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Editorial: Leveraging gender, youth and social networks for inclusive and transformative livestock production in the tropics and subtropics

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Editorial on the Research Topic

[Leveraging gender, youth and social networks for inclusive and transformative livestock production in the tropics and subtropics](#)

The Research Topic titled “*Leveraging Gender, Youth, and Social Networks for Inclusive and Transformative Livestock Production in the Tropics and Subtropics*” is an exploration of the interconnected social dynamics that shape livestock systems in these regions. The articles within this Research Topic underscore the necessity of integrating social factors such as gender roles, youth engagement, and community networks into the broader agenda of sustainable livestock production.

Gender dynamics in livestock value chains

A recurring theme in this Research Topic is the gendered nature of livestock value chains. As an example of this, [Kinati et al.](#) provide an in-depth analysis of small ruminant value chains in Ethiopia, examining how gender affects market participation, decision-making, and income control. Their findings reveal significant gender imbalances, with men typically holding more control and decision-making power than women. Nonetheless, the study also indicates that women’s involvement in value chains can encourage more equitable decision-making behaviors, although it does not necessarily lead to empowerment. This highlights the need to pair value chain participation with targeted interventions addressing underlying gender inequalities. [Nagasha et al.](#) explore how incorporating gender perspectives can improve milk safety and value chains in Uganda’s smallholder farming systems. The authors stress the importance of women’s roles in dairy production and the need for specific interventions to tackle gender-related challenges. Their research examines ways to enhance milk quality, market access, and economic opportunities for smallholder farmers, with a particular focus on empowering women in the livestock sector. [Farnworth, Galiè et al.](#) investigate women’s seed entrepreneurship in aquaculture, maize, and poultry value chains in Ghana, Kenya, and Tanzania. Authors highlight the challenges and opportunities for women in these sectors, focusing on their roles in food security and economic development. This study emphasizes the need

for gender-inclusive policies and access to resources such as finance, technology, and training to support women entrepreneurs. It also discusses the broader implications for sustainable food systems and the necessity of creating supportive environments for women's participation in agriculture.

Furthermore, the study conducted by [Brückner and Sardavar](#) discusses the often-overlooked contributions of households and unpaid labor in global agrifood chains, underscoring the necessity for gender-responsive analysis. The authors argue that research in agrifood chains has traditionally centered on production and economic factors while neglecting the vital roles of consumption and domestic work, typically performed by women. In this regard, [Farnworth, Ravichandran et al.](#) address the complexities of achieving transformative change at the intersection of caste and gender in India. They assess the impact of strategies implemented by a dairy cooperative to empower women across various castes. Their findings show that these strategies have improved gender relations within households and enhanced decision-making related to dairy activities. However, these forms of empowerment remain largely confined to the dairy context and do not address the implications of broader caste norms. The cooperative they study has established a new norm allowing marginalized caste women to become dairy farmers, yet it has not tackled the wider structural disadvantages these women face, resulting in unequal benefits from empowerment.

In a different setting, [Hernandez et al.](#) explore the cultural and economic barriers affecting women's involvement in crop and livestock production systems in Guatemala. They reveal that cultural constraints often confine women to household roles and unpaid activities, limiting their participation in income-generating tasks like crop production, which is predominantly male-dominated. Even when men migrate or engage in non-agricultural jobs, women rarely assume crop-related tasks, they argue. Women's aspirations generally focus on small-scale livestock activities or emigration to improve their livelihoods, though emigration is both risky and costly. They also face difficulties in envisioning futures outside the household and articulating their ambitions. Economic barriers, such as limited resources and market access, further hinder women's ability to expand and commercialize small-scale livestock activities. Regarding context-responsive strategies, [Bullock et al.](#) analyze how climate change adaptation strategies in livestock production need to be tailored to different locations and systems in Ethiopia, taking into account social factors like gender, wealth, age, and education. Their findings suggest that youth are engaged with various livestock species, including chickens and dairy cows, with gender and location influencing which species are reared. Adaptation practices are generally low among youth, with gender differences in practices and household relationships affecting engagement. Although opportunities for women to inherit or acquire land have improved, gendered access to resources and labor continues to be a challenge.

Youth in livestock farming

Youth engagement is another crucial aspect covered in this Research Topic, with migration and involvement in livestock farming under climate change being especially pressing for young

people in livestock-dependent regions. [Nchanji et al.](#) explore shifts in youth participation in livestock production across Sub-Saharan Africa, addressing the challenges posed by a growing youth population and the need for agricultural job creation. The authors point out the limited research on this Research Topic, particularly focusing on countries such as Kenya, Uganda, Nigeria, Chad, and Ethiopia, and emphasize difficulties such as language barriers and existing social conflicts. Their study shows that current literature primarily covers pastoral communities, with less attention given to agropastoral and zero-grazing systems. Youth empowerment in livestock production often comes from self-initiated methods like animal gifting, savings groups, and community engagement. Education plays a crucial role, with some young women acquiring more knowledge than their male peers and youths in certain regions using education to transition from traditional livelihoods. The study also highlights that, despite enduring gender norms and traditions, youths are overcoming obstacles through strategies like experience-sharing events and advocacy against harmful practices. Information and Communication Technology (ICT) is identified as a vital factor in boosting youth engagement, offering access to educational resources and modernizing livestock farming practices. In a similar fashion, [Tilahun and Holden](#) examine the factors influencing rural youth in Ethiopia regarding their decision to stay in agriculture or migrate, particularly in the context of efforts to rehabilitate degraded lands. Their study finds that improving asset endowments (such as oxen) and enhancing land access can encourage youth to remain in agriculture, thus supporting sustainable livelihoods and mitigating migration.

Social networks, collaboration, and cultural dynamics

Another key theme in this Research Topic is the role of social networks, collaboration, and cultural dynamics in shaping livestock systems. Research on small-scale cattle farming in Mexico's Yucatán Peninsula highlights that local social organization and cultural practices significantly influence how farmers adapt to climate variability and other challenges ([Pérez-Lombardini et al.](#)). Using participatory modeling techniques, the study demonstrates that social factors are as crucial as technical and environmental considerations for promoting sustainable livestock farming. These findings emphasize the need for approaches that are both environmentally sound and socially inclusive, while respecting existing cultural practices.

Similarly, [Kotobiodjo et al.](#) examine the factors affecting the adoption and expansion of integrated crop-livestock-forestry (ICLF) systems by rural households. Their study includes a systematic review and bibliometric analysis to identify the main drivers, barriers, and enablers of scaling up these sustainable agricultural practices. It underscores the significance of socioeconomic, environmental, and policy factors in encouraging the widespread adoption of ICLF systems, which are vital for enhancing food security, resilience, and environmental sustainability in rural areas. [Slayi et al.](#) conduct a systematic review of the potential of communally established cattle feedlots as a sustainable livelihood strategy to improve climate change resilience and food security in sub-Saharan Africa. Their synthesis

of existing literature highlights the benefits and challenges of these communal feedlots, such as sustainable livestock management, economic impacts, and their role in strengthening climate resilience. The review stresses the importance of socio-economic and institutional factors in determining the success of these initiatives, identifying key challenges like land tenure, community engagement, and resource allocation that need to be addressed for successful implementation.

Finally, [Perin and Enahoro](#) explore future challenges and potential transformations in the dairy sector in Kenya and Senegal. The authors identify key challenges including population growth, climate change, and socio-economic issues, which require a comprehensive approach to dairy production. The trend toward intensification in dairy farming—driven by land fragmentation, government incentives, and market opportunities—may result in fewer but more productive farms. However, this intensification brings environmental and socio-economic risks such as feed and water scarcity, health threats to animals, and reduced milk quality. Population growth exacerbates these challenges with issues related to market access, land pressure, and high production costs. While intensification could offer opportunities for women and youth, it also presents challenges. High production and investment costs may limit benefits to those who can afford intensified systems, and youth migration to cities and potential conflicts over land and resources could affect the sector's resilience. The authors recommend adopting climate-smart practices, effective policy design, and efficient production coordination. Balancing dairy production with agro-climatic conditions, land availability, and socio-economic contexts is essential for maintaining resilience and sustainability in the dairy sector.

Toward a holistic approach to livestock production

Collectively, the articles in this Research Topic advocate for a holistic approach in the study of livestock production in the tropics and subtropics. Such an approach recognizes that social factors, such as gender roles, youth engagement, and social networks and collaboration, are not peripheral to livestock systems but are central to their success. By integrating these social dimensions with technical and environmental strategies, it is possible to create livestock systems that are not only more sustainable but also more equitable and inclusive. This Research Topic calls for a paradigm shift in how livestock production and producers themselves are being approached. Traditional models that focus solely on technical improvements or environmental sustainability are insufficient to address the complex challenges faced by producers and their systems in these regions. Instead, there is a need for approaches that also consider the social dynamics at play, ensuring that all stakeholders, especially those who are often marginalized, have a voice and a stake in the future of these systems. In conclusion, this Research Topic provides valuable insights into the critical

role of gender, youth, and social networks in livestock production. By highlighting the importance of these social dimensions, the issue sets the stage for more inclusive and transformative livestock systems that are resilient in the face of climate change, equitable in their distribution of benefits, and sustainable for future generations.

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