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Challenging structures: gender transformative interventions by livestock CRP in Ethiopia

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Introduction: This study is a review of secondary literature that has been synthesized to extract information and demonstrate the implementation and impact of community conversations (CCs) on gender aspects of social norms in livestock-based systems in Ethiopia.

Methods: The study used the phenomenological method of qualitative literature review to sketch the gender transformative approach to the delivery of knowledge products in a program on transforming the small ruminant value chain. The CC aimed at addressing gender-related norms in the division of labor, resource ownership, and handling practices of animals and their products previously identified, and those that emerged during the CC events across the study sites. A total of 1,517 community members (out of which 574 are women) took part in various CC events.

Results and discussion: The review shows that the gender-related norms addressed were in line with the identified constraining norms faced by women livestock keepers in the mixed and livestock-based systems. The CC approach adopted complied with the stages laid out in literature: identification of existing knowledge; imparting new knowledge; knowledge integration and application; and review, reflection, and re-planning. The process was inclusive and community-engaging, which possibly cultivated intrinsic motivation and ownership of the process. Changes in knowledge, attitudes, and practices at household, community, and institutional levels were identified. The conclusions include institutionalizing the gender transformative approach in the public agricultural extension system. This could be facilitated by the generation of robust objective evidence of impacts and guidance for subsequent scaling at local, regional, and national levels.

KEYWORDS

community conversation, gender norms, impact, mixed and livestock-based systems, Ethiopia

Introduction

The major role played by gender norms as structural barriers to gender equality worldwide is increasingly being recognized among researchers, policy-makers, and development practitioners (Legovini, 2006; Aguilar et al., 2015; Bayeh, 2016; Didana, 2019). Gender norms are conceptualized as a social system that governs how resources, roles, power, and entitlements are distributed based on masculine or feminine identities (Ridgeway and Correll, 2004). So, it is the social

rules and expectations that guide how the gender system operates (Pearse and Connell, 2016). In recent decades, research and development interventions were criticized for their failure to sufficiently recognize and address the underlying causes of gender inequality that affect the planning and implementation of projects and programs (Kumar and Quisumbing, 2015). In response to this, various transformative methodologies have been formulated and tested in different parts of the world, including Ethiopia (Drucza and Abebe, 2017). These methodologies include the Transformative Household Methodology (THM), Community Conversation (CC), Social Analysis and Action (SAA), the Family Life Model (FLM), the Gender Action Learning System (GALS), and Rapid Care Analysis (RCA).

The Livestock CRP¹ in Ethiopia, implemented by ICARDA² and ILRI,³ adopted a gender transformative approach known as community conversation (CC), in order to address perceived gender inequality in small ruminant value chain development. This has been a focus of the SRVCD⁴ program. Nevertheless, the processes of CC interventions and their likely impacts have not been well documented. This study seeks to close this gap by addressing two research questions: (1) how were CCs implemented in mixed and livestock-based systems in Ethiopia under the Livestock CRP? and (2) Which norms related to gender were addressed and which outcomes eventuated? While review question 1 identifies and describes the CC intervention processes, review question 2 examines the effectiveness of CC interventions on outcomes relevant to this study. Hence, a thematic synthesis of the process, as well as the outcome evaluation, was carried out.

CC as a gender transformative approach

The application of GTA is historically linked to the health sector (Singh et al., 2022). GTAs are participatory approaches that aim for empowerment outcomes at household (HH) and community levels. They follow specified participatory steps that facilitate the achievement of desired empowerment outcomes, often involving the creation of vision, analysis of scenarios, action formulation, implementation, joint monitoring and evaluation of progress, and sustainable exit mechanisms (Drucza and Abebe, 2017; Lemma et al., 2019a). One such methodology that has been widely used in recent years to tackle the underlying causes of gender inequality is the CC (Gueye et al., 2005; Drucza and Abebe, 2017; FAO, IFAD and WFP, 2020).

Community conversation resides methodologically among community-level participatory approaches that involve a series of facilitated community-level dialogues. It is a transformative approach whose goal is to bring community members together to identify and discuss solutions to their own development problems (FAO, IFAD and WFP, 2020). CC is a flexible methodology in which people from the same community have open discussions about obstacles to achieving their individual and collective development goals. Such issues include gender norms, behavior, and practices (Gueye et al., 2005).

Community members participating in CC feel free to debate pressing issues, including sensitive ones, in a safe space for radical change (Lemma et al., 2019b). When effectively planned and implemented, the process of CC helps community members to feel included in the processes of decision-making that affect their individual and collective lives. It enables community members to feel empowered to question their values and consider their cultural and traditional practices freely. CC is recognized as being capable of cultivating a fundamental shift in gender norms because it engages both women and men in a critical examination of values, beliefs, and practices (FAO, IFAD and WFP, 2020). In both the short and long term, such shifts result in fewer gender-based constraints on women's roles, decision-making, and mobility. Possible achievements include a shift toward a more balanced intra-household sharing of livestock husbandry practices, positive perceptions about women's roles, and ultimately control over animals and other resources (Lemma et al., 2018a,d). Transformative approaches such as CCs trigger interest in change by raising the level of participants' awareness of the causes of the undesirable behaviors, constraining gender norms and relations, on individual, household, and community goals (Cornwall, 2016; FAO, IFAD and WFP, 2020).

The participatory nature of CC cultivates ownership of the change process. There are parallels between CC and Self-Determination Theory (SDT), in particular, on motivation. SDT states that agents are motivated to take action if the behavior is perceived to be beneficial (Deci et al., 1991). In this study, we show how CCs motivated participants to go further and take action for change in desired behaviors. The theory suggests that if the personal utility of desired behaviors is understood, internalizations of the new behaviors trend toward forms of self-regulation. However, SDT argues that this happens most effectively when engagement is based on choices with minimum pressure, and when feelings and perspectives are acknowledged in the change process (Deci et al., 1991). The process of motivation to action, motivational readiness to change, occupies a five-part continuum of behavioral change according to the transtheoretical cognitive model (Webb et al., 2010; LaMorte, 2022). It begins with precontemplation—prior to awareness of the problem and intention to change future behavior—to the last stage in the continuum which is maintenance, prevention of relapse, and consolidation of gains. In between, the continuum spans awareness of the problem and consideration of changed future behaviors, preparation to act, belief in the ability to change, and modification of behaviors (Figure 1).

Community conversation capitalizes on local resources to develop context-specific knowledge products, and so development practitioners can use the knowledge for the development of inclusive and customized informational materials. With the recognition of the importance of CC as a powerful gender transformative approach, UNDP began to implement it in 2001 across several countries, including Ethiopia, and developed the Community Capacity Enhancement Handbook (CCEH) to guide program staff (Drucza and Abebe, 2017; FAO, IFAD and WFP, 2020).

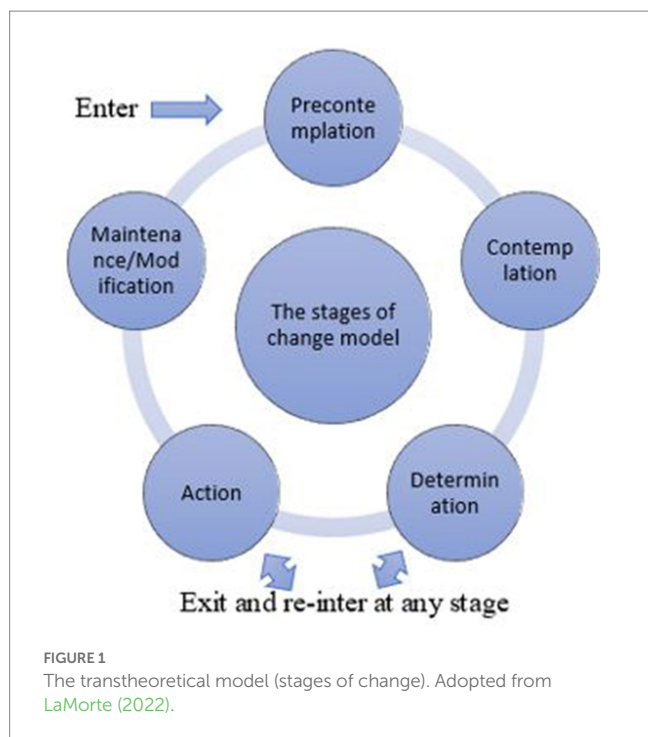
The standard implementation of CC entails activities twice a month over a period of 9 months to 1 year, in which up to 50 participants can take part at a time. Variations are noted in the literature (Drucza and Abebe, 2017; FAO, IFAD and WFP, 2020). According to Gueye et al. (2005) and Drucza and Abebe (2017), the CC implementation process can be generalized into three steps—preparation, implementation, and reflection. However, a more detailed view portrays six stages—relationship building, identification, exploration, decision-making, implementation, and reflection.

1 An integrated program of international agricultural research implemented by the Consultative Group on International Agricultural Research (CGIAR).

2 The International Center for Agricultural Research in the Dry Areas.

3 International Livestock Research Institute.

4 Small Ruminant Value Chain Development.



Setting the scene: the need for GTAs in Ethiopia

A growing body of research shows that at the national level, significant gender differentials exist in the Ethiopian agricultural system, putting women in a disadvantaged position (Yisehak, 2008; Asrat and Getnet, 2012; Leulseged et al., 2015; Elias et al., 2018). Despite rural women's key role in the process of agricultural production, processing, and marketing, they are generally perceived as marginal actors (Asrat and Getnet, 2012; Leulseged et al., 2015). In the case of livestock production in Ethiopia, numerous previous studies have highlighted the significant influence of gender norms affecting livestock production (Kinati et al., 2018; Kinati and Mulema, 2019; Mulema et al., 2019a, 2020, 2021), implying the importance of introducing gender transformative interventions that can ensure gender equitable benefits. Literature reveals that both men and women farmers are actively involved in livestock production (Belete and Charmaz, 2006; Hulela, 2010; Ragasa et al., 2012), although women's contribution is culturally undervalued (Kinati et al., 2018). It is often argued that the reason women's contribution is not welcomed or less valued is associated with norms that are embedded in the socio-culture of the society (Asrat and Getnet, 2012; Leulseged et al., 2015). Non-recognition of women's roles not only affect their economic status but also their family's well-being and the country's economy at large (Bayeh, 2016).

In the mixed and livestock-based systems, studies under the Livestock CRP concluded that gender relations are highly unequal (Kinati and Mulema, 2016; Kinati, 2017; Mulema, 2018). Women's access to, ownership of, and control over productive resources are markedly limited due to gender norms (Zahra et al., 2014; Galiè et al., 2015). Existing gender norms not only discourage women from owning key assets but also limit their access to other opportunities. For example, in Bonga, Ethiopia, women are discouraged from owning livestock and as a result forgo opportunities to access

livestock-based institutions such as the breeding cooperatives (Kinati, 2017; Mulema et al., 2019a). Yet, if such attitudes are transformed and women are allowed to own animals and then become members, they could not only generate additional income for themselves and their families but also help to strengthen the cooperative itself (Kabeer, 2017).

The gender aspect of social norms which form the basis for gender relations, comprising the "differential rules of conduct for women and men" (Pearse and Connell, 2016, p. 35), are shaped by individual behavior as well as social institutions (Laven, 2010). Norms set roles to be played by women and men in agriculture, and more importantly, such norms give rise to gender-differentiated capacities to access, own, and manage assets (Elias et al., 2018) and are largely responsible for the gender gap in use of opportunities between men and women in agriculture (KIT, Agri-Profocus, & IIRR, 2012). They expose women and men to different levels of risks (Kristjanson et al., 2010), for example in livestock farming, exposure to zoonotic diseases bears relation to the distinct gender roles. They define relations within households and communities, and they impact the allocation of decision-making responsibilities, as well as access to information and other important resources (Flora and Flora, 2008). Systems of access, ownership, and control of resources vary greatly across contexts, influenced by the contextual norms that determine the meaning and dynamics of resource allocation (Galiè et al., 2015). If the gender differential in access to inputs, due to the underlying structural constraints, is addressed, for example in Ethiopia alone, a 35% increase in productivity could be achieved (Tiruneh et al., 2001). The gender productivity gap is largely attributed to the underlying structural constraints (World Bank, 2015).

To deal with the negative impact of social norms in the global south, social norms theory has been applied to address norms related to human health, such as intimate partner violence and female genital cutting (Mackie and Lejeune, 2009; Mackie et al., 2015; Gelfand and Jackson, 2016). The positive outcomes achieved in health through strategies derived from social norms theory (Mackie and Lejeune, 2009) led to the design and application of approaches in development, including agriculture, which are consistent with social norm theories. In the development sector, the focus is on the "[...] 'social' reasons why individuals do what they do" (Cislaghi and Heise, 2020, p. 408) to transform gender norms mainly to achieve women's economic empowerment (Markel et al., 2016) and gender equality (Cislaghi and Heise, 2020).

In the remaining sections of this article, we present the methods of data collection and analysis in section two. In section 3, findings and a discussion are presented. The final section concludes with the implications of the study.

Methods for data collection and analysis

Background and conceptual framework

The SRVCD program, through its research and development partners, has implemented various interventions since 2013 to develop and deliver innovations for livestock value chain development across Ethiopia's major sheep and goat-producing districts. These include breed improvement through community-based approaches, animal

health management, animal feed and nutrition improvement, and market development through collective action.

In order to address the constraining norms related to gender, a series of CCs was designed and implemented in five target sites namely Doyogena, Menz Gera, Menz Mama, Adiyo, and Yabello districts (Mulema et al., 2020). These sites are also the target sites for the small ruminant value chain transformation program. Following the CC implementations at the community level with men and women program participants, knowledge products such as technical research reports, blog stories, syntheses of lessons learned, extension guidelines, technical briefs, and training tools were produced.

We hypothesize that CCs, if carefully implemented, will transform gender norms and eventually have an empowerment impact on the target communities. For example, FAO, IFAD and WFP (2020) reported that CCs brought about changes in attitudes, improved intra-household relations including decision-making, transformed gender roles toward equitable distribution of workloads, and improved women's participation and leadership skills. The success of CCs in transforming the normative context highly depends on the facilitation process which in turn is determined by the level of facilitators' skills in CC implementation. In most CC manuals, the role of facilitators in carrying out a successful CC process is highly emphasized (Drucza and Abebe, 2017). Moreover, the approach can lead to joint actions. The various interventions being implemented by the SRVCD program can also accelerate the empowerment effects of CCs on target communities. As a result of changes in gender norms, positive changes in gender equality outcome indicators are expected. These could include a shift in norms related to gender relations, enhanced access to group membership, decision-making and control over resources and income, increased market participation, expanded social networks, and improved capacity to aspire to and realize changes in their lives (Figure 2). When women operate through collectives, they have been shown to gain self-esteem, confidence, and self-reliance, leading to empowerment at both an individual and group level (Deshmukh-Ranadive, 2005).

According to Lemma et al. (2019e), at the beginning, CC participants exhibit ignorance of a problem situation as they tend to adhere to the existing norms. Because gender norms are deeply embedded in social hierarchies and structures, both men and women conform to this system of 'idealized' gender relationships (Johnson, 2005). When interventions are considered contaminating and disruptive to the existing gender hegemony, community members often exhibit resistance (Connell, 2011), denying the existence of the problem, for example, by claiming that they jointly share resources and make decisions. In the behavioral change process, this situation is considered the pre-contemplation or unawareness stage and unpacked through deeper and critical dialogues which eventually leads to the contemplation or awareness stage where community members acknowledge/recognize the problem situation and become open to explore and analyze the benefits and barriers to change. At this stage, CC participants are assisted in recognizing the problem situation through analysis of key knowledge, attitudes, and practices while introducing new knowledge to challenge their perceptions. The introduction of new knowledge often causes conflicting emotions/feelings among CC participants which need to be assisted through building their confidence and readiness for change that would help them progress to the determination stage in the behavioral change processes. The determination stage involves readiness and preparation

for change. At the next stage, CC participants actively engage in the learning process and identify action points to reinforce the new knowledge gained and progress to practicing change because they understand the benefits of the particular behavioral change. In the final stage through change retention mechanisms, CCs are intended to sustain the change experienced by participants and influence the wider community (Webb et al., 2010; Lemma et al., 2019e; LaMorte, 2022).

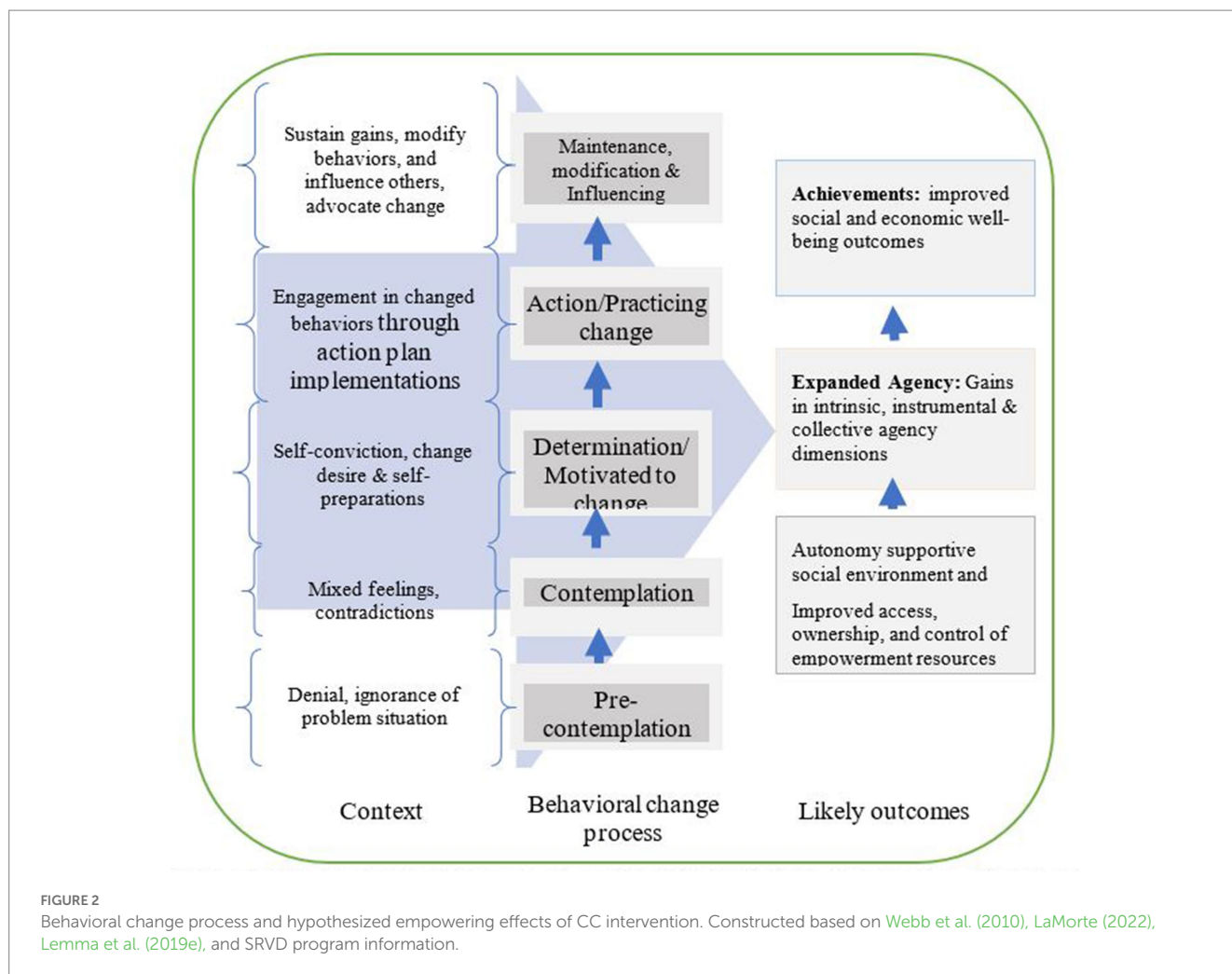
In many gender transformative programs, perception-based indicators were used in an attempt to quantify intervention impacts at various levels (Table 1). For example, change in attitudes toward oneself or gender norms and behaviors (Barker et al., 2007; Ricardo et al., 2011), change in household relationships (World Bank, 2011), and new or change in relationships beyond the household (Rottach et al., 2009; Muthengi and Erulkar, 2011; FAO, IFAD and WFP, 2022) are the common indicators used for assessing the outcomes of gender transformative programs.

Data sources and study areas

The population of interest for this study is men and women livestock keepers and development actors. Hence, data for this study were generated from a comprehensive review of the available knowledge products from CC interventions by the Livestock CRP in Ethiopia. Available knowledge products were systematically searched. CC knowledge products that were published on CGSpace⁵ and outputs in recognized journals were considered as inclusion criteria for final selection and analysis. In the first stage, the search resulted in 44 published and unpublished reports including technical reports, blog stories, posters, manuals, extension materials, and training materials. In the second stage, after reviewing the titles and abstracts, 27 published and unpublished reports were screened and finally reviewed to conduct this analysis (Figure 3). We recognize that the considerations of unpublished materials in this review analysis could pose implicit biases, possibly emphasizing success stories and glossing over challenges encountered. In order to minimize this and give an unbiased and objective examination of CCs as a tool for leading to social normative change, we adopted a more critical perspective and closer readings of these materials so as to draw the conclusions of this study. We questioned the assumptions behind the reports and examined their strengths and weaknesses. As much as possible, we provide detailed information on the reported strategies assumed to have provoked changes. Nevertheless, there is a need to objectively validate the findings reported regarding changes in behavior and practices by interviewing both spouses, particularly spouses of those claiming the change in order to draw lessons and identify gaps for future interventions.

The SRVCD program's CCs were implemented in five districts with men and women community members. On average, four rounds of CCs were held (including closing sessions) over a period of 4 months in most of the target sites. This is relatively less frequent than outlined earlier (Drucza and Abebe, 2017). Table 2 presents CC discussion topics, participants by gender, and target sites. Various

⁵ <https://cgspace.cgiar.org>



discussion topics along the different livestock value chain stages were covered in the CCs. Distribution among the target sites was somewhat uneven, and this is expected as the sites' contexts differ (Hulela, 2010; Waithanji et al., 2013a). The community conversations engaged 1,517 (574 women, 38%) community members who took part either as couples or individuals in one or all four rounds of CC sessions.

Data collection and analysis

For the searched studies, data extraction was carried out using pre-developed data extraction tools. Data analysis followed the steps laid out by Randolph (2009). Bracketing, the first step, involves the identification of the phenomenon to be investigated and then "bracketing" own experience with the phenomenon identified. In the second step, collecting data, the researcher collects the data about the phenomenon by reading existing reports of research on the phenomenon. Based on the collected data, the reviewer identifies meaningful statements as a third step. The reviewer then records claims made about the phenomenon of interest. In the fourth step, the reviewer tries to give meaning to those statements collected through repeated categorizations, paraphrases, and interpretations. In the last step, thick/rich description, the reviewer creates a tick description of the essence of the primary researchers' experiences with the phenomenon (Randolph, 2009).

The extracted data were organized and analyzed following the steps suggested by Randolph (2009) and Belete and Charmaz (2006). Using an Excel spreadsheet, open coding, based on the focus and type of literature (published/unpublished), and then focused coding, the gender norms reported on, was completed. The codes were further synthesized and categorized into themes (such as norms related to gender roles, decision-making, and use of animal source foods and handling practices, and norms of doing extension and research, and institutional rules) and then the themes were linked to the research questions of the study.

Results

In this section, we begin by presenting findings on the contents of CC discussion topics. Then, we lay out the implementation process as adopted by the program in comparison with CC steps as suggested in the literature before reporting on the outcomes, success factors, and associated challenges identified.

Focus of the CCs

Norms related to gender roles and the associated risk of zoonotic diseases were mentioned in approximately 24% of the reports

TABLE 1 Types of outcomes and example indicators for gender transformative programs.

Level	Outcome Indicators	Source
Individual	<ul style="list-style-type: none"> - Increase in ownership, control of resources, and decision-making by women. - Increased control and use of income by women including time use outcomes. - Improved self-confidence/self-worth and aspirations. - Level of equality in terms of treating girls and boys without discrimination. - Changes in attitudes toward harmful practices. - Increased participation of women spouses in primary cooperatives and other associations. - Increased valuations of women's economic contribution to the family. - Increased involvement in management and leadership positions. - Knowledge and improved practice outcomes. - Improved perception and awareness about gender norms and roles. 	FAO, IFAD and WFP (2020); Singh et al. (2022)
	<ul style="list-style-type: none"> - Men's approval of long-term methods of family planning. - A decrease in the incidence of gender-based violence, including psychological abuse, physical violence, and sexual violence. - A decrease in controlling behavior by an intimate partner. - An increase in one's communication about sexual behavior. - Increased access to technology and services, e.g., communication, extension services, and other agricultural inputs. 	Barker et al. (2007) Rottach et al. (2009) Singh et al. (2022)
Household	<ul style="list-style-type: none"> - Increased awareness among spouses and family members about gendered roles in agriculture and allied activities. - Change in share of household chores. 	Singh et al. (2022)
	<ul style="list-style-type: none"> - Improved household perception and awareness about gender norms and roles. 	Singh et al. (2022)
	<ul style="list-style-type: none"> - A decrease in the incidence of family conflict (i.e., incidents of arguments, or physical or sexual conflict). - An increase in spousal/family communication. - An increase in joint decision-making among partners. - More equitable treatment of children. 	Murphy-Graham (2010); World Bank (2011)
Community, beyond household	<ul style="list-style-type: none"> - Community engagement. - Community ownership of assets. - Increased Support (emotional, instrumental, or general) among community members. - Expansion of social networks. - Increased rate of participation in community organizations. - Increased incidence of social groups or community action. - Expanded and strengthened social networks for women/girls. - Changes in the community's attitude. 	Singh et al. (2022); Rottach et al. (2009); Muthengi and Erulkar (2011)
Institutions: norms and structures	<ul style="list-style-type: none"> - Changes in formal structures (laws and formal rules) and informal, implicit rules of society. - Perceived change in the prevalence of a norm. - Perceived change in social support or backlash for behaving outside a given norm, and by whom. - Disagreement about a given norm. 	Udin et al. (2005) Helen Keller International (2011); FAO, IFAD and WFP (2022)

reviewed, making them the central discussion topics of the CCs (Figure 4). Building on this, gender relations in access, ownership, control, and decision-making with regard to livestock and related resources were part of the CC topics targeted (Lemma et al., 2018d). Associated with gender roles, the risk of zoonosis emanating from inappropriate handling of animal source foods (ASFs) as a result of men's and women's limited knowledge, wrong attitudes, and bad practices (Alemu et al., 2019; Mulema et al., 2019b) were included in the CC discussion topics. Linked to these, institutional and structural factors influencing the prevention and control of zoonotic diseases and animal welfare were the contents of the CCs particularly at the

Doyogena, Yabello, and Menz study sites (Lemma et al., 2019c,d; Mulema et al., 2020).

Moreover, gender-differentiated knowledge about antibiotics and their use (Alemu et al., 2019), and access to information were part of the CC topics that were addressed in the CC discussions (Lemma et al., 2020b). This featured an understanding of gendered attitudes and improving community awareness of clinical signs, causes, transmission pathways, prevention, and control of animal diseases (Lemma et al., 2021b). Gender norms in relation to group membership—related beliefs such as it is not appropriate for a woman to be in associations where the male spouse is a member—were also

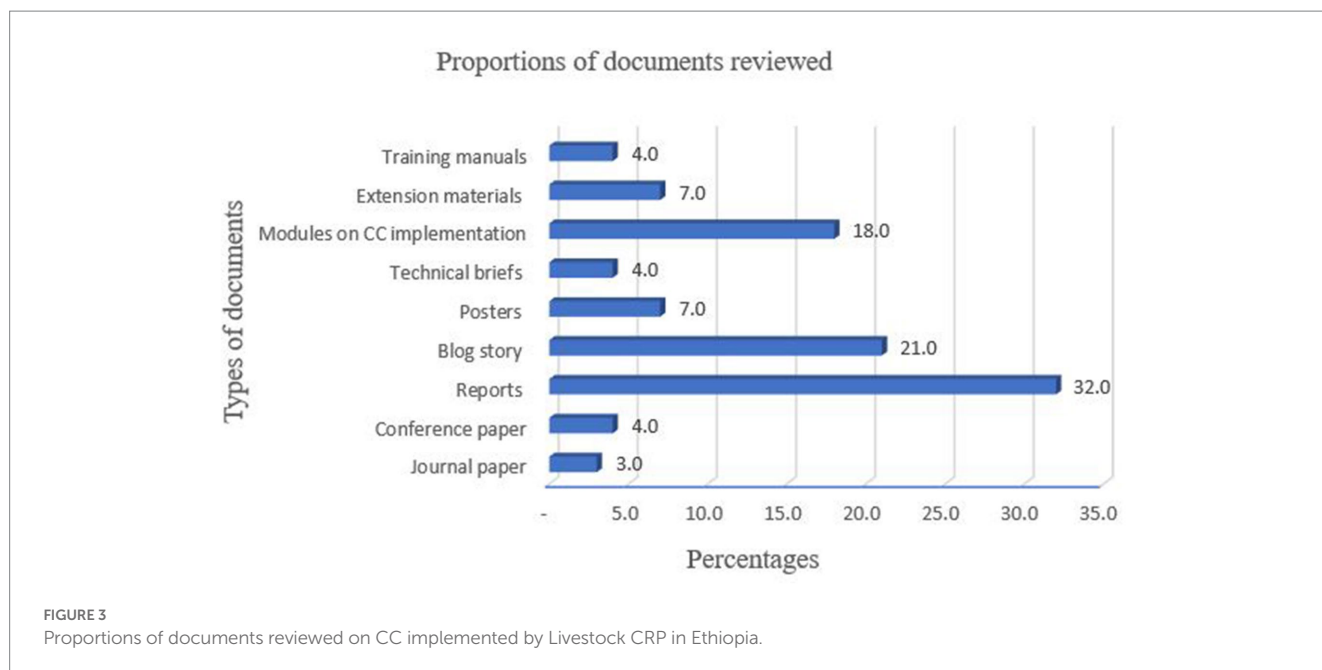


TABLE 2 CC participants by gender and norms related to gender in focus by Livestock CRP, Ethiopia.

CC discussion topics	Participants		Total	Target sites
	Men	Women		
Gender relations, access, ownership, and control over resources related to livestock production	136	78	214	Doyogena, Menz Gera, and Menz Mama
Gender and the associated risk of zoonotic diseases	146	88	234	Doyogena, Menz Gera, and Menz Mama
gender relations and social structures related to livestock farming	134	78	212	Doyogena, Menz Gera, and Menz Mama
Gender, animal welfare, and livelihoods	63	47	110	Yabello, Menz Gera, and Menz Mama
Gender norms related to the use of antimicrobials (AM) and antimicrobial resistance (AMR)	66	50	116	Yabello, Menz Gera, and Menz Mama
Gendered norms related to access and use of livestock extension services	75	46	121	Menz Mama, Doyogena, and Adiyo
Valuations of gendered knowledge about Animal health management	75	46	121	Menz Mama, Doyogena, and Adiyo
Gender dynamics in collective action settings	75	46	121	Menz Mama, Doyogena, and Adiyo
Review, reflection, and wider sharing	173	95	268	Doyogena, Menz Gera, and Menz Mama
Total	943	574	1,517	

among the topics identified and included in the CCs (Mulema et al., 2019a). Structural constraints to women’s membership of associations and their lack of access to information and their limited mobility to participate in farming advisory meetings and formal groups constituted the focus of CC discussion topics (Lemma et al., 2019d).

CCs implementation processes

One of the key objectives of this review of literature on CCs implemented by the Livestock CRP was to understand the CC process. Singh et al. (2022) argue that although CC as a gender transformative

approach can trigger the development of agency and transform gender relations in access and control over resources, the emphasis is on its process. The CCs implemented were conducted at the community level involving various actors. Participants of the CCs were both men and women community members and staff of *kebele*⁶ and district-level government institutions such as *kebele*-level leaders, managers, and development agents; cooperative promotion office; women, youth, and

⁶ The smallest administrative divisions in Ethiopia.

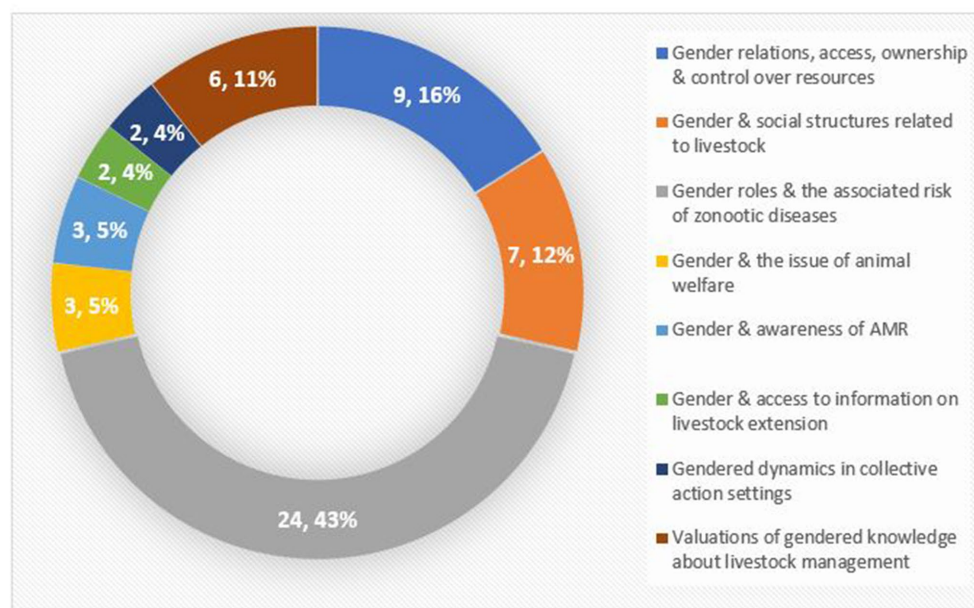


FIGURE 4
Frequency of targeted gender related norms reported in the reviewed literature on which CCs implemented by the Livestock CRP in Ethiopia.

children affairs office; livestock development office; and agriculture and natural resource development office.

The intervention was aimed at raising awareness, changing attitudes, transforming constraining gender norms, and ultimately bringing about the empowerment of women livestock keepers. It envisages bringing behavioral changes among men, women, and community-level development actors regarding gender norms related to the key issues of the CC discussion topics identified (Figure 4). By questioning the gender roles and resource distributions, it aimed at elevating women's status through challenging unequal power relations. This is one of the key objectives of gender transformative approaches such as CC (Rottach et al., 2009). By creating a safe space for critical dialogues, the current CCs helped women participants to challenge the existing male-dominated livelihood systems. The flexibility of CC in using a wide variety of learning tools helped to create a discussion environment for participants which is informal, inviting and non-threatening. Such tools include context-setting posters, thought-provoking informal storytelling, or the use of pictures and opinion leaders aimed at creating a warm learning environment, and building rapport, trust, and intimacy among participants and as well as with facilitators. Beyond creating awareness, such tools motivated participants by creating the need for engagement, learning, and action. The process helped participants not only understand but also acknowledge the existing unequal power relations and became motivated to cooperate in changing it for mutual benefit (see testimonies in Table 3). As a result, men began allowing their spouses to join community-based producer associations which used to be men's only associations. This created windows of opportunities for them through which women strengthen their agency and challenge the old cultural patterns of male domination in productive farming. Their improved access to producer groups rates them among those farmers respected in the community.

Community conversation interventions mainly went through the key stages of CC implementations as suggested in the literature (Gueye

et al., 2005; Druzca and Abebe, 2017): relationship-building stage, identification stage, exploration stage, decision-making stage, implementation stage, and reflection stage. Process comparison shows that the CCs implemented by the program followed recommended stages with slight adaptation to the context (Mulema et al., 2019a,b; Lemma et al., 2019c,e,g).

The detailed CC stages adopted by the program presented in Table 4 can be summarized into four key stages: identification of existing knowledge; imparting new knowledge; knowledge integration and application; and review, reflection, and re-planning. Each stage has specific purposes, activities, tools of facilitations, and processes (see Table 5 in the Annex). Across the study areas, each CC stage was covered in separate CC sessions. The first round of CCs focused on the identification of existing knowledge and norms about animal husbandry practices along with introducing and validating the associated constraining gender norms identified. The process helped to develop trust with participants and determine the content for the subsequent CC discussion sessions. The subsequent CC sessions were aimed at bringing changes in attitudes and practices at the individual and community levels and beyond. The last CC session was designed to ensure sustainable exit mechanisms and lay the groundwork for scaling up the experience by creating awareness among government institutions at higher levels.

At the end of every CC, the facilitation team conducted an on-the-spot reflection. The process of reflective and generative team analysis helped the team to learn from the CC process and share experiences among facilitators to capture emerging themes, new insights, and lessons for the following rounds of CC implementations.

CC intervention outcomes

The CCs implemented have brought about several changes in KAP at various levels. The reviewed literature on CC interventions by live-

TABLE 3 Relaxation of norms around gender roles at the individual and household level reported as outcomes of the CC.

Change areas	Reported testimonies by CC participants	Target site	Source
Norms related to Gender roles and valuations of division of labor	“Before CC, when children come from school, the boys did men’s work and girls did women’s work. Since the conversations, we hold joint household decisions and started sharing roles. The boys carry out roles normally done by girls, such as cleaning barns, milking, and feeding animals. After we [couples] started taking part in CCs, we are teaching them to share tasks despite their sex. It was a taboo for a boy to milk a cow, but we are teaching them not to wait for girls to milk the cows. Cooking was the role of women and girls but now I am teaching my sons to cook.”	Doyogena	Mulema et al. (2020), p. 655
	“He now knows how to cook and helps make the fire when I am cooking.”	Menz Mama	Mulema et al. (2020), p. 655
	“Before [to mean before CC], there was a distinction in roles between husband and wife. Now I taught my wife to plow and she taught me how to bake.”	Menz Gera	Lemma et al. (2019d), p. 12
	“I realized there was a lot of workload on my wife. [...]. Men do not fetch water but now [after CC], I fetch water with my children to help my wife. [...]. Now, I also let my wife take sheep to the market. We have become the talk of the community. Men are now sharing barn cleaning increasingly. A man did not go into the backyard garden with ‘inset’ [false banana] but now, men are sharing women’s work.”	Doyogena	Mulema et al. (2020), p. 658
	“Although my husband used to carry out domestic chores, he was not so committed to doing the chores. Nowadays [after CC], he was committed and does it more frequently as compared to the past. He is more willing to share the domestic workload.”	Menz Gere	Lemma et al. (2019d), p. 10
Decision-making	“I was the one who take livestock and crop produce to the market. But now [after CC], my wife also participates in the market. She sells potato and wheat. We now collectively discuss and make savings. Before she did not trust me but now, she knows the market. We discuss more openly, and our relationship has improved.”	Doyogena	Lemma et al. (2019c), p. 7
Norms of handling animals	“We now use plastics as gloves to clean barns. Before, we never used any plastics. We learned about rabies. Animals that die from that disease must be buried or burned [...].”	Menz Gera	Lemma et al. (2019d), p. 12
	“[...] I will now [after participation in CC] use gloves when I assist births. I will buy and use gloves, boots and masks during cleaning of barns and handling of sick animals and attending births.”	Doyogena	Lemma et al. (2019c), p. 6
Norms of use of ASF	“Before the community conversation, we gave raw milk to the children thinking it gives them strength but now we give them boiled milk because of the diseases passed on from animals to humans.”	Doyogena	Mulema et al. (2020), p. 658

stock CRP in Ethiopia reported various outcomes. The process of CC resulted in interrelated changes in attitudes and behaviors at the individual, household, community, and institutional levels across the target areas (Figure 5).

Observed change at individual and HH levels

The changes reported as a result of CC interventions at HH and individual levels include shifts in mindsets and practices regarding gender roles and access to and control over resources (Table 3). They cultivated shared decision-making at the household level and proper handling of livestock and consumption of animal-source foods. One of the CC participants reflected saying “[s]ince the conversations, we hold joint household decisions and started sharing roles [...]”, male from Doyogena” (Mulema et al., 2020, p. 655). Desired gender attitudes began to be exhibited among men and women CC participants. Through the implementation of the actions formulated during the CC sessions, shifts in gender roles were observed among community members. At Doyogena, Menz Gera, and Menz Mama, men began to take part in domestic activities which reduced women’s domestic work burden. For example, at Menz Mama, a woman participant witnessed the changes that happened in her home saying “He [to mean her

spouse] now knows how to cook and helps make the fire when I am cooking” (Mulema et al., 2020, p. 655). Similarly, women started taking part in productive farming roles that brought them more income and recognition (Mulema et al., 2020) as a result of changes in attitudes and practices around gender relations. For example, because of changes in attitudes and increased men’s involvement in household chores, women were able to find time to join community-based associations that used to be men-only associations (Kinati et al., 2019b). This was reported in more than 24% of the literature items reviewed.

Improved household discussions led to active participation by HH members who were often neglected. The ability to share information within the household had improved. Women began to participate actively in major HH decisions that affect their lives (Lemma et al., 2019c,d). Changed attitudes and perceptions (Lemma et al., 2021c) associated with masculinity, i.e., productive roles such as membership in livestock institutions and livestock marketing are appropriate for men, and femininity, i.e., reproductive roles such as caring for livestock are appropriate for women, is what led to a more equitable gender division of labor (Kinati et al., 2019a). Both men and women CC participants not only witnessed that such attitudes and perceptions no more hold them back but also engaged in practicing the desired behaviors. This was reported by CC participants in the three study areas. Consequently, these changes led to greater household cooperation by cultivating trust and harmony. From a review of 61

TABLE 4 Comparing CC processes as suggested in the literature and implemented by Livestock CRP in Ethiopia.

Stages of CC in the literature	Stages of CC followed by Livestock CRP		Sequential goals
Pre-contemplation/ Relationship building stage	Identification of existing knowledge	- Community entry and mobilization.	The goals were to gain the community's confidence and trust with the aim to motivate and engage community members in the change process.
		- Pre-CC KAP survey to establish baseline indicators.	
		- Opening: welcome, team introduction, and elders' blessings.	
		- Setting context and clarifying expectations.	
Awareness (identification and exploration) stage	Imparting new knowledge	- Assessment, analysis, and discussion topics identification.	The purpose of this stage was to identify community key issues and concerns and to map these in the discussions to be planned in the upcoming CC sessions.
		- Facilitation team alignment on methodology, facilitation principles and process, discussion issues, and role sharing.	In this stage, the community members were helped to explore their key issues and concerns in depth. The magnitude of the matter and its underlying factors will be explored in detail.
		- Exploration of identified issues for discussion.	
		- Introducing new knowledge.	
Determination/ Motivated to change		- Learning integration and reinforcement.	The purpose of this stage was that community members will be helped to envision the future and make decisions to address the identified key challenges.
		- Community action planning.	
Action/Practicing change	Knowledge integration and application	- Actual implementations of CC sessions	In this stage, the objectives were to support community members so that they would be able to carry out decisions and action plans in order to overcome the identified key common issues.
Maintenance, modification, and Influencing	Review, reflection, and re-planning	- Review. Reflections and follow-up strategies.	The purpose of the last stage in the CC process is reflection, learning, and documentation of overall CC processes, challenges, learnings, and outcomes. Its main focus is to review changed values, attitudes, and practices as a result of the CC processes.
		- Closing session: elders' blessings/ community prayers.	
		- Post-CC team reflections and learning.	
		- Community action plan implementation and follow-up.	
		- Post-CC KAP survey to quantitatively measure changes in KAP.	
		- Documentation, sharing, and scaling.	

Lemma et al. (2018b, 2020a, 2021a,c); Webb et al. (2010); LaMorte (2022); Gueye et al. (2005), and Druza and Abebe (2017).

programs, Marcu (2014) identified strong evidence that communication programs such as CCs are an effective way to challenge gender-discriminatory attitudes and practices. Beyond changing attitudes, CC triggered changes in practices at individual and household levels. Literature suggests that changing individual attitudes alone is insufficient to change behaviors (Haider, 2017). CCs have made greater efforts to engage participants in the desired practices through joint action formulations and implementations that are designed to challenge and transform the identified constraining gender norms.

The other change areas observed among men and women were changes in attitudes and practices regarding community norms for the handling of animals and consumption of ASFs. Men and women

began to cook and boil meat and milk before eating and drinking. They also started using locally available materials as gloves when assisting animals during delivery (Lemma et al., 2019c; Mulema et al., 2020). Changes in intra-household relations and decision-making around animal health were reported. The CCs raised awareness among men and women about zoonotic disease, its causes, transmission pathways, and prevention and control measures. Moreover, it also raised awareness among community members about the problem of antimicrobial resistance. Change in perceptions, practices, and sharing of related information among HH members and with neighbors was reported as an outcome of the CCs (Lemma et al., 2019d). Men and women reported better use and handling of animal treatments after CCs. Customized action plans that were designed and implemented

by CC participants led to the desired changes in attitudes and practices. The ongoing open dialogues created mutual learning and co-creation of knowledge that promotes understanding of one another’s perspectives and reduces “social distance” among participants (Lemma et al., 2019c,d).

Change at the community level

The behavioral changes and practices that eventuated at the household level were also observed at the community level. There were changes in gender relations such as women taking up the roles

TABLE 5 CC implementation processes followed by the Livestock CRP in Ethiopia.

Stage	Purpose	Activities	Tools	Process outcome	Source
<i>Identification of existing knowledge</i>	<ul style="list-style-type: none"> To analyze and define problem situations (constraining gender norms) and to identify common and pressing discussion topics in order to determine contents for the CC sessions. 	<ul style="list-style-type: none"> Review of existing knowledge on gender norms related to access, ownership, and control of resources; beliefs related to gender roles, participation in associations, and animal and their product handling practices based on previous studies in the target sites. CC facilitation team selection and training on methodology. Role definition and goal setting. Sorting out facilitation principles and processes. Participation criteria formulation for representation. Community entry and mobilization. Joint review process and approval. Identification of KAP baseline indicators for measuring immediate CC impacts. 	<ul style="list-style-type: none"> Literature review. Key informant interviews. Focus group discussions. Transect walks. Problem-solving case study analysis. Pictorial tools. Role-playing. Storytelling. Brainstorming. 	<ul style="list-style-type: none"> Problems analyzed and defined. Knowledge gaps were identified along with existing kap. Expectations clarified and trust established. Discussion topics for cc identified and agreed. Participants’ thinking and motivation for learning and action stimulated. 	<p>Lemma et al. (2019c); Mulema et al. (2020); Mekonnen et al. (2021); Lemma et al. (2018c,d); Mulema et al. (2019a,b).</p>
<i>Imparting new knowledge</i>	<ul style="list-style-type: none"> To address the KAP gaps identified in the previous stage with new knowledge complemented with local knowledge from CC participants. 	<ul style="list-style-type: none"> Organize CC sessions. Introduce the new knowledge and desired attitudes in: <ul style="list-style-type: none"> - Gender relations. - Practices in livestock husbandry, animal source foods (ASF) consumption, animal welfare issues, and management and use of antibiotics. Identifications of intentions to apply the new knowledge and identifications of change (monitoring) indicators. 	<ul style="list-style-type: none"> Storytelling. Brainstorming. Problem-solving case study analysis. Role-playing. Group discussions. 	<ul style="list-style-type: none"> Awareness of new knowledge and practices created. New perspectives developed. Motivation for behavioral change stimulated. Action points identified. 	<p>Lemma et al. (2019c,e,g); Mulema et al. (2019a,b)</p>

(Continued)

TABLE 5 (Continued)

Stage	Purpose	Activities	Tools	Process outcome	Source
<i>Knowledge integration and application</i>	<ul style="list-style-type: none"> To help participants internalize the new perspectives developed and practice the new knowledge gained through action formulation (to implement the desired attitudes and practices such as sharing household chores, joint decision-making, and safe consumption and handling of animal products) and action implementations. 	<ul style="list-style-type: none"> Formulations of action plans. Action plan implementations by CC participants for the application of knowledge and learning. Joint monitoring planning and strategy formulating for influencing the wider community during social events. Elder's prayers/blessings and refining of take-home messages to ensure that CC sessions were smoothly ended and culturally appropriate. 	<ul style="list-style-type: none"> Discussions through question-and-answer sessions. Community action plan template. Group worksite visits and distance coaching via email and telephone calls. 	<ul style="list-style-type: none"> Concrete action plans formulated by CC participants for implementation. Specific knowledge applications through planned action points at individual, household, and community agreed. 	<p>Lemma et al. (2019c,e,g); Mulema et al. (2020); Lemma et al. (2020b)</p>
	<ul style="list-style-type: none"> To draw lessons for re-planning through regular team reflections 	<ul style="list-style-type: none"> Regular and on-spot facilitation team reflections and learnings. 	<ul style="list-style-type: none"> Panel discussions. 	<ul style="list-style-type: none"> Emerging themes, lessons, and observations captured. 	
<i>Review, reflection, and re-planning</i>	<ul style="list-style-type: none"> To identify new learning needs so that new rounds of ccs would be planned and implemented. 	<ul style="list-style-type: none"> Organize CC in which multi-stakeholders participated. Celebration and closing of CC interventions. Identify CC participants who have made behavioral changes and implemented desired practices. Recognize (award) champions of community change agents. 	<ul style="list-style-type: none"> Change story-telling. Field days (demonstrations). Team learning. Reflection questions, observation. Coaching and supervision. 	<ul style="list-style-type: none"> Experiences gained through CCs shared by participants and lessons learned documented. The work done through CCs is shared with local government officials and heads of offices. Groundwork is done for scaling locally. 	<p>Lemma et al. (2021c); Lemma et al. (2019g)</p>
	<ul style="list-style-type: none"> To identify impact areas through assessing changes in KAP. 	<ul style="list-style-type: none"> Conduct post-CC KAP survey. 	<ul style="list-style-type: none"> Semi-structured questionnaires. 	<ul style="list-style-type: none"> Immediate changes at various levels captured. 	

of men and vice versa. The following sentiments expressed by a male CC participant at Menz Mama district asserted this fact:

During our village saving group's meeting, I [male spouse] talked about domestic role sharing experience within my family. After the meeting, one of the women participants approached me and asked if I can teach her how to use an ox-plow. The woman came to my farm and I showed her how to use the ox-plow. [...] she also asked me to show her how to assemble the plow which I did. In return, I asked her to teach me how to bake Injera (Mulema et al., 2020, p. 655).

Similarly, a woman participant from the Menz Gera district shared her experience in reaching out to her community members:

"When you go out of the village, people often ask you where you were and what you did. I [woman spouse] went to a baptismal place and people asked me about the event I have attended, and I shared the information about sharing roles between husband and wife and the people said...our community is changing. [...] we meet informally to share information and monitor each other" (Lemma et al., 2019d, p. 11).

The other reported changes at the community level include an appreciation of women's roles, increased knowledge with regard to animal diseases and their management, and women speaking up in public spaces (Lemma et al., 2018c). Men acknowledged that women are more knowledgeable than they had previously understood regarding animal diseases, due to their gender roles in livestock

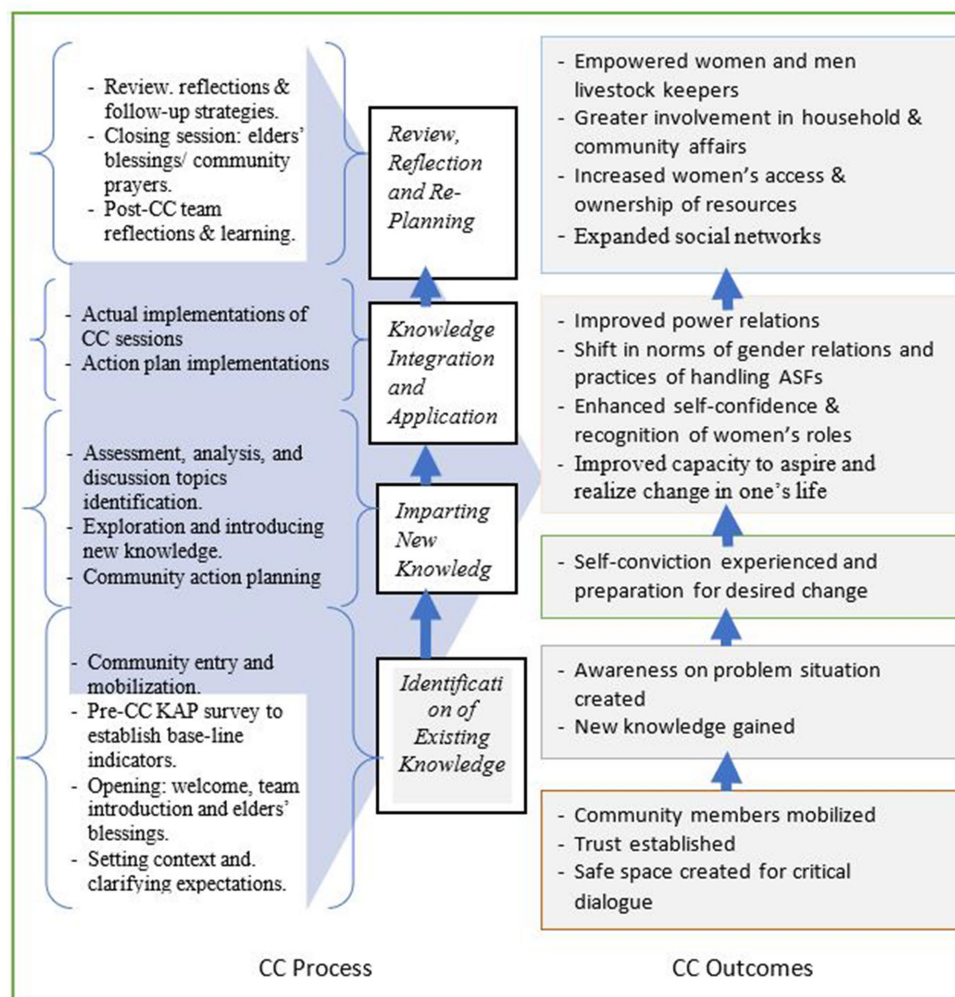


FIGURE 5
CC implementation process and outcomes identified. Source: Own illustration.

husbandry (Mulema et al., 2020). CCs gave women the opportunity to speak freely and share their experiences. A study conducted by Alemu et al. (2019) in the same areas found that men and women demonstrated comparable knowledge of animal diseases. Livestock extension programs had also begun to consult and include women in their programs (Lemma et al., 2018c). It can be attributed to CC that it led to changes in development workers' perspectives about women and their technical role in livestock development. Nevertheless, the literature reviewed does not provide quantitative assessments of these outcomes.

The changed attitudes and behaviors at the community level regarding gender roles also resulted in a wider impact. Women became members of associations, for example in breeding cooperatives, that improved their access to and control over resources and active participants in decision-making processes (Lemma et al., 2019f). Participation in such community associations could provide women the opportunity to actively participate in other community affairs. Women started voicing their own and fellow women's concerns in public spaces. Stronger voices of women in community-level discussions were reported (Mulema et al., 2020). For example,

CC participants who were champions in advocating for changed gender relations, such as women's participation in masculine activities, were recognized by local government authorities in Doyogena at a community-level development event (Lemma and Tigabe, 2021d).

Change at the institutional level

The CC interventions, generally, strengthened the capacity of local actors who took part in the CC processes. The action points that emerged at the end of every CC session informed local-level planning processes and interventions particularly in livestock health management (Lemma et al., 2019c). Local leaders began institutionalizing the approach in their extension system in the target districts (Lemma et al., 2021c). Across the target sites, CCs served as collaborative learning and action platforms for community-level planning and actions particularly for animal health management (Lemma et al., 2021c). Apart from that, CC not only improved collaborations and enhanced functional linkages among

TABLE 6 CC's impact at the institutional level on norms of extension and research implementations and rules of engagement in collectives.

Impact area	Reported testimonies	Institution/Study area/Role	Source
Extension approach	"I am amazed by the engaging power of the community conversation approach. I now intend to engage with farmers when they come for vaccination or treatment services in an interactive way. We can spend some time to learn from farmers and communicate key disease prevention messages before we provide treatment or vaccination services. The approach is transformative and allows to address problems based on the experiences and views of communities."	Livestock and Fish Development office/Doyogena district/Head	Lemma and Tigabe (2021), p. 6
	"The community conversations catalyzed our work. We will adapt and make the methodology part of our training program for development agents."	Livestock and Fish Development office/Menz Gera /Team leader	Lemma et al. (2019c), p. 8
Organizational rules	"While attending the first round of the community conversation session, I started challenging our group. We were not gender sensitive as a group. If we included women in our group, gender balance would improve our productivity and benefit us all. [...] the CC sessions created the desire to discuss among ourselves and as a result, we went a step further and decided to take action by modifying bylaws and including six women to address gender inequality in our group."	Community fishery Producing Group/Menz Mama/ Members	Mulema et al. (2020), p. 659
Research method	"We have only been gathering people and telling them our prescriptive messages. In fact, we have been domesticating farmers only to listen to our views and ideas. [...] but this [to mean CC] is the way we have to work with farmers."	Livestock and Fish Development office/Doyogena/ Staff	Lemma et al. (2019c), p. 8
	"I see that the approach offers an effective way to identify research problems and develop and test technologies with farmers. It gives me a different perspective to research problem identification and doing research with farmers. I was wondering how much I missed out to make research more applicable to farmers."	Dabrebrehan Agricultural Research Center/Menz/ Researcher	Lemma and Tigabe (2021), p. 7
	"I found the approach very engaging and generative. I am amazed with the level of analysis and learning happened in a short time. I was thinking what I could have done in animal feeds research while the conversations were happening. I can use the approach as a participatory research and training method. I even think to do action research along the emerged community action points."	Bonga Agricultural Research Center/Adiyo/Researcher	Lemma and Tigabe (2021), p. 7
	"During a workshop organized for sheep fattening youth groups, I got a sneak peek into the potential of CC. The workshop was intended for communicating improved practices in feeds, nutrition and ration formulation. However, it ended up being in-depth discussions around feeding challenges by the youth group members. It was totally exhilarating. The in-depth information on feeding practices and feed resource utilization revealed has never been captured through surveys. Revelations on misconceptions and service delivery challenges all came to the fore. I have the conviction that CC are a very useful way for exploration of diverse perspectives and having deep insights into development challenges."	ICARDA/Researcher	Lemma and Tigabe (2021), p. 7
Research and training approach	"As a researcher, I focus on understanding community problems in an extractive way. Community members are only information providers, and there is little feedback and learning for the farmers. Now I see that CC can address both research and learning objectives. It facilitates our work, and we now have community change agents whom we can use to share information and influence other community members."	Areka Agricultural Research Center/Doyogena/Researcher	Lemma and Tigabe (2021), p. 6

community members but also strengthened institutional-level connectedness for joint and collaborative planning and actions among the various service providers across the target sites (Lemma et al., 2019e). Community-level institutions became more gender aware and responsive (Table 6). For example, a local producer group that used to have only men members at Menz was motivated by CCs to modify its bylaws and include women as members and experienced increased levels of innovation and resourcefulness or productivity (Kinati et al., 2019b).

Key success factors and challenges

The CC was effective in bringing radical changes in attitudes and practices over a relatively short period of time. Several factors could contribute to the successful implementations of CCs and in achieving their goals. The facilitation team carefully designed, implemented, and monitored the process. The analysis made by cross-checking and comparing CC implementation guidelines and the reported CC processes and outcomes (Table 5) asserts the fact that CC was carefully

designed and implemented. The change process could also be facilitated by the approach adopted, a transition from exploratory studies to applied research models⁷ (Badstue et al., 2020). The participation of couples, local-level development actors, development groups, and religious leaders could have created a favorable environment for CC participants to engage in the desired behaviors reported. Apart from that, the facilitation tools used are flexible and easily adaptable to the local context. The creative ways, such as pictorial tools used, fostered the process to engage easily with participants (Lemma et al., 2019d; Mulema et al., 2020).

The participatory nature of CC and its ability to engage participants to start with self-analysis of their own lives helped them to critically re-think and question dominant perceptions regarding existing gender relations. They realized that they are part of the problem and thus the solution. This encouraged them to commit and plan for change. Some of the benefits, such as sharing household roles, experienced by CC participants in a relatively short period of time motivated others to follow. Since couples participate together in the CCs, the approach likely empowers both and creates sustained transformation (Lemma et al., 2019b,c; Mulema et al., 2020).

The CCs created a safe space for both men and women to share experiences and thus address common pressing concerns—constraining gender norms. By working with both men and women couples, CC could trigger change and effectively bring long-lasting gender transformation. When couples have similar understandings and shared goals, they avoid conflict and cooperate toward achieving the goals (Lemma et al., 2019a,b,c; Mulema et al., 2020).

Some of the challenges noted in the reviewed literature with CC include reluctance to change, associated costs, and difficulties in measuring impact and attributing change. Some of the CC participants faced opposition to change from family members. For example, engagement of men in domestic chores in some households was met with nick-naming (Lemma et al., 2019a,b,c; Mulema et al., 2020). Apart from that, as CC requires greater readiness and continued engagement, it demands more time and resources which is always a challenge in developing countries like Ethiopia.

Discussion

This review of CCs implemented by the Livestock CRP in Ethiopia has shown that CC interventions went through stages as suggested in the literature (Gueye et al., 2005; Druzca and Abebe, 2017) with adaptations to the local context in order to ensure smooth entry and the community's ownership of the process (Mulema et al., 2019a,b; Lemma et al., 2021c,e,g). The planning and implementation processes were in line with the standard implementation of CC (Gueye et al.,

2005). When the implementation details were examined, the Livestock CRP implementation team had tried to develop achievement indicators during the first stage and quantitatively estimated the immediate impacts of CCs. In the literature, the impacts of CCs were often assessed qualitatively using in-depth qualitative methodologies once the intervention was completed. The use of baseline and end-line data, complemented with qualitative data, was one of the strengths of the gender transformative approach reviewed.

The major discussion topics related to gender norms addressed in the CCs include perceptions about women's access, ownership, control, and decision-making associated with livestock and related resources (Mulema et al., 2019a,b; Lemma et al., 2019c,d). In addition, the documents reviewed indicated that unbalanced gender division of labor and the associated social structures, i.e., restrictive gender norms, were also incorporated in the CCs across the target sites. Apart from that, gendered perceptions about animal diseases, the risk of zoonosis emanating from inappropriate handling of ASFs enforced by cultural factors, and the issues of animal welfare were among the topics of the CCs, as were gender relations in collective action settings. The discussion topics covered by the CCs are relevant because these were reported as underlying causes of gender inequalities in livestock-based systems in several previous studies in the target sites (Zahra et al., 2014; Galiè et al., 2015; Kinati and Mulema, 2016; Kinati, 2017; Mulema, 2018).

Various changes at the individual, household, community, and institutional levels were reported as direct impacts of CCs although so far there is no robust analysis conducted considering the problem of selection bias. Nevertheless, the various techniques, such as roleplaying, demonstrations, and testimonies of individual CC participants who have realized benefits from CC interventions (Lemma et al., 2018d) could have played a role in creating a sense of ownership of the CC processes and resulted in changes at these levels. If agents perceived the desired behaviors to be valuable for effective functioning, people are motivated to adopt them according to self-determination theory. The theory suggests that in order to increase the likelihood of adopting changes, people not only need to be provided with choices about the new behaviors with minimum pressure but also their feelings and perspectives need to be acknowledged. If the personal utility of the desired behaviors is well understood by the agent, internalization of the new behaviors progresses most effectively toward autonomous forms of regulation (Deci et al., 1991). Drawing on this theory, one could think that the changes and anecdotal testimonies presented as a result of the CC interventions in this report imply that CC participants understood the personal utility of the desired behavioral changes they adopted based on their own choices. The shift made in gender roles by men and women CC participants, the appreciation of each other's roles by spouses, and the practices of safe handling of ASFs as a result of gaining new knowledge with regard to zoonotic diseases and its associated benefits help assert this.

Nevertheless, households are often depicted not only as arenas of cooperation but also conflict. Spouses have been found to resort to destructive behaviors primarily to improve their relative position by hiding resources from each other (Mani, 2011; Castilla and Walker, 2013; Hoel, 2015) in contexts where common information, similar preferences, mutual affection, and shared norms of behavior are absent (Baland and Ziparo, 2017). Yet, CC can facilitate the development of these factors for a cooperative environment. Husband and wife get the same information by taking part in the same platform.

7 "an invigorated research agenda [...] that] include: critical self-reflection and introspection among research [...] team] on the norms they bring to the research process; partnerships with civil society and other organizations with long-term, trusted local presence; engagement with both women and men from different social groups on the structures and mindsets that hinder and enable equality and local people's empowerment; sufficient time and resources to accompany a process of social change; and mechanisms to scale advances made using gender transformative approaches" (Badstue et al., 2020).

Being exposed to the same information and benefits of desired behaviors, they can develop similar interests and mutual affections and progress toward shared but new norms of behavior. Moreover, more recent studies question the conventional wisdom that portrays the household as an arena of conflict. Repeated field experiments show that in the context of cash delivery programs, family welfare outcomes are not associated with the recipients' gender (Benhassine et al., 2015; Akresh et al., 2016; Haushofer and Shapiro, 2017), and similarly there are no gender differences in cooperative behavior in lab experiments as well (Andreoni and Vesterlund, 2001; Croson and Gneezy, 2009). Therefore, from a theoretical perspective, households should be ideal arenas for cooperation, as both spouses benefit from the welfare outcomes (Del Boca and Flinn, 2012).

Community conversations provided participants with a platform where discussants had the opportunity to reflect on the common agenda from the perspectives of their own actions, beliefs, and values. The action plans formulated for implementation at the end of every CC session could be understood as evidence that the CCs not only engaged participants at both cognitive and emotional levels but also impacted agents at individual and collective levels to practice changed gender relations and engage in the new practices. For example, after having heated debates among themselves and receiving technical support from facilitators, CC participants understood that gender roles and power relations in livestock production are the results of social constructs and thus can be changed. They recognized that gender roles are generally biased against women and need to be balanced. Men participants acknowledged and appreciated women's roles in livestock. These engagements at cognitive and emotional levels resulted in self-motivated action plans and their implementation at individual and household levels. The increased understanding of the benefits of change led participants to continually engage in self-motivated desired actions. For example, women started engaging in productive roles such as plowing and became registered members of producer associations while men started to be actively engaged in domestic activities such as cooking. These changes may have been achieved through an interrelated continuum of levels of motivational readiness to change (Webb et al., 2010). First, CC may encourage participants to challenge their cultural norms and values governing resource distributions, gender roles, and the consumption of animal source foods individually. Second, CC participants might be motivated to practice the desired behavior and begin to challenge their family members at the household level. Finally, the changed behaviors at the individual and household levels might diffuse to the wider community level through various social events, eventually bringing changes at scale in the mixed and livestock-based systems.

The processes of CC enable community members to reflect critically on the cultural norms that shape the gender relations and traditions of livestock management practices and handling of ASFs. They facilitated changes in attitudes that led to desired changes in norms and practices at household and community levels. In the longer run, critical dialogue among community members can shift gendered expectations and institutional rules embedded within social relations. Gender transformational approaches such as CCs can trigger interest in change by awakening people's consciousness about the causal effects of social norms on women's (men's) lives and goals (Cornwall, 2016). Nevertheless, in order to sustain the dialogues and observed changes, continuous effort appears to be essential. In the implementation process of CCs across the target sites, the program

actively engaged local research and development partners so as to ensure its continuity. Nevertheless, the integration of CCs into ongoing and planned development programs along with continued close follow-up would help to achieve and sustain the desired outcomes of CCs. Changing gender norms requires both women and men to be engaged continuously in the change processes (Wong et al., 2019) and has to be closely monitored to avoid unintended consequences. If such changes are to be qualified as empowering, the desired changes gained need to be sustainable, and the influences that have been achieved need to be retained in a lasting, durable way (Drydyk, 2008).

This study generated useful information on CC experience in Ethiopia in the context of research for a development program with valuable implications for the livestock sector. Nevertheless, limitations are evident in this study. The review procedure was based mainly on gray literature. The results reported were based on qualitative assessments, and were reported by program staff or affiliated partners and thus could be exposed to the problem of social-desirability bias on the part of staff and/or participants.

Conclusion

The Gender Transformative Approach by way of CCs in Livestock CRP was intended to address specific underlying constraining gender norms related to gender relations around gender roles, access, ownership, control, decision-making, and participation in collectives. These had been identified through preassessment and during CRP interventions. The CC discussion topics were appropriate as per the findings from this program of research and previous studies in the target areas. The subjects addressed are an interesting intersection between gender issues and everyday concerns about livestock production and livelihood generation. It is the CC that achieves this integration of interest and action. The key gender norms addressed so far were related to access, ownership, control over livestock resources, gender division of labor and their valuations, and the associated social structures. Similarly, undesired norms related to the use of ASFs and animal health management such as eating raw meat and drinking raw milk, and eating and treating diseased animals without gloves were part of the focus of the CCs.

This review has shown that CC interventions generated immediate impacts at individual, household, community, and institutional levels. The shift occurred in gender attitudes with respect to perceptions of access, ownership, control over livestock resources, and decision-making within households and communities. Increased women's ownership of livestock allowed them to be eligible and registered members of breeding cooperatives. Relaxation of norms around the division of labor not only reduced women's domestic burden but also helped them to engage in more valued activities such as taking part in local institutions that used to be men's only associations. CC participants started adopting desired animal and product handling practices. Communities' knowledge of animal welfare and desired practices increased. Tools of community engagement employed had spill-over effects beyond the household level, positively affecting community-level institutions. Bringing the desired KAP among community members along the important gender norms addressed would have tremendous implications for the improvement of the gender contexts in which the small ruminant value chain transformation program is taking place.

We recommend the following action points as a way forward. First, it is apparent that there is a need to identify related but unaddressed gender norms affecting women in livestock value chain development. The ongoing CC interventions in the target areas could be used as a means for the identification of unaddressed gender-related norms for future interventions. Second, we identified the need to continue to break down gender stereotypes through mechanisms that ensure the continuity of the effects of CC. Sustaining and scaling the desired behaviors reported within the household, community, and institution needs to continue, to break down gender stereotypes. In the short run, we recommend elevating women to positions of power, for example within the breeding cooperative leadership positions. Challenging the undermining of women's autonomy is necessary, to break the chain of passing on these negative attitudes to future generations. Both the research and development partners in general and the public extension program run by district-level offices of agriculture, and the women, youth, and child affairs office in particular need to take up the initiatives as part of their routine development activities across the intervention areas.

Third, we recommend coordination with partners and the establishment of community-based gender advocacy groups across the intervention target sites. This could be started by organizing platforms for the recognition of champion men and women community members who successfully participated in the CC sessions, fully implemented action plans, and are able to demonstrate the desire to change gender attitudes and practices. The establishment of the advocacy group would maintain momentum and help to ensure the sustainability of the changes in KAP that were already observed among CC participants at individual, household, and community levels. Similarly, local-level government bodies and non-governmental organizations need to strengthen efforts by building innovation platforms and training provisions. More importantly, we suggest the importance of devising mechanisms for institutionalizing CC in the public extension systems. This could be facilitated more by generating robust objective evidence of the impacts that would pave the way for scaling locally, regionally, and nationally.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found at: CGSpace.org.

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Author contributions

WK and ET conceptualized the idea. WK wrote the draft manuscript. ET, DB, and DN reviewed and contributed to the final analysis and writeup of the manuscript. WK, ET, DB, and DN agreed on the final appearance of the manuscript after careful review. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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