

CHANGING PERSPECTIVES IN EXTENSION MANAGEMENT

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Management of Agricultural Extension as a key activity has been in formal practice since the last five decades in India. During this period it has passed through various stages of transformation depending upon the requirement of the situation, the personnel managing the systems, the policy makers and their understanding, the programme planners and their capacity to understand, the implementers of the projects and programmes apart from the demands of the farming community.

Various programmes such as National Extension Service in 1950s, Community Development Programme in 1952, High Yielding Varieties Programme in 1964, Intensive Agricultural District Programme, Intensive Agricultural Area Programme, Small and Marginal Farmers Development Agency, Command Area Development Authority, Drought Prone Area Programme, Desert Development Programme, Krishi Vignyan Kendras, Training and Visit System of Extension, Tribal Development Programme etc. were planned and implemented for development of agriculture with focus on the clientele, the areas, developmental focus etc.

However, after years of experience and its significant contribution in ushering in the green revolution, its relevance is under question. This only highlights the need for introspection for understanding the ongoing changes so as to make efforts to adapt the system and the approaches to the changing situation. The present article explores the emerging dimensions of changes that are to be understood by the extension professionals to adapt the system for meeting the future challenges to deliver high demand-high performance roles.

Dimensions of change

The first step in the process of introspection is to understand the dimensions of change. The major dimensions of change relate to the context in which the farmer operates, the concept of extension, the process of extension, the clientele for extension, changes in the extension approaches and implementation modalities, delivery systems

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and institutional modalities apart from the research support system etc. In the light of the above mentioned dimensions of change it will be helpful to look into the future requirements and make efforts to re energise the delivery systems to address the upcoming challenges .The details of changes in each of the dimensions is presented as follows.

A. Changing Concept and Focus:

1. Changing context of the farmer and farming

Since extension basically focuses on improving the farmers lot, it is necessary as a first step to understand the context in which the farmers have to operate at present as compared to the past. Over the years the context of farmers has changed. From a totally independent professional the farmers have become the most dependent lot for their own survival. During the early fifties when the Community Development Programme got started, the farmers were the lot, who were aware of the farming technology (though traditional), were undertaking farming activity as a family occupation for their self sustenance, were using the inputs from their own setting, were able to provide food and employment in the rural areas, had a social status and were in control of their situation in their own setting.

On the contrary, in the present context farming is undertaken basically for survival as a last resort. Farmers have to produce new type of products as needed by the market apart from meeting their needs, depend on external sources for the new order of inputs available at high cost, have to take up diversified crops and enterprises, and depend on the external markets. In the present context the farm production has to be market driven, with selection of products that have value externally, accordingly inputs for these products have to be organized from the external market environment. As such, the situation has made the farmers dependent on the external systems, for their own survival. They have to depend on the research system for the new technology, extension for new knowledge, dealers for the new inputs like seeds, plant materials, fertilizers, plant protection chemicals, equipments etc., external systems for getting supply of irrigation water, electricity supply, banks for credit apart from the markets for selling their produce. If farmers have to survive through the farming vocation they have to depend on these systems. Any extension system has to understand the field realities and develop its strategy of interventions.

2. Concept of extension

The first thing is to understand what is extension. There are many definitions being given by many authors for extension. All these refer to few key points. Extension is a form

of non-formal education. It tries to bring in changes in the behaviour of people, and in our context, the farmers. This change is brought about not through formally educating the farmers in schools and colleges but, has to be achieved through an informal mechanism of knowledge and skill upgradation through field visit, training on the farm or at the convenient time of the farmers. The third key point is that extension philosophy promotes helping farmers to help themselves. This philosophy focuses on the premise that building the capacity helps the farmers to manage their own situations effectively, so that they need not depend on the extension system all the time for everything.

3. Refocusing the objective of extension

The basic objective of any extension service is to build the capacity of the people to manage themselves, solve their own problems, find a way out for their issues etc. In the initial years of establishment of the extension service in the country, this objective was in view and peoples participation was sought to solve their own problems. However, over the years this aspect has been forgotten and the extension services have been converted to be channel to distribute subsidies, minikits, demonstration materials etc. This phenomenon of change has occurred partially due to the centralized system of planning of development programmes and allocation of resources. Here, the field functionaries have limited role in either deciding the type of programmes, the intervention strategy as per the local requirement, to follow the local norms, to meet the local priority etc. The extension personnel have been reduced to the level of passive delivery boys as per the pre-decided programmes, norms and target groups, rather than being active players. In fact the maximum amount of freedom to decide the programmes, the intervention strategy, and its implementation has to be left to the field level personnel since they are in touch with the rural realities. On the other hand what they get is preplanned programme, with fixed strategy and norms. They are just to implement irrespective of its requirement, relevance to the context and priorities of the clientele etc. This situation leads to dependence of the extension personnel on the higher officials for all the decisions, stifles the creativity and problem solving capacity, weakens the ground since they are not in a position to provide what the people need, and ultimately reduces their responsibility and interest in their own jobs. Over a period of time this situation has resulted in the delivery of less realistic, non-relevant services. It is in this context that the basic premise of extension needs reiterating, where in the role of extension is to build capacity of the people to manage their affairs themselves in a better way, which means the extension worker has to be specialized in the techno-managerial aspects, facilitation process and should have the freedom to diagnose the problems of the farmers, identify a strategy, develop an intervention programme and deliver it as per his plan in consultation with the farm-



ers. The overall objective is not just to put up some demonstrations, distribute some minikits, but to develop a programme to overcome a field problem and help to institutionalise the same. Hence it is necessary to refocus the objective of extension as to develop the capacity of the clientele to manage their farming enterprise in a better way and institutionalize the changes rather than just transfer some information and few inputs.

4. Coverage of extension

In general parlance extension has been used to denote the developmental efforts in the agricultural sector meaning thereby in the crop sector. This is in itself a misnomer. Extension as a concept helps to improve the capacity of the farmer to undertake farming in a better way. In this context all the sectoral aspects related to the farming and the farmer become the domain of focus for the extension organization. Hence, in terms of the coverage the focus of extension has to be on all aspects of the sectors related to the farmer for improving his farming activity such as field crops, horticulture etc.

5. Changing clientele for extension

Agricultural extension from the beginning has been assisting farmers as their prime clients or beneficiaries to whom all the knowledge and inputs are to be provided. As such, the relationship and bondage between the farmers and the extension personnel has been developed. Over the years the capacity of the farmers has been built up in technology, but they need support and services from a host of other services like the inputs, credit, market, insurance etc. in the governmental, the private sector and the NGOs. The situation demands involvement of these service providers to dovetail them to the farmer's needs and requirements. Hence, there is need for a shift in the thinking of the extension agencies in terms of defining the client system. It is not only the farmers they are serving directly, but to channel the benefits to the farmers, they also have to prepare other support service providers in the right line.

B. Changing Institutional Mechanisms:

6. Rigid rules to flexible institutional mechanism

The word extension itself means moving beyond certain preset boundaries. The tendency to set boundaries limits the creativity to explore and express itself in a larger domain. This limitation when carried forward in the field context limits the opportunities available to the farming community which remain unexplored, not due to their non-availability but due to the limitation of the system or the person who is trying to address the problem. Accordingly, the basic premise in extension is to make the person move

out of these self imposed limitations put up in the form of rules or regulations and help the farmers explore new ways of addressing the problems. In this context, it is prerequisite for any extension agency and the persons to provide flexibility in their operation so as to allow for creativity to operate in problem solving which is the main domain of extension.

Over the years the extension systems and its functionaries have been operating in an environment of rigid rules and regulations which do not provide for expression of any creativity nor flexibility to address the operational field problems of the farmers in the most congenial simplified manner unique to each situation. The present context demands tremendous operational flexibility to be provided to the field level extension personnel so as to make them creative and responsive to the requirements of the farming community.

7. Single institution to multi agency extension

Since the beginning of the formal system of extension, the responsibility of providing the extension advisory and services was taken up by the government as its responsibility. This was aptly so since there was no other agency that had the capacity and infrastructure to handle the same. As such, till now the same responsibility in continuing over the years. The situation has led to many issues. Since government is the main service provider, over the years there has been an expansion of the system across the country. Secondly, other agencies like the private sector that have also developed over the years are taking advantage of this free service and contributing nothing to the governmental system. Thirdly, since government is the provider, a dependency syndrome has been developed among the farming communities. They expect everything to be done by the government. This dependency on a single agency over long years has resulted in a negative trend. Rather than building up the capacity of the farmers to manage themselves and along with the other actors, there is a continuing dependence on a single system which has reduced the capacity of the system to deliver due to limited resources. As such in the present context the move is towards involving as many agencies interested in the development of agriculture to come together, share their resources, join together in achieving each others objectives in a joint action by identifying specific roles for each one of them as agreed to by each other. The context is shifting from single source to multi agency dispensation which would help pool the resources and allow each actor to contribute.

8. Public System Responsibility to Public-Private Partnership

The responsibility to develop agricultural sector and the farming community has been taken up by the government since independence in the Indian context. This was



very much a requirement in the beginning of the development process just after independence since no agency had the resources both monitoring and capacity wise to own up this responsibility. This situation is true of any developing country. However, in the process of development the government has responded to requirements both technological along with supplies and services for various aspects of the needs of rural people, thereby positioning itself as the lone provider of all the requirements with the public. This situation has resulted in lack of systematic development of service providers among the private sector and also lack of trust of the people and the government in the private sector service provider who have been branded more as operators for selfish gains rather than service to farming community. This attitude both among the government and the public has kept the private sector at a distance over the years. The implication of this attitude has been too much expectation generated from the government sector in all spheres among the people. Due to this in the present context there is a heavy demand on limited resources of government both in terms of money and manpower, on the other hand quite a few private sector agencies and individuals, NGOs have developed their own competency and will be able to provide services and support for the farming communities, if there is an opportunity. It is in this context necessary for the government to withdraw itself from certain areas which can be serviced by others and concentrate its limited resources in priority areas. Accordingly, the need to forge partnerships between public and private institutions is coming up as a major requirement and possibility by providing a role space for the private sector on mutually agreed basis. This would help reduce the burden of the government, involve various players in a formal way and ultimately provide the needed support and service for the farmers in a better way.

9. Promoting farmer-centered marketing systems

The marketing of agricultural produce is being handled by the trading community in general. The farmer has little or no say in relation to the price of the produce. When the products are perishable, it is still more difficult since they cannot hold the produce for a long time. In view of this many a times the farmers are at a loss to get the right price for the produce. The market trends of various agricultural products in retail markets indicate a large margin between what the farmers are paid at the village level and the consumer pays at the city or the town level. The difference in the price range is generally consumed for the cost of transportation apart from a larger share by the traders at various levels. Hence, to bring in greater benefits of share from the consumers rupee to the farmers, it is felt necessary to organize markets that are owned and or managed by the producer farmers themselves. The farmers who produce various products can come and sell their produce directly to the consumers, thereby avoiding the trader middlemen.

The experiences of Rytu Bazaars of Andhra Pradesh in this regard are quite supporting. A formal marketing system and the infrastructure has been developed by the Government of AP. A committee representing officials of the horticulture, agriculture and marketing and revenue department officials along with the farmer's representatives manage the market centres.

C. Changing Approaches:

10. Individual farmer to farmers group

The focus of attention of extension from the beginning has been the individual farmer. The prime reason for being so is the fact that farming is a private enterprise and each farmer is independent to take his own decision in relation to his farming activity. Initially it was difficult to shift the farmers from the traditional system to the new inputs such as fertilizers, plant protection measures etc. Hence, the attempts put forth earlier were with individual farmers who were slightly willing to try out some changes. Generally the big and well to do farmers who were able to take the risk collaborated with extension agency to try new things. Since the extension agency had to deliver something and also to get confidence in their own attempts, this approach worked well. The context changed when the T&V system of extension was introduced in the country. The system envisaged operation of the group approach, (contact farmers), who were to be provided the technical information to be passed on to others. This group was more for administrative reasons than to promote group approach in general, and hence had limited impact.

In the present context, the number of farming population needing technical support is large, on the contrary, the extension agency delivering this through the public system is quite meager, and the possibility of expansion of this is also limited. Hence, the main solution is to promote group approach to technology transfer than single individualized farmer approach. The groups of farmers who are involved in the production of a particular type of product come together and interact, get the technology in a group, undertake training, have exposure visits and adopt the same, and also join in joint marketing if need be. Due to all the above activities it is easier for the extension agencies to use their time effectively, and motivate a group than individuals, so also create a dent in the system.

11. Single crop orientation to farming system orientation

The history of extension in the country started of with the objective of developing the communities using extension as a means during 1952 with the introduction of com-

munity development programme. The programme emphasized all round development of the communities wherein agriculture formed one of the segments. Since this approach did not lead to increased food production, the focus of extension shifted to agricultural sector to meet the food grain requirements of the growing population. With the advent of T & V system of extension, there was a further focus provided to the extension limiting its activity to one crop in a season rather than multiple crops and enterprises. Accordingly, since the last two decades the focus of extension has been reduced to provide technical information support on a single crop in a season to a particular group of farmers. This is contrary to the needs and requirements of the farmers wherein they not only need information and support on one crop but they need technical guidance on multiple crops and multiple enterprises during the same season. This is specifically so since the majority of the Indian farmers are small and marginal, most of them operating dry lands and hence cannot have specialization in farming activity. They intend to take up multiple crops as a risk aversion measure and also multiple enterprises as a complementary mechanism to support the crops and the soil. As such, any farmer tends to have crops, horticultural plants, animals, poultry or ducks, fish wherever there is water and so on. By nature, Indian farmer is a holistic person undertaking multiple enterprises and multiple crops depending upon local situation and hence needs advise on multiple farm enterprises. As such, at this juncture, it is found necessary to shift the thrust of extension to a farming systems mode which would provide the extension agency the leverage to operate in a need based context and also offer relevant advise to the farming community.

12. Towards an integrated approach to capacity building

Over the years two main approaches extensively used in agricultural extension in the country have been training and demonstrations. Training of officials and farmers has been an activity since the past 30 years being undertaken by the extension workers and also the scientists. The focus of training has been on providing more information, knowledge and skills on managing a crop technology in a particular context. This has resulted in higher upgradation of knowledge of the farmers in general aspects of crop management on their farm. Apart from this approach the second approach extensively followed was to conduct field demonstrations on crop technologies on the farmers fields. Thousands of demonstrations are being conducted every year in each season to demonstrate the applicability of technology in the local situation.

These approaches have yielded some positive results but are yet to open up the arena of the farmers and the extension workers to the immense possibilities. In this context, it is felt very crucial and appropriate to open up the vision of the farmers and the

extension personnel to multiple experiences elsewhere in the country by way of exposure visits. The experiences of exposure visits of the farmers and officials organized under the NATP within the country have resulted in a very positive and significant impact. A group of farmers in Khurda district of Orissa were taken on an exposure visit to a research station to understand ginger cultivation. The group after the visit has not only taken up ginger cultivation not practiced earlier but also has increased the area under cultivation and a larger number of people are following this in subsequent seasons. Similarly the exposure visit of State level line department officials in Orissa to MANAGE, resulted in frequent review of the activities by them in their own departments under NATP apart from supporting any NATP activity proposed by ATMA's in the State.

The approach of extension needs to be modified in the present context. The point of start of the integrated capacity building exercise could be a meeting in the village to identify farmers interested in changing existing practices followed by formation of Farmers Interest Groups (FIGs). These groups could have an exposure visit on a particular technology followed by training of some of the interested group members. The trained farmers could put up demonstration of the technology in their own setting. This approach would not only integrate training, group formation, exposure visits and demonstration into a package thereby resulting into demonstration of a successful experience rather than a small aspect of technology. This methodology would help large scale dissemination of experiences in the rural areas at the earliest possible time apart from stabilizing the demonstrated technology since a group would be motivated and involved in this activity.

13. Technology focus to techno-managerial focus

The objective of extension as has been practiced in the agricultural sector was to build the capacity of the farmers in following the improved technologies so that they can get the maximum benefit in terms of the yield levels of various crops. The premise over the years has been to provide the technical knowledge and the skills apart from the physical inputs with the expectation that higher yields will show up. This premise has yielded very good results in the initial years of development since there was a larger gap between the level of technology practiced by the farmers and the technology introduced by the extension system. Over the years, with improved capacity building of the farmers in the technology, the gap has reduced and a point of saturation has been reached especially among the good effective farmers.

In the present context, technology alone will not be able to increase the operational profitability of the farming communities. There is an urgent and immense need to shift the focus of extension from providing technical production oriented skills to techno-

managerial skills. While technology can lead to higher yield, the issues emerging relate to where to sell, Where to process the produce, how to get access to external markets for greater benefits, how to improve the quality of the product to create a dent in the market, how to gauge the market demand etc. These are the issues faced by the farmers currently. In the discussion with a group of apple growers in Shimla district it was found that their problem was not of increasing production, per se, but of packaging, storage, transportation, marketing and pricing. The extension agencies are flooded with these problems that calls for a focus on building the managerial capacity of the farmers. A report by Desai (1977), has identified four types of skills as required by the farmers viz., technological, farm management, business skills, apart from groups and organizational skills. The present system of extension has to focus on building additional skills.

14. Individual Institutional approach to team approach

The organizational pattern of the extension and development systems started to take a subject focus during the early 1970s so as to provide special attention to individual subject issues which was not possible during the Community Development era. Accordingly, subject matter oriented departments started operating with a group of professionals organized at state, district, and block levels to take care of the development needs of the farming communities in their sectors. As a consequence of this, departments of agriculture, horticulture, animal husbandry, sericulture, fisheries started functioning. Coupled with this, the research and credit organizations also started dovetailing their activities to support the agricultural technology generation and support etc. In fact the mushrooming of these organizations, though has helped to provide the focus to the sector, but has compounded the problem of farmers, since they have to deal with multiple personnel in multiple organizations to get the benefit for their farms. This situation has also resulted in duplication of efforts.

Hence, to address this issue, it is desired that a team approach to technology delivery has to be set up so that the efforts of each agency are integrated with the other to get the maximum benefit. This also helps the delivery agents to understand the points of view of other departments and analyze the field problems in the holistic perspective. The experience with the team approach on a pilot scale introduced in the NATP project, has given a positive response. The team approach is introduced at the block level where the officials were provided the common mobility to visit the villages and address the issues of the groups of farmers. Over a period of time this activity resulted in building their relationships, since they had a forum to interact, appreciate each other's point of view, and help the farmers jointly address the issues in common.

Hence the shift from the normal individual department approach to the team approach to extension and technology transfer is a must in the present context, especially as the issues emerging are more multi disciplinary and need the intervention of a larger number of specializations distributed in many organizations.

15. Dispersed to convergence of programmes and activities

The extension efforts though started off in a mode of convergence at the block level in the community development programme, the development in agriculture did not come through as expected in increased food production. Due to this phenomenon special focus was provided to agriculture, and later to other sectors by creation of independent departmental systems with specific staff and funding for the programmes. Though this pattern of governance has resulted in development of the concerned sectors and improved their achievements, many times what is found is lot of duplication of efforts, multiplication of facilities, to achieve the same objective of catering to the requirements of the same farmers. At times a farmer has to approach three or four different officials to get some support and advise on his farm which is a unified one. He also gets support from different organizations to develop his enterprise, thereby resulting in either concentration of support at one place or non availability of support at different places. Due to this, the limited resources are thinly spread. In view of this it is necessary to converge all the efforts of the development departments at certain crucial level, so that there is no duplication of fund use, facilities, and mutual support is provided to bring in the focus of development in line with the expectations of the farmers. The experiences to some extent generated under the NATP project suggest that ATMAs at the district level could be the points of convergence for planning and implementation. The second level of convergence is at the block level, wherein the individual action plans of the block are developed keeping in view the requirements of all the sectors. This is also a crucial level wherein the representatives of the farmers and the officials are involved in developing and implementing the block action plans.

16. Production led marketing to market led production planning

Farmers in general have been producers of agricultural products across India. They produce whatever is known to them and useful to the family and sell the excess in markets. This means the basic strategy of the farmer has been to produce whatever he can and later try to sell in nearby markets. In view of this approach, in the present context he has been facing many odds, such as, a very low price for his produce due to glut in the market or no demand due to other competing products available and so on. This situation has already been surfacing in different parts of the country, for e.g. tomato farm-

ers in Kolar, Karnataka, threw all the produce on the roads as it was not able to fetch cost of transportation. Similar is the situation with the potato farmers in UP and so on. On the contrary the milk producers across the country though in individual households do not find a problem since the market channel is linked. In the present context of market economy, the producer has to keep pace with the market demands. The market demand has to be understood by the farmer and he should plan his production process accordingly. Hence, any product route would be sustainable if the market is available, identified and production planning is based on the probable demand. In the case of the European Union, there is a quota system for the crucial products, such as milk. Each country is given a quota, depending on its resource base to produce only that amount of milk in a particular year. Further, they allot a similar quota to the producer farmers. If a farmer produces more than the allotted quota, he is fined. In this process they maintain the appropriate availability of milk and also the rate at which it needs to be sold so that the farmers are not affected adversely in view of the stiff competition.

The lesson that can be generated due to the above experiences is that there is a requirement to identify the niche markets for the different products, and guide the farmers to undertake market driven production planning, so that they are not affected after the production process. This is to be adopted in the present context intensively and our systems geared up to meet the upcoming needs of the farmers.

D. Changing Extension Processes:

17. Top down to bottom-up Planning Process

The development planning process over the years has been formalized as a top down mechanism, due to various reasons. The first and foremost fact remains that the funds for development are to be routed from the government of India, and hence planning finalisation starts at that level. Secondly, the funding pattern demands the operation of an activity in the form of a scheme on which the funding is based. Hence, the schemes become the main channel for fund transfer. The schemes being new lines of activities need to be developed with greater care so that the field staff is clear about the scheme operation. As per the plan, the field agencies are given the targets which they have to achieve, by following the norms set accordingly.

The whole methodology described above is designed on the top-down mode of operation. The major hurdles in this process are that, the field situations differ from place to place, so also the priorities of the farmer groups of different categories. The technological requirement also differ both in terms of the farming situation of irrigated or dry land or commercial value crop to a subsistence field crop, the resource rich and resource

poor farmer, preference of the farmers to crops and enterprises, apart from the capacity of the farmers to absorb the changes envisaged. If we consider the field situation, there is tremendous variation between farmers, fields, crops, technology and the capacities. Any development plan needs to keep in view the field situation and the requirement of the farmers who are handling the technology. In view of this there is an immediate need for a shift from a top-down approach to a bottom –up planning approach, wherein issues emerging at the field level could be addressed properly. The experiences of the ATMA model in six states in following the bottom-up approach of planning have been very successful in integrating the farmers felt needs into the extension programmes. This methodology would provide the necessary leverage to the extension personnel to plan and execute programmes for the benefit of farmers in response to their needs.

18. Programme planning: General to strategic planning

Planning process in agriculture has been undertaken annually at the national and state level. This again is supposed to link up with the national five year plan prepared by the planning commission involving the expert groups in each sector to provide a broad canvas for the country for resource allocation and future thrust. Each sector is provided an allocation on which the annual plans generally depend. Below the state level there is hardly any process of systematic planning which can guide the development process. The programmes decided at the national level and the state level are routed to the districts and below for implementation. The main line of actual action is at the village level where the farmers undertake the production related activities resulting into the farm products. Above this level in fact it is only the supervision of the activities.

Hence any planning exercise should take into account the natural strengths of the area, needs of the farmers, potential opportunities and develop a strategy for providing a direction of growth in a district. District focus is necessary in agriculture as there are high level microclimatic variations that contribute to the ultimate product. In line with this requirement, the strategic research and extension plans being developed in the ATMA districts have provided an operational experience and are acting as a base for both the research and extension organizations to identify their own directions of growth, plan and implement activities accordingly and achieve the local and national objectives.

19. Directional to farmer participatory mode

Development activity in the country after independence has mainly been the responsibility of the government, specially so in agricultural and rural development sector. The planning and investments required for this massive effort necessitated the government to take upon itself this responsibility over the years. Similarly the public system

responsibility has also been in the area of providing technical guidance and support for agriculture and other sectoral development. While this approach has helped create infrastructure in a massive form not possible for the individuals, it has also created a situation of dependency of the population on the government. The farmers expect the government to provide inputs, subsidy, market or else purchase the produce from them. This has resulted in total dependence of the farming communities on the government for their own sustenance, thereby limiting their creativity and the initiative to take up responsibility on their own.

The attitude of the extension personnel and other officers has also been tuned to similar thinking. They feel that farmers are ignorant, not capable of understanding and managing their affairs and hence the officials have to guide them in every sphere. This attitude has resulted in non-involvement of farmers in any of the decision-making process. In the present context, this directional approach is not able to make a dent since the changing scenario in agriculture is throwing up various issues and opportunities which need active initiative and involvement of farmers, in decision-making process. This demands a shift in the approach of the extension personnel from directional mode to a facilitative participatory mode to build up farmer's capacity to take up initiative and manage effectively

20. Centralised to decentralized decision making

Centralization as a mechanism of control has not yielded appropriate results when used in the context of development. Similar situation is with the agricultural and rural development sector wherein the development process has to take into account different types of farming communities with differing situations, capacities and needs demanding a differential pattern of treatment in each context.

Hence, it is very much necessary for the development process to provide decentralized mechanism for decision-making so that the development managers at the operational level who are in touch with the real life situations have the option to choose the appropriate line of action depending on the local needs. The experiences of ATMAs as a autonomous body with decentralized decision-making authority to decide the type of programmes to be undertaken, the issues to be addressed and the amount of fund to be released has provided tremendous capacity for district level officials along with the non-official members of the Governing Board to manage the development process. This is further decentralized upto the block level wherein the Block officials decide the interventions needed by farmers in consultation with farmers group. For example, a group of farmers in Khurda district of Orissa under the NATP were taken on an exposure visit to understand ginger cultivation as decided by the Block level officials. The group was too

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happy to experiment the new product on their farm and expressed greater satisfaction on getting a few thousand rupees increase in their income per acre. The future of extension is in decentralization of the development process including decision-making ultimately making the extension worker and farmers responsible for their situations and decisions.

21. Subsidy orientation to revolving fund orientation

Subsidizing some of the inputs has been a strategy deliberately followed by the developmental agencies in public sector to sponsor the use and application of certain new inputs by the farmers. This was the strategy to motivate farmers to use new inputs such as hybrid seeds, fertilizers, plant protection chemicals etc. This strategy was useful in allowing the farmers to test new technology without their own investment. The pattern of subsidizing has become a practice, since it is being used year after year by the extension agencies. The impact of this approach has been that the farmers have become dependent on the subsidy and services all the time, and expect the same from all the extension personnel, whoever approaches them for any purpose. On the same line the extension personnel have been finding it difficult to undertake extension work without the sops. The situation has become more compounded with the increased number of schemes and programmes for various crops and departments, there by escalating the costs of subsidy over the years. Now the governments feel it is difficult to continue with this approach as it will not be able to continue to fund this mechanism too long. Coupled with this, there is also a feeling that subsidies have not yielded the desired significant results. This is particularly so since they have not reached the concerned personnel or are so insignificant as to make a desired dent. Along with this there is also a fact that anything provided free or at a reduced cost, has a limited value. In view of this there is a need to re-examine the subsidy mechanism in the present context.

Any new intervention in the farming system does need some investment of funds. Many times the farmers are not able to invest so much at a time, or do not intend to take it up from their own reserve funds, especially when it is new and there is a risk involved. It is in this context that a mechanism should be provided so that they get needed resources, but not free or at subsidized rates, so that they take up the total responsibility for the investment and also the technology. One of the mechanisms tried effectively by the NGOs and also the GOs now is to create a revolving fund that is made available to the members, at their own premises, within their reach, managed by them, collected by them as a loan to be repaid, so that it would be recirculated for their own use. The experiences of various women groups in Andhra Pradesh, and other places, and also in the NATP and other projects, are providing a good example of the evolving mecha-

nism. Here a one time investment can be provided to a group of farmers who can revolve the money and generate further resources. This would help build ownership and responsibility and help them to learn to manage the same, since it is a basic requirement. This would reduce the burden on the government and build up responsibility which is the overall objective of the development.

22. Commutation to communication

Agricultural extension starting from the Community Development programme till date has mainly used person to person contact as the main approach for technology transfer. The basic premise has been that the contact between the extension worker and the farmers could lead to better interaction, understanding of the local situation and assist in skill building through demonstration programmes etc. This approach has been found to be highly effective, and over the years has paid rich returns. Apart from this other channels of mass media and print media have been used but not to the extent of the personal contact. Personal contacts naturally needed commutation of the extension worker to the different villages and farms so as to understand the situations. Thus commutation and one to one contact between the farmers and the extension personnel reigned as the strategy.

Of late it has been found that the personal contact needed more number of extension personnel to cater to the requirements of the farmers. As, such in the T&V system, there was an increase in the personnel in addition to the mobility. It was found that once the project ended and the funding stopped it was difficult for the public systems to maintain the large army of personnel, along with their mobility. Without mobility, following the pattern of personal contact has been a problem faced by the extension personnel. In view of the above situation, and considering the various opportunities available, it is necessary to have a re-look of the personal contact strategy being followed and explore other opportunities.

Due to the tremendous infrastructure development in communication various channels of mass communication such as radio, with an opportunity to develop frequency modulated radio stations that can be owned and set up by private entrepreneurs is opening up as an avenue apart from the existing network of radio stations under AIR. This opportunity provides a regional flavour of communication focusing on regional issues relating to farming and any other developmental sectors in the rural areas. These radio stations can hire out certain time for the existing governmental sector, private industries, political bodies, cultural associations etc., thereby generating revenue for operational expenditure of the radio stations. The experiences in other countries for operation of FM radio stations are already available that can be applied in the Indian context. In fact,

communication through radio could be the cheapest mode both for those who intend to communicate and also the receivers.

The second channel of mass media is television. Since the last two decades, the expansion of TV network in the country has increased. Apart from the government channels a number of private channels have started operating in the country. Some of these private channels are also specialized in agricultural programmes apart from regular entertainment programmes. Utilization of this vast infrastructure of the network of both government and private channels towards agricultural development is yet to be explored in a systematic way. The advantage of this channel is that it can provide for visual as well as audio connectivity, thereby even the illiterate farmers can see and hear the successful experiences of others across the country, even if they are not in a position to commute to different places. The experiences of various farmers who have taken up new technology adapted it to their own conditions and have become successful could be shared in a very cost effective manner for the benefit of a larger number of farming communities. This can reduce the burden of the extension worker to visit all the areas all the time and communicate the same message in an effective way to a larger section of farming population.

The third channel which is providing a spark to the educated farmers with a little bit of training and help is the channel of Internet. Using this facility farmers can access any of the sites in the world which offer information on various aspects relating to technology, prices, trade etc. which they can use in making decisions. This channel opens up a tremendous opportunity for the farmers to access a large volume of information and experiences from various parts of the world at the cheapest price and without loss of time. As a communication medium, this is useful to disseminate a large volume of information in a highly cost effective and timely manner. In addition to receiving information, there is also an opportunity to share information by the farmers through creation and hosting of websites. Through this the farming communities can share with the world the information on what they grow and seek buyers from different countries across the world for their products. This opportunity can be utilized by the farmers at a low price. Similarly, farmers can also correspond through electronic mail for faster level of communication across the world. The investment involved in electronic communication through Internet demands an investment which may not be affordable by all the farmers. Hence, it is suggested that a group of farmers interested in particular commodities and enterprises can own and utilize this service. Efforts are also on in the country to promote private individuals to set up information shops wherein they can invest the basic amount, provide services to the farmers on hiring basis and maintain themselves.



The fourth channel of mass communication is the print media through use of newspapers, bulletins, books, magazines etc., which can be printed in local language and sold to the farmers or the farmers' groups. This media is useful for all the farmers who are able to read in local language. Many of the newspapers tend to carry agricultural messages at specified times in a week. There are also specific magazines relating to agriculture for the benefit of farmers. However, this service is limited considering the larger section of farming community spread over across wide area. This channel also does not demand commutation but can operate at a cheaper price compared to person to person contact.

Hence in the present context, with increasing farmers demands and limited personnel in public extension service it is imperative to integrate alternative information and communication channels along with limited personal contact with farmers groups for making best use of resources.

23. Free service delivery to charging for services

Since the last five decades after the establishment of formal extension services in the country under public system responsibility, the provision of services has been done as a responsibility of the government. As such the total funding for extension services in all the sectors is being undertaken by the government, irrespective of the type of farmers, the scale of operation, the irrigated and dry land situation, amount of income generated etc. . In zeal to cater to the requirements of different types of farmers in various contexts, there has been an expansion of the public extension system in terms of its total number and certain facilities. Accordingly, over a period of time, a total dependency syndrome has been developed among the Indian farmers and also the delivery systems.

In the present context, due to the multiple demands on limited budget resources of the government there has been a general decline in fund allocation to the agricultural extension sector in comparison to its requirements. In view of this, over the last few years major portion of the funding has been just sufficient to provide the basic requirements of pay and allowances whereas the system needs greater operational funding to improve its own capacity through training and upgradation of physical facilities like telephone, computers, internet etc., apart from mobility for contacting the farmers in their own settings. The situation brings in a paradox. On one hand the services of extension personnel are essential for the farmers, on the other upgradation of skills of extension personnel and their mobility is essential. However funds are limited to provide for all of the above services, since it has to be met from only the government.

In view of this, it is necessary to explore new avenues of fund generation by charging for certain critical services from the farming community. Accordingly, efforts were initiated in the pilot tested ATMA model of extension under the NATP wherein farmers were willing to pay part of the cost for participation in training programmes, exposure visits, registration of farmers' groups by the ATMA, printed literature etc. There are similar experiences in the private sector wherein farmers have enrolled with a particular agency to receive technical guidance for a crop season on an agreed cost. The experiences highlight the fact that farmers are willing to pay for services, provided they get the relevant service appropriately and in time. Hence, to reduce the financial burden of the public extension system and also to make the extension system accountable to farmers needs and requirements it is necessary to introduce charging for services for certain category of farmers, especially the farmers involved in commercial agriculture to start with.

E. Changing Research Focus:

24. On-station research to on-farm research focus

The agricultural research has been the domain of activity of a category of scientists continuously working and concentrating on the technology development within an institutional setting such as a research station. Over the years, there has been a growth in the number of research stations and also the researchers with greater degree of specialisation in agriculture and allied sectors. Irrespective of the numbers, the pattern of functioning of the researcher and the research process remains same. The advantage of undertaking a research on the research station is to have a controlled environment so that appropriate results are obtained. In this process, the results achieved and the technologies generated have been found to be more applicable in irrigated areas where control over the environment is comparatively greater. On the contrary, since 70 per cent of our agricultural area is under dry lands with a large number of small and marginal farmers, this experimentation has not yielded significant results as desired.

As such, there is need for a strategic change in the way research is designed and developed. The emphasis has to be more on farmer oriented, farm problem oriented, specific research activity rather than academic research being carried out in the research stations. This changing scenario demands that the researchers understand the farmers and their farming situations,¹ explore the problems jointly with the farmers and undertake research activity wherein the results could be applicable to the farming communities in the shortest possible time.

Hence, it is found imperative for the scientists and researchers to move out of their environment and try to conduct research on the farmers' fields in the natural environ-



ment so that the results would be more meaningful and relevant to the farming communities. This would also provide an opportunity for the researchers to understand the real problems of the farmers directly from the fields thereby sharpen their research skills to solve the real life problems of the farmers. The experiences under NATP wherein a group of scientists were involved in undertaking on-farm research along with the farmers have found tremendous difference in their perceptions of the situations and problems. They have found the process to be challenging their own understanding and knowledge and hence providing a solution was found to be a more meaningful activity since they found the solutions directly useful to the farming communities.

25. Production issues to post harvest and marketing issues

The research and development efforts in agriculture have a history of a century in the Indian context. The agricultural research has been focusing on improvement of technology so as to achieve increased production and productivity over the years in various crops. Consequently all the programmes and activities undertaken by the research scientists focus on achieving increased yields. The implication of this approach is witnessed in the increased yield levels of various crops among a larger section of farmers. In initial years since food grain production was of tremendous importance to the country, this strategy of increasing yield levels was highly appreciated but now the situations and the context are changing thereby seeking to review the past strategy. The present experiences of farmers with bumper harvest of tomatoes without a market and potatoes without the market price at different places in this country highlights the need to have an insight of the emerging scenario. Various issues that are being faced by the farmers in the present context relate to understanding market demands, how to obtain better price, how to transport produce effectively without quality loss, where to sell, how to add value to the product at farm level etc. All these emerging issues, totally different from production orientation, need to be addressed in the present context by the researchers for providing technical guidance and support to the farming community. Hence there is need for a shift of the research focus from production orientation to post harvest and marketing issues.

F. Changing Role of Government:

26. The changing role of the Government

In the formative years of the economy, the governments in every country have to take up major responsibility for lot of activities needing attention, but not being undertaken by anybody. It is in this sense that the experiences in India also reveal the major

role of the government took on itself from running of the trains, planes, highways, irrigation projects, heavy industries, pharmaceuticals, communication apart from agricultural development. In the process of development, now we find that involvement of the government in too many activities is forcing to drain a lot of resource that too when the capacity of the people in private sector has been built up.

In line with this, in the agricultural sector, the government had taken the major responsibility to help and guide the farmers by investing in research, credit, extension services, subsidizing inputs etc. over the years the general capacity of the farmers has been built up and also various service providers have cropped up who can take up the roles in the rural areas as their prime business activity. Accordingly, it is time for the government to limit itself from the main actor role of delivering service to facilitating service provision and oversee things happening. By this role shift the limited resources of the of the government could be put to specific use for planning, funding, monitoring and facilitation. This would also help create a group of people in the private sector to occupy the role space. The exercise demands operationalising some mechanisms to promote public-private partnership in the development sector.

The perspective change in agricultural sector has triggered off changes in many dimensions. The future scenario exhibits emergence of multiple layers of farmers producing multiple commodities to meet the demands from multiple markets. To cater these requirements, multiple organisations involved in research, extension and marketing in public and private sectors have to be integrated through specific MOUs on public-private partnership mode. The Government has to take its central role of policy planning, funding, facilitation and regulation of the systems and mechanisms by reducing its role of service delivery.