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Gender-Inclusive Strategies in Agricultural Extension Education

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Rural development, sustainability, and productivity are all significantly influenced by agricultural extension education. But traditionally, women—who comprise over half of the world's agricultural labor, particularly in smallholder systems—have been left out. The absence of gender-sensitive methods in extension services leads to poor family food security, restricted uptake of innovations, and ongoing yield disparities. The systematic gender gaps in extension education are examined in this review study, which also assesses the methods used to achieve gender inclusion. Using case studies from Asia, Africa, and Latin America, the study investigates ICT-based interventions, women-led extension models, participatory learning strategies, and institutional changes that improve women's access to data, inputs, and decision-making. In addition to analyzing the policy-level, infrastructure-level, and sociocultural obstacles to inclusive education, the article provides a road map for revolutionary transformation. For food security, climate resilience, and agricultural empowerment to be achieved, gender equality must be ingrained in extension education.

Introduction

Agricultural advancements are mostly transferred to farmers via extension education. But women continue to be underrepresented in these services, even though they play a vital role in agricultural systems. Only 15% of extension agents worldwide are female, and fewer than 10% of all extension resources are used by female farmers, according to the FAO (2011). Many members of the real agricultural work force are left out of gender-blind extension models that presume males make most of the decisions in the home. According to Meinzen-Dick et al. (2014), women encounter a number of systemic obstacles while trying to get extended education, such as time poverty, restricted mobility, illiteracy, societal norms, and communication channels that are dominantly male. To democratize information access, boost agricultural output, and advance equitable rural development, extension education must adopt gender-inclusive practices.

Inequalities in Agricultural Extension by Gender

Access to Knowledge vs. Labor Contribution

Although they make up 43% of the agricultural workforce in developing nations, women often do not have access to better seeds, loans, land, or technical training (World Bank, 2011).

Barriers of Structure and Culture

- Gender conventions restrict women's mobility, which prevents them from attending training sessions.
- Time restrictions brought on by unpaid care work decrease program participation, and male-dominated extension workers may not interact with women in an effective manner (Doss, 2011).

Absence of Gender-Specific Information

The data used to construct extension initiatives is often at the household level, which obscures intra-household dynamics and the decision-making responsibilities of women.

The Development of Gender-Inclusive Extension Methods**Conventional Frameworks**

Early models ignored women's participation in subsistence farming and concentrated on male heads of family, favoring cash crops over food crops.

Feminist Reactions and Changes in Policy

By the 1990s, donor guidelines that prioritized gender equality in extension delivery (such as USAID's Gender Policy and FAO's Gender Strategy) were the result of gender-focused criticisms (Meinzen-Dick et al., 2010).

Models of Integration and Inclusivity

Modern strategies seek to integrate gender into staff training, program design, and agricultural curriculum.

Techniques for Agricultural Extension That Take Gender Into Account**Groups of Women Farmers**

In India, initiatives such as the Self-Employed Women's Association (SEWA) gather women into self-help groups and cooperatives for group expansion and input procurement (Agarwal, 2010).

Action and Participatory Learning (PLA)

PLA techniques improve agency and contextual relevance by empowering women to recognize local issues, establish priorities, and collaborate on solutions.

Agents of Female Extension

Increasing the number of women extension workers via training and recruitment enhances women farmers' engagement, communication, and cultural sensitivity.

Training on Gender for Male Agents

Redefining communication, trust, and family participation is facilitated by educating male extension workers about gender dynamics.

Extension of Gender Inclusion Assisted by ICT**Advisory Services via Mobile Devices**

According to Tsan et al. (2019), women may get information at their convenience, in private, and at home with SMS and IVR services. Women's involvement has expanded thanks to initiatives like Radio Farm (Kenya) and Avaaj Otalo (India).

Female-Led Online Communities

The women-led video extension from Digital Green has had a major effect in Bihar and Odisha, encouraging more female farmers to embrace better practices.

Interface Design and Language

It is essential to design voice-activated material in local languages for women farmers who are illiterate or semiliterate (Chowdhury et al., 2020).

Frameworks for Policies and Institutional Innovations**Budgeting with Gender Consideration**

Funding for extension initiatives that focus on women must be expressly allocated by governments. The National Gender Resource Center in Agriculture, established by the Indian government, is a step in that direction.

Extension Institutions' Gender Audits

Gender audits evaluate an organization's level of inclusivity in terms of outreach, content delivery, and personnel (UNDP, 2006).

Goals and Quotas

Gaps may be closed by establishing institutional quotas for female involvement in staff hiring, training, and decision-making.

Examples of Gender-Inclusive Extension Cases

The Agricultural Transformation Agency of Ethiopia (ATA)

Gender-balanced Farmer Training Centers, household-level extension, and community discussions are all components of ATA's gender-inclusive extension approach (World Bank, 2018).

The Department of Agricultural Extension (DAE) in Bangladesh raised the profile of women in extension by introducing women-friendly Farmer Field Schools and giving preference to female facilitators (Chowdhury et al., 2020).

The Model of Twigire Muhinzi in Rwanda

Rural women who were disadvantaged were reached via a decentralized, home-based extension system that used Farmer Promoters, many of whom are women.

Tracking and Assessing Results by Gender

Disaggregated Data by Gender

Assessing effect requires capturing adoption, yield, and income data that is sex-disaggregated.

Monitoring Participation

Designing assessment measures and evaluating findings should incorporate women to guarantee contextual relevance.

Indicators of Behavior

Monitoring shifts in self-efficacy, mobility, and intra-household decision-making offers more profound understandings of empowerment (Alkire et al., 2013).

Obstacles to Gender-Inclusive Development

Norms and Opposition: In many societies, women are not allowed to go alone or talk in public.

- **Land Access:** Women who lack land titles have less access to landholding-related services.
- **The Digital Divide:** Rural women have less internet access and smartphone ownership.
- Multifaceted solutions are required, including cultural shift, education, and legislative reform.

Roadmap for Gender-Transformative Extension

Strategy	Action Point
Institutional Reform	Recruit more female agents, provide gender training
Inclusive Technology Design	Mobile-friendly, voice-based, multilingual platforms
Social Norm Change	Community dialogues, role models, media representation
Policy and Legal Empowerment	Land rights for women, quota systems in governance
Financial Inclusion	Women-centric agri-credit and insurance schemes

Gender-transformative extension goes beyond inclusion—it redefines the norms, power, and relationships in rural agricultural systems.

Conclusion

A gender-inclusive extension system is essential to rural change and sustainable agriculture, not an extravagance. Women farmers have an important role in decision-making, labor, and information sharing. Making sure they take use of extension programs improves equality, food security, and productivity. Systemic change—mainstreaming gender across institutions, using ICT, empowering communities, and questioning discriminatory norms—is necessary for the future. Then and only then will agricultural extension be able to carry out its inclusive rural development goal.

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