

Changing Paradigm in Agricultural Extension Services

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Introduction

During the second half of the 20th century, when the major focus was on achieving national food security, the primary role of agricultural extension services was limited to the transfer of a common package of production-related technologies based on the principle of one size fits all (Anderson, 2007). Now moving towards the future, rural populations will undoubtedly be progressively better educated, while their exposure to the mass media will continue to reduce their isolation and detachment from information, ideas, and an awareness of their situation within a national and international context (Van den ban, 2000). However, this exposure will not reduce the need for agricultural extension services. Rather, given the changing demands on agricultural producers from population growth, increasing urbanization, legislative changes, and market requirements, the more knowledgeable farming population will require different kinds of extension services (Kumar, 2018). The public extension services with their top-down and supply-driven approach were effective in the early days when the sole focus was on increasing the production and productivity of our farms but now as the focus is shifting toward income and profits, there is a need for a pluralistic extension system which is based on the principle of partnership between multiple stakeholders such as farmers, government, agripreneur, NGOs, corporations and other interested parties involved in agriculture and rural development.

Paradigm Shifts in Agricultural Extension Services

The following paradigm shifts have taken place in agricultural extension services which have a lot of implications for extension service providers to revitalize extension delivery.

Green Revolution to Evergreen Revolution

The green revolution has demonstrated India's capabilities to balance agricultural and human Growth. However, it has also created social economic and Environmental imbalances. Now Agriculture is at across roads. In developing countries like India and Africa, agriculture is not just for food production but it is the backbone of the livelihood security of the majority of the population. Therefore, there is a need for effort to produce food, fodder, fiber, and other products based on sustainable practices where large small-scale farmers in rain-fed areas are involved. Therefore, the evergreen revolution is important for sustainable food and Nutrition security.

Commodity approach to integrated Farming System Approach

India and other developing countries mostly were adopting a commodity approach where a single commodity is grown in vast tracks of land. The net income from the crops was affected due to internal and external threats owing to pests & diseases, vagaries of Monsoon, market fluctuations as well as GATT & WTO. The small-scale farmers in rainfed areas were affected most by this process. Hence it is now recommended to follow a farming system approach where intensification, diversification, and value addition are done to get more profit out of a unit of land (Ahmed *et al.*, 2016), This could be done through crop mixtures or border crops, intercropping, etc., and /or in a combination of livestock. More directed efforts are required in Farming system Research and Farming System Extension.

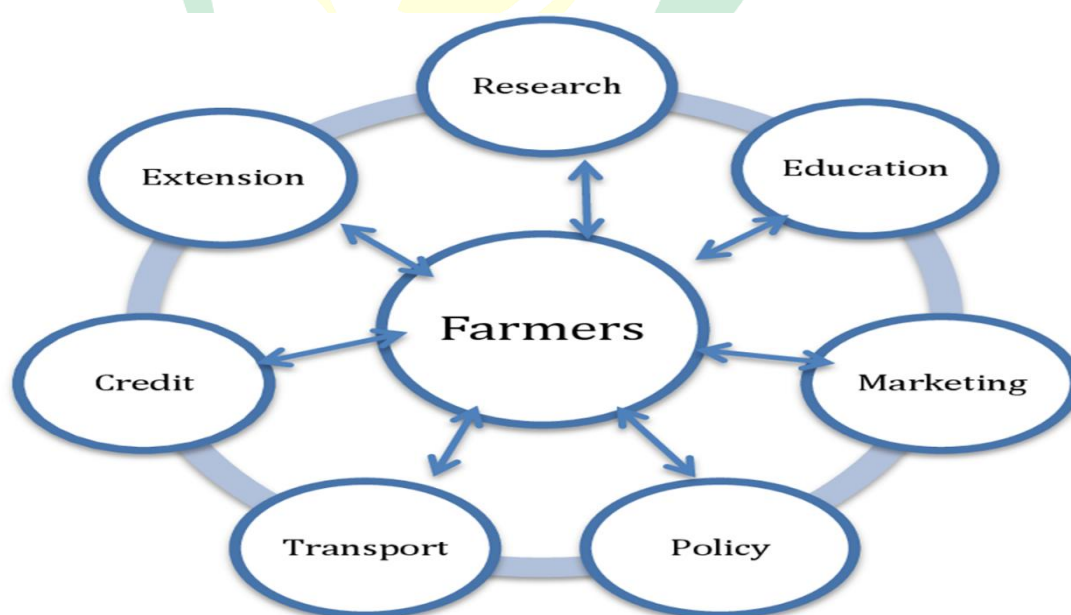


Fig. A Model for Pluralistic Agricultural Extension System with the farmer at center

Mono-disciplinary to Interdisciplinary approach

The research on Extension has been focusing on the mono-disciplinary approach having a team of specialists advising and guiding farmers at different intervals based on their specialization wasting the time and resources of farmers. It is now advised to have an interdisciplinary approach where a team of experts from different disciplines visits the farmers and advice in a holistic way. A similar trend is followed now in research also.

Technology-crop technology Eco-technology and Biotechnology

In the past decades, crop technology was prominently addressed by Research and Extension. Today, there is a need for an extension worker to know about technologies related to livestock and other farm enterprises as well as about Biotechnology which is rapidly catching up by farmers (Btcotton which has revolutionized the cotton industry) Biodiversity and environmental technologies are paramount importance to promote sustainable agriculture, climate resilience agriculture, organic farming, and Natural farming.

Supply-driven approach to demand-driven approach

So far, a supply-driven approach was followed which has made the farmers get low prices for the product due to excess production and middlemen exploitation. Therefore, the shift is more towards a demand-driven approach and market-led extension where farmers will be advised to grow the crops suitable to the areas and also have demand in domestic and international markets. This calls for providing marketing information and market intelligence. The extension has to be ready to take this role.

Farm employment to off-farm employment

Since 70 years of independence, the extension has been paying more attention to creating on-farm employment through increasing productivity with advocacy to reduce the cost of production. However, there is distress among farmers about farming as a viable option for improving livelihoods. This is leading to the migration of farmers & youth from rural to urban areas. To arrest these phenomena, the extension should also focus on creating viable off-farm employment such as dairy, poultry, sheep & goats, sericulture, mushrooms, fisheries, nursery management, high-value crops, and other viable enterprises which can provide income and also gainful employment.

Self-reliance to self-sufficiency



The past decades witnessed a self-reliant society where farmers' own abilities, decisions, and resources were used to manage the affairs of the farm. Today self-sufficiency is a buzzword which means today farmers were able to produce supplies to their needs and also sell in the external market with their own initiative and resources. This needs a new direction for the extension.

Agricultural Development to Sustainable Agriculture Development

Sustainable agricultural development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The economics, ecology, equity, and social factors are important drivers of development. Earlier agriculture development used to be input intensive undermining the erosion of natural resources as well as human safety and health.

Knowledge and Skills to Empowerment

The extension approach to farmers earlier has been to provide knowledge and skills in order to get desirable behavioural changes. This phenomenon has not created a spread effect and motivation to adopt the technologies as well to communicate to other farmers. Empowerment on other hand based on the idea that giving farmers knowledge skills, resources, and opportunity motivation as well as holding them responsible and accountable for the outcomes of their actions. This will contribute to competence and satisfaction so that they contribute also to empower other farmers which will also promote farmer-to-farmer extension and multiplier effect.

Agriculture to Agribusiness

Agriculture was traditionally used as a livelihood option now it is looked at as an Agribusiness. The transformation of agriculture as agribusiness means moving from substance farming to modernization of Agriculture. Agri-Business is the key to agricultural production. The farmer needs to grow demand-driven crops /enterprises, manage the farm to reduce the costs in a value chain way, maintain farm records, increase the production and add value for the product which can fetch him more income. These trends need to be incorporated in Extension Advisory services.

Productivity to profitability

There is a need to advocate for small-scale farmers about the necessity of reducing the costs, especially of input use, increasing production, monitoring the quality, add value which

can give more profitability but also preserve and protect natural resources like land, water, and environment.

Equity and Sustainability

Equity concerns and inclusive growth is important in all extension efforts. The effort should be directed equally to small-scale, marginal farmers, rainfed areas, women, and other deprived farmers, etc. at the same time ecological factors also need to be stressed for enhanced sustainable growth in the livelihood context. The gap between the haves and have-nots needs to be bridged.

Single Extension Approach to Pluralistic Extension Approach

It is well recognized that a single extension approach will not be able to solve the farmer's problems. In this context pluralist, demand-driven extension systems and approaches are essential. However, they have to be flexible, supporting and complimenting each other. The involvement of multiple stakeholders will not just be more suited to changing needs but also strengthen the agricultural extension system.

Public Extension to Private – Public Partnership

In view of the inadequacy of resources and manpower, extension is not able to reach the unreached farmers and areas. The extension should address concerns of profitability, markets, and value chain. The public extension and private extension have their own strengths and weakness. However, public-private partnerships in extension can able to plug the loopholes and able to reach more farmers with transparency and accountability. This needs a clear-cut division of roles responsibilities and resource allocation.

Conclusion

The need for agricultural extension and advisory services is likely to intensify in the foreseeable future. In much of the world, agriculture faces the challenge of keeping pace with a rapidly increasing population with few reserves of potentially cultivable land. Farmers will have to become more efficient and specialized. From the government's perspective, whatever priority is given to production, the extension will remain a key policy tool for promoting ecologically and socially sustainable farming practices. This issue is even more concerning in a developing country like India where around half of the population is dependent on agriculture for livelihood. The problems of the new world such as rapid urbanization, industrialization, population growth, pollution and climate change, and economic imbalances

call for a new solution. Hence, it is imperative that the extension adopts these extra responsibilities and works in a holistic manner to support the changing needs of farmers and the agriculture sector as a whole while also keeping in view the issue of Sustainability (Saravanan and Bhattacharjee, 2017). This asks for a shift in both the approach and policy of the existing Extension Service mechanism. In order for the public extension system to sustain itself in this rapidly changing world scenario, it is important that it realizes the changing needs of the client and other stakeholders, forms a partnership with the private sector, and shifts its approach from centralized, supply-driven & top down to localized, market-driven and bottom up.

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