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The Role of Women in Agricultural Extension

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Women play a vital role in the agricultural sector by contributing significantly to farming operations, livestock management, post-harvest handling, and household food security. Despite their extensive involvement, women farmers often face limited access to agricultural extension services, modern technologies, credit facilities, and training opportunities. Agricultural extension acts as a bridge between research institutions and farming communities by transferring knowledge, skills, and innovations. The participation of women in extension activities improves agricultural productivity, nutritional security, rural livelihoods, and sustainable development. Women extension workers also help in promoting gender-sensitive approaches and increasing awareness among rural women regarding improved farming techniques, entrepreneurship, and resource management, major challenges faced by women farmers, and strategies for empowering them through inclusive extension services. Strengthening women's participation in agricultural extension can enhance food production, reduce poverty, and promote socio-economic progress in rural areas. The study emphasizes the need for gender-responsive policies, education, capacity building, and technological support to improve the efficiency and effectiveness of agricultural extension systems.

Keywords: Women Empowerment, Agricultural Extension, Rural Development, Women Farmers, Technology Transfer, Gender Equality, Sustainable Agriculture, Capacity Building

Introduction

Agriculture is the backbone of many developing economies, and women constitute a major portion of the agricultural workforce. In rural regions, women actively participate in sowing, transplanting, weeding, irrigation, harvesting, storage, animal husbandry, and marketing activities. Their contribution is essential for ensuring food security and improving family welfare. However, women farmers often remain unrecognized and underserved in agricultural development programs.

Agricultural extension refers to the process of educating farmers about improved agricultural technologies, scientific practices, and management techniques. Extension services help farmers increase productivity, improve income, and adopt sustainable farming methods. Women are both beneficiaries and providers of agricultural extension services. Their involvement has become increasingly important due to changing agricultural systems, climate challenges, and the need for inclusive rural development.



Figure 1- The Role of Women in Agriculture

In recent years, governments and development organizations have focused on empowering women through extension education, self-help groups, skill training, and digital technologies. Increasing women's access to agricultural information can strengthen rural economies and improve the overall quality of life in farming communities.

Role of Women in Agricultural Extension

1. Participation in Farming Activities

Women contribute extensively to agricultural production. They perform labor-intensive activities such as seed selection, nursery preparation, transplanting, fertilizer application, harvesting, and post-harvest processing. Their practical experience and traditional knowledge help maintain agricultural sustainability.

2. Dissemination of Agricultural Knowledge

Women extension workers play an important role in transferring agricultural knowledge to rural women. Female extension agents communicate more effectively with women farmers because of cultural familiarity and easier interaction. They provide information related to improved crop varieties, integrated pest management, water conservation, and organic farming practices.

3. Promotion of Nutritional Security

Women are closely linked with household nutrition and food preparation. Agricultural extension programs targeting women encourage kitchen gardening, poultry farming, dairy management, and nutrition education. These activities improve family health and dietary diversity.

4. Strengthening Self-Help Groups (SHGs)

Women participate actively in self-help groups and farmer organizations. Agricultural extension services help these groups gain technical knowledge, financial literacy, and entrepreneurial skills. SHGs improve savings habits, access to credit, and rural employment opportunities.

5. Adoption of Modern Technologies

Extension programs encourage women to adopt improved agricultural tools, mobile-based advisory services, climate-smart practices, and digital technologies. Training programs enhance women's confidence and decision-making abilities in farm management.

6. Contribution to Sustainable Agriculture

Women are often responsible for conserving seeds, maintaining biodiversity, and managing natural resources. Extension education helps women adopt eco-friendly farming practices such as composting, integrated farming systems, and water management techniques.



Figure 2: Women Participating in Farming Operations



Figure 3: Kitchen Gardening and Nutrition Management



Figure 4- Strengthening Self-Help Groups (SHGs)



Figure 5- Women using Modern Technologies

Importance of Women in Agricultural Extension

Economic Development

Women's participation in agricultural extension contributes to higher farm productivity and increased rural income. Empowered women invest more in family welfare, education, and healthcare.

Food Security

Women play a crucial role in food production and distribution. Effective extension services improve crop yields and ensure household food security.

Social Empowerment

Agricultural extension enhances women's confidence, leadership qualities, and participation in community decision-making processes.

Rural Development

Educated and skilled rural women contribute to community development, poverty reduction, and sustainable agricultural growth.

Challenges Faced by Women in Agricultural Extension

1. Limited Access to Resources

Women often lack ownership of land, access to credit, quality seeds, fertilizers, and irrigation facilities.

2. Gender Discrimination

In many societies, women farmers receive less recognition and fewer opportunities compared to men.

3. Low Literacy Levels

Limited education and technical knowledge reduce women's ability to access extension information and modern technologies.

4. Inadequate Extension Services

Agricultural extension systems are often male-dominated, resulting in fewer female extension workers and limited outreach to women farmers.

5. Workload and Time Constraints:

Women balance agricultural work with household responsibilities, reducing their participation in training programs and extension activities.

Strategies to Strengthen Women's Role in Agricultural Extension

Gender-Sensitive Extension Programs

Extension services should be designed according to the specific needs and priorities of women farmers.

Capacity Building and Training

Skill development programs should focus on leadership, entrepreneurship, financial management, and digital literacy.

Increasing Female Extension Workers

Recruiting more women extension professionals can improve communication and participation among rural women.

Access to Credit and Inputs

Providing women with financial assistance, subsidies, and agricultural inputs can increase productivity and economic independence.

Use of Information and Communication Technology (ICT)

Mobile applications, radio programs, and online training platforms can improve women's access to agricultural information.



Figure 6: Women Empowerment through Agricultural Training

Government Initiatives Supporting Women in Agriculture

Several government and international programs support women's participation in agriculture and extension services. These initiatives focus on skill development, financial inclusion, self-employment, and rural entrepreneurship. Programs related to women empowerment, farmer producer organizations, and digital agriculture has improved the participation of women in agricultural development activities.

Conclusion

Women are indispensable contributors to agriculture and rural development. Their active participation in agricultural extension improves farm productivity, household nutrition, and socio-economic conditions in rural communities. Despite their major contribution, women continue to face challenges such as limited access to resources, education, and extension services. Strengthening gender-inclusive agricultural extension systems can empower women farmers and enhance sustainable agricultural development. Capacity building, digital technologies, financial support, and policy reforms are essential for improving women's participation in extension activities. Empowering women in agriculture not only benefits farming households but also contributes to national economic growth, food security, and social progress. Therefore, greater attention must be given to integrating women into agricultural extension programs for achieving inclusive and sustainable rural development.

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