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# Unpacking gender transformation in African food systems: context, barriers, and opportunities

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## Abstract

The challenges of global food systems are highly linked to issues of gender equality, as women are key actors in many spheres of the food system. Thus, there is a consensus that for a transformation of the food system to be successful, a gender transformation is also required. The objective of this paper was to identify how local women and men perceive challenges and barriers to gender transformations in food systems and what solutions they propose. We conducted focus group discussions with men and women engaged in the food system in four Sub-Saharan countries: Ghana, Kenya, Uganda, and Zambia. We then used established dimensions of gender and food systems, and a set of determinants for gender transformation rooted in science and development practice to conduct thematic analysis of the discussions. The results revealed a high level of awareness about gender-related constraints among local stakeholders. Several normative sanctions that limit gender transformation were identified, and accordingly, many of the proposed solutions were targeted at these deep-seated norms that surpassed the traditional boundaries of food system interventions. This shows how intertwined food system and gender roles and interventions are.

**Keywords:** Gender transformation, Food system transformation, Africa, Small-scale farming, Determinants

## Introduction

Food systems in the Global South are struggling with many major challenges related to climate change (Nguyen et al. 2023; Tchonkouang et al. 2024), population growth (Ghosh et al. 2024), trade barriers (Ben Hassen and El Bilali 2024), low farm productivity (Jayne and Sanchez 2021), changes in food habits (Vermeulen et al. 2020), urbanisation (de Bruin et al. 2021), and food insecurity (Evivie et al. 2024). These challenges are especially pronounced in Sub-Saharan Africa, fuelled by the added burden of poverty.

Gender roles are a key factor affecting the functionality of food systems, from production through processing and marketing all the way to consumer choice (Quisumbing et al. 2021). Men and women have different points of departure, different barriers, roles, opportunities, and prospects, in participating in and benefitting from

food systems. Gender norms influence what is considered appropriate pursuits for different genders, as well as the value and appreciation placed on each gender group performing them (Abendroth et al. 2017; Adetonah et al. 2016; Masamha et al. 2018).

Although it has been widely recognised that this is an equality issue that has negative impacts at different levels, there is no consensus on how to intervene in systems to address this (McDougall et al. 2023). This is surprising as academic literature has recognised the importance of gender-related barriers within food systems (Quisumbing et al. 2021; Visser and Wangu 2021), and there is increasing agreement that gender and social inequalities matter to agricultural and other development outcomes. It is clear that "mainstreaming gender" or taking a "gender-accommodative approach", is not enough (McDougall et al. 2023). Substantive and lasting change requires engaging with deeper drivers, i.e. root causes (Cornwall and Rivas 2015; Njuki et al. 2022; Quisumbing et al. 2023).

In line with this thinking, a novel theoretical lens within gender studies has been emerging, called the gender transformative approach, also referred to as gender transformation and development (Casey et al. 2018; Fisher and Makleff 2022). The approach has been gaining attention in development and research for development (Bell 2021). But, while development agencies are starting to adopt the concept of gender transformation, few scientific studies have undertaken empirical research relating to operationalising this theoretical concept in the context of the food system's transformation. This is an important knowledge gap, identified by Njuki et al. (2022), in a comprehensive review of gender equality and women's empowerment in relation to the food system, in which they find that mechanisms for achieving both gender and food systems transformation are missing.

In response to this knowledge gap, our study aims to contribute to the analysis of gender and food system transformation by contextualising what gender transformation looks like in concrete terms in a changing food system. We use empirical evidence from Sub-Saharan African food systems in Ghana, Kenya, Uganda, and Zambia. By food system, we refer to the activities by all actors involved in food production and consumption—from farmers, processors, middle men, and distributors to consumers to name a few (Zurek et al. 2022). The study identifies deep-seated structural challenges and barriers as well as solutions to gender inequality throughout the food system, based on contributions from local food system actors. We further explore how these challenges and solutions reflect determinants for gender transformation identified in different policy and practice documents in the domain of international development. Understanding how gender transformation can be contextualised within food systems is crucial for both development cooperation agencies and national policymakers, as it provides concrete pathways to design interventions that move beyond gender mainstreaming towards addressing root causes of inequality. This not only enhances the effectiveness of food system transformation strategies but also ensures that policies are more inclusive, equitable, and sustainable. The insights can be relevant for and adapted to several contexts across the African continent, thus also contributing to the knowledge base on transforming gender roles within food systems in Sub-Saharan Africa.

## Theoretical background

Gender studies with a geographical focus on the Global South date back to the 1970s, when the "Women in Development" (WID) paradigm first emerged. Early contributions highlighted women's overlooked role in economic development and argued that development policy had systematically marginalised them (Boserup 1971; Tinker and Bramsen 1976). The focus was on integrating women into existing development programmes, often with an emphasis on efficiency and productivity gains. While this approach put women on the agenda, it treated them as a homogeneous group and largely ignored the structures and relations that produce inequality.

By the 1980s, a shift occurred with the emergence of "Gender and Development" (GAD). This approach emphasised the analysis of gender relations, power structures, and institutional constraints, moving beyond the idea of simply adding women into projects. GAD introduced distinctions such as "practical" versus "strategic" gender needs and underlined the importance of structural transformation rather than short-term inclusion (Miller and Razavi 1995; Moser 1989). This approach departed from WID's instrumental logic and sought to uncover how social and economic systems reproduce inequalities.

In the 1990s, GAD perspectives became more institutionalised. International policy platforms such as the 1995 Beijing Declaration and the UN Economic and Social Council's 1997 conclusions established gender mainstreaming as the central global strategy. Alongside this institutionalisation, the empowerment discourse gained traction, framed as the process of increasing women's resources, agency, and achievements (Kabeer 1999). Kabeer's work defines and operationalises women empowerment as a change process towards capacity to make choices, encompassing both voice and agency (Kabeer 1999, 2010). At the same time, the "access" discourse rose in prominence, particularly in natural resource management and agriculture. Scholars highlighted the structural exclusion of women from land, credit, extension services, and technology, showing that lack of access constrained their ability to benefit from or contribute to development (Agarwal 1994).

From the 2000s onwards, both empowerment and access framings attracted critique. Empowerment was often criticised for placing responsibility on individual women to overcome constraints, while overlooking entrenched social norms and institutional barriers that limited their agency (Cornwall and Brock 2015; Cornwall and Rivas 2015). Similarly, the access paradigm was seen as insufficient, because simply providing women with land, inputs, or credit did not guarantee control or decision-making power if social and cultural norms restricted their use (Doss et al. 2018; Meinzen-Dick et al. 2014). Research highlighted the need to recognise multifaceted barriers, arising both from constraints in economic participation—such as wage disparities (ILO, 2018), occupational segregation (Charles and Grusky, 2004), access to capital (Brush et al. 2018; Kabeer, 1999) and leadership gaps ; and from labour division disparities (ILO, 2018; OECD 2020; Hochschild and Machung 2012) and governance gaps, shaped by legal, cultural, and economic forces (Chin 2013; Ibarra et al. 2010).

These critiques pushed the field to engage more seriously with structural transformation, fostering interest in gender-transformative approaches during the 2010s. Concurrently, research on climate change and food systems began to intersect with gender

debates, particularly in the Global South. Studies demonstrated how structural inequalities made women disproportionately vulnerable to climate shocks while also recognising their agency in developing adaptation strategies ( Djoudi et al. 2016; Lau et al. 2021). A growing body of work examined gender across specific nodes of the food system, including decision-making (Madzorera et al. 2023), group composition and participation (Clayton et al. 2024), policy (Kosec et al. 2024), governance (Ragasa et al. 2023), time use (Stevano et al. 2019), and crop productivity (Welk and Seymour 2023).

Despite these advances, there has been less focus on a holistic view of gender within the food system. Gender inequalities can act as both causes and outcomes of unjust and unsustainable food systems. Without such a perspective, structural constraints continue to perpetuate inequalities despite development interventions. Njuki et al. (2022) present a framework for conceptualising gender equality and empowerment in food systems, identifying four cross-cutting issues at individual, systemic, formal, and informal levels:

- Gender social norms and expectations: Contextual and culturally specific norms shape and reinforce how women and men can participate in and benefit from food systems.
- Gendered access to and control over resources, services, and technology: Women's weaker rights and access to land and other resources, coupled with overlooked needs for information and technology, constrain their opportunities.
- Women's agency in decision-making and leadership: Participation in household and community decision-making is linked to well-being, nutrition, crop diversification, and resilience.
- Institutional barriers, policy, and governance: Gaps in supportive institutions and policies, including the prevalence of gender-based violence, hinder women's empowerment within food systems.

Addressing the range of constraints embedded in existing structures, as described above is a critical foundation of progress towards gender equality (Maertens and Verhofstadt 2013; Malapit et al. 2020; Quisumbing et al. 2021). Gender transformative approaches aim to challenge and change harmful gender norms, redistribute power, and address the root causes of inequality, moving beyond gender-accommodative strategies or technical fixes (Cornwall and Rivas 2015; Hillenbrand et al. 2015). Emerging frameworks and practical guidelines provide insights for food-related research organisations like CGIAR and development organizations such as FAO. The literature identifies key elements—here defined as determinants of a gender-transformative approach (Table 1., for a more comprehensive list of references, see Annex 1.) —that help conceptualise and operationalise actions towards gender and food system transformation. These determinants are crucial for tackling the cross-cutting issues identified by Njuki et al. and provide a lens to assess the transformational potential of solutions emerging from our data.

**Table 1** Key determinants of a gender transformative approach

| Determinant | Examples from the literature |
|---|---|
| Inclusiveness | Engaging all actors, not only women, in the action. "Explicitly engage with men and boys as allies for change and advocates for gender equality" (FAO 2024) |
| Critical consciousness | Strengthening critical consciousness and a normative view, to change mindsets, shift mental models, values, and beliefs. An understanding that equality is beneficial for all and building commitment to joint standards and actions |
| Strengthening agency | Strengthen individual and collective agency, i.e. capacity, knowledge, skills, attitudes, assets, and actions |
| Collaboration | Build collaboration with local actors, coalitions across organisations and sectors, for localised knowledge and conceptualisations of gender equality (MacArthur et al. 2022) |
| Formal institutions | Building strong institutional partnerships with government, civil society, and the private sector, to foster national laws policies (UNFPA 2020) |
| Intersectionality | Integrating intersectionality into any analysis to visualise the structural processes (racism, classism, patriarchy, and cis-normality) affecting social, political, and economic systems and power relations, causing multiple forms of marginalisation ((MacArthur et al. 2022), (Johansson 2024) McDougall et al. 2023) |
| Power imbalance | Reflecting on, challenge and change rigid gender norms and roles, to address power imbalances and re-imagine social norms |
| Equitable gender norms | Strengthening equitable gender norms to "remove structural barriers to gender equality and challenge the distribution of resources and allocation of duties between men and women" (FAO 2024) |
| Counter resistance | Addressing counter resistance and back-lash towards gender equality and women's rights, together with local groups and women's rights organisations |

## Material and method

This study was conducted as a part of the Horizon2020 project "*Improving nutrition in Africa by strengthening the diversity, sustainability, resilience, and connectivity of food systems*, or HealthyFoodAfrica[1] (HFA)". The project linked empirical work from a wide range of food systems and contexts in East, West, and Southern Africa, through *Food System Labs,* which are living laboratories with the task to engage stakeholders, co-produce knowledge, pilot and develop a range of new technologies, practices, innovative food products, and governance arrangements. Each of the Food System Labs in the ten different locations across six African countries was involved in piloting different food system related activities. They were all led by an organisation with local presence and ongoing activity in each specific location. Therefore, the project partners were knowledgeable about local conditions, needs, barriers, challenges, and opportunities.

### Data collection

#### *Roundtable discussions*

The data collection started with an initial process of online roundtable discussions with the local Food System Lab (FSL) teams. The roundtable discussions were structured around a gender framework, focusing on the different gender roles in (a) participation in decision making, (b) income, assets, and resources, (c) knowledge and skills, and (d) networks and solidarity (Hillenbrand et al. 2015). Through the discussions, the most pressing gender issues in each of the FSLs, relating to the different aspects of the food system, were identified. The transcripts of the roundtables were analysed, using thematic

[1] healthyfoodafrica.eu.

analysis, (Braun et al. 2019) to identify common themes and patterns and organising them according to key project topics; nutrition, production, and market governance.

#### *Focus group discussion*

The results of the roundtable discussions, both context specific issues and general insights, formed the basis for designing targeted gender focus groups organised in locations in Ghana, Kenya, Uganda, and Zambia. The aim of these focus group discussions was to deepen the understanding and get new insights into gender barriers, underlying reasons for them, as well as suggested solutions from the perspectives of women and men acting in different nodes of the local food systems in the four Sub-Saharan countries. The specific objectives of the focus group discussions were to (a) identify context-specific food system gender-related challenges and barriers to gender transformation, (b) identify the underlying reasons for these barriers, and based on this, (c) elaborate steps towards possible solutions. The data collected in these focus groups form the main empirical data upon which this paper builds.

The participants of the focus groups were purposively selected (Tongco 2007) by the local project partner, to ensure the most relevant local experts, i.e. problem holders, were represented. Each Food System Lab worked with a different set of local stakeholders, depending on the focus and content of their action and engagements. In some cases, the work was more directly linked to production, while others worked on stakeholder engagement and capacity building. However, even with this diversity in direct focus of the FSLs, the food system actors engaged in the FGDs were quite comparable, as shown in Table 2.

All focus groups were facilitated either by project staff or by trained local facilitators. All relevant ethical procedures were followed, including a comprehensive consent process based on national standards and GDPR. Each of the focus group discussions was recorded, and the audio files were later transcribed, pseudonymised, and translated into English.

To reach the goals of the focus group, the following process was implemented (see Annex 1. for full data collection protocol). The discussion started with setting the scene of what the food system entails. One of the facilitators drew a diagram of the local food system on a flipchart, including all the different components, actors, their relationships, and activities, as described by the participants. The description included analysing which activities were mainly done by men versus women, and who had ownership and decision-making power over the different components and resources. The next step was to discuss the greatest challenges and barriers for women to take equal part in the food system. The identified challenges and barriers were then ranked by the participants, after which the most important ones were selected for further discussion. The discussions dug deeper into the selected challenges and barriers and into suggested solutions to counteract and eventually overcome them.

### Data analysis

The discussions during the focus groups were recorded and transcribed. The transcribed data were colour-coded, categorised, and analysed manually. Specific themes were marked according to the cross-cutting gender and food system issues defined by

**Table 2** Description of FSLs and FGDs participation

| Country, location | Focus of the FSL | Number of FGDs and participants | Composition of FGDs | Language used |
|---|---|---|---|---|
| Ghana, Tamale | School gardens, fruit trees, women producers, youth nutrition ambassadors | One group of women and one group of men (17 participants overall) | Both groups included actors from different parts of the food supply chain, from small-scale farmers to market vendors | English and Dagbani |
| Kenya, Kisumu | Urban gardens, nutrition education, food safety, fish value chain | Two focus groups with men and two groups with women | Small-scale fisherfolk and farmers, marketeers, and vendors | Luo |
| Uganda, Fort Portal | Street food vendors, food safety, nutrition awareness | Two groups with women, two groups with men | Different stakeholders in the food system, including chefs, Coalition of the Willing representatives, food vendors, political leaders, and market agents | English and Runyakitara |
| Zambia, Lusaka | Food safety and nutrition, packaging, market governance | One group with male market vendors (7), one with female market vendors (8), one group with the Lusaka Food Policy council (8 participants) | Lusaka Food Policy Council is a group of policy stakeholders including local government, national ministry, NGO, and CSO representatives | English |
| Zambia, Chongwe rural/peri-urban area | Organic vegetable production, market access | one mixed-gender group (7 women, 8 men, in total 15 participants) | Farmers | English |

Njuki et al. (2022), namely (a) women's agency, (b) women's access to and control over resources, (c) gender social norms, and (d) gendered policies, institutions and governance and the determinants for gender transformation identified in policy documents. This enabled to identify (1) challenges and barriers to gender transformation and their underlying factors, and then, (2) solutions suggested by research participants. The findings are presented below in a summarised form.

## Results

Below, we present the challenges and barriers to gender transformation stemming from gender roles in the food systems, based on the outcomes of the focus group discussions. Several of the topics arising as barriers, as well as solutions, cannot be strictly linked to only one of the dimensions by Njuki (2022), as many overlaps between the issues are evident.

### Agency

#### *Challenges and barriers for women's agency*

The root causes impeding women's agency in the food system relates to all the three other dimensions—control over resources, norms, and policies and institutions. Women's control over nutrition and farming activities is closely linked to their access to income and control of its use. Thus, it is not surprising that women's role in household-level decision-making was prioritised as a barrier in all group discussions. Participants remarked that men controlled and decided on households' financial resources more often than women, including the purchasing of household goods and food consumption by allocating money to grocery shopping. Some women further argued that "*men want to make decisions on the money even if a woman is the one who has done everything from digging to markets*". Some men mirrored this argument and highlighted that when a woman controls the money, the home is stable. Participants also reflected that since land is mostly owned by men, they also decided on its allocation to household food growing versus cash crop growing, as well as the quantities and timing of products sold.

Unequal access to education and information was also raised as a barrier to women's control over resources and thus their agency in the food system: Especially in rural settings, girls were said to be less educated because they were kept at home, waiting to be married off.

Some participants explained men's dominance in decision-making affecting women's role in the food system as an outcome of attitudes, mindsets, and mentality, which are shaped by culture, societal norms, and traditions: "*Culturally a woman is not supposed to be above a man so that's why I think we find men in decision making positions and the women in the other roles*".... "*Our tradition is a barrier because when they (women) mature, what they are told is that they are inferior to men, so they have grown with that system*".

Institutions also still play a large part in limiting women's agency in the food system: Zambian farmers pointed out that the tradition of a man's family paying a bride a price puts boys and girls in different positions in rural families, because it may incentivise parents to withdraw their girls from school and marry them off in expectation of some wealth. This lack of education may later affect their access to jobs and, hence,

decision-making power. The unevenly distributed household workload also affects girls' and women's opportunities to read and do the schoolwork at home. Additionally, the Lusaka Food Council Group mentioned that rural marriages were for accessing cheap labour, not for love. However, the discussing the gap in education revealed some disagreement between men and women participants: some men vendors in Zambia claimed that at school, there is favouritism for women in terms of, e.g. lower passing requirements for girls than boys. In Kenya, the male respondents said that access to education was nowadays equal between men and women.

It was also suggested that training (for example in agricultural production) may favour men. For example, some men in Uganda explained that women do participate in trainings, even more than men, but when they come back the decisions on adopting the new knowledge and skills are taken by men. In Kenya, some women were of the view that "*women have busy schedules and cannot have time to attend to trainings to seek further knowledge*". Partly linked to culture and traditions, religion was also identified as highly influential. This was reflected in the views of some Zambian participants that gender roles are defined in the Bible: "*This is how we were created*".

#### *Improving women's agency*

Strengthening women's agency, both individually and collectively, is recognised in policy documents as a central goal for gender transformations and was thus included as a determinant in and of itself. FGD participants mentioned several ways through which women's individual and collective agency can contribute to gender transformation of the food system: First, technical knowledge and skills related to farming that are currently taught to men should also be taught to women, for example using heavy machinery: "*To be able to plough a farm with a tractor, you need to know to how to drive it. One may know how to drive but can't also use it to plough, it has to be learnt*".

Furthermore, in order to go into commercial farming and engage in food production on a larger scale, women should be helped in accessing loans—both in terms of the conditions required to receive it, and their willingness to apply for loans to begin with: "*If a woman goes in for a loan and she has nothing to offer as a collateral, she will be denied*".; "*Some of the women are scared of money. Hence, even if she has the collateral to access a loan, the fear of not being able to pay it back will deter her*".

Participants also argued that women need to be supported too in establishing their own organisations so they can work as a team, for example in input acquisition, farming, and marketing: "*These women's groups we earlier on mentioned can help. They can form more of these groups to farm together*". According to the participants, changing people's mindsets requires role models, mentorships, and continued exposure to information through local rganisations, radio, and social media. These different types of interventions in terms of individual and collective capacity should help facilitate women's willingness to engage in new food production activities: "*Women should learn to be self-reliant, i.e. to be our own ambassadors*".

However, in line with the determinant on inclusiveness that requires engagement with different groups in society, the groups shared a view that gender equality cannot be enhanced only through women but rather through the involvement of both men and women. The Ugandan women pointed out: "*Women have been empowered while men*

*have been disempowered. We need to bring both people on board and train them on emancipation*". This is closely connected to the topics of social norms, traditions, and culture, discussed further below.

Furthermore, equality within the food system was perceived as part of a wider challenge in society, which means that the change required is fundamental. Thus, the role of educational institutions was highlighted to improve women's agency: Participants suggested that girls' education needs to be promoted, and gender mainstreaming and equality issues integrated in the school curricula and syllabus. The Zambian farmers emphasised that "when you *are educated, you are a different person because no one can bulldoze you. You know your rights as well*". It is not surprising then that some of the concrete solutions were not directly tied to the food system, but rather to facilitating girls' and women's access to education. For example, women vendors in Zambia mentioned that schools should provide sanitary pads to girls to make them feel comfortable going to school and provide equal school dormitory facilities for both boys and girls. Another example mentioned was allowing schoolgirls who get pregnant to continue going to school and return after giving birth. This emphasises that enabling gender transformation in the food system requires a wider systems approach that ties in different domains of intervention.

### Access to and control over resources

#### *Differences in access to and control over resources*

According to the FGD participants, access to food system resources, in particular land, varies between men and women. The prevailing, often traditional inheritance system, influences the accumulation of resources: for example men were mentioned as direct beneficiaries of ancestral property, including land. In Zambia, participants mentioned that when the husband dies, his relatives may claim the land for themselves, and the widow and children must move out. In addition to other marriage-related traditions, such as polygamy, this affects not only women's position within the households, but also their ability to participate in food production activities: Lacking land ownership was claimed to restrict women's access to financing and agricultural input supply schemes, limiting their ability to develop and own larger agri-businesses. For example, Kenyan and Ghanaian women argued that women have financial difficulties in accessing inputs for vegetable production. In addition to land, other major food production assets, such as fishponds in Kenya, were mainly owned by men. As regards livestock, the respondents in Ghana claimed that women usually own and take care of small livestock and poultry, while men rear larger animals like cattle.

However, participants in Kenya and Zambia noted that this traditional ownership structure was gradually changing—if a woman acquired land with her own resources, the title deed could be in her name. Furthermore, participants also noted that there were different traditions in place: in some matrilineal ethnic groupings in Zambia, land ownership rests with women, which grants them power and higher position in decision-making.

Still, beliefs persist regarding the fairness and naturalness of the economics of the existing ownership structure. For instance, in Uganda, male participants explained men's superior position as follows: "It is because men take more risks, men will foresee the

future more than ladies, men own the power naturally that even they still think that women cannot manage the land property". Similarly, a male respondent in Kenya said that the production costs have increased, so men suffer financially to meet the costs. Some men participants of the same FGD disputed this interpretation saying that both men and women suffer from financial constraints in production of food.

Furthermore, FGD participants argued that positions of power that are crucial to gender transformations in the food system are held by men. For example: "*Our chiefs and landowners are solely men who decide on the use of land in our communities. You cannot start anything on the land without their concern or knowledge*". Furthermore, women are more frequently employed for farming chores in commercial farming rather than owning commercial farms themselves: "*Those who produce on large scales usually need some kind of labour who can sow seeds for them, and this is usually women and children who assist… and they are paid based on acreage coverage*".

The participants raised also the question of access to ICT, which was seen as important to enable new networks needed throughout the food system: by farmers who need to know the market price of their produce, households engaged in urban farming wishing to trade goods and advice; consumers looking for nutritional data, etc.

While in the past, it was more common for women to have simple mobile phones whereas men had smartphones, the situation was changing. Today more women have access to smartphones and the internet. This seemed to cause some of the male participants a measure of concern. First, access to mobile phones was seen by some as undermining traditional gender roles such as cooking, as was mentioned by some male farmers in Zambia: "*The food is getting ready at 21 h, she's just on WhatsApp*". Second, some male participants contrasted men's networks, which they argued are dedicated to businesses, with women's networks that are used for personal ties: "*Men still have mistrust of women in networking where they don't have serious networking which are for investments that they meet up to plan for their own things and are looked at sexual related networking*". This, according to the respondents, creates potential mistrust, conflicts, and control in households regarding women's time use and networks. Third, some respondents seemed unwilling to believe that women can positively network with one another. For example, a man participant in the Zambian farmers group said that "*the number one enemy that women have is themselves. Women don't support each other, that is what I have noticed. If a woman maybe aspires for a certain position or starts succeeding, the people who will start speaking ill about the same person are the women instead of giving support*".

#### *Improving access to and control over resources*

Women focus group participants in all four countries emphasised that some measures should target specifically women, including improving their access to capacity development, financing (e.g. soft loans, merry-go-rounds, and microfinancing), and productive resources, especially to land with title deeds, which would improve their opportunities for income generation. Participants in the Kenyan women's group suggested that the government should provide specific agricultural and agri-business workshops for women as well as free farm inputs such as certified seed and pesticides.

Similarly, the members of the Lusaka Food Council Group suggested that it would be helpful to have a specific percentage allocation towards women; for example, the

government could decide that 50 per cent of the subsidised fertilisers will go to vulnerable women. Moreover, specific exchange visits and programmes for women were suggested. A Ghanaian man argued that not only the government but also the men in the household and community should assist women in accessing farm inputs and tools as well. It was also mentioned that in technology development, including new fertilisers, crop varieties, and cultivation practices, the different needs and capabilities of women should be considered.

However, the fear of counter-resistance was also present in the discussions, reflecting the need to consider men's reactions to interventions, as the determinant on counter-resistance suggests. Thus, some men in the FGDs brought forth the fact that if women are given training, the same must be provided for men, to avoid backlash. Even in cases where women receive benefits that can contribute to the household, there were worries of men's reactions: "*some might say 'if I take this money home, how do I explain to my husband where I got it from'. Their husbands are not in support of it".*

Women also talked about their own potential for promoting change: A participant in the Ghanaian women's group stated that women should increase production to get money for resources and equipment, including tractors, and register them in their names. In Kenya, a female participant suggested that women need to be supported in establishing their own organisations to enable them working as a team, for example, in input acquisition, farming, and marketing. Another way women suggested that they could help one another is by pulling each other up—*"If I am an educated woman and at the same time a farmer, I will be a source of inspiration to other women who aren't farming, this will encourage them to farm as well".*

However, as the determinant on intersectionality proposes, analysing intersections between different dimensions of identity can also lead to identify potential barriers to food and gender transformations. For example, one participant argued that some women who are in positions of power in schools feeding systems, having their husband as a proprietor, ignore their responsibility to provide safe food to the children.

### Gendered social norms

#### *Challenges and barriers related to gendered social norms*

Most FGD participants described a different normative role for men and women in each part of the food system: from growing food to preparing, selling, and buying it, both facilitating and restricting women's full participation. This explains the importance of the determinant on strengthening equitable gender norms, so that existing divisions of labour and resources between men and women in the food system can fundamentally change.

First, taking care of household chores was found to restrict women's opportunities for participating in income-generating activities in the food system, reflecting the importance of the determinant on power imbalance as participants pointed out that women still do more household chores than men. A Zambian male vendor stated that "*even the women are stigmatized if they allow their husbands to do chores*". On the other hand, the act of cooking itself is not necessarily stigmatised, as men were said to run restaurants in urban areas, which shows their involvement in cooking is socially acceptable when it is a business activity.

Furthermore, women play different roles in agricultural production, especially by growing food crops for domestic consumption and participating in land preparation, planting, weeding, and harvesting on men's cash crop plots. For example, the Ghanaian women emphasised that only women have the patience required for some tasks, such as planting and winnowing. Men in Uganda estimated that women did 60 per cent of the agricultural work. On the other side of this binary division of labour, Zambian farmers considered land clearing and the use of ox-drawn ploughs mainly as men's job, as well as the use of tractor in Ghana. One of the consequences of this division, as one Kenyan woman participant argued, is that because of women's double workload, men had more time at their disposal compared to women.

Further down the food value chain, gender norms continue to determine the division of labour: participants argued that transporting food to the market should continue to be a men's job fearing that the loads may be too heavy for women and seeing that men have better access to vehicles. Women, on the other hand, were said to have a more prominent role in marketing as middlemen, aggregators, and vendors: The members of the Zambian Food Council Group estimated that 75 per cent of traders and dealers of vegetables and fruits are women. Similarly, participants argued that in Kenyan fishery communities, men took care of the fishing and fish farming, while women were often in charge of the fish collection and marketing. However, some respondents suggested that sharing these responsibilities between men and women varied according to the commodity in question. As regards agricultural extension, more men than women were said to work as extension officers. The same applied to input suppliers, who in most cases were men.

While it is possible to change culture, traditions, and religion, participants argued that their negative influence on gender roles in the food system is perpetuated by formal and informal institutions, including traditional chiefs and marriage counsellors. For example, a Zambian woman vendor said that many young men can take care of cooking and laundry, but after receiving marriage counselling and getting married, these skills seem to disappear. Similarly, a Ghanaian woman stated that "*Some of the women are scared of money. Hence, even if she has the collateral to access a loan, the fear of not being able to pay it back will deter her*".

Although culture and traditions were mentioned as underlying reasons for gender inequalities, adherence to culturally and traditionally acceptable practices can also mean desired continuity in the food system. For example, in Uganda some women mentioned that "every woman must have a grinding stone in a home, and we don't want to lose our culture."

#### *More gender equal social norms, traditions, and culture*

Actions related to two central determinants were indirectly raised in response to the challenges described above: strengthening equitable gender norms and raising critical consciousness.

Participants argued for a need to make traditions and culture more supportive of gender. This requires a variety of actions starting from sensitisation of local and traditional authorities, faith-based and other local organisations, and household members: "*Do a lot*

*of sensitization and people need to understand the different gender roles or what gender is and what gender equality is about*".

The identification and sensitisation of those who have power and who are being listened to locally were considered as key to initiating change. Some key examples were mentioned in Zambia, including traditional leaders, headmen, clergymen, marriage counsellors, and members of the local development committees who can effectively act as change agents if they first adopt more gender-equal perspectives.

However, inline with the determinant on inclusiveness, FGD participants argued that awareness raising should be done at different levels in the community: leadership, households, and even through setting a personal example: "*men who are opinion leaders should be part of most (women's) group meetings…If they see that this* small *power they are wielding (can be shared with) the women, (it) will go a long way to not only impact positively on the women's lives but also the men and every home, they will be ready to give it out*".

Further reflecting on these meetings, participants mentioned that "t*here are women who cannot even attend these gatherings simply because their husbands won't allow them. The husbands make utterances like 'what contribution can a woman also offer' or 'You are only going to gossip'. But at the end of the day whatever a woman gets from outside be it money, food or information, she brings it home to share with the family*".

Some women suggested the establishment of fora at different levels to discuss issues affecting women. A Ugandan woman said, "*Trainings on gender should be brought in villages to teach men as well about gender-based violence and (its) outcomes because men are disturbing us really*". A Kenyan woman suggested that women should attend more community gatherings chaired by village elders and sub-chiefs so that their voices can be heard.

The role of homes and parents was emphasised in developing children's mindsets, attitudes, and practical skills, which will later in life set the basis for self-esteem and gender sensitivity. A Ghanaian man farmer said: "*We the men should start to assist our wives or women in cooking, taking care of the children, nurturing children, reduce our childbirth by practicing family planning*".

Women also mentioned their own ability to raise awareness—as part of their job or simply as community members: "*As a classroom teacher, I can advise my students. I will educate them on the benefits and consequences of some of our actions. You know children speak to their parents a lot. Most of these kids go home to also educate their parents about what they were taught in class. Some parents even make follow ups to the school to understand what their child came back home saying. By educating these children, we affect an entire community*".

### Policies and governance

#### *Challenges and barriers related to policies and governance*

Participants mentioned legislation-related issues as barriers to participation in the food system more equitably. For example, inheritance, land ownership, and title deeds affect women's access to land and other productive resources in the food system. Furthermore, participants in Uganda and Kenya considered the supportive policies on gender empowerment as lacking or non-enforced. The Kenyan FGD identified government policies,

bad governance, and tribalism as favouring men in many respects. However, even if legislation were changed, participants argued that law enforcement and related misconduct were discouraging to women's participation in the food system and their equal status more broadly. Finally, participants argued that women often lacked awareness of their rights even under existing policies.

Some participants also mentioned the smaller share of women than men in higher decision-making positions, including in Parliaments. Furthermore, women in decision-making positions were said to get support neither from men, nor from other women. In contrast, participants in Zambia stated that "*government policy is very clear these days—they want to make sure that a woman should be part of the system, should be part of the decision making in the government*". Especially men suggested that this has already led to an increasing presence of women in decision-making positions.

#### *More gender equal policies and governance*

In line with the determinant on links to formal institutions, governments' willingness to provide training and inputs was mentioned as key in aiding women to participate in new activities throughout the food system: "The g*overnment should provide specific agricultural and agri-business workshops for women as well as free farm inputs such as certified seed and pesticides*".

Participants further argued that local development plans, the budgeting of local institutions, as well as national level constitution, policies, and legislation, including agricultural policies, need to consider and integrate gender aspects and women's right to own and control land. "*Policy (needs to) change to ensure that women have equal access to land and… to make sure there are awareness programs*." This is crucial not only in securing land for women to be able to grow, but also as a capital they can use to gain access to financing (loans, merry-go-rounds, and microfinancing) that allows them to participate in larger scale and more lucrative commercial food production. This should be integrated with the work of local NGOs, the determinant on local collaboration suggests, since they can further support women's access to new activities in the food system directly through loans or provision of input to women farmers.

However, as with the other solutions, it is impossible to separate the necessary change in the food system from the change required in society more broadly. For example, legislation to protect girls from early marriages was considered necessary, as well as raising people's awareness of laws and their enforcement as well as involving women in policy formulation and implementation and in positions of power, recommendations that are valid for many issues outside of food system transformations.

## Discussion

The objective of this study was to empirically identify challenges, barriers, and solutions relating to gender transformation in Sub-Saharan food systems. Based on the results, three main insights are discussed below. Firstly, the results highlighted how closely intertwined gender and food system transformations are. Secondly, we consider the transformational potential of the proposed solutions in relation to determinants for gender transformation. Finally, we tie the discussion back to the question of generalisable mechanisms versus context specific solutions for gender transformative approaches.

In many ways, the issues of transforming gender relations and transforming food systems, both critical developmental goals, are highly intertwined (Njuki et al. 2022). Our study contributes to this emerging research field as our results demonstrate through local accounts how women are already key actors in the food system, and that unlocking the full potential of food systems transformation requires a change in gender roles throughout the value chain.

Two of the key aspects highlighted by the respondents included access to productive resources as well as strengthening women's own agency, and through that their capacity to act. This aligns well with the results of several other studies, e.g. Visser and Wangu (2021), highlighting women's central role in food systems and the need to strengthen their resilience, knowledge, and practices; and Welk and Seymore (2023) who emphasise the link between women's agency and agricultural productivity, highlighting the fact that all the factors that shape productivity, including resources, assets, decision-making, and time use, need to be gender-responsively developed.

However, a key finding of our empirical work was that both barriers and solutions to gender inequality within the food system are often linked to broader and deeper societal issues. Although the questions posed in the focus groups were specifically related to gender challenges in food systems, the suggested solutions targeted challenges stemming from deeply rooted cultural and societal norms and traditions beyond the strict boundaries of the food system—be it the ability to access higher paying jobs in the labour market, or education. For example, many practical and pragmatic solutions were raised to enhance girls' access to education as a precursor to allowing them greater and more lucrative roles in the food system. This is in line with the views of several scientists suggesting gender inequalities can be both the cause and outcome of unjust and unsustainable food systems (MacArthur et al. 2022; McDougall et al. 2023; Njuki et al. 2022; Quisumbing et al. 2023).

When analysing the solutions proposed by the participants of the FGDs in the context of the determinants for gender transformation, we got an overview of what gender transformation can mean in an African food system context (at least within the settings where the study took place). In most cases, the solutions did indeed align with one or more of the determinants of gender transformation. Participants clearly identified that gender transformation requires deeper changes in norms, culture, and traditions, which forms the essence of gender transformation (Bell 2021; McDougall et al. 2023; Njuki et al. 2022). For example, participants in Zambia noted that even in cases were boys are brought up to participate in household work, once they are married, values that support rigid gender roles are imposed upon them by, e.g. marriage counsellors. Men who do not conform to the norm are ridiculed, by both other men and by women. To change this, role models need to speak up and promote alternative behavioural patterns. Changing attitudes and norms towards gender roles, in the long term, will require training and awareness raising, as well as confidence building of both young men and women, as Ragasa et al. conclude in relation to women's empowerment in agrifood governance (2023). These are often necessary conditions for contending with the structural issues that affect women's ability to participate in the food system—poverty, labour inequalities, and even health.

We also found that the determinant on counter resistance was highly present in the discussions, both among men and women. Some men proposed that trainings should also be provided to men if such are given to women. They implied this will counter possible backlash against women who access new opportunities. This is an important result and insight relating to change processes, ensuring that interventions refrain creating of zero-sum-games in attempting to close the gender gap in the food system (and beyond).

This is in line with the results of Farnworth et al. (2024), who found that normative sanctions often play a role in deterring women from developing or growing their businesses. Quisumbing et al. (2023) also found that agribusiness development may marginalise women further, e.g. commercialisation has been found to decrease women's control and decision-making. If such risks are not considered when planning innovations or actions, women may be further excluded from new value chain activities that could potentially provide lucrative opportunities, and thus, transformation of the food system may in fact exacerbate inequality (Quisumbing et al. 2023).

Regarding the generalisability of our findings—while a key aspect of the FAO and CGIAR manuals on gender transformation within food systems is that solutions are context specific (Bell 2021; McDougall et al. 2023); we found that many of the key solutions offered by participants are in fact generalisable and relevant across different contexts and different parts of the food system in Sub-Saharan Africa.

For example, participants suggested that governments allocate minimum quotas for supporting development of women's food-related businesses. The literature has already found that this solution has proven effective in producer organisations for enhancing women's roles in agricultural value chains (Pyburnd and van Eerdewijk 2021). Additionally, ensuring women's specific needs, requirements and capabilities are considered when developing new technologies and extension or training programmes, is a solution relevant regardless of value chain or geographical location.

One way to ensure these changes are implemented, was by increasing women's representation in formal governance structure, according to the FGD participants. This strategy is supported in the literature. For example, Manlosa et al. (2019) found that when formal structures are changed, women's participation increases, which further influences community norms. Budgets can thus be channelled in a way that supports women and women's activities. The importance of engaging with people with power and influence at the local level seems another generalisable path for ensuring robust transformation in gender roles and the food system, including traditional leaders and elders, especially when it comes the key issues relating to the food system is women's rights to own and control land.

These central outcomes resonate well with the specific research gaps identified by Njuki et al. (2022), that best practices and effective pathways for engaging men in the process of women's empowerment in food systems is a key to transformation.

In terms of limitations of the study, we recognise that although our study had a broad geographical coverage, building on existing work and knowledge in each location, it still represents a limited sample. We looked specifically at a segment of women engaging in small-scale agribusiness and production, using purposive sampling. The results, therefore, need to be considered through this lens, that is, building on views and opinions of groups and individuals. Further research will be required, taking an intersectional

approach, to identify the specific limitations and opportunities of women and men in a wider range of different realities.

## Conclusion and future research needs

This study contributes to understanding and operationalising a gender transformative approach in practical and empirical contexts. The study provides empirical evidence about local actors' views of gender transformation within a Sub-Saharan food system context. We found that the solutions proposed by local actors show a high level of awareness of the needs of transformational action to increase both gender and food system transformation, for the benefit of the whole community. This was true both among female and male respondents. However, the actions proposed often breached the boundaries of the food system as it is traditionally perceived, revealing the inter-connection not only between the four different dimensions raised by Njuky et al. (2022), but also between gender transformative interventions in the food system and in other domains such as education, labour, finance, and politics.

This has implications both for further research and for policy. In planning actions, conducting research, and in policy dialogues on food system and gender, it will be important to ensure participation by a multitude of actors and voices from different parts of the food value-chain and in systems that affect it directly and indirectly. Furthermore, the solutions proposed in this paper are applicable across contexts in one form or the other. However, they will need to be further refined in a local context by and with local stakeholders. For example, how to engage men in the process, both as champions but also as partners to concrete actions, can only be formulated locally. Sensitisation about normative questions of course also needs to be developed in a form that is locally acceptable, and dialogues with policymakers will depend on the local policy processes and structures.

A critical issue for further research is how the suggested solutions could and should be implemented. The solutions suggested to tackle power imbalances, including changing people's mindsets through role models and mentorships, will play an important role in this. But the question remains, who has the responsibility for initiating them? How should the backslash that evidently could emerge if some of the changes were in fact implemented be delt with? More broadly—many of the solutions suggested by respondents are already well developed and implemented in the field. Why, then, has their impact on gender roles in the food system still been limited? Here, analysing the prevalence of the determinants identified in actual interventions could provide insight. Such work could also contribute concrete guidelines for local actors, both in development and for research.

## Supplementary Information

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Supplementary Material 1

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**Author contributions**

All authors had a significant role in the paper, Sell, Rosengren and Ashkenazy were the main researchers behind the concept, working in close collaboration with the whole HealhtyFoodAfrica team in the partner countries. Each of the following authors; Sell, Rosengren, Ashkenazy, Turinawe, Isoto, facilitated gender workshops and/or trained the facilitators who conducted the workshop in practice in local language. Karttunen did a significant part of the data analysis and write up of the data summary. All authors contributed to and commented on several versions of the paper to finetune the final version.

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**Data availability**

The datasets generated and analysed during the current study are not publicly available. This is due to the complex and domain-specific nature of the data and the risk for misunderstanding without proper contextualization, leading users to potentially draw incorrect conclusions or use the data inappropriately. Data may however be made available by the corresponding author on reasonable request, including a commitment to follow any specific guidance related to its use, provided by the team of scientists.

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## Publisher's Note