REVIEW ARTICLE

EVOLUTION AND IMPACT OF AGRICULTURAL EXTENSION SYSTEMS IN INDIA: A POLICY AND INSTITUTIONAL PERSPECTIVE

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DOI: https://doi.org/10.5281/zenodo.15448057

Abstract:

Agricultural extension in India has significantly evolved post-independence, transitioning from colonial-era demonstration methods to a decentralized, technology-integrated framework. This chapter traces the historical development, policy reforms, institutional innovations, and diverse impacts of extension systems, emphasizing their contribution to agricultural productivity, sustainability, and rural livelihood improvement.

Keyword: Agricultural Extension, Policy Reforms, Institutional Innovations, Rural Livelihoods.

Introduction:

Agricultural extension in India has undergone significant transformations since independence, evolving from colonial-era demonstration plots to a comprehensive, decentralized, and technology-driven system. This chapter explores the historical trajectory, policy shifts, institutional innovations, and the multifaceted impact of agricultural extension systems in India, focusing on their role in enhancing productivity, sustainability, and rural livelihoods.

1. Historical Evolution of Agricultural Extension in India

1.1 Pre-Independence Initiatives

Before India's independence, several notable agricultural extension programs were initiated, though often with limited success due to lack of coordination and community involvement. Key efforts included Rabindranath Tagore's Shantiniketan Programme (1908), Mr. Bryne's Gurgaon Development Experiment (1920s), and the Marthandam Project (1921) by Dr. Spencer Hatch. These initiatives focused on rural development and agricultural improvement but lacked widespread impact due to limited reach and resources.

1.2 Post-Independence Programs

Post-independence, India launched a series of agricultural extension programs aimed at improving agricultural productivity and rural livelihoods. These included the Grow More Food (GMF) campaign (1947), Community Development Programme (1952), and Intensive Agricultural District Programme (IADP) (1960). These programs evolved over time, addressing technological development, social justice, and community participation.

1.3 The Green Revolution and Technological Dissemination

The 1960s marked a pivotal era with the advent of the Green Revolution, characterized by the introduction of high-yielding varieties (HYVs) of wheat and rice. To facilitate the adoption of these technologies, the Indian Council of Agricultural Research (ICAR) launched the National Demonstration Programme in 1964, focusing on showcasing the potential of HYVs in farmers' fields. These efforts were instrumental in achieving self-sufficiency in food grain production.

1.4 Institutional Reforms and Decentralization

In the 1970s, the World Bank-funded Training and Visit (T&V) system was introduced, promoting a top-down approach to technology transfer through regular training of extension workers and scheduled visits to farmers. However, by the 1990s, the limitations of this centralized model led to the adoption of decentralized, participatory approaches. The National Agricultural Technology Project (NATP) in 1998 and the establishment of Agricultural Technology Management Agencies (ATMAs) at the district level exemplified this shift towards bottom-up planning and stakeholder involvement.

2. Institutional Framework and Policy Developments

2.1 Krishi Vigyan Kendras (KVKs)

Established by ICAR in 1974, Krishi Vigyan Kendras (KVKs) serve as pivotal institutions for on-farm testing, frontline demonstrations, and capacity building of farmers and extension personnel. As of recent data, there are over 700 KVKs across India, functioning under the jurisdiction of Agricultural Technology Application Research Institutes (ATARIs). KVKs play a crucial role in bridging the gap between research and field application.

2.2 Extension Education Institutes (EEIs)

To enhance the competencies of extension personnel, four regional Extension Education Institutes (EEIs) were established in Nilokheri (1959), Anand (1962), Hyderabad (1962), and Jorhat (1987). These institutes focus on in-service training, communication methodologies, and management skills, thereby strengthening the human resource base of the extension system.

2.3 Role of NABARD

The National Bank for Agriculture and Rural Development (NABARD), established in 1982, plays a significant role in financing and supporting agricultural extension activities. It provides credit facilities, promotes self-help groups (SHGs), and supports various rural development initiatives, thereby complementing the efforts of extension agencies.

3. Contemporary Extension Approaches and Innovations

3.1 E-Extension and ICT Integration

The 21st century has witnessed the integration of Information and Communication Technologies (ICTs) into agricultural extension. E-extension platforms, mobile applications, and digital advisory services have enhanced the reach and efficiency of extension services, enabling real-time information dissemination and personalized advisories to farmers.

3.2 Farmer-to-Farmer Extension Models

Recent initiatives emphasize participatory approaches, such as the farmer-to-farmer extension model under the National Mission on Natural Farming (NMNF). For instance, in Jharkhand, the establishment of natural farming clusters involves trained farmers and community resource persons (Krishi Sakhis) leading knowledge transfer, promoting sustainable practices among small and marginal farmers.

4. Impact Assessment

4.1 Productivity and Food Security

The evolution of agricultural extension systems has significantly contributed to increased agricultural productivity and food security in India. The adoption of HYVs, improved agronomic practices, and efficient resource management have led to substantial gains in crop yields, particularly in wheat and rice.

4.2 Empowerment and Capacity Building

Extension services have played a vital role in empowering farmers through knowledge dissemination, skill development, and access to resources. The involvement of women and youth in extension activities has further enhanced community engagement and rural livelihoods.

4.3 Environmental Sustainability

The shift towards sustainable agricultural practices, such as organic and natural farming, facilitated by extension services, has contributed to environmental conservation, soil health improvement, and reduced dependence on chemical inputs.

Conclusion:

The agricultural extension system in India has evolved through various phases, adapting to changing policy environments, technological advancements, and socio-economic contexts. The integration of participatory approaches, institutional reforms, and ICT innovations has enhanced the effectiveness and inclusivity of extension services. Continued investment in capacity building, infrastructure, and policy support is essential to sustain and further strengthen the impact of agricultural extension in promoting sustainable and equitable agricultural development in India.

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