

Gender Roles in Agriculture and the Effectiveness of Extension Services: A Pathway to Inclusive Rural Development

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Article ID: 26001

Abstract

Agriculture is a pillar industry that supports livelihoods and food security especially in the developing countries where a large percentage of the population rely on it. In this industry, gender is an important factor in determining access to resources, contribution to labour, decision-making and embracing new technologies. The agricultural workforce is dominated largely by women, who are also subject to enduring inequalities in access to land, credit, inputs and extension services. This review is a critical analysis of the role that gender plays in agriculture and the effectiveness of agricultural extension systems in alleviating gender disparities. It also addresses the social-economic and institutional obstacles, evaluates the effects of gender-inclusive extension strategies and suggests gender mainstreaming strategies. The research points out that to improve productivity, sustainability and rural development, it is important to empower woman and make the extension systems gender responsive.

Keywords: Gender, Women Farmers, Agricultural Extension, Empowerment, Rural Development, Gender Equality

1. Introduction

Agriculture is also an important sector to the economic growth, employment creation and food security, particularly in such countries as India where a significant percentage of the population is in rural communities. Gender, which is defined as the socially constructed roles and responsibilities of men and women, plays a significant role in participation in agricultural activities and access to resources (World Bank, 2012). Women have an irreplaceable role in agriculture, as they contribute to the various farm and allied activities; but their contributions are often underestimated because of the socio-cultural norms and institutional biases. The Food and Agriculture Organization state that women constitute about 43% of the world agricultural labour

force (FAO, 2011). Nevertheless, women farmers are systemically disadvantaged and cannot be as productive and economically promising as men (Doss, 2018). The agricultural extension services, designed to provide knowledge and enhance agriculture practices, have long been male dominated and have failed to address the specific needs of the women farmers (Meinzen-Dick *et al.*, 2014). Thus, it is essential to learn the role of genders and integrate gender views into the extension services in the quest to realize equitable and sustainable agricultural development.



2. Role of Women in Agriculture

The women are actively engaged in nearly all agricultural activities such as land preparation, sowing, transplanting, weeding, irrigation, harvesting, threshing and after-harvest processing. Along with crop production, women are an important source of livestock management, fisheries and agro-processing activities, hence contributing to household income and food security (Agarwal, 2010). In most of the developing nations, women are left to do subsistence farming and provide nutrition to the household. Nevertheless, their input frequently does not make it to official statistics and economic evaluations. The role of women goes beyond the production to the selection of seeds, their preservation and indigenous knowledge systems, which are essential in conservation of biodiversity and sustainable farming. In spite of their significant contribution, women tend to work on smaller plots, limited access to better technologies and limited access to better extension services (Quisumbing *et al.*, 2014). According to an estimation by FAO (2011), should women be granted the same access to productive resources as men, agricultural yields could improve by up to 20–30 percent, which would greatly reduce world hunger and poverty.

Table 1 - Gender Roles in Agricultural Activities

Activity	Men's Role	Women's Role
Land Preparation	Ploughing, machinery operation	Limited involvement

Sowing/Transplanting	Supervision, seed selection	Active participation
Weeding	Occasional participation	Major responsibility
Irrigation	Operation of irrigation systems	Assisting role
Harvesting	Cutting, transport	Cutting, collection, bundling
Post-harvest Processing	Marketing, storage decisions	Cleaning, drying, grading

3. Gender Disparities in Agriculture

The problem of gender inequalities in agriculture is a complex and multi-layered issue that encompasses socio-cultural, economic and institutional aspects. Among the greatest inequalities is the inequalities in access to resources including land, credit, inputs and technology. The ownership of land is also a major determinant of economic empowerment and decision-making power but this is rarely the case as women rarely own land due to laws governing inheritance and traditional practices (Agarwal, 2010). This deprivation deprives them of the opportunity of accessing institutional credit and government schemes and hence their productivity is hampered. Moreover, women tend to have low involvement in the process of making decisions both at home and in the community even when they make a significant contribution to agricultural labour (Doss, 2018). Another big problem is wage inequality, as women agricultural labourers often earn less than men working in the same sector (ILO, 2016). Such differences are not only impacting on the livelihood of women but also has a wider implication of agricultural productivity and rural development.

Table 2. Gender Disparities in Access to Agricultural Resources

Resource	Men	Women	Implication
Land Ownership	High	Very Low	Limited decision-making power
Credit Access	Easier access	Restricted access	Lower investment capacity
Extension Services	High outreach	Limited outreach	Reduced adoption of technologies
Inputs (Seeds, Fertilizers)	Better access	Limited access	Lower productivity

Training Programs	Frequent participation	Less participation	Knowledge gap
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4. Gender and Agricultural Extension Services

Agricultural extension services are critical for transferring knowledge, technologies and innovations to farmers. However, traditional extension systems have largely been designed with a male-centric perspective, often neglecting the needs and constraints of women farmers. Extension agents are predominantly male and interactions are typically directed towards male household heads, which limits women's access to information and training (Meinzen-Dick *et al.*, 2014). Additionally, women face time constraints due to their dual responsibilities in household and farm work, which restrict their participation in extension programs and training sessions (Ragasa *et al.*, 2013). Mobility constraints and socio-cultural norms further hinder their engagement with extension services. Moreover, extension programs often fail to consider gender-specific needs, such as access to labour-saving technologies, nutrition-sensitive agriculture and income-generating activities suitable for women (World Bank, 2012). As a result, women remain excluded from the benefits of agricultural innovations, leading to lower productivity and income.

5. Impact of Gender-Inclusive Extension Services

Gender-inclusive extension services have the potential to significantly improve agricultural productivity, food security and rural livelihoods. When women are provided with equal access to information, training and resources, they are more likely to adopt improved agricultural practices and technologies (Ragasa *et al.*, 2013). Studies have shown that empowering women through extension services leads to better household nutrition, as women tend to allocate resources towards food, health and education (Quisumbing *et al.*, 2014). Furthermore, gender-responsive extension approaches enhance women's decision-making power and participation in community development activities (Meinzen-Dick *et al.*, 2014). Participatory approaches, such as farmer field schools and self-help groups, have proven effective in engaging women and addressing their specific needs (Chambers, 1994). These approaches not only improve agricultural outcomes but also contribute to social empowerment and gender equality.

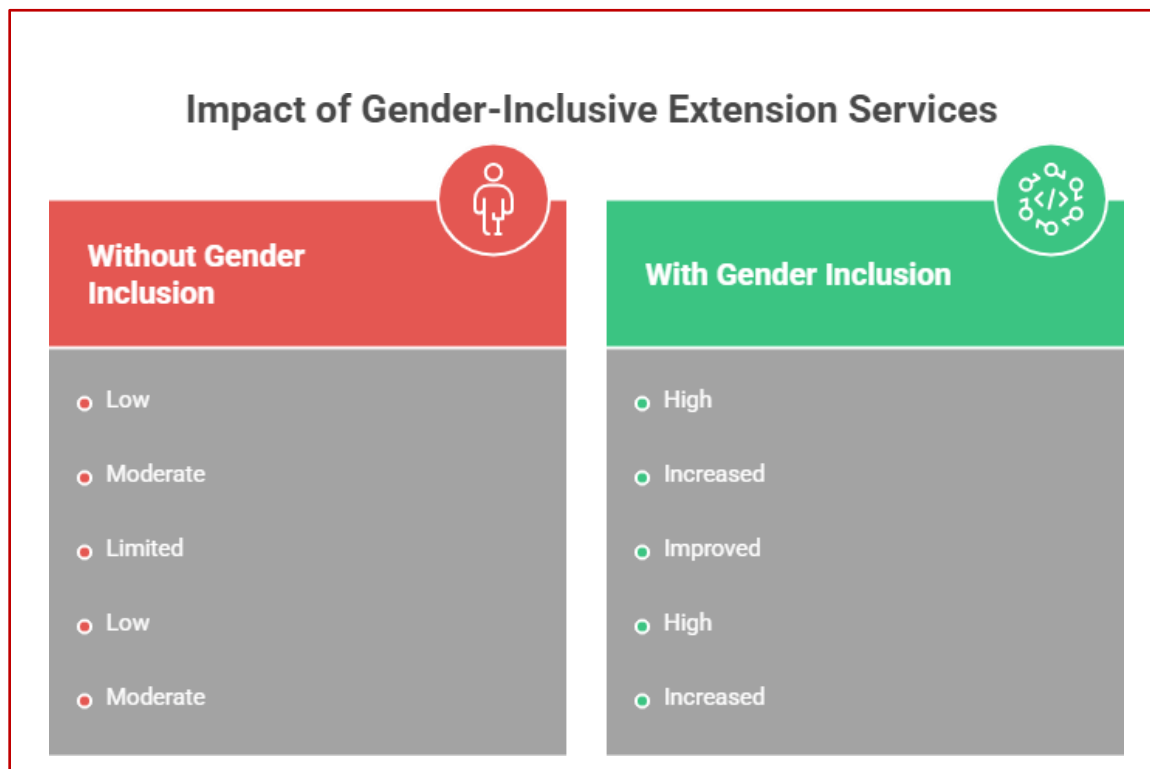


Fig. 1.1 – Impact of Gender – Inclusive Extension Services

6. Strategies for Gender Mainstreaming in Agriculture and Extension

Addressing gender disparities in agriculture requires a multi-dimensional approach that integrates gender considerations into policies, programs and institutional frameworks. Gender-sensitive policies are essential to ensure equal access to land, credit, inputs and extension services (FAO, 2011). Capacity-building initiatives should be designed to accommodate women's schedules, literacy levels and specific needs, thereby enhancing their participation and effectiveness (Ragasa *et al.*, 2013). Increasing the number of female extension workers can improve communication and trust, making extension services more accessible to women farmers (Meinzen-Dick *et al.*, 2014). The use of information and communication technologies (ICTs), such as mobile-based advisory services, can help overcome mobility constraints and provide timely information to women farmers (Aker, 2011). Participatory approaches that involve women in decision-making processes are also crucial for ensuring the relevance and sustainability of extension programs (Chambers, 1994). Additionally, strengthening women's collectives, such as self-help groups and farmer producer organizations, can enhance their bargaining power and access to markets.

7. Challenges and Future Perspectives

Although gender equality is increasingly recognized as the importance of it in agriculture, there are still certain challenges that exist. The socio-cultural norms remain deep-rooted which limit women's access to resources and participation in decision making. Gender disaggregated data is lacking and this makes it difficult to design targeted interventions and to measure their impact. Further, institutional constraints like inadequate funding and inadequate trained personnel, also constrain the gender responsive extension program. Extension systems need to be forward-thinking and embrace innovative methods that incorporate gender considerations, harness digital tools and encourage inclusive engagement in the future. Government collaboration, research institutions, NGO and private sector cooperation is crucial in establishing a conducive space for gender equality in agriculture. All these are challenges that must be overcome to reach sustainable development goals and food security.

8. Conclusion

Gender is a key determinant of agricultural systems and livelihoods in rural areas. Women play an important role in agricultural production, but there remains a number of constraints which hinder their potential. Agricultural extension services need to be more inclusive and responsive to the needs of women farmers. Increasing the empower of the women is not only a social justice issue, but also a strategic step towards improving the productivity and sustainability of agriculture. The gender gap that exists in agriculture can be bridged to achieve significant improvements in food security, economic growth and rural development.

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