missed some materials that are not available online. Despite these limitations, we believe that the review covers materials representative of the extension literature in Ethiopia.

References

Abate, H. 2007. *Review of extension systems applied in Ethiopia with special emphasis to the participatory demonstration and training extension system*. Rome, Italy: Food and Agriculture Organization of the United Nations.

Abda, S.N. 2014. *A module on animal health extension and pastoralism*. Wollega University, School of Veterinary Medicine.

Admassu, B. 2014. *Primary animal health care in the 21st century: Shaping the rules, policies and institutions*. Theme four: Making it happen. Primary animal health care in Ethiopia: The experience so far.

Aguilar, A., Carranza, E., Goldstein, M., Kilic, T. and Oseni. G. 2014. *Decomposition of gender differentials in agricultural productivity in Ethiopia*. Policy Research Working Paper Series 6764. Washington, D.C: The World Bank Group.

Ashworth, V. 2005. *The challenges of change for agricultural extension in Ethiopia: A discussion paper*. Addis Ababa, Ethiopia: Government of Ethiopia.

Assefa, Y., Gelaw, Y.A., Hill, P.S., Taye, W.B. and Van Damme, W. 2019. Community health extension program of Ethiopia, 2003–2018: successes and challenges toward universal coverage for primary healthcare services. *Globalization and Health* 15:24. https://doi.org/10.1186/s12992-019-0470-1.

Atkinson, O. 2010. Communication in farm animal practice 1. Farmer–vet relationships. *In Practice* 32: 114–117. doi: 10.1136/inp.c836.

Ayele, K. 2016. Analysis of the characteristics of model farmers in the Ethiopian agricultural extension system. *International Journal of Agricultural Extension 2311–8547*.

Bard, A.M., Main, D.C.J., Haase, A.M., Whay, H.R., Roe, E.J. and Reyher, K.K. 2017. The future of veterinary communication: Partnership or persuasion? A qualitative investigation of veterinary communication in the pursuit of client behaviour change. *PLoS ONE* 12(3): e0171380. doi:10.1371/journal.pone.0171380.

Bekele, A., Alemu, D., Teklewold, T., Moore, H., Hodge, C. and Berg, S. 2018. Strategies for animal disease control in Ethiopia: A review of policies, regulations and actors. *Journal of Toxicology and Environmental Health Sciences* 10(12): 256–265.

Belay, F. and Oljira, A. 2016. Gender role in agricultural activities in Ethiopia: Country review. *Journal of Culture, Society and Development* 22.

Belay, K. 2015. *Gender responsive agricultural services for rural poverty reduction in Ethiopia: Scoping study*. African Forum for Agricultural Advisory Service (AFAAS).

Belay, K. and Abebaw, D. 2004: Challenges facing agricultural extension agents: A case study from South-western Ethiopia. *African Development Review* 16(1): 139–168.

Bengtsson, M. 2016. How to plan and perform a qualitative study using content analysis. NursingPlusOpen 2:8–14. https://doi.org/10.1016/j.npls.2016.01.001

Berhane, G., Ragasa, C., Tadesse, G. and Woldu, T. 2020. Performance of extension systems: Ethiopia. In: Davis, K., Babu, S.C. and Ragasa, C., *Agricultural extension: Global status and performance in selected countries*. Washington, DC: International Food Policy Research Institute.

Buchy, M. and Basaznew, F. 2005. Gender-blind organizations deliver gender-biased services: The Case of Awasa Bureau of Agriculture in southern Ethiopia. *Gender, Technology and Development* 9(2): 235–251.

Buehren, N., Goldstein, M., Molina, E. and Vaillant, J. 2018. *The impact of strengthening agricultural extension services: Evidence from Ethiopia*. Policy Brief Issue 25. Gender Innovation Lab.

Cohen, M.J. and Lemma, M. 2011. *Agricultural extension services and gender equality: An institutional analysis of four districts in Ethiopia*. IFPRI Discussion Paper 01094.

Cohen, M.J. and Lemma, M. 2010. Making rural services work for women and the poor: An institutional analysis of five districts in Ethiopia. *Yale Human Rights and Development Journal 13(2): 480–493*.

Collett, K. and Gale, C. 2009. *Training for rural development: Agricultural and enterprise skills for women smallholders*. City and Guilds Centre for Skills Development.

Davis, K.E., Swanson, B., Amudavi, D., Mekonnen, D.A., Flohrs, A. et al. 2010. *In-depth assessment of the public agricultural extension system of Ethiopia and recommendations for improvement*. IFPRI Discussion Paper 01041. Eastern and Southern Africa Regional Office.

Desta, H., Kinati, W., Alemu, B., Mulema, A. and Wieland, B. 2017. *Gender priority livestock species and role in small ruminant production*. Addis Ababa, Ethiopia: ILRI.

Drucza, K. and Abebe, W. 2017. *Gender transformative methodologies in Ethiopia's agricultural sector: A review*. Addis Ababa, Ethiopia: CIMMYT.

Drucza, K. and Tsegaye, M. 2018. *Analytic overview 2018: Opportunities for strengthening gender and social equity in Ethiopia's wheat sector*. BMZ and CIMMYT.

EEA (Ethiopian Economic Association)/EEPRI (Ethiopian Economic Policy Research Institute). 2006. *Evaluation of the Ethiopian agricultural extension with particular emphasis on the Participatory Demonstration and Training Extension System (PADETES)*. Addis Ababa, Ethiopia: EEA/EEPRI.

FAO (Food and Agriculture Organization of the United Nations). 2011. *The state of food and agriculture: Women in agriculture – Closing the gender gap for development*. Rome, Italy: FAO.

FAO. 2012. *Invisible guardians – Women manage livestock diversity*. Animal Production and Health Paper No. 174. Rome, Italy.

Farnworth, C.R. and Hailegeorgis, T.G. 2010. *Gender aware approaches in agricultural programs – Ethiopia report*. A special study of the Sida-Amhara Rural Development Program (SARDP III) and the work of selected agencies in Ethiopia, UTV Working Paper 4. Sida.

Farnworth, C.R., Stirlinga, C.M., Chinyophiroc, A., Namakhomac, A. and Morahand, R. 2018. Exploring the potential of household methodologies to strengthen gender equality and improve smallholder livelihoods: Research in Malawi in maize-based systems. *Journal of Arid Environments 149: 53–61*.

FDRE (Federal Democratic Republic of Ethiopia) 1993. *National policy on Ethiopian women*. Addis Ababa, Ethiopia.

FDRE. 2010. *Growth and Transformation Plan I (GTP I) (2010−2015)*. Addis Ababa, Ethiopia.

FDRE. 2016. *Growth and Transformation Plan II (GTP II) (2015/16−2019/20)*. Addis Ababa, Ethiopia.

FDRE. 2001: *Rural development policies, strategies and instruments* (Amharic). Ministry of Information, Addis Ababa.

Fletscher, D. and Mesbah, D. 2011. Gender disparity in access to information: Do spouses share what they know? *World Developmen*t 39(8):1422–1433.

Fong, M. and Bhushan, A. 1996. *Toolkit: Gender issues in agriculture*. Washington, DC: World Bank.

Hailemichael, S. and Haug, R. 2020. The use and abuse of the 'model farmer' approach in agricultural extension in Ethiopia. *Journal of Agricultural Education and Extension 26(5): 465–484*. DOI: 10.1080/1389224X.2020.1757475.

Herego, E. 2017. *Gender assessment of dairy value chains: Evidence from Ethiopia. Food and Agriculture Organization of the United Nations*. Rome, Italy.

IFAD (International Fund for Agricultural Development). 2009. *Value chain Development in the Eastern Region, Dominican Republic*. Project Design Document.

Kassa, B. and D. Abebaw. 2004. Challenges facing agricultural extension agents: A case study from south-western Ethiopia. *African Development Review* 16 (1):139–168.

Kinati, W. and Mulema, A. 2019. Gender issues in livestock production systems in Ethiopia: A literature review. *Journal of Livestock Science* 10: 66–80.

Kinati, W., Mulema, A., Desta, H., Alemu, B. and Wieland, B. 2018. Does participation of household members in small

ruminant management activities vary by agro-ecologies and category of respondents? Evidence from rural Ethiopia. *Journal of Gender, Agriculture and Food Security* 3(2): 51–73.

Kok, M.C, Kea, A.Z., Datiko, D.G., Broerse, J.E.W. Dieleman, M. Et al. 2015. A qualitative assessment of health extension workers' relationships with the community and health sector in Ethiopia: Opportunities for enhancing maternal health performance. *Human Resources for Health* 13:80. DOI 10.1186/s12960-015-0077-4.

Lemma, M. and Tesema, E. 2016. New approaches and methods for addressing gender gaps in extension services: Experiences and lessons from LIVES project in Ethiopia. *Journal of Agricultural Economics, Extension and Rural Development* 4(4): 429–435.

Lemma, M., Alemu, B., Mekonnen, M. and Wieland, B. 2019. *Community conversations on antimicrobial use and Resistance*. Nairobi, Kenya: ILRI.

Lemma, M., Kinati, W., Mulema, A., Bassa, Z., Tigabe, A. et al. 2018. *Report of community conversations about gender roles in livestock*. Nairobi, Kenya: ILRI.

Leta, G., Kelboro, G., Stellmacher, T. and Hornidge, A. 2017. *The agricultural extension system in Ethiopia: Operational setup, challenges and opportunities*. ZEF Working Paper Series. Germany: University of Bonn.

Mamo, D. 2020. Policies of gender equality in Ethiopia: The transformative perspective. *International Journal of Public Administration* 43(4): 312–325.

Manfre, C., Rubin, D., Allen, A., Summerfield, G., Colverson, K. and Akeredolu, M.. 2013. *Reducing the gender gap in agricultural extension and advisory services: How to find the best fit for men and women farmers*. MEAS Discussion Paper 2.

Mbo'o-Tchouawou, M. and Colverson, K. 2014. *Increasing access to agricultural extension and advisory services: How effective are new approaches in reaching women farmers in rural areas?* Nairobi, Kenya: IILRI.

Meinzen-Dick, R., Quisumbing, A., Behrman, J., Biermayr-Jenzano, P., Wilde, V. et al. 2010. Engendering agricultural research. Washington, DC: IFPRI.

Miller, B.A. 2011. *The gender and social dimensions to livestock keeping in Africa: Implications for animal health interventions.* GALVmed.

MoA. 2010. *Participatory agricultural extension system* (Amharic). Addis Ababa, Ethiopia: Ministry of Agriculture.

MoA and ATA. 2017. *Ethiopia's agricultural extension system. Vision, systemic bottlenecks and priority interventions*. Addis Ababa, Ethiopia: Ministry of Agriculture.

MoA and ILRI. 2013a. *Livestock extension vision and strategy for Ethiopia*. Addis Ababa, Ethiopia: Ministry of Agriculture and International Livestock Research Institute.

MoA and ILRI. 2013b. *Animal health strategy and vision for Ethiopia*. Addis Ababa, Ethiopia: Ministry of Agriculture and International Livestock Research Institute.

MoA and ILRI. 2013c. *Review of past policies and strategies for livestock in Ethiopia*. Addis Ababa, Ethiopia: Ministry of Agriculture and International Livestock Research Institute.

MoA (Ministry of Agriculture). 2009. *Farmers' training center operational manual*. Addis Ababa, Ethiopia: Ministry of Agriculture

MoA. 2011. *Guidelines for gender mainstreaming in agricultural sector*. Addis Ababa, Ethiopia: Women's Affairs Directorate.

MoA. 2003. *Curriculum guide for agricultural extension and communication*. Addis Ababa, Ethiopia: Ministry of Agriculture, Agriculture TVET Department.

MoH (Ministry of Health). 2003. *Health education and communication methods manual: health extension package*. Addis Ababa, Ethiopia: Ministry of Health.

MoH. 2005. *Health service extension programme implementation guideline*. Addis Ababa, Ethiopia: Ministry of Health.

Morton, J. and Matthewman, R. 1996. *Improving livestock production through extension: information needs, institutions and opportunities*. Overseas Development Institute.

Mulema, A.A and Nigussie, L. 2019. Women's empowerment in Ethiopia's agricultural sector: Measurements and dynamics at policy, community and household levels. In: Cheru, F., Cramer, C. and Oqubay, A. (eds), *The Oxford Handbook of the Ethiopian Econom.* Oxford: Oxford University Press: 587–602. DOI: 10.1093/oxfordhb/9780198814986.013.53.

Mulema, A. and Damtew, E. 2016. *Gender-based constraints and opportunities to agricultural intensification in Ethiopia: A systematic review*. Nairobi, Kenya: ILRI.

Mulema, A., Tafesse, S. and Kinati, W. 2015. *Gender capacity assessment report on small ruminants' value chain research and development partners in Ethiopia*. Nairobi, Kenya: ILRI.

Ragasa, C. 2012. *Gender and institutional dimensions of agricultural technology adoption: A review of literature and synthesis of 35 case studies*. Selected poster prepared for presentation at the International Association of Agricultural Economists (IAAE) Triennial Conference, Foz do Iguaçu, Brazil 18–24 August 2012.

Ragasa, C., Berhane, G., Tadesse, F. and Seyoum, A. 2012. *Gender differences in access to extension services and agricultural productivity*. ESSP Working Paper 49. EDRI and IFPRI.

Rijke, E. 2017. *Gender capacity assessment of the African chicken genetic gains project partners in Ethiopia. ILRI Project Report*. Nairobi, Kenya: ILRI.

Rota, A., Sperandini, S. and Hartl, M. 2007. *Gender and livestock: Tools for design. Livestock Thematic Paper*. Rome, Italy: IFAD.

Shapiro, B.I., Gebru, G., Desta, S., Negassa, A., Negussie, K. et al. 2015. *Ethiopia livestock master plan: Roadmaps for growth and transformation*. Nairobi, Kenya: ILRI.

Tarekegne, C., Wesselink, R., Biemans, H. and Mulder, M. 2017. Developing and validating a competence profile for development agents: An Ethiopian case study. *The Journal of Agricultural Education and Extension.* DOI: 10.1080/1389224X.2017.1368400.

Tegegne, A., Gebremedhin, B. and Dirk, H. 2010. Livestock input supply and service provision in Ethiopia: Challenges and opportunities for market-oriented development. IPMS Project Working Paper 20. Nairobi, Kenya: ILRI. 48 pp.

Tenna, G. 2015. Gender disparity in the utilization of agricultural extension services in Bure Woreda, North Western Ethiopia. *Journal of Agriculture and Environmental Sciences* 1(1): 1–17.

Tesema, E., Taye, H., Seman, R., Bogale, A. and Lemma, M. 2017. Gender differentials in access to and control over assets, livestock inputs and income from the sale of livestock and livestock products among smallholders in Ethiopia. *Journal of Culture, Society and Development.* 28: 34–47.

Teshome, A. 2018. *How the gender equality strategy for Ethiopia's agriculture sector can improve outcomes for all. Technical Brief*. Agriculture Knowledge, Learning Documentation and Policy (AKLDP) Project, Ethiopia.

Welteji, D. 2018. A critical review of rural development policy of Ethiopia: Access, utilization and coverage. *Agriculture and Food Security* 7:55. https://doi.org/10.1186/s40066-018-0208-y.

World Bank and IFPRI. 2010. *Gender and governance in rural services: Insights from India, Ghana and Ethiopia*. Washington, DC: World Bank.

Zahra, A., Mulema, A., Colverson, K., Odongo, D. and Rischkowsky, B. 2014. *A review of Ethiopia small ruminant value chains from a gender perspective*. Nairobi, Kenya: ILRI and ICARDA.

The Health of Ethiopian Animals for Rural Development (HEARD) project is financed by the European Union.

Among others, one of the objectives of the project, 'improving the technical competencies of veterinary service providers to enable them to deliver better and provide rationalized services,' is jointly implemented by the International Livestock Research Institute (ILRI) and the Ethiopian Veterinarians Association (EVA). The lead implementer of the HEARD project is the Federal Democratic Republic of Ethiopia's Ministry of Agriculture.

This publication was produced with the financial support of the European Union. Its contents are the sole responsibility of the authors and do not necessarily reflect the views of the European Union.

Funded by the European Union

In partnership with

Implemented by