



Women's Role in Sustainable Agriculture and Food Security in Bhiwani: A Grassroots Perspective

Pinki (Ph. D Research Scholar) ¹ Dr. Shiv Kumar (Assistant Professor) ²

Department – Economics, Shri Jagdish Prasad Jhabarmal Tibrewala University, Chudela, Jhunjhunu

ABSTRACT

Sustainable agriculture and food security are at the core of India's rural development agenda. Women, despite being key contributors to agriculture, are often overlooked in policies and practices related to sustainability and food access. This paper explores the grassroots-level participation of women in Bhiwani district, Haryana, in promoting sustainable agricultural practices and ensuring food security for their families and communities. Based on field research, local SHG initiatives, and government programs, the study highlights women's roles in seed conservation, organic farming, kitchen gardening, and traditional knowledge systems. It also assesses the challenges women face due to lack of land rights, technology, and institutional support. The paper concludes by suggesting ways to strengthen women's agency in building resilient, food-secure, and environmentally sustainable rural economies.

Keywords: Sustainable Agriculture, Food Security, Women Farmers, Bhiwani, Organic Farming, Agroecology, Kitchen Gardening, Grassroots Development, SHG Initiatives, Climate Resilience

1. INTRODUCTION

Agriculture in India has always been the backbone of rural livelihoods, yet the crucial role played by women in sustaining agricultural systems has often remained under-acknowledged and under-valued. In the socio-economic fabric of rural India, especially in states like Haryana, women serve as invisible pillars of agriculture — contributing significantly to food production, preservation of indigenous knowledge, seed selection, irrigation practices, and post-harvest processing. Despite their immense contribution, women farmers are frequently excluded from land ownership, decision-making bodies, financial resources, and policy-level recognition. This structural neglect not only undermines their agency but also weakens the broader goals of sustainable agriculture and food security.

Bhiwani district in Haryana presents a compelling case study. As a semi-arid region with a high dependence on agriculture, it embodies both the challenges and possibilities inherent in gendered agricultural participation. The women of Bhiwani are actively involved in sowing, weeding, transplanting, irrigation, livestock rearing, and marketing of agricultural produce. However, their work is largely categorized as “non-economic” due to the informal nature of their labor and absence of direct monetary compensation. This invisibility has policy implications, as most agricultural schemes and resources tend to target male farmers, thereby marginalizing women from the mainstream of rural development.

In recent years, the discourse on sustainable agriculture has evolved to encompass not only environmental concerns such as soil health, water conservation, and organic farming, but also the social sustainability of farming systems. Within this discourse, the role of women has gained renewed attention. It is now widely acknowledged that without the meaningful participation of women, no agricultural model can be truly sustainable. Women possess intricate knowledge of local ecosystems, biodiversity, and adaptive farming techniques developed over generations. They are also key to ensuring household-level food security — through food preparation, nutrition planning, preservation of local crops, and kitchen gardens. These roles position them as indispensable actors in the achievement of Sustainable Development Goals (SDGs), particularly SDG-2 (Zero Hunger) and SDG-5 (Gender Equality).

However, despite growing global and national recognition of women's role in agriculture, their participation in decision-making, resource allocation, and leadership remains limited. Most women continue to face barriers such as lack of land titles, limited access to credit and extension services, low levels of education, and entrenched patriarchal attitudes. In Bhiwani, these challenges are further compounded by climate variability, depleting water resources, and the feminization of agriculture — where men migrate for better wages and women bear the brunt of farming responsibilities.

Given this context, the current study seeks to explore the multifaceted role of women in promoting sustainable agriculture and ensuring food security in the Bhiwani district. It seeks to understand how women contribute to the sustenance of agrarian ecosystems, what barriers they face, and how policy interventions can be redesigned to integrate their needs and aspirations. The study also investigates grassroots-level innovations led by women, their engagement with Self-Help Groups (SHGs), organic farming initiatives, and their role in nutrition-sensitive agriculture.

This research is particularly relevant in the post-COVID-19 context, where food security has emerged as a critical concern, and there is an urgent need to strengthen local food systems. Recognizing, valuing, and empowering



women in agriculture is no longer just a gender issue — it is a developmental imperative. The success of sustainable agriculture and food security efforts depends significantly on acknowledging and mainstreaming women's contributions.

2. OBJECTIVES OF THE STUDY

The present study aims to critically examine the diverse and often under-recognized roles played by rural women in advancing sustainable agricultural practices and ensuring household as well as community-level food security in Bhiwani district. The objectives are framed to explore both the qualitative and quantitative dimensions of women's participation in agriculture, while also identifying structural gaps that limit their contributions. The specific objectives of the study are as follows:

- **To analyze the extent and nature of women's participation in agricultural activities in Bhiwani district** This includes examining the roles of women across various stages of the agricultural cycle — from sowing, irrigation, harvesting, post-harvest processing, to marketing — and identifying gender-based labor divisions in farming households.
- **To evaluate the contributions of rural women to sustainable agricultural practices** The study aims to assess how women promote eco-friendly farming methods such as organic cultivation, mixed cropping, composting, water conservation, seed preservation, and traditional knowledge systems that align with sustainability principles.
- **To assess the impact of women's agricultural labor on household and community-level food security** This involves understanding women's role in food production, storage, distribution, and nutritional planning at the domestic level, and their influence on food availability and dietary diversity in rural households.
- **To examine the challenges and barriers faced by women in accessing agricultural resources and decision-making spaces** The study will identify obstacles such as lack of land ownership, limited access to institutional credit, low literacy rates, technological exclusion, and sociocultural constraints that restrict women's full participation in agriculture.
- **To investigate the role of women-led initiatives and grassroots innovations in agriculture and nutrition** The research will document case studies of women who have led or participated in sustainable farming groups, kitchen gardens, SHGs, and community nutrition campaigns to highlight their transformative role at the grassroots level.
- **To assess the effectiveness of government schemes and policies in supporting women farmers** The study seeks to review the extent to which national and state-level programs (e.g., PM-KISAN, Mahila Kisan Sashaktikaran Pariyojana) are accessible and beneficial to women in Bhiwani, and whether these policies are gender-inclusive in design and implementation.
- **To propose policy recommendations for integrating women more effectively into sustainable agriculture and food security frameworks** Based on the findings, the study will suggest actionable steps that can help empower women farmers through better recognition, resource allocation, capacity-building, and institutional support.

Theoretical Background

The study draws upon the **Sustainable Livelihoods Framework (DFID)** and **Feminist Political Ecology**, which recognize the intersectionality of gender, environment, and rural livelihoods. Women's participation in ecological agriculture is rooted in traditional knowledge and care-based approaches, which are vital for sustainability and resilience.

3. RESEARCH METHODOLOGY

To understand the role of women in sustainable agriculture and food security in Bhiwani district, a robust and inclusive research methodology has been adopted. The methodological design is aligned with the study's objectives, ensuring both depth and reliability in the collection and analysis of data. A mixed-methods approach has been used, incorporating both quantitative and qualitative tools to explore women's participation, challenges, and contributions in agriculture.

Research Design: The study follows a descriptive and analytical research design. Descriptive elements are used to portray the socio-economic and agricultural profile of women, while analytical tools are applied to evaluate the patterns, impact, and constraints of women's agricultural involvement in the context of sustainability and food security.

Study Area: Bhiwani District: Bhiwani district in Haryana is primarily agrarian, with a substantial rural population dependent on farming and allied activities. The selection of this region is based on its relevance to the research theme, as women here are actively engaged in agricultural labor but receive limited institutional recognition or support.



Sampling Method and Respondents: A purposive sampling technique was employed to identify women farmers and workers who are directly involved in agricultural operations and household food provisioning. Special care was taken to include respondents from different socio-economic, caste, and landholding backgrounds.

- Sample Size: 120 women respondents were selected from various villages across Bhiwani district.
- Selection Criteria: Women engaged in agriculture for at least the last three years, either as landholders, wage laborers, or members of women farmer groups and SHGs.

Data Collection Techniques: The study employed both primary and secondary data collection methods to ensure richness and reliability of information.

- **Primary Data:**
 - Structured questionnaires were administered to the respondents to collect demographic data, participation in farming tasks, food preparation roles, and challenges faced.
 - In-depth interviews were conducted with key informants such as female sarpanches, SHG leaders, NGO representatives, and agricultural extension workers.
 - Focus Group Discussions (FGDs) were held with groups of 6–8 women to gather collective insights on farming practices, food security strategies, and access to resources.
- **Secondary Data:**
 - Government reports, agricultural census data, NABARD and ICAR documents, and previous academic studies related to gender and agriculture in Haryana were reviewed.
 - Policy documents such as the National Policy for Farmers (2007), Mahila Kisan Sashaktikaran Pariyojana (MKSP), and Haryana State Agriculture Policy were analyzed.

Tools of Analysis: The data collected was analyzed using both descriptive statistics and qualitative thematic coding:

- Quantitative data was processed using frequency distributions, percentages, and cross-tabulations to highlight patterns in women's agricultural participation and resource access.
- Qualitative data from interviews and FGDs was coded thematically to extract common narratives, grassroots innovations, and socio-cultural barriers.

Variables Studied: Key variables included:

- Women's role in farming operations (sowing, harvesting, irrigation, etc.)
- Involvement in food preparation and nutritional planning
- Access to agricultural inputs, training, credit, and land
- Awareness and utilization of government schemes
- Household dietary diversity and food security indicators

Ethical Considerations: The study followed ethical research practices. Informed consent was taken from all respondents. Their responses were kept confidential and used solely for academic purposes.

4. FINDINGS AND ANALYSIS

The study on “Women's Role in Sustainable Agriculture and Food Security in Bhiwani” reveals that rural women in the region are indispensable contributors to the agricultural economy and household food management. However, their work remains largely invisible, unpaid, and unrecognized in formal structures. The following are the major findings of the study:

Women's Involvement in Agricultural Practices

- More than **87% of the surveyed women** reported active participation in at least three core agricultural activities — including sowing, weeding, irrigation, and harvesting.
- **65% of respondents** were involved in livestock management, which they considered a critical source of supplemental income and nutrition (milk, dung manure, etc.).
- Post-harvest operations such as grain drying, cleaning, storage, and seed preservation were dominantly carried out by women, yet these tasks are not counted as “economic activities.”

Promotion of Sustainable Agricultural Practices

- **42% of women** were found to be practicing organic or semi-organic farming, mostly out of tradition rather than formal training. They used cow dung manure, compost pits, and crop rotation methods.
- **Local seed preservation**, use of natural pesticides (like neem water), and low-water techniques were commonly observed among women from older generations.
- However, less than **15% had received formal training** in sustainable agriculture techniques, indicating a large gap in institutional support.

Contribution to Household Food Security

- Nearly **79% of women** were responsible for food selection, meal preparation, and nutrition planning within their households.



- Many maintained **kitchen gardens** where they grew vegetables like spinach, fenugreek, brinjal, and tomatoes — contributing to family nutrition and reducing market dependency.
- Women also played a crucial role in **preserving grains and pulses** to ensure year-round availability and buffer against seasonal food shortages.

Access to Resources and Decision-Making

- Only **18% of the women surveyed** owned land in their names, despite being the primary laborers. The rest worked on family land owned by male relatives.
- **Less than 10%** had access to formal credit or agricultural extension services, with most citing lack of awareness, documentation barriers, and social norms as reasons.
- In terms of decision-making, while **54% reported being consulted in household matters**, only **22% were part of financial or farming-related decisions**.

Challenges Faced by Women Farmers

- **Time poverty** was a major challenge, as women juggled agricultural work with household chores, childcare, and other unpaid labor.
- **Lack of recognition:** Women reported feeling demotivated as their labor was seen as part of their “duty” rather than skilled contribution.
- **Social barriers** such as patriarchy, caste hierarchy, and low mobility prevented women from attending training sessions, joining cooperatives, or accessing markets.
- **Climate variability** and water scarcity also affected their agricultural output, especially in areas dependent on monsoonal rains.

Women-Led Grassroots Initiatives

- Some women-led **Self-Help Groups (SHGs)** had started collective farming, dairy production, and food processing units. However, they lacked scale and institutional linkage.
- **Model Kitchen Gardens** promoted by NGOs were found in certain blocks, managed entirely by women, and helped improve household nutrition.

Policy Reach and Gaps

- Awareness about government schemes such as **Mahila Kisan Sashaktikaran Pariyojana (MKSP)** or **PM-KISAN** was very low. Only **9%** had even heard of MKSP.
- Women cited complex application processes, digital illiteracy, and lack of targeted outreach as reasons for poor uptake of schemes.
- Panchayat-level support was inconsistent — with some villages having active women leaders and others being male-dominated with little attention to women farmers.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

The study clearly establishes that women in Bhiwani district play an indispensable role in ensuring both sustainable agricultural practices and food security at the household and community levels. Their contributions — ranging from crop production, seed preservation, and organic composting to meal preparation and nutritional planning — are foundational to rural livelihoods and ecological sustainability. However, their labor remains systematically undervalued due to social, economic, and institutional barriers.

The invisibility of women’s agricultural work in government statistics and policy frameworks further marginalizes their access to land, credit, training, and markets. Most of the respondents perform labor-intensive agricultural tasks without remuneration, recognition, or participation in decision-making processes. Yet, they continue to uphold the fabric of rural food systems through their knowledge, resilience, and unpaid labor.

This research also highlights the transformative potential of women-led initiatives — be it in the form of Self-Help Groups, kitchen gardens, or collective farming models. These grassroots efforts, though fragmented and limited in scale, demonstrate the capabilities of women to innovate and lead. However, without institutional support, their impact remains localized.

Thus, the need of the hour is not merely to acknowledge women’s roles in agriculture but to actively integrate them into mainstream agricultural policies, extension systems, and rural development planning. Only then can the goals of gender justice, sustainable agriculture, and food security be truly realized.

6. RECOMMENDATIONS

Based on the findings, the following actionable recommendations are proposed to enhance the visibility, empowerment, and productivity of women farmers in Bhiwani and similar rural regions:

Legal Recognition of Women Farmers Women who work on land — regardless of ownership — must be officially recognized as “farmers.” Land titles should be jointly registered in the name of husbands and wives wherever possible.



Gender-Sensitive Agricultural Policies All agricultural schemes (e.g., PM-KISAN, Soil Health Cards, Kisan Credit Card) must have specific provisions and outreach strategies for women. Policies should be tailored to address women's needs, such as flexible credit systems, smaller loan sizes, and training timings that suit their work schedule.

Strengthen Capacity Building and Extension Services Regular training in organic farming, climate-resilient techniques, financial literacy, and market access should be conducted in local languages with women trainers to build trust and participation.

Support for Women-Led SHGs and Cooperatives Provide infrastructure, subsidies, and marketing support to SHGs engaged in food processing, dairy, seed banks, or kitchen garden promotion. Facilitate linkages with e-NAM and local retail chains.

Integrate Nutrition and Agriculture at the Policy Level Encourage programs that align agricultural practices with household nutrition. Promote “nutrition gardens” and involve women in school meal planning and community nutrition drives.

Improve Access to Resources Ensure that women have equitable access to irrigation facilities, inputs, tools, and technologies. Promote custom hiring centers with women-friendly equipment and provide mobile-based advisories.

Mobilize Panchayati Raj Institutions (PRIs) for Women's Inclusion Sensitize elected PRI members on women's agricultural roles. Mandate women's representation in local agriculture committees and planning groups.

Document and Disseminate Grassroots Innovations Create a repository of best practices and innovations led by women in sustainable farming and food preservation. Encourage inter-village exposure visits and experience sharing.

Ensure Monitoring and Gender Audits Conduct regular gender audits of rural development schemes to measure impact on women and suggest course corrections. Involve women's collectives in monitoring and feedback.

7. REFERENCES

- [1] FAO (2018). “The Role of Women in Sustainable Agriculture and Food Security.”
- [2] DFID (1999). Sustainable Livelihoods Framework Guide
- [3] Singh, A. & Meena, R. (2020). “Women and Agroecology in Haryana.” *Indian Journal of Rural Studies*, 14(1), 45–60
- [4] Government of Haryana (2022). HSRLM Performance Report
- [5] Ministry of Agriculture (2021). MKSP National Report
- [6] PRADAN (2021). “Women-Led Sustainable Farming in Northern India”
- [7] KVK Bhiwani (2022). Women Training Module Reports
- [8] UN Women (2020). “Women, Food Security, and Rural Development”
- [9] Poshan Abhiyan (2022). Ministry of Women and Child Development, India
- [10] Oxfam India (2021). “Seed Sovereignty and Gender Justice”