



Gender roles and masculinities in leveraging milk for household nutrition: Evidence from two districts in Rwanda

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ABSTRACT

Malnutrition in children remains a significant public health and development challenge in Rwanda. Animal Source Foods (ASFs) provide an important mechanism for supplying children with energy, proteins, and micronutrients. Using evidence from a study on the Girinka dairy program in Rwanda, this article adds a masculinities lens to nutrition strategies. It suggests potential ways to engage men in nutrition interventions whilst promoting gender-equitable masculinities that improve children's access to ASFs and create more gender-equal relations.

A qualitative study was conducted in 2020 in two districts in Rwanda. The methodology included 8 sex-disaggregated focus group discussions (24 women and 24 men) and 8 key informant interviews (56 respondents total). Discussions explored gender roles and responsibilities in the household regarding the provision of ASFs for nutrition and exploring potential avenues for engaging men in ASFs nutrition initiatives.

The results indicate that norms about 'appropriate masculine and feminine behaviour' strongly affect intra-household nutrition. Men are normatively responsible for providing money to purchase food and women to buy and prepare food. However, consumption of ASFs is low. Men do not provide sufficient monies for purchasing ASFs or may sell ASFs they produce rather than allocate them to their families. Women generally feel disempowered through male-dominant decision-making processes. Yet, men who seek to enact more gender-equitable behaviours can be scorned at the community level.

Nevertheless, men respondents are strongly interested in being trained on nutrition through village leadership, and in male spaces. We recommend working with male behavioural change frameworks at multiple levels.

1. Introduction/Background

Cultural norms in many societies that cast men as breadwinners and women as homemakers and primary caregivers of infants and young children are frequently reinforced through externally-driven programmatic initiatives that focus on women and young children in nutrition programmes and exclude men (Ampt et al., 2015). This can drive a situation whereby men, in their role as household head and breadwinner, act as gatekeepers to their family's nutrition yet lack adequate nutritional knowledge to take good decisions (Ambikapathi et al., 2021;

Ampt et al., 2015). This process can "present serious barriers to women's ability to act in their own and their children's interests" (Ampt et al., 2015). Excluding men from nutrition initiatives means that opportunities to build their knowledge and consequent ability to contribute towards women's empowerment and improved nutrition can be missed.

A scoping review of Social and Behaviour Change (SBC) techniques in feeding interventions highlighted the need to involve fathers and grandmothers to improve child nutrition (Webb Girard et al., 2020). Family members influence decisions about women's and children's health and nutrition, participate in childcare and feeding, and can

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provide informational, emotional, and instrumental support. The actions, advice and support for family members influence maternal nutrition, infant and young child feeding behaviours, and nutrition outcomes. When women are solely responsible for childcare and feeding it can negatively impact women's caregiving practices, time pressure, and mental health (Ickes et al., 2018; Matare et al., 2019) and child health outcomes (Sear and Coall, 2011). Global recommendations suggest including fathers, grandparents, and other key influencers in maternal and child nutrition programs (WHO, UNICEF, and World Bank, 2018). Research from Rwanda indicates the need to consider the household gender dynamics in allocation of ASFs (Colverson, 2018). There have also been calls for increased use of family-systems frameworks when designing maternal and child nutrition interventions (MacDonald et al., 2020; Nyoni et al., 2019). Despite this, most interventions continue to target the mother-child dyad, overlooking the roles and influence of key family members, especially fathers. In cases when projects involve men, they rarely explore the local gender norms around femininity and masculinity and related gender dynamics that are likely to strongly shape the ability of various household members to adopt a behaviour that differs from the norm – in cases when they wish to do so.

More broadly, there is an emerging consensus on the importance of challenging discriminatory social institutions in the interest of promoting gender equality and broader development goals. Njuguna-Mungai et al. (2022) highlight the importance of systematically confronting and tackling the structural causes of gender inequality in agrifood systems. Intersectional, feminist, masculinities, ethnographic and participatory approaches to understand and implement gender transformative change processes are moving from the margins to the centre of research practice (McDougall et al., 2022; Tavenner and Crane, 2022). This article is positioned as a contribution to broader discussions around instilling gender-transformative change processes (Hillenbrand et al., 2015; Kantor and Appgar, 2013; Mullinax et al., 2018), with a specific focus on addressing gender inequalities in nutrition-sensitive agricultural programs by highlighting how gender issues around masculinities affect household nutrition.

Animal source foods (ASFs) are an important source of energy, protein, and micronutrients for young children (Dror and Allen, 2011; Grace et al., 2018). However, consumption of ASFs by young children in low- and middle-income countries (LMICs) is low (Headey and Alderman, 2019; UNICEF, 2019). Factors affecting ASFs consumption include accessibility, affordability, perceived nutritional value, taste preferences and a range of socio-cultural factors including preferential food allocation at intra-household level (UNICEF, 2019). Studies indicate that nutrition-sensitive agricultural interventions have a significant positive impact on the diet diversity scores of young children (Margolies et al., 2022). A trial combining an agriculture and nutrition intervention targeted at women showed that mothers improved their body weight and became more empowered, which may help improve their voice in relation to child nutrition (Olney et al., 2016).

Although much progress has been made in the area of nutrition in Rwanda, stunting and other forms of malnutrition continue to be prevalent throughout the country (NISR, MOH, and ICF, 2021). “One Cow per Poor Family” (Girinka) is a nationwide program implemented since 2006 by the government of Rwanda through the Ministry of Agriculture and Animal Resources (MINAGRI) in collaboration with non-governmental organizations such as Heifer International and Send a Cow. Girinka addresses four important issues: increasing income, reducing malnutrition, improving agricultural production through the use of manure, and promoting unity and trust among Rwandans through the program's passing on the gift approach in the form of a heifer or cow. Approximately 203,000 households had received cows by 2015 together with a package of subsidized services including vaccinations, breeding, and advisory services from public veterinary personnel (Habiyaremye et al., 2021). Girinka is still ongoing and has contributed to the increase in Rwanda's cattle population from 645,848 in 1997 to around

1,350,000 in 2015 (IFAD, 2016). However, Girinka faces challenges relating to the quality of veterinary services (including the provision of semen and bull stations), cattle feed quality, and in developing effective dairy markets (Habiyaremye et al., 2021).

Several policy documents provide a roadmap for dairy and livestock programs in Rwanda. The National Dairy Strategy, a policy document designed and approved in 2013, prioritises increase in milk productivity at farm level and high-quality milk along the value chain as key intervention areas to sustainably grow the dairy sector in Rwanda (MINAGRI, 2013). The Rwanda Livestock Masterplan lays out a series of 5 years investment plans for key livestock commodity value chains and presents the roadmap for the period 2017/18 to 2021/22 (Shapiro et al., 2017).

Dairy programs implemented in Rwanda align to these policies. The Rwanda Dairy Competitiveness Program I and II was implemented between 2007 and 2017 with the goal of improving the competitiveness of the dairy sector by implementing interventions to strengthen the capacities of dairy farmers in milk production, enhance milk quality at milk collection centres, and promote milk consumption (Habiyaremye et al., 2021). It initiated the “seal of quality” certification scheme which lays out a set of practices and standards for proper handling of raw milk along the value chain, and launched milk consumption behaviour change campaigns such as “*shisha wumva*” (which literally means “feel the goodness”). This aimed to raise awareness of the benefits of milk consumption and its availability on the Rwandan market using mass media, including television and radio and other channels. In other countries, such as Vietnam, national campaigns using mass media have provided effective at promoting behavioural change around infant and child nutrition (Nguyen et al., 2017).

These efforts can be contextualised within broadly successful attempts in Rwanda, supported by international development partners, to rebuild government institutions following the 1994 Genocide against the Tutsi in Rwanda. This has contributed to “significant economic gains in a relatively short period of time” particularly in food production (Meador and O'Brien, 2019). The Government of Rwanda's policies and strategies on gender equality have contributed towards high levels of women representation in leadership positions in local communities, including in agricultural cooperatives. Levels of trust in cooperatives are also high (Meador and O'Brien, 2019). Despite progress, community level gender norms widely present men as economic providers and household heads, resulting in generally weak participation by women in intra-household decision-making including on nutrition objectives (Stern et al., 2018). However, there is evidence of some households transitioning to more gender-equitable decision-making models (Stern et al., 2018). In some cases, development interventions engaging men as partners to women's empowerment interventions have succeeded in facilitating women and men to question harmful gender norms that privilege men (Slegel et al., 2013).

Despite challenges, Rwanda's livestock programs have positively influenced national milk production and improved the livelihoods of low-income households (Habiyaremye et al., 2021). Recent evidence shows that households benefitting from the Girinka program have somewhat lower levels of household food insecurity, and children in participating households have slightly higher weight-for-age and height-for-age z-scores than households of similar socio-economic status that had not yet received a cow through the program (Flax et al., 2020).

Nevertheless, the overall percentage of stunted and underweight children in Girinka households remains high. Though the Girinka program aims to improve livelihoods through increased milk production, its original objectives did not include nutrition or promoting the consumption of ASFs at household level – this is a recently added objective. A Social and Behaviour Change Communication (SBCC) intervention (Gabura Amata Mubyeyi – meaning Parents, Give Milk) developed messages around the importance of milk consumption and other ASFs to children and mothers, timing of introducing milk, and how to safely handle milk. These have primarily targeted women. A study conducted in two districts with Girinka beneficiaries following SBCC messaging

demonstrated increased odds of children consuming cow's milk two or more times a week, but for half the children consumption was limited by inadequate milk production at household level, or by the sale of milk (Flax et al., 2021). This was attributed to low levels of milk production by the cows, together with high levels of food insecurity and poverty among the participants, leading households to prefer selling rather than consuming milk (Flax et al., 2021).

These results were partly attributed to gendered decision making in Rwanda which continues to define men rather than women as primary decision-makers regarding milk sales. This creates a dilemma between men and women as men generally decide whether milk is to be sold or consumed in the household (FtF, 2015). Interestingly, a small study in one location which had not been included in the Girinka programme examined the effects of targeting men with SBCC messaging. SBCC was delivered in group meetings led by model fathers, through text messages, print materials, and through megaphone blasts directed at men. These efforts contributed to increased, though still small, ASFs consumption by the children of participating fathers. Fathers indicated they preferred learning about children's nutrition in settings specifically convened for men, and they appreciated details of simple actions they could undertake (Flax et al., 2023).

To date, though, there is little evidence on how deploying a masculinities gender lens could strengthen the potential of livestock transfer programmes, like Girinka, to increase consumption of ASFs, improve gender equality in decision-making, and support women's empowerment. The article addresses this knowledge gap by studying:

- i. Women's and men's perceptions of gendered responsibilities in relation to providing ASFs for child nutrition.
- ii. Men's preferences on ways to engage them in child nutrition (particularly in relation to provision of ASFs), and women's preferences on how they would want men to be engaged; and
- iii. Barriers and enablers to men's engagement.

The findings are framed through a literature review that sets out ways of conceptualizing men and masculinities. It then presents evidence on the ways in which expressions of masculinities can be an important determinant of ASFs consumption at household level.

2. Literature review: Masculinities in relation to nutrition

Masculinities express complex relations of power between women and men. The OECD (2021) recommends using the term "restrictive masculinities" to describe masculinities that limit men to their traditional role as the dominant gender group and undermine women's empowerment and gender equality. Restrictive masculinities legitimize gender inequalities and enable men to benefit in terms of securing preferential access to resources and freedoms at the cost of restricting access by women (Cislaghi et al., 2018). These norms, however, also limit the ability of men to adopt non-conventional behaviours. The OECD (2021) identifies ten widely held norms which define restrictive masculinities. These are "that a 'real' man should: i) be the breadwinner, ii) be financially dominant, iii) work in "manly" jobs, iv) be the "ideal worker", v) be a "manly" leader, vi) not do unpaid care and domestic work, vii) have the final say in household decisions, viii) control household assets, ix) protect and exercise guardianship of family members, and x) dominate sexual and reproductive choices" (OECD, 2021). The first five norms align with the economic and political sphere, the latter five with the private sphere. The norms articulated in (i), (ii), (vi), (vii), and (viii) are of particular relevance to this study.

A study in Rwanda (CRS, 2016) showed that local gender norms uphold a dichotomy of men as providers and women as carers and nurturers. Health centres and community nutrition initiatives are considered female spaces. Men are constructed as primary decision-makers and have the final say on how resources are distributed, including for nutrition expenditures. Men who demonstrate more

equitable nutrition behaviours may be scorned at community level as having been 'poisoned' by their wives. Even so, the study shows some change in norms with men having good basic knowledge on nutrition. Some men care for children when their wives are absent, and most men want to become much more involved in nutrition initiatives (CRS, 2016).

Evidence from other countries shows that bargaining power and the ability to make decisions in the household is important because it contributes to decisions around whether milk will be consumed by household members - and if consumed, by which household members, or whether milk is sold (Colverson et al., 2020; Lenjiso et al., 2016). In Tanzania, rural women's intra-household bargaining power is negatively correlated with the nutritional status of children under 5 years (Mwaseba and Kaarhus, 2015). When men exert exclusive control over agricultural production and sales at the household level, nutritionally rich foods, such as milk, are usually sold at the market leaving very little for children (Mwaseba and Kaarhus, 2015). Another study (Ochieng et al., 2017) conducted in two districts in Tanzania showed that ASFs are rarely consumed by women and children. In times of food shortage, men typically purchase ugali (maize porridge) or rice with fish, meat, or eggs from food vendors for lunch and dinner, together with milky tea, and also eat again at home (thus eating more often than other household members). However, at home, ugali with vegetables and no ASFs is typically served. During times of food surplus, men often sell produce for cash and use some of the money to consume ASFs outside the home as opposed to buying them for the whole household (Ochieng et al., 2017). These findings are similar to those reported in a study conducted in Kenya (van't Riet et al., 2002) and in Rwanda (USAID (2020),

A USAID (2021) Rwandan study shows that men are associated with ASFs consumption (particularly all forms of meat) whereas women are associated with beans and leafy vegetable consumption. Small fish and eggs are the only ASFs associated with women, but consumption is rare, particularly of eggs since these are typically sold due to their high market value. Unlike in some countries, there are no taboos around egg consumption and indeed older women encourage children to eat them. The only barrier to consumption is cost. As in the Tanzanian study, men in the Rwandan study consume ASFs outside the home, particularly in bars, which are male-only spaces. This study further showed that men typically have more money and feel entitled to buy ASFs for themselves, whereas women, who have less money, buy other foods for their personal consumption (USAID, 2021).

Data from Ethiopia provide different insights, however. Hoddinott et al. (2015) analyse data from a household survey - conducted in the four Highland regions - which was designed to provide a baseline for an evaluation of the Government of Ethiopia's Agricultural Growth Programme. Their analysis shows that dairy cattle ownership is widespread with milk and dairy products being a key source of ASFs. Cow ownership is positively correlated with improved milk and dairy product consumption by children. This contributes to linear growth and reduces stunting. The study also shows that market development does not threaten milk consumption (Hoddinott et al., 2015). These findings may be partly associated with women's high ownership over dairy cattle and strong control over dairy products - which women make, including cottage cheese, ghee, and fermented milk. Women tend to decide how much milk to sell, to consume in the household, and how to spend dairy income (Njuguna-Mungai et al., 2022) see also (Garsow et al., 2022). Lenjiso et al. (2016) find however, that despite Ethiopian women's strong involvement in dairying, their control weakens when milk and dairy products are marketed. Headey et al. (2019) find that in the absence of markets, the very perishability of milk increases the likelihood of children consuming milk in Ethiopian households. Overall, though, they find that poor producers may well prefer to sell ASFs and other high value foods rather than consume them themselves due to high calorie-price ratios. The "opportunity cost of feeding high value products to infants is extremely high for cash-constrained rural households" (Headey et al., 2019, 1324).

A study (Galiè et al., 2021) conducted in peri-urban communities in Tanzania and Kenya suggests that milk is shared fairly equitably between women and men, and boys and girls in the household, though men generally consume more milk than women in Tanzania – and it is normatively seen as a wife’s duty to make sure that her husband has sufficient milk. In both countries, though, children are prioritised above adults for milk consumption. In Tanzania, clear tensions between two sets of norms emerged. Men are normatively charged with providing or purchasing milk for the household whilst women are responsible for ensuring every household member has sufficient milk. If men do not prioritize or value milk consumption, it is difficult for women to ensure that milk is provided. Interestingly, the study further shows that in Kenya, some women – if they had decision-making autonomy over money - would prefer to reduce milk purchases in favour of purchasing a diverse food basket and investments in initiatives to improve the well-being of all household members (Galiè et al., 2021).

The Rwandan study mentioned above (USAID, 2020) similarly noted that women prefer to buy cheap foods in order to meet the household’s other developmental needs, such as school fees and health care. This is because men are perceived as failing to prioritise overall household requirements. Women also reported purchasing less expensive foods since they do not have to ask for permission from their husbands to spend small amounts of money (USAID, 2021). Other studies highlight the relative expense of ASFs, including milk, compared to other foods. Headey and Alderman (2019) find, in a global study, that higher milk and fortified infant cereal prices are positively associated with international child stunting patterns. Higher prices mean that ASFs are simply less likely to be consumed by young children. A key reason is supply side constraints, with ASFs being highly perishable, cold storage facilities are widely lacking or insufficient, and overall productivity is low (Headey and Alderman, 2019, see also Galiè et al., 2021).

The term “gender-equitable masculinities” describes masculinities that are supportive of women’s empowerment and gender equality. There is some evidence for the impact of more gender-equitable masculinities upon nutrition. A study in Kenya (Thuita et al., 2021) indicated that fathers are important in providing the resources needed for greater child dietary diversity. In Uganda, a study (Kansiime et al., 2017) using 14 activity-based indicators showed that 60 % of men respondents participated in 8 or more activities promoting maternal and children nutrition. Their children were more likely to demonstrate good nutritional status than those of men who participated in less than 8 activities. Overall, men focused on providing money for food (94 %) and transport to child health clinics for growth monitoring (47 %). However, very few men (9 %) accompanied their wives, which may explain why around 60 % of men were unable to identify at least one message on the importance of breastfeeding and complementary feeding. The study also shows that very few men supported women in their decision-making around breastfeeding, order of feeding at mealtimes, and complementary feeding (Kansiime et al., 2017).

Although restrictive masculinities are still common and examples of gender-equitable masculinities are spotty, norms change continually. Mkandawire and Hendriks (2018, 2019) argue that gender roles in parts of Malawi are changing as a consequence of many years of initiatives driven by gender-equitable policy enactments and health sector actors. The “undoing” of traditional gender roles in the Central Region means that men are increasingly sourcing, purchasing, and processing food – and financing food through engaging in daily labour for cash or food. This is resulting in greater cooperation between women and men, and “consequently a new definition of gender is emerging in this community” (Mkandawire and Hendriks, 2018).

3. Materials and methods

3.1. Study sites and sampling

This study was implemented in the same locations as the “Gabura

Amata Mubyei” SBCC intervention in Nyabihu and Ruhango Districts in Rwanda. These districts were selected because they have high prevalence of childhood stunting and poverty. Formative data for the Gabura Amata Mubyei intervention found that farming is the primary economic activity in both districts (StratDever Ltd, 2018). Main crops include beans, maize, sweet and Irish potatoes. Cattle, goats, and poultry are widely kept. A few people practice fish farming and beekeeping. Men are typically engaged in cattle production. Their roles include milking, construction of cattle pens, looking for cattle feed, calling veterinary service providers, taking care of sick animals, and identifying breeding cattle. Women are generally responsible for subsistence crop production, work as paid labourers on fields, and they manage small livestock like goats and poultry. Women are rarely involved in cattle management (apart from feeding livestock by sourcing and chopping forages), milking, or selling milk products. Women care for goats and poultry, identify sick animals, and collect eggs. They seek veterinary care and treat animals when the husband is absent, or if they are widows or single women.

For the present study, data were collected through focus group discussions (FGDs) and key informant interviews (KIIs). FGD participants were purposively selected from households with a child aged 12–59 months and in receipt of a cow through the Girinka programme. KII participants were purposively selected from among community leaders, religious leaders, and agricultural or veterinary extension workers in the two districts.

Trained data collectors used semi-structured question guides to conduct the FGDs and KIIs. In each site, two FGDs were conducted with women and two with men. A total of 8 FGDs (4 with women and 4 with men) were carried out with 48 participants (24 of each gender). Eight KIIs were held, 4 per district, with 4 women and 4 men (Table 1).

The study was approved by the ILRI Institutional Research Ethics Committee (IREC) ILRI-IREC2020-34 and the University of Rwanda through the College of Medicine and Health Sciences (CMHS) Institutional Review Board (IRB) No 310/CMHS IRB/2021. The FGDs and KIIs were conducted by a team of experienced data collectors contracted through Three Stones International and trained by ILRI gender scientists. The FGDs and KIIs were recorded and transcribed verbatim. Country-specific COVID-19 protocols and guidelines were followed during the fieldwork activities. Refreshments were provided to participants, and travel costs to and from FGD venue reimbursed. Participants provided written informed consent to participate in this study and have FGDs recorded. Anonymisation of information provided was guaranteed.

FGDs and KIIs transcripts were uploaded into qualitative data analysis software (NVivo (2020) Rel. v1.x.). Open coding was used to deductively code the transcripts and identify emerging themes. Using a querying technique in NVivo, thematic areas by gender and type of respondent were compared. Summaries based on patterns that emerged in the coded notes were prepared.

4. Results

The results are organised as follows. We characterise our respondents; provide a brief overview of ASF consumption in the households of the respondents; show perceptions of gender roles in food; and present men’s preferences for being involved in nutrition interventions

Table 1
Distribution of FGDs and KII participants.

District	Sector	FGD Women (number of respondents)	FGD Men (number of respondents)	KIIs
Ruhango	Ntongwe	1 (6)	1 (6)	2
	Byimana	1 (6)	1 (6)	2
Nyabihu	Shyira	1 (6)	1 (6)	2
	Rugera	1 (6)	1 (6)	2
Total		4 (24)	4 (24)	8

and potential constraints and enablers to such involvement.

4.1. Demographic characteristics

Table 2 presents descriptive statistics of the respondents in men and women FGDs. The average age of the participants in men and women FGDs was 38 and 36 years, respectively. Many participants in both men and women FGDs were married. Some women were unmarried (2), widowed (1), divorced (2), or separated (1). Men and women reported low formal education levels: 23 women and 23 men had acquired primary education, and 1 man and 1 woman had attained ordinary and advanced levels, respectively. Many men and women reported depending on crop farming as the primary source of livelihood, with 13 % of men engaging in off-farm income generation. On average, participants in FGDs reported having at least two adult members per household.

4.2. General findings on ASF consumption

Participants in both districts said they rarely consume ASFs. Respondents primarily consume crop-based foods and buy ASFs when they have money. “The purchase of ASFs is high during the harvest season since this is the time when most people have money after selling surplus produce” (KII, district animal resource extension officer, Nyabihu, 2020). People also consume ASFs during festivals, such as Christmas and New Year, and major events, like weddings. In some cases, milk is only provided when children are actually ill, as many parents believe milk provides the children with energy to fight disease. However, an understanding of the importance of child nutrition to child health is widespread. A woman said, “better health in children reduces severe forms of malnutrition like kwashiorkor” (FGD, woman, Nyabihu, 2020). Some men respondents observed that children who are not fed well become weak and stunted.

Table 2
Demographic characteristics (FGD participants).

Variables	Men	Women
Age		
Mean	38	36
Minimum	28	24
Maximum	47	47
Marital status		
Unmarried	0	2
Married	22	18
Widowed	0	1
Divorced	2	2
Separated	0	1
Education level		
Primary School	23	23
Junior Secondary School (Ordinary level)	0	1
Senior Secondary School (Advanced level)	1	0
Primary source of income		
Crop farming	21	23
Non-agricultural work	3	1
Number of adults in the household		
Mean	2	2
Minimum	2	1
Maximum	3	3
Number of cows owned by the household		
Mean	1	1
Minimum	0	0
Maximum	2	1
Number of men interviewed = 24		
Number of women interviewed = 24		

4.3. Women's and men's perceptions of their gendered responsibilities about food

4.3.1. Perceptions of men's responsibilities

In every FGD, participants reported both men and women are responsible for household food and nutrition security but in gender-differentiated ways. Men considered it their responsibility to provide food for their families, primarily through giving their wives money to buy food. A man explained that “a man provides money to buy healthy foods. This ensures that children and breastfeeding women are well fed, children grow up healthy, and breastfeeding women have enough milk for their young children” (FGD, man, Nyabihu, 2020).

Men sometimes buy food, including ASFs. “Though men are always at work, they sometimes buy ASFs, fruits, and other nutritious food for their families” (KII, sector veterinary officer, Nyabihu, 2020). Some women ask their husbands to purchase ASFs, such as eggs, beef, and small fish on their behalf, particularly when they have young children. In some households, men purchase milk if the household lacks a lactating cow.

When asked who decides whether or not to buy ASFs, the majority of men and women said that such decisions were taken jointly by husband and wife, but that men were the final decision-makers. Men dominate decision-making processes, including which livestock or livestock products to sell, where to sell, and how to allocate the income. A veterinary officer in Nyabihu explained, “most people in this community sell livestock to pay their children's school fees, buy food, pay health insurance, or make investments like buying land. In most cases, men are the ones who decide about this.”

The majority of men and women FGD respondents reported that men are responsible for allocating milk for household consumption or sale. Some men and women noted that in households that are female-headed, women are forced to look for a male neighbour or elder sons to help in milking. Women explained that they take over responsibility for milk in the kitchen, “women boil raw milk before they give it to their children. On the rare occasion when the wife is not around, a man boils milk” (FGD, woman, Ruhango, 2020). Men who own lactating cows claimed they support their wives in feeding the cows to ensure they provide enough milk for both children and expectant mothers. However, both men and women complained of limited access to quality fodder, noting that poorly fed lactating cows produce very little milk (less than 2 L per day). In such cases, men typically sell most of the milk to buy fodder or exchange it with grass. Some men use milk proceeds to pay for veterinary services.

In exceptional cases, some men said they provide direct assistance by preparing meals, for instance, when their wives are ill or away from home. “When my wife was pregnant, I prepared meals for her and my children. When you engage women in heavy tasks during pregnancy, it can lead to health-related complications” (FGD, man, Nyabihu, 2020). A woman in Nyabihu remarked, “My husband is very supportive when I am ill, or during pregnancy when I need to go for check-ups or maternity visits. He prepares meals for my two children.” Several men asserted they contribute to household nutrition through advising their wives to buy food from different food groups.

A limited number of men accompany their wives to child growth monitoring sessions and other child health care training and check-ups. The men who participate in these activities said their presence boosts their wives' morale and increases the likelihood of their wives attending all sessions and similar meetings. However, women and men respondents asserted this practice is uncommon in the community, claiming it is only practiced by a few men who “love and care for their families.” Women said that men should accompany them to growth monitoring sessions as this will provide men with the opportunity to learn more about child and maternal nutrition.

According to some respondents in men's FGDs, men occasionally help their wives fetch firewood and water or take care of young children. This provides women with more time to prepare meals and tend their

kitchen gardens. However, only a few men engage in such activities, since “fetching water and firewood are culturally perceived as women’s activities” (FGD, man Ruhango, 2020). Women asserted that men who understand the importance of child and maternal nutrition generally help their wives take care of their kitchen gardens. Some men advise their wives on which nutritious crops to grow, and they mentioned supporting women through slaughtering small livestock, such as poultry.

Across FGDs, some men said that they use income from the sale of smaller livestock such as pigs, or from surplus milk, to purchase health insurance for their wives and children. This helps cover the costs of women’s attendance at clinical services and regular child growth and monitoring sessions. Some women said their husbands give them the travel fare to health centers for antenatal and post-natal training and health check-ups.

4.3.2. Perceptions of women’s responsibilities

Women’s normative contribution to household nutrition comprises purchasing food using money provided by husbands, and then preparing nutritious meals for household members. One woman explained, “a woman knows the nutritious foods to feed her family since community health workers (CHWs) have trained them on which foods to buy and on how to prepare a balanced diet” (FGD, woman, Ruhango, 2020). Women added that since they prepare meals, they know how much to provide to each household member. Some women claimed to allocate more meat to their husbands than other household members because men provide the money to buy ASFs, and because giving men meat signals respect to men as head of household. According to a woman in Nyabihu, “A wife should give her husband more meat because men need more energy to work and earn more income, and men need motivation to enable them to allocate more money to buying of ASFs.” Several men acknowledged women’s contribution to household’s nutrition. A married man commented, “My wife supplements the ASFs bought from the market with vegetables produced from her kitchen gardens and she prepares special dishes (agakono k’umwana) for children” (FGD, man, Nyabihu, 2020). Women said they prioritize young children during periods of food scarcity, including through reserving eggs and milk for young children. “When eggs are few, I prepare them for the young children, and I give them a lot of milk since they need to grow” (FGD, woman Ruhango, 2020). Several women remarked that adults can more easily cope with hunger than children. In most FGDs, men and women explained that pregnant and breastfeeding mothers are prioritized because the baby needs sufficient food for good health.

Occasionally, women who engage in off-farm income-generating activities, such as selling vegetables or casual jobs, reported using their income to buy food, particularly ASFs. However, men generally expressed discomfort with this, describing, “as the head of household it is a man’s responsibility to provide food for his family.” A married man in Nyabihu quoted the Bible to justify this norm, saying, “It is written in the Bible, ‘the woman’s desire will be for her husband, and her husband will rule over her,’ that is why I am responsible for all the needs of my household.”

Women explained that it is their responsibility to ensure food hygiene within the household. They make sure, for instance, that milking containers are clean, and they boil milk before giving children to consume. Most men respondents felt that they also need to be trained in best hygiene practices. Women supported this, explaining that including men in training is particularly important because men milk the animals. “Men should know that they need to milk into clean containers and also that they should boil the milk before giving it to young children” (FGD, woman, Nyabihu, 2020). A key informant explained that “Men need training on handling milk as some use small plastic containers to carry milk, yet it is challenging for them to clean the containers” (KII, man, Nyabihu, 2020).

4.4. Benefits of engaging men in ASFs nutrition

Many men and women across the FGDs considered men’s engagement in child nutrition as a critical strategy for ensuring children are well-fed. Women argued that if men are to supply sufficient money, they need to understand why nutritious food is important. Furthermore, in our sample most women engaged primarily in subsistence (crop) farming with low involvement in marketing (Table 2). Hence, this may be a reason why male incomes are particularly important in these communities. Respondents widely acknowledged that when children are poorly fed, they are more likely to abandon school and leave home. A Cell Executive Secretary in Ruhango remarked, “Children drop out of school when they lack food, and most migrate to big cities searching for jobs and better lives.”

Women and men respondents, and key informants, remarked that many intra-household conflicts are triggered by hunger. “In households where a husband provides money to buy food, the family lives in harmony. This reduces intra-household conflicts which result from hunger and stress due to too much work for women” (FGD, man, Nyabihu, 2020). A woman explained, “When I am left to take care of all responsibilities in the household, I end up spending all my money on food, and in most cases, very little or none is left to pay for medical bills and take care of other household needs” (FGD, woman, Ruhango, 2020). Respondents across FGDs described other instrumental benefits as well. If family members are well-fed, family members are better able to handle household chores and engage in income-generating activities.

The study data uncovered a link between community perceptions of the health of household members and men’s status in a community. Men respondents explained that they receive honour and praise at the community level when their families are healthy. They are respected by others, and men avoid conflict with local leaders who are tasked with the role of ensuring that men take good care of their families. Women agreed and added that their husbands are considered important people in society when they take good care of their families. A healthy family is considered a positive example in the community.

Even so, a limited number of women across the women’s FGDs expressed resentment of male involvement in nutrition activities. They argued that men who participate are controlling and selfish. They experience male involvement as a wish by men to monitor and supervise their wives, yet – they argue – going to the market, preparation of food, and kitchen duties are women’s roles. Some key informants supported this view, arguing that women feel they lack freedom when their husbands over-supervise or dominate in kitchen and food preparation activities.

4.5. Potential barriers and enablers to men’s engagement

4.5.1. Potential barriers

Men and women indicated that community norms can hinder men from engaging in meal preparation activities. Men who are actively involved in household duties like cooking can be stigmatized. A man stated, “When community members see a man and a woman understanding and supporting each other in household chores, they usually say that the man has lost household headship. This discourages men from supporting their wives in preparing meals or engaging in activities known to be done by women” (FGD, man, Nyabihu, 2020).

Despite this, some men are interested in food preparation. However, they explain that they lack proper nutrition information, especially on preparation of a balanced diet for their children and spouses. They want to develop a proper understanding of basic nutrition principles, including the various food groups, and at what point different foods should be introduced to babies and young children. A Cell Executive Secretary said such knowledge is important because “most men focus a lot on the quantity rather than quality of the meals” (KII, woman, Nyabihu, 2020). Several men added that some women, likewise, lack sufficient knowledge required to prepare a balanced diet for their

families. However, they did not provide a reason for this assertion.

A few men attributed men's lack of, or limited, support for child nutrition to poor allocation of household resources (whether income from off-farm activities or the sale of agricultural produce). "Some men channel their income to alcohol instead of buying food for their pregnant and breastfeeding wives" (FGD, man, Nyabihu, 2020). Another man narrated, "Intra-household conflicts arise mainly due to poor allocation of household income. A man can use a major part of his income to consume alcohol instead of buying food" (FGD, man, Nyabihu, 2020). Some men perceived women to be responsible for financial mismanagement. Men said that in such situations, they feel discouraged because their wives fail to make good use of the food they purchase or spend money on alcohol. Yet in the majority of men's FGDs men spoke graphically of male spending on alcohol being a core problem. There is a "mindset that makes us neglect the nutrition of our family members where a man takes money to get a drink while there isn't even porridge for children at home" (FGD, man, Nyabihu, 2020), and "Drunkenness prevents men from assisting women in terms of household nutrition because when a man becomes a drunkard, he only cares about what he will drink not what he will provide to his wife and children as food" (FGD, man, Ruhango, 2020).

Participants explained that insufficient funds are a significant issue for some households. They need to sell most of their harvest during harvesting time to cater for immediate household needs, and then end up with insufficient food during the lean season. Respondents described situations whereby women sell some family assets to get money to buy food or take care of other household needs. This can result in men subsequently refusing to support their wives financially. A man explained, "When she sells our assets for getting what she wants, I mean when she sells something in the house without discussing with me, it may bring conflict. I may buy only little food so that my family has something to eat. But [her behaviour] will disturb me and prevent me from providing money to buy foods or buy it myself as I used to, you understand that it will impact the whole household" (FGD, man, Ruhango, 2020).

4.5.2. Potential enablers

FGDs also considered various ways in which men can better support household nutrition. Many women wanted men to learn how to prepare healthy meals, suggesting men should be encouraged to attend cooking demonstrations. Women also expressed a desire for men to understand basic food hygiene practices (and men agreed), for instance, ensuring children wash their hands before eating, and serving children boiled rather than raw milk. A married woman in Nyabihu added, "Men should know that they need to milk using clean containers and they should boil the milk before giving it to young children." A veterinary officer in Nyabihu stated, "Men need training on milk handling. Some men use small plastic containers to carry milk, yet it is challenging for them to clean the containers." A woman veterinary and animal resource officer in Nyabihu added, "Hygiene is the first information needed in ASF value chains like milk - no good health without good hygiene."

Specifically on milk, men expressed an interest in learning the amount of milk one needs to consume daily, particularly for breastfeeding mothers and young children, and the stage at which milk should be introduced to a young child. "We need to know the required quantity of milk one needs to consume per day, and the age at which we should start giving our young children milk" (FGD, man, Nyabihu, 2020). Key informants noted that very few men in the community understand the importance of ASFs to young children, pregnant and breastfeeding mothers. A veterinary officer in Ruhango said, "Some families have lactating cows, and they rear chickens, but their children suffer from malnutrition, because due to lack of nutritional knowledge, men end up selling most of the milk and eggs." Women requested that men be targeted for training on the benefits of milk as well as other ASFs, including eggs, fish, etc., for babies and young children as well as pregnant and breastfeeding women. Women want men to provide women with money

specifically to purchase ASFs, and to help by purchasing such foods. They also considered that men should actively be involved in producing ASFs, such as milk and eggs, for use by the family, rather than for sale.

Furthermore, women want men to come to growth monitoring sessions for children to help them understand their children's nutritional status. This, in their view, needs to be accompanied by activities to teach men about foods that should be consumed by young children, pregnant and lactating women. This information, argued women, will equip men with the knowledge they need to purchase more nutritious foods. More broadly, women want men to engage in discussions with them about their household nutrition objectives, the types of food to buy, and how to prepare it, in order to ensure a balanced and healthy diet for the whole family.

Some men wish to be trained by CHWs through home visits. A key informant explained, "There is a need to have CHWs who can move around training men on the importance of engaging in child and maternal nutrition. The CHWs can also pass child and maternal nutritional information via family meetings, "isibo" or village group meetings, "akagoroba k'ababyeyi", which take place during the 3rd week of every month" (A Cell Executive Secretary, Ruhango, 2020). Yet, some men argued that CHWs are not the best people to train them since they do not have proper skills, and some fail to deliver full information needed. According to a man in Ruhango, "We would like to be trained by someone who is skilful, because CHWs are provided with skills, but they provide the community with few skills compared to those they received."

A majority of men across FGDs said they would like to be taught by village elders (community leaders) who have themselves been trained on maternal and child nutrition. They suggested that leaders can provide information immediately after community meetings, thereby reaching many men. A man declared, "I would like to receive information on child and maternal nutrition during our weekly community assembly and it should be delivered by the Cell Executive Secretary, every Tuesday at 2:00 pm" (FGD, man, Nyabihu, 2020). Key informants supported men's views on the importance of providing training as part of community meetings. Other community-based opportunities were highlighted, including church leaders who could provide nutrition information after church services, and weekly community savings groups. Some FGD participants and key informants also mentioned that it was not necessary to train only community leaders in nutrition, but that a local person could be trained and deliver their messages at places where men meet regularly (apart from markets, which offer too many other distractions). Key informants stressed the need to regularly deliver nutrition information to men, as often as twice a month. A veterinary officer in Ruhango commented, "Men should be trained by professionals and be given real life examples and testimonies to show them that they can do it."

Most men FGD respondents additionally requested guides (charts, billboards, brochures, posters) with nutrition messages. In most cases, they want such materials to include pictures to help break barriers associated with low literacy levels in rural areas. A man in Nyabihu explained, "It would be helpful if men are provided with nutritional guide materials. Guides should have pictures to enable illiterate people get the message by looking at the pictures." Some men requested nutrition messaging be channelled through short-message-service (SMS) because most men have mobile phones, as well as through radio and television placed directly before or after the news. A man from Ruhango said, "Advertise messages on child and maternal nutrition through radio and television mainly during and after news because men like to listen to news."

Finally, some men suggested they could be trained by their wives once CHWs have trained them. This training can take place in their houses when they have free time since they live together. This approach will help men understand nutrition-related information better. A man from Ruhango remarked, "It would be good if our wives train us after they have received training. Women know how to explain things well.

They are patient and do not get nervous.”

5. Discussion

The findings of this study can be associated with five of the norms the OECD (2021) defines as commonly associated with restrictive masculinities: that men should (i) be the breadwinner, (ii) be financially dominant, (iii) not do unpaid care and domestic work, (iv) have the final say in household decisions, and (v) control household assets. We first show how our findings associate to the five norms, and then discuss the implications for nutrition interventions.

5.1. Norm 1. Men are breadwinners

Women and men respondents perceive men as breadwinners. This norm establishes that men are ‘the ones in charge of earning the family income’ but does not exclude women from earning money and supporting men in this role, even though women’s contributions are normatively weakly recognized under this norm. Most women respondents in this study depend on subsistence farming as main source of livelihood. However, other studies in Rwanda show that many rural women supplement their income by working as day labourers or piece workers (CRS, 2016). Bigler et al., (2017) show that in Northern Province, Rwanda, rural women dominate all three locally relevant employment categories: subsistence farming, casual on-field agricultural workers, and domestic workers, though they earn on average 20 % less than men. It is difficult for them to improve their bargaining power because they are unable to shift childcare and household responsibilities to men (Bigler et al., 2017). This noted, many men have significant difficulties earning money. A study in Rwanda showed that though women wanted men to procure more ASFs most men cited lack of financial resources as the biggest challenge. Men felt concerned their breadwinner role, to provide for their families, would be overtly challenged if asked to purchase ASFs (USAID, 2021). Low household incomes thus combine with gender-restrictive norms to exacerbate low levels of ASF purchase and consumption, as seems to be the case for the households of our study respondents, also.

5.2. Norm 2. Men’s financial dominance

Men’s financial dominance means that their decision-making over whether or not to buy ASFs plays an important role in ASF consumption. Men give money to women to purchase food but do not set aside monies for ASFs. Some men spontaneously purchase ASFs but since this is *ad hoc* it does not form part of a coherent family nutrition strategy. Moreover, men’s culturally normative entitlement to ASFs means that they expect to consume more ASFs within the household, when they are available, than women or children (see USAID, 2021, for the same finding). Some women respondents see this as a necessary trade-off, the cause-and-effect logic being that a man who has eaten well can work more, earn more, and is able to contribute to purchasing more ASFs.

5.3. Norm 3. Men do not conduct reproductive tasks

This norm is widely held. However, it fractures a little on close examination. Cooking, childcare, collecting wood, fetching water, and tending the kitchen garden are all identified with women’s domain. Nevertheless, a minority of men explained that they supported women through providing wood and water or advising on the kitchen garden. When women find it particularly hard to manage household tasks, like cooking, due to ill-health or pregnancy, some men step in to help. Another study in Rwanda (CRS, 2016) presents similar findings, with a minority of men reporting regular involvement in these tasks. However, as with our study, most men indicate that they fear participating in women’s tasks due to community censure (CRS, 2016).

5.4. Norm 4. Men have final say

This norm is unquestioned. This said, couples generally practice a degree of joint decision-making. These findings are similar to those of a study conducted Tanzania (Galiè et al., 2019). Women explained that according to cultural norms men “owned” all household resources, including women, children, land, cattle - and “authority”. This makes it difficult for women to negotiate with men to secure milk from household dairy livestock for household consumption. Even so, the Tanzanian women respondents considered that gender roles are changing with women gradually increasing their voice in decision-making (Galiè et al., 2019). It is notoriously difficult, however, to establish precisely what joint decision-making means to participants. A study in Uganda showed that women considered that merely being “informed” by their husband of a decision he had already taken counts as “jointness” (Acosta et al., 2020).

5.5. Norm 5. Men control assets

In the study communities, cattle and their products are strongly identified with men, and men decide whether milk will be sold, exchanged for other products (like cattle fodder) or given to household members. This is clearly of critical importance to the provision of ASFs to household members.

5.6. Interactions between norms

Taken together, the five restrictive norms reinforce each other. Men’s widespread lack of understanding and awareness on nutrition (including the importance of ASFs) is arguably due to the historic marginalization of men in externally driven food and nutrition initiatives. This unsurprisingly translates into poorly informed male-led decision-making around the amount of money to provide to wives for ASF purchase and imbalance in the provision of milk from cattle to the household in relation to consumption needs vis-à-vis sale or barter. Gendered roles and responsibilities in the domestic space are clearly demarcated, with the majority of men regulating the overall space in their role as household head whilst women perform tasks under men’s guidance within that space. A few men assist women but even those that do so are keen to convey that they offer support to women rather than directly conduct tasks identified with women.

5.7. Potential interventions

Norms expressive of restrictive masculinities dominate the communities and households within which the respondents live. They contribute to the limited consumption of ASFs by young children. However, it is equally clear that gender-equitable masculinities are also present, though more weakly expressed. It should be possible to strengthen the existing positive gender norms with carefully planned interventions. The goal should be to achieve critical mass for gender-equitable decision-making at all levels. This in turn will help build the efficacy of combined agricultural-nutrition interventions like Girinka.

In this paper we argue that nutrition interventions need three key components to be effective: 1. technical interventions to increase livestock productivity, like Girinka (largely documented in the literature); 2. an intervention for nutrition behaviour change which involves various women and men in the household (argued for in a number of studies); and 3. a gender transformative intervention that supports conducive gender norms for nutrition and women’s empowerment (generally missing from nutrition interventions yet key, based on our evidence). All three need a gender approach to result in equitable outcomes. We focus the following paragraphs on these three key components and specifically on point 3, which is central to this paper.

5.8. Creating an enabling environment through technical interventions

Despite the important achievements of Girinka and complementary efforts by the government, dairy productivity remains low. Increase in the overall productivity of the dairy sector would allow households to increase their income through selling milk and thereby recoup their investment costs and generate an income, whilst nevertheless being able to set aside a nutritionally appropriate share of milk for household members. [Habiyaemye et al. \(2021\)](#), in an article focused upon Rwanda, recommend livestock interventions and policies to improve the genetic material available in the country together with animal health service and legumes and grass conservation for better animal nutrition ([Habiyaemye et al., 2021](#)). Dairy feed innovations that have been trialled and promoted by programs such as the Rwanda Dairy Development project could be scaled countrywide to improve productivity of Girinka cows. Evidence shows that, unless a gender approach is adopted in such technical interventions for productivity enhancement, they may result in women's disadvantage ([Tavener and Crane 2018](#)).

Improving access to milk markets is also important to generate income - through the sale of surplus production - which can be invested in better nutrition. [Habiyaemye et al. \(2021\)](#) argue that improving the effectiveness of markets would help reduce the currently high transaction costs involved in selling milk and provide incentives for keeping sufficient quantities at home for the family. It should be noted that children do not necessarily have to consume milk. If some of the income from milk is used to purchase cheaper proteins such as small-dried fish, this may provide an acceptable alternative. As with the case of enhanced productivity, gender approaches are necessary to avoid male capture of the benefits associated to marketing of livestock products ([Galiè et al., 2022](#)).

Finally, these efforts need to be complemented by food safety awareness and food safety practices for consumption of animal sources foods to result in improved nutrition. Aflatoxins, milk adulteration and spoilage are of concern ([Gizachew et al., 2016](#)). Yet, measures taken by governments to improve food safety (such as for example, banning the sale of milk in informal markets frequent in East Africa), in turn, may result in an increase in milk prices and limited access to milk and its revenues particularly for women ([Muunda et al., 2021](#))([Galiè et al., 2021](#)). Gender-based differences also apply to perceptions about the importance of milk safety and its handling in the household ([Fusco et al., 2020](#); [Galiè et al., 2021](#)). This evidence suggests that further work needs to be conducted around improving milk safety measures in economically poor communities and with a gender lens.

5.9. Training men in nutrition

Women and men respondents concur that men need to understand how ASFs contribute to improved child and household nutrition, particularly in relation to dairy. Men were also interested in being trained on nutrition.

A key complicating issue in delivering nutrition training to men is the community level norm that men should not engage in reproductive tasks. Food preparation is one of these. This norm is reinforced by the long-established institutional practice of training women rather than men in nutrition. This creates a "female space" which men are unwilling to enter. As a consequence, men requested training led by men in "male spaces". They asked that respected community leaders (village elders, Cell Executive Secretaries, church leaders, etc.) to be a primary delivery channel. For this to happen, such leaders need to be well trained in nutrition and in training methodologies. A benefit of such an approach is to reduce the backlash, at community level, of men attending training in "female spaces" and appearing to endorse their own participation in reproductive work. Men also requested appropriate and effective training materials based on media that men already use. A small pilot study, discussed earlier in this article ([Flax et al., 2023](#)) experimented with similar approaches to engaging men and found that they

appreciated simple do-able messages around nutrition, and being trained with other men.

5.10. Gender transformative interventions for nutrition and equity

Nevertheless, nutrition strategies that endorse men being trained in male spaces without discussing gender equitable decision-making risk reducing women's agency. Women respondents highlighted the danger of them losing a key space - the kitchen and cooking - in which they exercise superior knowledge to men due to their understanding of family nutritional needs. Strategies aiming to strengthen men's nutritional knowledge should, therefore, simultaneously promote ways to improve gender equality at various levels. Such strategies need to deepen men's understanding of the importance of women's agency and women's voice. This can be achieved through providing couple training, and household methodologies, during which couples discuss ways to improve gender equity in household level decision making. There is now considerable experience around the benefits of such methodologies ([Farnworth et al., 2018](#); [Lecoutere and Wuyts, 2021](#)). The former study, conducted in Uganda, and the latter, conducted in Malawi, both found considerable improvements in household welfare, women's access to household income, and women's participation in intra-household decision-making following the implementation of such methodologies.

The findings in this article suggest that training should additionally assist men to associate and interrogate issues around nutrition, and specifically ASFs, with a broader understanding of how intra-household conflicts around food and nutrition arise, and how to resolve them together with their wives. Interventions using couple or household methodologies could highlight the value of gender-equitable jointness in decision-making around nutrition and assist the household to develop effective plans to reach this goal. This in turn may well have the effect of reducing societal pressure on men to be sole providers and key decision-makers in the family. Creating a mutually supportive environment will help to strengthen nutrition objectives and potentially develop stronger livelihood strategies. Interventions could emphasize that men's quality of life, including their mental and physical health, largely depends on the quality of their relationships with important people in their lives.

A potential risk of working within male spaces and training male community leaders is that the existing knowledge of women experts may not be respected by some men. In Rwanda more broadly, though, CHW expertise is generally recognized and valued by most community members regardless of gender ([Niyigena et al., 2022](#)). Each Rwandan village, which is composed of 100–250 households, has three to four CHWs including one female Agent de Sante Maternelle (ASM) and a male–female pair known as Binômes. Ensuring that CHWs, and the knowledge of other women such as wives, and women extension staff, are respected as significant sources of expertise is vital. Otherwise, gender-inequitable masculinities may potentially be reinforced by the intervention. Engaging respected male leaders, together with women, to help create a critical mass for change in men's behavioural options at community level is essential. Curricula for such training can include discussions on how building on positive masculinities can contribute towards the achievement of good nutrition and healthy families, together with technical training in nutrition.

At an institutional level, strategies to promote gender-equitable masculinities need to engage higher level decision-makers. Gendered social norms are learned at a very early age and are deep-rooted ([Morris et al 2015](#)). Individual men have the capacity to change but durable change is only possible if they are supported by respected change makers who are implementing and rewarding change across the entire enabling environment. Change involves working closely with influencers - key decision-makers in the health sector, who through their position, relationships, knowledge and status have the power to shape and lead change processes. Interventions at this level could involve training key decision-makers in the concepts of gender-equitable and restrictive masculinities in relation to their impacts upon achieving improved

nutrition.

Norms supporting gender-equitable masculinities do not necessarily reinforce each other. For this reason, interventions that are implemented at the same time at multiple levels and which create positive feedback loops between levels are important. These interventions need to be conceptualized as part of a holistic initiative to promote, support and strengthen gender-equitable masculinities in the community. There are several frameworks designed to strengthen and support change of men's behaviour. The 4Is Framework (Greig and Edström, 2012), for instance, knits together planned processes of change at the individual, interpersonal, institutional and ideological levels.

6. Conclusion

This article explores the cultural construction of masculinities upon ASFs – specifically dairy - procurement and provision to children in rural families in two districts in Rwanda involved in the Girinka livestock asset transfer programme. Findings include evidence that restrictive masculinities inhibit the consumption of dairy ASFs by children, thereby limiting progress towards achieving good nutrition. Historically, men have frequently been excluded by government ministries and development partners from nutrition training. This means that men are generally inadequately informed about the importance of ASFs, and the consequences of men's decision-making on ASFs food expenditures and food consumption. Nevertheless, many men respondents to this study indicated an interest in improving their knowledge and decision-making. Promoting gender-equitable masculinities capable of absorbing nutritional messaging and creating change requires mutually reinforcing interventions that also include and empower women. This can be achieved through integrating methodologies to target men as part of a wider gender-transformative approach.

Measures are required to help farmers improve their sources of ASFs through developing and strengthening their own production to consumption pathways (Flax et al., 2021) and other measures to provide more income and to improve dairy productivity. Layering SBCC to mothers and targeted SBCC for fathers would contribute to improving the nutrition impacts of the Girinka program (Flax et al., 2023).

The benefits of SBCC + Girinka would be stronger through strengthening the dairy production element by improving technical inputs and marketing, and through carefully promoting the importance of retaining sufficient milk home consumption whilst selling milk to obtain good quality food for children. Gender considerations need to be integrated for effectiveness and equity of such interventions. These efforts require detailed cross-sectoral collaboration between MINAGRI (where the Girinka program has been implemented and where livestock innovations and extension is situated) and the National Child Development Agency under the Ministry of Gender and Family where maternal and child nutrition is homed. This would help to ensure coherent and agreed messaging to all stakeholders, including farm households, around the importance of using ASFs for child nutrition.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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