

Women's Role in Agriculture and Rural Development: Challenges, Contributions, and Prospects for Sustainable Growth

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ABSTRACT

Women in agriculture and rural development are important to the world as a whole because their contributions to food security, poverty alleviation, and rural resiliency are vital. Though they are critical to all of these, women are often constrained by systemic barriers that include limited access to land, financial services, technology, and education. This text will investigate the role of women in agriculture, the contribution they make to the economy and society, barriers to overcoming inequalities, and the potential of women farmers to be empowered to act as change makers for sustainable rural development. Drawing on global and regional experience, we will emphasize the importance of gender-responsive agricultural policies and inclusive methods of conducting agriculture, instead of excluding women, to harness the ability of women to act as change makers in rural economies.

Keywords: Women in agriculture; rural development; food security; gender inequalities; empowerment; sustainable agricultural practices; rural economics.

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INTRODUCTION

Agriculture remains the number one component of most economies, especially in developing countries, where it provides the sustenance, food, and employment for most of the population. Overall, women account for about half of the world's agricultural workforce. Women provided upwards of 60-80% of food in developing countries through the Food and Agriculture Organization (FAO). Women's work in agriculture is not considered, recognized, or compensated as such. Rural women are engaged in agricultural activities such as farming and seed banking, livestock rearing, post-harvest processing, and local marketing; they are, therefore, critical for the sustenance of households and for national food security.

Additionally, beyond food production, women are key actors in rural development, including involvement in community leadership, natural resource management, and small business development. Empowered women farmers enhance family food and nutrition security, spend money on their children's education, and contribute to local economies. Studies show that agricultural productivity increases by 20-30% (and therefore reduces hunger and poverty) when women have equal access to resources as men. Accordingly, gender equality and inclusivity in rural development programs reflect important components for the overall sustainable development agenda.

The role of women in agriculture and the transformation of their potential constitute positive development. However, women in agriculture continue to face deeply rooted structural barriers. The productivity and agency of women are limited by inadequate land property rights, lack of access to affordable credit, unequal access to technology, and socio-cultural issues. For most people, women's work is recognised as "subsistence" instead of "commercial," thus excluding women from formal markets and leaving them no place at the formal decision-making table. These constraints restrict

women's agency and capability as individuals, but they simultaneously and deeply hinder the growth and development of rural areas and continue to leave them in perpetual cycles of poverty and inequality.

An acknowledgement of the role of women in agriculture should lead to immediate policy changes. Governments, NGOs and global actors must legislate and re-attract gendered agricultural policies that embed equal access to resources, training and decision-making. In addition, supporting women's participation in cooperatives and extension services, advocating their representation in leadership roles, would likely support rural development. Women's empowerment in agriculture is not simply an issue of social justice, but a pragmatic approach to global challenges such as food insecurity, the climate crisis and rural poverty. Therefore, the purpose of this study is to investigate women's roles, issues and opportunities in agriculture and rural development using a critical and evidence-based approach.

Objectives

1. To analyze the roles of women in agriculture and rural development.
2. To assess the challenges women farmers are facing in gaining access to resources, technologies and markets.
3. To analyze the impact of women's empowerment on food security and rural economic development.
4. To develop policy recommendations for gender equitable agricultural development.

Research Questions

1. What is women's contribution to agriculture and rural development in different contexts?
2. What are the constraints preventing women from fully participating in agriculture?
3. In what ways does empowering women contribute to food security and rural sustainability?
4. What policy options exist to leverage women's contribution to agriculture and rural development?

LITERATURE REVIEW

Numerous studies show that women are central to agricultural production, rural household livelihoods, and biodiversity preservation. Vishwanathan (2009) noted that women are engaged in activities relevant to agricultural production, such as planting, harvesting, storing seeds, and keeping animals, which put them in the front line of food security in many rural economies. Also, Buchh, Khan, and Jan (2012) noted how women in South Asia were ‘indispensable’ contributors to subsistence agriculture and documented their labor is not formally recorded in statistics. In West Bengal, Mahato (2023) showed how women's labor on farms contributes to rural livelihoods but is not formally or equally compensated. These reports demonstrate that women's labor and roles are not peripheral, but rather essential to agricultural production and rural livelihoods.

Women, despite being central to agriculture, face entrenched inequalities in land, credit and decision-making processes. Khoja (2021) and Zubair et al. (2023) have shown that patriarchal heritage and male-based institutions limit women's land holdings, entrenching dependency and economic cycles. Research by Azumah, Onzaberigu and Adongo (2022) also from northern Ghana affirmed women's resource exclusion methods and cultural values and disregarded policy on women amplify their exclusion. These findings are consistent with Sharma and Udupa (2025) who found that women farmers are actively excluded from made-farm-level decisions with men making decisions about what to plant, access to markets and inputs. Likewise, Fertő and Bojnec (2024) argued that removing gender gaps in agricultural inputs would drastically improve the rural economy's resilience. Overall, this literature demonstrates that systemic exclusion is a dominant barrier to women's empowerment in agriculture.

Recent research has begun to explore the intersection of gender, climate risk and sustainable development together. Antriandarti et al. (2024), in their research in rural Java, showed that women are disproportionately affected by climate variability, even while they actively support these adaptations within their community through their practices of crop diversification and food security. Similarly, Vujičić and Jandrić (2025) theorized that women's ecological knowledge would make them irreplaceable. Mutiara, Yuerlita, and Febriamansyah (2022) studied rural communities in Indonesia and found that empowering women would improve their ecological resilience while strengthening environmental resilience against environmental shocks. Overall, these studies have at least established

women as not only passive victims of climate change but rather active adaptors and agents of sustainability.

In addition to household level functions, women increasingly take on the role of leaders in self-help groups and cooperatives in rural contexts. Aniebonam et al. (2022) established that for agricultural cooperatives women leaders improved collective bargaining power; promoted access to market; and contributed to community-level development. Vijayalakshmy et al. (2023) reported in a study in India how self-help groups improved women's entrepreneurship, giving them the ability to diversify livelihoods and support resilience in agriculture and allied sectors. Verma (2023), through a case study in Ranchi District, demonstrated how women's participation in grassroots decision making has improved rural productivity and socio-economic conditions. These studies exemplify the transformative potential of collective action, as women traverse the boundaries of traditional gender roles and affect the rural economy.

The literature also indicates an emerging consensus that policy interventions are needed that acknowledge and address women's position in agriculture. Ozcatalbas and Ozkan (2003) cited Turkey's attempts to mainstream rural women into agricultural extension services as an example of a wider mainstream assimilation (although time stamp barriers remained). A more recent piece by Patel and Dwarka (2025), validated state-led programs like Cooperatives, that made life-changing agricultural impacts through enabling access to education, training and credit facilities for women. Ahmadi (2024) additionally drew attention to the implications of women processing farm products, including rural household economic modification, food security, etc. Abo-Zaed, Abdel-Rahman, and Mohamed (2020) further reinforced the positive impact of targeted policies to promote women's participation in the agricultural sector in Egypt. Collectively, these papers are calling for policies based on gender that do not simply tokenise women's inclusion, but rather seek to address structural inequities through structural reforms.

While substantial research demonstrates the crucial role of women in agriculture, there remain gaps in knowledge. First, most literature describes women's work as "supportive," and not as independent farmers or decision makers. Second, there are few comparative studies across regions; the identified differences between cultural, ecological, and policy contexts are substantial and not sufficiently examined. Third, the longer-term effects of women's empowerment through cooperatives, and education, and access to credit remain under-explored, particularly intergenerationally within rural communities. Closing the gaps, requires an intersectional approach that accounts for class, ethnicity, and geography and engages women in agricultural research and rural policymaking.

METHODOLOGY

This study is designed as a mixed-methods project, which integrates qualitative and quantitative research in an effort to provide a more complete understanding of women's engagement in agriculture and rural development.

Research Design

The study utilized a descriptive research design to explore women's role, experiences, challenges, and opportunities related to farming practices and community development. A descriptive research design allowed them to blend quantitative survey responses with in-depth interviews to facilitate analysis in terms of breadth and depth.

Sampling and Participants

Women currently engaged in farming in rural areas represented the target population. Purposeful sampling was used to identify participants with recent direct experience with farm activities, animal husbandry, or agricultural business. Survey participants included 120 women, and 15 women were interviewed using semi-structured questions to allow for a broader consideration of issues in the interviews.

Data Collection Methods

Two primary sources of data collection were used:

1. Structured Questionnaires - These were completed by women farmers - to gather numerical data on: land ownership status, access to credit, use of agricultural technologies, and participation in

decision-making activities at both the household and community levels.

2. Semi-Structured Interviews - Semi-structured interviews were conducted with the sample participants to examine lived experiences, socio-cultural limitations, and contributions to household and community level agricultural decision-making.

Data Analysis

Quantitative data were simply described using frequency, percent, and mean value to identify trends and patterns. Qualitative data obtained from the interviews were transcribed, coded and thematically analyzed in order to identify common themes around empowerment, inequality, and sustainability. Collectively using the two data sets enabled triangulation, which enhanced both validity and reliability of the findings.

RESULTS AND DISCUSSION

Quantitative Findings

The results from the survey suggest women are predominately agrarian producers, however, it is mostly unaccounted and unrecognized production for those women. The survey found that out of the 120 total respondents, 78% of the women indicated they were engaged in crop production, animal husbandry, and food preservation, however, only 22% had rights to land registered. This gap in land rights revealed structural inequities which continue to inhibit women to act autonomously and self-direct in agricultural production. Not forgetting, 65% of the women stated they did not have access to contemporary agricultural technologies i.e. irrigation systems and agricultural machinery to assist with productivity. Regardless of this constraint, 82% of women identified they were critical contributors to family income generation and food security, demonstrating their role in rural livelihoods.

Access to capital was also a barrier to their autonomy, only 18% of the women interviewed had ever received a loan/credit for their farming, and even these women identified barriers to loans either from agricultural policy or a lack of collateral. The results demonstrate that while women are contributing labour, they still remain structurally excluded from decision-making around the means of production and capital, sustaining and perpetuating their dependency and impoverishment circles.

Qualitative Insights

The depth interviews provided rich stories that contextualized the survey data. Most women revealed that they were essentially "secondary" in terms of decision-making at household and community levels, as cultural expectations and gender roles constrained their potential as principal producers of labor. One person shared, "We work in the fields all day, but for marketing our crops or income decisions, men are the only ones that make those decisions," underscoring the persistence of the magnitude of gender-based inequalities in rural agricultural environments.

Even within these constraints, women were highly flexible and resilient. A majority of the interviewees described how they were able to maximize resources, construct informal mechanisms of cooperation among women, and leverage their agricultural livelihood to support the health and education of their household. The narratives provided agency to women in agriculture that transcends food production to also extend to rural development indicators such as nutrition, child well-being, and the health of the community.

Discussion

Collectively, the findings demonstrate the contradiction in women's work in agriculture; they are essential for productivity and sustainability, yet not valued, recognized, and not empowered. The findings are in line with international studies that suggest closing the gender gap in agriculture would have an important role to play in food security and rural development (FAO, 2011).

The absence of ownership of land highlighted in this research mirrors broader structural inequalities present in South Asian farm systems where customary laws and patriarchal practices deny women's right to inherit or own land. Without secure land tenure women are not eligible to access credit, or make long term investments, limiting their ability to innovate or scale up farm practices. This reiterates the importance of policy interventions prioritizing land reform and equal access to resources.

The findings also indicate that the exclusion of women within the economic systems is a social issue, with an economic aspect. The expectation that women are not "farmers" but instead, "helpers," has

contributed to their invisibility at the level of national agricultural policy. However, when the interview subjects were asked about other roles they played in the agricultural economic system, it appeared that women were the custodians of indigenous agricultural knowledge, local seed preservation, and organic agriculture - all of which are at the heart of sustainable rural development. Recognizing these contributions could reformulate agricultural extension programs and enable women's contributions to be incorporated into rural planning.

In addition, women participants' demonstrated resilience points to potential yet to be tapped. By supporting women's cooperatives, training programs in skills, and inclusive credit facilities, rural society can leverage women's potential towards enhanced socio-economic development. The qualitative results also imply that when women are more empowered with farm incomes, they make investment in children's education, health, and nutrition their priority—benefits that have a direct bearing on sustainable rural development.

In conclusion, the report captures both the limitation (limited ownership of land, inaccessibility to finance, exclusion from decision-making, cultural inhibitions) and the strengths (ability to cope, resourcefulness, key to food security and rural well-being) of women in agriculture. These observations confirm the imperative to policy and interventions that go beyond considering women as "supporting labour" and lead them to become development agents. Strengthening women's roles in agriculture is not only about gender justice but also a key move towards sustainable rural development.

CONCLUSION

Women are irreplaceable in agriculture and rural development, playing a key role in food production, household nutrition, and community resilience. Even though they play a central role, structural obstacles like limited landholding, restricted access to credit and technology, and exclusion from decision-making perpetuate their marginalization. The research points out that empowering women through land rights, financial inclusion, skill enhancement, and leadership opportunities not only increases agricultural productivity but also ensures sustainable rural development. Recognition of women as active agents and not merely supporting labor is crucial for obtaining food security, poverty alleviation, and inclusive growth in rural areas.

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