

## Future Extension Education Perspective in India

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*E*xtension has been put to serve production oriented programmes, area development initiatives, target group based service schemes, and largely as a technology delivery mechanism. In the process, simple purpose for which it is designed, namely “helping people to help themselves” by relating technologies to the needs and opportunities of the farmers have not been emphasized much. There could be three important factors. For the most part, the country has been pre-occupied with the goal of attaining food self-sufficiency. Also, there has been a strong concern that the development programmes should be equitable to all segments of the rural population. Thirdly, the emergence of new agricultural technology, made up of seed-fertiliser combination, had an over-whelming influence on the developmental efforts.

In the post-green revolution era, there is a qualitative change in the situation and the food security has been achieved. Alternative poverty alleviation Programmes have been put into operation to reduce the rural inequalities. However, the emergence of breakthrough technologies has ceased to evolve, for the past several years. The ‘technology push’, so dominant a factor in the 60s and 70s, is not so vital to show its immediate influence. As a result, the role assigned to the extension system as the ‘handmaid of research’ does not appear to be purposeful any more. In fact, the context in which extension has been operating has changed in many ways. As experience has indicated, the extension service runs into difficulties whenever it becomes stagnant and gets ritualized losing its dynamism in dealing with the regional and temporal variations or challenges posed by a developing agriculture.

It is now a widely accepted fact that sound agricultural development is essential for overall economic progress. Given its range of agro-ecological

setting and more than 120 million farmers, agriculture is faced with a great diversity of needs, opportunities and prospects. If it is to respond successfully to the new challenges posed, greater attention will have to be paid to information based technologies and strengthen means of dissemination to transmit the information to farmers. The National Commission on Farmers has drawn attention to the knowledge deficit, which constrains agricultural productivity. To overcome this, farmers need to have an effective linkages with Universities and best practices. A good extension system is the means for achieving this linkage, which for the present has virtually collapsed in most states, partly as a result of constraints on non-plan expenditure. As a result farming practices in large parts of the country are sub-optimal.

*Evolution of Extension System and Approaches Operationalised* : Extension services in India have traditionally been funded and delivered by government. Organised attempts in this direction started after the country became independent in 1947. Pre-Independence efforts had been largely local attempts, driven mainly by the humanitarian essays of a few individuals and organisations. These were area-specific and had limited impact. Independent India acknowledged the relevance of extension quite early, a decade earlier than organised attempts to strengthen agricultural research were initiated in the country. External aid for agricultural development emphasized extension in the 1950s. Community Development Approach was put into action and two important programmes, the Community Development (CD) and the National Extension Service (NES) were clear examples of the Govt. of India’s commitment to provide a number of services in such areas as agriculture, health, animal husbandry, etc. to all sections of society. With little progress on the agricultural front, the need to pay special attention to

agriculture was realised, and since the 1960s many new programmes that aim to raise agricultural production have been initiated.

Till the 1960s, agricultural extension was purely a function performed under the guidance of the State Departments of Agriculture (DoA). Extension was undertaken through Integrated Approach. A number of development programmes like IADP, IAAP etc., were launched. ICAR also initiated some programmes as the Lab-to-Land Programme and the Operational Research Programme that were merged with the KVKs in the 1990s. State Agricultural Universities (SAUs) initiated training programmes (for officials and farmers), demonstrations and exhibitions, and these were strengthened with the establishment of the Directorate of Extension in each SAU for University based Extension Education Approach. Organisations created for the promotion of specific commodities (Commodity based Extension Approach) and specific areas (Command Area Development Authorities) also initiated extension activities. Extension was treated essentially as a public good, and with only the public sector involved with technology development and transfer, the focus was on spreading the reach of extension to all parts of the country through more extension staff and a large number of programmes (Birner *et. al.*, 2007).

The 1980s saw most of the States embracing the World Bank-funded Training and Visit (T&V) system. It improved the funding and manpower intensity of extension and introduced a unified command system of extension. The T&V system that largely ignored the agro-climatic and socio-economic diversity of the country produced mixed results. A review of evaluation studies of the T&V system revealed its impressive gains (in terms of productivity) in irrigated areas and its failure to make impact in the majority of the rainfed areas. The need for a proper analysis of institutional and socio-economic factors in rainfed areas, and the importance of social science skills in making relevant interventions was also highlighted by Farrington *et al.*, 1998.

Since the 1980s, more and more NGOs, agro-input industries, and agro-processors have also become involved in agricultural extension activities. Now farmers' associations and producers' cooperatives are also involved in extension services for selected crops and commodities. A large number of extension services are being provided by input agencies, especially fertilizer companies. With increase in rural literacy, the

newspapers are devoting more space to reports related to the use of agricultural technology. With external support drying up, many States found T&V unaffordable, and the 1990s saw them experimenting with the provisions of extension services. These experiments included decentralisation (extension planning and control under elected bodies at the district/block level), contracting NGOs for some extension activities, the adoption of group approaches (instead of the earlier individual approach), the use of para-extension workers (as substitutes for DoA field extension workers, and the setting up of multi-disciplinary SAU teams at the district level. Another trend has been the formation of specific organisations (which are less bureaucratic, more flexible, and have wider expertise) to implement special programmes related to agricultural development. This has been a reflection of the increasing inability of line departments to deliver results because of their strictly enforced hierarchies, inappropriate reward structures, lack of accountability, and limited expertise.

*Future Extension Education Initiatives:* In the current scenario of changing agri-rural environment the role of extension education and technology delivery system is also changing. Broad based extension approaches are the need of the day. Harnessing advances in frontiers of science in selected priority areas with larger spin-off benefits by focusing on basic and strategic research also assumes significance. We need to search for alternatives to the present public agricultural extension system in the country. A paradigm shift from single discipline orientation to multi-disciplinary approach is critical for research in the discipline. Privatization, planning, monitoring, evaluation and assessment as core components of research management process should be encouraged. Due importance should be given to the discipline of Extension Education and intermittent changes in the curriculum need to be incorporated to enhance its applicability in NARS. The following emerging approaches are discussed.

*Extension Education Research:* Research in extension education is perhaps the most neglected at present. Basic research in the discipline is not being carried out. We still are doing mostly research in the field of diffusion and adoption and communication. Very few studies are taken these days on issues like extension methods and techniques, research methodologies and psychometric analysis. The Division of Agricultural Extension, ICAR does not have linkage with State Agricultural Universities

or ICAR Institutes and are not carrying out any extension research. There is no coordinated project in extension these days. Even the extension professionals are not seen in formulating studies on applied research as a feedback to research system. Management and other behavioural principles are taught in the post graduate curricula but the same are not being applied in research. We need to reorient the curricula of extension education at post graduate level and prepare ourselves to carry out research studies in these aspects, which will enrich the discipline and maintain its exclusivity. Management principles and tools so vital in pursuing extension education programmes, need to be brought in the practice at post graduation, Ph.D and field level.

*Production to Marketing* : National Commission on Farmers (NCF) indicated that farmer-to-farmer learning and technology transfer is most frequent and is found to be reliable. Farm schools at the farms operated by farmer-achievers should be established in large number in different agro-climatic zones and farming system regimes. Farm School and Farmer Field School can be effective tools in farmer led extension. It has become an absolute necessity to shift extension focus from production-orientation to market-led extension resulting in increasing farm income by adopting end-to-end approach. Market-led extension help the farmers to minimize the production costs, improve the quality of farm produce, increase the product value and marketability resulting in increasing of income to the farmers.

Research-Extension Farmer and Market Linkages are being undertaken in a routine manner in the present context. Though, there is interaction between extension and farmers, there is low level of interaction between research and extension; and between research and farmers. This area demands greater focus, as technology generation has to take into account the farmers' needs, context and the opportunities available. The integration of Research, Extension, Farmer and Market linkages, need to be addressed by undertaking research and extension activities through the participatory technology development mode, creating a Research-Extension-Farmer and Market coordination committee at state level to take necessary policy initiatives to enable and establish linkages.

At zonal level institutions like Zonal Research Stations and line departments need to prepare a zonal agricultural development strategy through consultative

approach. At district and below level, the key institutions like KVK, ATMA and farmers organisations need to have a close linkage with each other for technology assessment, refinement and to create a platform between farmers' organizations and market opportunities. The research and extension agenda of the district is set by multi disciplinary team involving scientists, extension workers, farmers and other stakeholders, which would ensure R-F-E-M linkage.

*Collegiate participation of farmers* : Despite the articulate and increasingly large body of literature on participatory research and extension approaches, much of the work that has been conducted under the farmer-first and farmer participatory research framework focuses mainly on the research dimension of agricultural technology development and dissemination approaches. Concrete examples of the application of the underlying principles of participation, indigenous knowledge, and the users' (or farmers') perspective to the extension function and a discussion of the implications of these considerations to agricultural extension systems have been somewhat limited. More of "Collegiate Participation" is important now-a-days, where different partners work together as colleagues or partners. Ownership and responsibility are equally distributed among the partners, and decisions are made by agreement or consensus among all actors.

*Web enabled technology dissemination* : Extension is now becoming more diversified, technology intensive, knowledge oriented and more demand-driven. This requires the extension workers at the cutting edge level to be master of so many trades, which is neither practicable nor possible. Use of IT in extension enables the extension workers to be more effective in meeting the information needs of farmers. The growing Information and Communication Technology is used widely in the entire developmental sector except in agricultural sector. Use of interactive multimedia and such other tools will help the extension workers to serve the farmers better. We do not have web based technology content at one place and there is a need to develop suitable content so that the same can be accessed through ICT.

Similarly, extension systems have to utilize the existing print and electronic mass media for faster dissemination of information to farmers. The technological advancement in telecommunication and space technology has to be fully tapped for devising

appropriate programmes for farmers. Capacity building programmes were taken up for mainly public media personnel. There is need for capacity building for both public and private programme producers on delivery of agricultural information for farmers through TV and Radio.

Often information is disseminated without understanding the needs of the farmers, or the contexts in which they can access and use information. For information to empower farmers, it must bring into focus the need to improve farmers' capacities to analyse and understand information and act on it by communicating their views. Of all the means of mass communication, community radio has several advantages. The power of community radio lies in its participatory nature, as both its content and technology are people-oriented. It is an affordable means of communication, where the people themselves raise issues and identify their own priorities. Therefore, the potential of this medium should be used effectively for location specific and need based information in agriculture. Effective use of Mass media and ICT could be one of the possible means for bridging knowledge deficiency among farmers at a faster rate.

*Developing Cases as Tool for Technology Dissemination* : The case study is most useful for telling the reader "How" or "Why" a situation exists. While writing the case study, it is important to remember that case studies can bring together major themes in a region's history of development and will need to name stakeholders without prejudice. Themes can be presented from many points of view in a case, often with more creative freedom than in an academic paper. Success story is the successful-favourable or desired result or outcome of a programme. In other words, you want to paint a picture as to how 'Extension' makes a difference in the lives of the people it serves. A success story shows how extension has made a difference in people's lives. It describes positive change and benefits. Success stories are written to share programme ideas and to learn what works and what does not work. The purpose of writing success stories is to convey to the stakeholders or farmers the problem situation (may include who identified the problem and how it was addressed), Extension programme activities, results, or impacts. Both case study and success story is very effective tool for understanding an event which has taken place. We need to explore and study such tools

for learning lessons and apply in the future extension initiatives effectively.

*Agriculture as a profitable venture* : The contribution of knowledge as a factor of production is beginning to acquire dominant role in future trade, investment and technological change in agriculture as well as other sectors of economy. The management of knowledge not just in farms and firms but also in non-farm sector will, thus, become crucial. But the production and reproduction of knowledge will no more be governed by the conventional norms of public space, scrutiny and substantive needs. It is the tension between public need and private control that will mount the first challenge.

The strategy proposed is aimed at making Indian agriculture not only globally more competitive but also domestically more progressive by using knowledge as a strategic resource so that agriculture sustains livelihoods of millions of households dependent upon it in an environmentally sustainable manner. The major contention is that India should not view the challenges posed by WTO as if it will remain always an importing country and that it has no substantive intellectual property to offer to world market. The critical NGOs and other colleagues who criticize the concept of intellectual property rights have perhaps not been exposed to the inventive potential of Indian society. Honey Bee network has demonstrated over last ten years through its data base having about ten thousand entries of innovations and outstanding examples of traditional knowledge, innovations and practices, the immense contribution those grassroots innovators can make towards this cause. Add to this the potential that Indian scientists have and one would know why TRIPs under WTO can indeed make R and D in formal and informal sector as the pivot of socio-economic transformation of our society. It is true that India must negotiate changes in TRIPs to suit our requirements. But we can lobby for these changes because we are part of WTO.

Liberalization of world trade in agriculture has opened up new vistas of growth. India has a competitive advantage in several commodities for agricultural exports because of near self-sufficiency of inputs, relatively low labour costs and diverse agro-climatic conditions. These factors have enabled export of several agricultural commodities over the years such as marine products, cereals, cashew, tea, coffee, spices, oil meals, fruits and vegetables, castor and tobacco. For certain commodities like Basmati Rice, India has a niche market

access in spite of competition. Agricultural export has sizeable share of about 18 to 14 per cent in total exports of the country.

Agricultural imports are about 5 to 6 per cent of total imports in the country. Only a few commodities like edible oil, cotton, pulses and wood and wood products are imported. Raising the level of productivity and quality standards to internationally competitive levels is one of the major challenges following the dismantling of quantitative restrictions on imports, as per the WTO Agreement on Agriculture. For several commodities, our national productivity is less than the world average. Within the country, there are wide variations in productivity levels. Punjab, Haryana, Andhra Pradesh may have attained productivity levels of a world standard. But other regions are way behind. Thus the issue of competitiveness is also region specific. A regionally differentiated strategy, taking into accounts the agronomic, climatic and environmental conditions, is therefore, sought to be pursued to realize the full potential of yield in every region. Comparative advantage in itself is a relative concept and it depends upon the relative changes in the International Market. A major difficulty faced by India in the international market is the high level of domestic support and export subsidies given by developed countries for agri exports.

Hence, it is imperative to evolve concrete strategies to make Indian agriculture competitive and enhance its efficiency. For this purpose, on one hand we should be seeking substantial reduction in the support given to agriculture by developed countries, on the other hand, Indian agriculture would also require to be supported to maintain and improve its competitiveness. The farmers are needed to be aware of the export potential of different crops, which may help them in deciding different crop based enterprises. Correct decision about the enterprise will enable to exploit the potential of farm enterprise to the fullest extent. Extension professionals should emphasize promotion of rural entrepreneurship for empowering farmers, farm women and rural youth. Micro-finance can be an effective tool for creating entrepreneurship environment. Small groups of farmers/ farm women (Self Help Groups) are engaged in thrift and internal lending to build up a credit culture, but farmers who possess more than 2 hectares of land should concentrate on forming commercial growers association to initiate agri-ventures. We have seen successful entrepreneurs using improved technologies like seed

production of hybrid rice, protected cultivation of flowers and vegetables are earning high profits. Agri-based farm enterprises can also be profitable venture (NSSO, 2005).

The quality of produce is also very important in the context of agri-enterprise. The extension system emphasizes on the quantity of production but the quality of the produce fetches more market prices and more profit. The quality standards like HACCP, EUREPGAP etc., are important for export to the global market. We need to empower the farmers with the message of quality standards.

*Scaling up of group mobilization* : The emphasis has to be on improving the access of the poor to micro-Finance (mF) rather than just micro-credit. The strategy includes financing of SHGs promoted by external facilitators like NGOs, bankers, socially spirited individuals and government agencies, as also promotion of SHGs by banks themselves and financing SHGs directly by banks or indirectly where NGOs and similar organisations act as financial intermediaries as well. During 2007-08, 552992 new SHGs were credit linked with banks. Bank loan of Rs.2541.98 crore was disbursed. Cumulative number of SHGs credit linked was 3477965. Existing SHGs (186883) were provided repeat loans of Rs.1685.60 crore. The programme has covered more than 5.80 crore poor households in the country. New initiatives are required to be launched for scaling up group mobilisation (GOI, 2002).

*Micro Enterprises Promotion* : The momentous growth of the microFinance programme, particularly the SHG-Bank Linkage programme has ushered in a huge debate among partners of the programme. Though the SHG-Bank Linkage programme was intended to provide sustainable access to the un-banked poor, the question often being posed by different stakeholders is what next? Age wise analysis of more than a million SHGs across the country indicates that there are nearly 300000 Self Help Groups that are in existence for over three years in India. Studies have revealed that a large number of members of SHGs are availing loans for income generating activities once their consumption needs are addressed. Do we need further address the critical issue of facilitating the growth and income enhancement process in these SHG members? Many partner agencies felt that NABARD should take up micro Enterprises with the intent of enhancing income level is a complex issue which needs a more holistic approach of

appreciating skill levels, entrepreneurial spirit & dynamism, understanding markets, technology etc. This task has to be handled with care in order to ensure that genuine concerns do not lead to failures of microEnterprises & increased debt burden and in turn to default. It brings into play the need for a hand holding strategy to enable the SHG members to cross over to mE stage.

With a view to appreciating and understanding the issues connected with this, NABARD has initiated a pilot project for promotion of micro-enterprises by members of matured SHGs in 9 selected districts across the country, viz., Ajmer (Rajasthan), Chandrapur (Maharashtra), Kangra (Himachal Pradesh), Madurai (Tamil Nadu), Mysore (Karnataka), 24 North Parganas (West Bengal), Panchmahal (Gujarat), Puri (Orissa) and Rae-Bareilly (Uttar Pradesh) in association with Marketing And Research Team (MART) as the technical partner. The project will adopt the 3M Model approach (micro-finance, micro-markets and a micro-planning methodology) developed by the MART wherein identified NGOs act as Micro-Enterprise Promotion Agencies (MEPA) and assist members of matured

SHGs to take up income generating activities on a sustainable basis. Survey of villages and SHGs by NGOs has already commenced.

Graduation of SHG members to take up micro-enterprises require provision of intensive training and handholding on various aspects including understanding market, potential mapping, fine-tuning of skills and entrepreneurship management to manage the enterprise.

## CONCLUSION

Several of the institutional innovations that have come up in response to the weaknesses in public research and extension system, have given enough indications of the emergence of an agricultural innovation system in India. This has resulted in the blurring of the clearly demarcated institutional boundaries between research, extension, farmers, farmers groups, NGOs and private enterprises. Extension has to play a very important role of facilitating the nodes to generate access and transfer knowledge between different entities in the innovation system. It also has to create competent institutional modes to improve the overall performance of the innovation system. Inability to play this important role would marginalize extension further.

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