

AGRICULTURAL EXTENSION VIS-À-VIS EMERGING AGRICULTURAL SCENARIO

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Introduction

Technology generation and its application need to focus on optimisation of available resources, sustainability, coping with diversity by adapting technology more specifically to agro-ecological or social circumstances. Currently, Indian agriculture is facing the challenge of modernising farming to improve the quality of the produce at competitive price to face the world market without ignoring small and marginal farmers who are in majority (Singh, 2005). The role of agricultural extension is assuming greater importance in the context of globalisation, privatisation and liberalisation and tremendous challenges of ensuring food and nutritional security to the Indian masses. Millions of rural farmers still struggle to meet their subsistence needs by growing staples and selling a small surplus to generate income to meet their basic needs. A reorientation of existing strategies is essential to meet the new requirements of farming systems in the country and challenges in the areas of relevance, accountability and sustainability of agricultural extension.

Emerging agricultural scenario

The principal trigger to the green revolution was access to fundamental research done by credible institutions within and outside the country and its technology spin-offs at affordable costs. The first generation of agricultural research in the country was mainly the by-product of the public sector system (Punnathara, 2006). However, today most of the farm research and science and technology advances are increasingly being privatized. While the green revolution of the

1960s came virtually free to the farmers, these days almost all agricultural advances come at a huge cost, often beyond the reach of the common farmer. The government is also constrained to make available new technology and other needed inputs to farmers, at a price which is affordable. Most of the research in crops conducted by private enterprises and corporations hold patents on their inventions. The vast geographical regions with different agro-climatic conditions where few similar and related cereal varieties can be cultivated and consumed, ensures that the returns on incubating new value-added strains are lucrative enough and continue to kindle the interest of corporate and private research institutions. All these factors created a vacuum at the bottom of the pyramid. The following Table 1 depicts the emerging agricultural scenario in the country.

Table 1. Emerging paradigm in agriculture scenario

S.No.	From	To
1.	Conventional agriculture	Alternative agriculture
2.	Green revolution	Ever green revolution
3.	Individual excellence (Plant breeder)	Collective performance of plant breeders (Faith in team work)
4.	Family farming	Surplus farming to market farming to commercial farming
5.	Horizontal development of agriculture	Vertical development of agriculture
6.	Traditional food habits and life styles	Changing food habits and life styles

S.No.	From	To
7.	Stable monsoon	Coping with unstable monsoon
8.	Technology	Eco-technology
9.	Supply driven production system	Demand driven production system
10.	Commodity approach	Systems approach
11.	Barter economy	Market economy
12.	Domestic competition	International competition
13.	Competition for resources	Complementary relationship
14.	Use of high inputs	Use of low inputs
15.	Purchased external inputs	Internal inputs supplied by the bio-diversity on the farm
16.	One-dimensional monoculture	Bio-diversity based productivity
17.	Single commodity products	Multi-dimensional uses
18.	Linearity in production trend	Cyclical processes of production
19.	Research concentration in well endowed areas	Research priorities on location specific needs of farmers, remote areas and target group enterprises
20.	Yield maximization	Economic yield maximization

S.No.	From	To
21.	Singular effort by Govt. agencies	Plurality of information providers
22.	Bureaucratic management (File rich)	Professional knowledge & skills (Field rich)
23.	Imitative planning	Innovative indigenous effort
24.	Investment in materials and machinery (Input extension)	Investment in people for education, upgrading skills and altering attitudes
25.	Farm employment	Off-farm or non-farm employment
26.	Nature to bend towards man	Man to bend towards nature
27.	Market push	Market pull
28.	Broad man land ratio	Narrow man-land ratio
29.	Central budgeting and block grants	Competitive grants and project based budgeting
30.	Strengthening conventional disciplines	Strengthening of research in upstream frontiers
31.	Unplanned capital investment and inadequate recurrent cost funding	Planned capital investment and adequate recurrent cost funding

Reorientation of Extension

Challenges offered by sustainability and poverty, trade fronts, WTO agreement, changing nature of agricultural technology, rapid development in information and communication technology, a changing developmental agenda of stakeholders participation and decentralization in extension field have prompted to have a re-look on the existing extension system and reorient it with proper direction (Singh and Sharma, 2004). Agricultural extension should play a proactive and participatory role in setting the overall climate for sustainable development of rural settings. While making above mentioned gradual paradigm shift, the high priority extension goals should emphasize resource conservation, bio-mass production, crop rotations, eco-friendly production practices and combination of enterprises. Agricultural extension needs to reform in ways that allow it fulfill a diverse set of objectives. This ranges from better linking of farmers to input and output markets, to reducing the vulnerability and enhancing voice of the rural poor, development of micro enterprises, poverty reduction and environmental conservation and support of farmers' organizations. The following shifts indicate the changed scenario of agricultural research and extension in its perception, approach and action for sustainability and meeting the challenges of 21st century.

Table 2. Paradigm shifts in Agricultural Extension

S.No.	From	To
1.	Contact farmer approach	Homogenous group approach
2.	Persuasive role of extension agent	Facilitative role of extension agent
3.	Technology transfer	Technology application

S.No.	From	To
4.	Emphasis on male farmers	Gender perspective in approach
5.	Top-down management approach	Bottom -up approach
6.	More illiterates and less awareness	Increased educational levels
7.	Technical competency of extension agents managerial	Technical competence with competency
8.	Authoritative leadership	Distributive leadership
9.	No feedback to the research system forward system	Farmer accountable feedback and feed
10	Farmers ignorance as an explanation for non-adoption	Harnessing farmer's ingenuity for technology development
11.	Fixed or uniform approaches	Evolving or diverse approaches
12.	Professional isolation and decay. The working is fragmented as it is totally manual.	Professional national and international visits/exchanges and networking and electronic connectivity
13.	Centrally generated sources of innovation in extension	Locally evolved innovation through farmer experimentation
14.	Providing services	Enabling farmers to access services from other agencies

S.No.	From	To
15.	Staff training on new working practices	Changing organizational culture through action learning
16.	Emphasis on input and output targets in monitoring and evaluation	Emphasis on learning through monitoring and evaluation
17.	Prescriptive policy approach	Facilitating evolution of locally relevant approaches
18.	Personnel and infrastructure development of extension system	Development of linkages and networks
19.	Research priorities and agenda set by the institutes	Bottom-up and participatory involvement of all stakeholders
20.	Less incentives and rewards	Merit-linked incentives and rewards
21.	Centralised administration	Decentralised administration

These paradigms have emerged due to various structural changes in the Indian and global economy as well as the experiences gained over the last 50 years of implementing various agricultural and rural development schemes. If the shifts are made, it will certainly accelerate the process of need based technology development and adoption and its saturation in the social system apart from bringing all round satisfaction to the

farming community irrespective of socio-economic stratum they belong to. The reorientation of agricultural extension calls for intensified private and public partnership, crop and enterprise diversification, intensification, natural resource management, strengthening of infrastructure, risk management, management reforms and continuous capacity building of all stakeholders in the agricultural development. The final beneficiary would be the marginalised peasants and labourers who live along the periphery of cultivable land, in harsh and hostile climatic conditions.

Conclusion

Agriculture in India needs to change and change for the better is always desirable as it is becoming increasingly knowledge-intensive and market-driven. Any system to be effective needs to introspect and reorient its approach and functions. The radical overhaul of extension services are needed to respond to global changes and act as an integral component of extension-farmer-research-education-market linkage chain. The monopoly of public funded extension services are to be complemented with the marketing forces and information services. In the scenario of many sellers and single buyers, the sellers of technology have to reorient themselves to carve a niche for themselves in the ever changing environment. Proper packaging, branding and advertisements of technology is vital to carry the technological information to the clients. In order to do that, the extension system needs reorientation in every perspective. The technology transfer has to be adapted, modified, improved, assimilated and diffused in a cumulative way to have a major impact on development process. Unless there is good fit between the nature of technology, its mode of transfer and the farmer's capabilities for absorption, assimilation, diffusion and improvement, the transfer of technology will at best have a marginal impact.

References

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