

AGRICULTURAL EXTENSION PERSONNEL IN NEW MILLENNIUM – A PROSPECTIVE VIEW

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People are the most valuable resource of any country. Many countries like Japan, South Korea, Singapore, and Hong Kong have limited natural resources, but developed their economy through planned approach for human resources. The global competitiveness report 1998 ranks smaller countries in size like Singapore and Hong Kong at I & II positions respectively, ahead of leading industrialized countries like U.S.A., U.K., Canada etc., in terms of economies based on analysis of their competitive strengths & weaknesses⁽¹⁾. In western countries and industrial world recognition of human contribution through scientific and engineering innovations has propagated a new concept called Human Resource Development. From the beginning of 19th century, social and behavioural scientists in US and European countries have been conducting various experiments regarding impact of human behaviour on industrial productivity. As a sequel to these developments all over the world, efforts for Human Resource Development for achieving higher & better results were initiated during sixties in India. Long back, former Governor of Reserve Bank, Shri L.K.Jha while addressing a convocation in Ahmedabad observed that 'prosperity was a man made phenomenon'⁽²⁾, i.e. the prosperity of an organisation or even the country is solely related with its manpower.

Unchecked population growth is our country's major problem and this is looked upon as a burden to our prosperity and well-being. The problem can still be tackled on one hand by taking policy decision to effectively check or curtail the undesirable population growth and on other hand through a systematic approach to use the creative potential and productive skills of the people at all levels in each sector of

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economy, thus converting this economic burden into valuable resource for generating more prosperity.

The United Nations Development Project (UNDP) defines Human Resource Development(HRD) as the process of enlarging the range of people's choices – increasing their opportunities for education, health care, income & employment and covering the full range of human choices from a sound physical environment to economic and political freedom. HRD aims at development of the people, for the people and by the people⁽³⁾.

The concept of HRD relates to make work culture more conducive to organisational goal and emphasis over development, up-gradation and refinement of total personality of individual.

Human Resource Development in the organisational context is a process by which the employees of an organisation are helped in a continuous, planned way to (i) acquire and sharpen capabilities to perform various functions associated with their present and future roles; (ii) develop their general capabilities as individual and exploit their inner potential for their own and organisational development; (iii) develop an organisational culture in which superior-subordinate relationships, team work and collaboration among sub-units are strong and contribute to the professional well being, motivation and pride of employees.

Looking into the above definition, where human resource development is identified as process in organisational context for the continuous and planned development of human capabilities, training is used as the widely recognised mechanism world over. The paper is focused on future requirements of competencies of agricultural extension personnel involved in development of the primary sector of economy.

During last fifty years , vigorous efforts were made in public as well as in private sector industries of the country for up-gradation of human skills and change in their attitude towards the productivity through a planned approach in India. One of the possible reasons for this may be that the development models conceptualized and

tested in industrial and academic institutions of western world were available for a well structured industrial sector compared to primary sector i.e. Agriculture. However, no serious thinking was given on these lines for human resource development for major players of agricultural productivity i.e. farmers as well as the government personnel specially at grass root level.

Looking back into the history of Indian agriculture after independence, the first major challenge nation faced was to produce adequate food grains for its growing population. We had to depend on aid and grants of agriculturally developed nations and international organisations for our food requirements. After a long and sustained effort, real independence from the hunger was achieved by the end of sixties when our grain production touched 108 million tones in 1970-71 after 'Green revolution', when compared to 50.8 million tones of grain production in 1950-51. This was a real scientific breakthrough in plant genetic & breeding. The growth trend of production continued with 130 mt, 176 mt, and 198 mt in the year 1980-81, 1990-91 and 1996-97 respectively(4). India has certainly emerged as a winner on the front of self-sufficiency of the food production.

While going through the history of Indian agriculture, the organized extension dates from 1940's when the nation felt problem of feeding the growing population and faced problem of food supply.

The first phase dates from year 1948-1960 as **Extensive Extension Programmes**, which included (i) Grow More Food Campaign - 1948, (ii) Community Development Programme-1952. The second phase, **Intensive Extension Programmes** (1960-1974), included (i) Intensive Agricultural District Programme (IADP)-1960, (ii) Intensive Agricultural Area Programmes (IAAP)-1966, (iii) High Yielding Variety Programme (HYVP) - 1966. The third phase started with programmes for **Research based Extension Methodology** viz., (i) National demonstration programme - 1965, (ii) Operational Research Project (ORP) - 1971, (iii) Lab to Land Programme (LLP) - 1979 and the fourth phase with introduction of World Bank aided **Training & Visit (T&V) approach** for extension, through following three projects:

- (i) State Agricultural Extension Projects (T & V), 1974-75 ,
- (ii) National Agricultural Research Project (NARP), 1980-88,
- (iii) National Agricultural Extension Project (NAEP), 1985-88 and the latest

National Agricultural Technology Project Initiated in Year 1998.

After going through past trend of agricultural production and status of agricultural extension system in our country, we find the focus of agriculture remained on achieving higher productivity. The government's interventions also remained focused to achieve this major goal and provide technological support to farmers through extension services and provide inputs. More and more activities were planned for capacity building of extension personnel to enhance their technical skills and capabilities for transfer of technology to farmers through training and field demonstrations.

Broad areas of training to extension personnel for clear direction, in order of priority were (i) subject matter specialization (ii) extension methodology (iii) communication skills; (iv) training of trainers; (v) extension management; (vi) women in agriculture; (vii) rural youths; (viii) voluntary organisations; (ix) plastic in agriculture; and (x) new electronic technology in extension⁽⁵⁾ during the fourth phase of organised extension (Misra, 1990). During past fifty years training methodology in extension remained confined to delivery of technical knowledge / skills. These methods were through lectures, workshops, organisation of demonstration plot, skill demonstration in mela's & exhibitions and field visits etc.

Looking into future of Indian Agriculture in the next millennium, let us scan the changing environment in agriculture sector. After considerable resistance, debate & discussion, the Government of India has finally signed the GATT agreement and final act of Uruguay Round 1994, despite the Dunkel draft which generated lot of heat in the country among farmers unions, economists, academics & political parties. Let us now look into Agreement on Agriculture. A few clauses of agreement on Agriculture have direct / indirect bearing on farming community at several levels. These clauses pertains mainly to: (i) Market access, Domestic support commitment

or reduction in subsidies ⁽⁶⁾ while on other hand, the GATT agreement clamps various restrictions on our traditional On one hand, it brings opportunities for marketing of our agricultural produce and products all over the world, produces and products through patents and intellectual property rights. Under these new development world over and shift in agriculture cropping pattern from subsistence to commercial agriculture, our farmers are taking up more & more cash crops. The situation demands new extension approach for benefiting farming community, specially small and marginal farmers. For which, a new agenda will be required for development of farmers & extension personnel .Before going further, let us have a look over strategies followed in following two cases from agriculturally developed countries to manage 'change'.

During 1945, Dutch economy lay in ruins due to 2nd world war and faced food shortages. By 1960's, scenario in agriculture has changed with opening up of European market. Today Dutch Agriculture(7) comprises arable production, livestock production, horticulture and forestry. In addition, it includes the agricultural production industries, trade and ancillary industries which supply seed, inorganic fertilizers, animal feeds, technical equipments, housing and glass-house construction. All this was possible due to timely support of Governmental policy and developing Dutch farmers capabilities to take up entrepreneurial role. The other major contributing factors have been the extensive know-how of farmers resulting from research, extension & education, the high and constant quality of Dutch produce, a sound market organisation and access to the free internal market of European union. All this resulted in tremendous **development of farming community**.

The Dutch farmers are highly competent, conversant in technical knowledge, production and

- management, go for single enterprise, where they have specialization, have farming
- background and studied in agriculture schools, welcome private extension services, follow

- mechanised farming due to high cost of labour, farmer work as entrepreneur.

In another case, **key strategies** followed by Ministry of Agriculture, Food & Rural Affairs, Ontario State Government, Canada(8) to meet the needs of provinces agriculture, food and rural sector are, increasing competitiveness and efficiency, encouraging self reliance, improving service delivery, fostering rural growth ,working together , and focus on core business areas such as:

- (i) Research & Technology transfer; (ii) Investment & market development;
- (iii) Rural Economic Development; (iv) Risk Management

The common learning from above two success stories of Ontario state of Canada and Dutch Agriculture, is to build on farmers skills as agri-preneur to have continuous interaction with technology, market, society and government etc., and prepare them to meet new challenges through competitiveness, developing self-reliance and efficiency. In order to raise the prosperity of farmers, government provided support through policy interventions to safeguard their long-term interests as well as of country in context of international issues.

Looking into the development of Indian Agriculture, in last fifty years and changes taking place in domestic as well as international environment, the strategies and methodologies for agriculture extension will have to be modified. Even the definition and scope of gricultural extension needs to be redefined. Subjects for attention in new millennium will be issues related with land, its productivity and optimum utilisation, management of water for economic use, marketing and processing of agriculture produce and group driven management. Economic prosperity of farmers with focus on 'rupee generating rupee' instead of 'seed to seed' has to take front seat in driving agricultural extension in 21st century.(9)

65% of Indian population depends on agriculture as profession for their livelihood.(4) Among farming population, a large number of farmers in our country come in the category of small and marginal farmers and operate on approximately 38% of agricultural land. Any policy decision or strategy will certainly attract the consideration for long term interest of these farmers. Like other agriculturally developed coun-

tries where farmers have large land holdings and follow highly cost oriented mechanised farming and welcome demand responsive privatized extension, we cannot straight away copy their development models. Under such conditions, neither we can privatize extension machinery like many other western countries to make it more demand responsive and commercial, nor let this technically sound manpower stale. One option, which may help Indian farming community, will be to equip our extension personnel with latest knowledge and skills to meet new requirements, and take advantage of synergy, through efforts of farmers and efficient extension machinery.

In order to achieve sustainable agricultural development to meet the future challenges, our farmers will require empowerment in order to have say in policy matters of government in agriculture sector and support from the state-run extension services in following segments:

Knowledge requirement for farmers	Large holding farmers	Marginal & Small holding farmers
Possible markets in nearby area, opportunities for value addition and processing of surplus.	-/	-/
Identification of sustainable crop suitable for growing in particular agro climatic zone based on the productivity of land and climatic conditions.	-/	-/
Interpretation of weather conditions suitable for particular crop.	-/	-/
Skills & knowledge requirement in assessing the input and their management		
i) Credit facilities		
ii) Seeds	--	-/
iii) Pesticides		
iv) Irrigation systems		
v) Agriculture implements for small & marginal farmers		
<u>Skill Requirement</u>		
1) Technological skills related to production		
2) Organisation and management skills		
3) Business skills in analysis of cost and benefit	-/	-/
4) Marketing skills		
5) Skill for value addition to agriculture produce		

Looking into our past and the future requirements of knowledge & skills of farming community, the government sponsored extension machinery has to play a vital role and equip itself, with various new skills in developing farmers as agripreneurs. The extension personnel at senior and middle level will have to change their attitude and role from manager of files and subsidies to manager of information generation and dissemination for different segments related with agricultural extension.

The review of agricultural extension through T&V in India has brought out various successes stories of innovations by farmers by using indigenous technical knowledge and technical expertise provided by extension personnel in achieving targets for agriculture production. The review further brought out certain areas for attention such as extension support for marketing of agriculture produce, need for developing management skills among extension personnel, lack of people's participation about setting research & extension priorities and issues such as multiplicity extension approaches followed etc.

According to World Bank supported, Govt. of India, Ministry of Agriculture sponsored study (1990), one of the conclusion was:, "With few brilliant exceptions the Village Extension Workers are neither an educated nor a knowledgeable lot and some of them are even illiterate, they will continue to be so.. are the most unlikely persons to become engine of technology transformation"⁽¹¹⁾. This observation, clearly show need for improvement, even in education standards, while recruiting grass root level extension personnel as well as encourage existing ones for upgrading their education qualifications. To day we have about 1.2 millions of unevenly distributed extension personnel recruited by state departments of Agriculture under T & V System. In India more than 70% of the farm work is done by the women, yet as per the report of Ministry of Agriculture (1988),only 0.54% of all extension officers are women, (Including Kerala, where 25% of extension officers are women)⁽¹²⁾., indicate need for major policy changes in employment of women extension personnel, to serve this hidden work force in agriculture sector.

Besides public sector extension functionaries, we have a large number of traders

and retailers of seed, fertilizer and pesticide, providing technical advise to their client farmers about the products as well as its use. The other players are Indian & multinational companies in agri-business , which provide extension services to farmers having business dealings like Buy-back arrangement for farm produce. The agri-business companies in organised sector take care of Human Resource Development of their extension personnel well. It will require to make necessary changes in policy and systems to provide scientific and technical knowledge and skills in agricultural operations to the input dealers, so that they may advise farmers in right direction & provide valuable extension services to farmers specially to small & marginal farmers.

On the basis of above discussion, observations in reports and requirements of skills and knowledge of farmers in coming years, new strategy will be required to be formulated for human resource development of agricultural extension personnel in terms of building competency as summarized below:

(i) Improvement in Educational Standards

Looking back into case of Dutch Agriculture, where majority of farmers come from farming background & studied in Agriculture schools to become successful Agri-prenures. This reflects the policy support of Government for Agricultural education at grass root level. We will require to make fundamental changes in our rural education system by introducing vocational courses in farming/ agriculture after primary schooling, and distance learning programme in agriculture for rural youths and low educated extension personnel through Radio, Television, using other information technologies associated with practice sessions in fields.

(ii) Building competency

- a) in technology and technical skills
- (b) in organisational skills
- (c) in managerial & communication skills
- (d) in Business skills.

(a) As such under T&V extension system, up-gradation of technical skills of extension personnel was the major area for competency building and mechanisms of continuous training were built through organisation of fortnightly and monthly workshops. Apart from this, the state level institutes of Agriculture department organised a variety of technical programmes for development of technical and communication skills of middle and grass root level extension personnel. However, the extension personnel in coming years will need knowledge of various analytical tools and systems, such as interpretation of weather conditions, cost benefit analysis in context of farming systems and farming situation based extension etc.

(b) Competency in organisational skills is the second most important area for development especially for middle and grass root level extension personnel. In beginning of fifties, agricultural extension took roots in our country through Community Development Programme all over the country and specific efforts were made for organising villagers / farmers as community groups for developing different professional skills according to their background. Accordingly the extension functionaries like block level workers (BLW), and Block Development Officers (BDOs) were imparted skills in community organisation etc. Organisation of farmers as 'interest groups' or formation of cooperatives will be the prerequisite for developing them as agri-preneur, so that the synergy of efforts by group of farmers will provide them unified direction and better opportunities in irrigation, cultivation, marketing, & value addition for their produce. Success of cooperatives in sectors like irrigation, dairy, fruits and vegetables in our country has opened new vistas for commercial agriculture. Hence the extension personnel in new millennium will require various skills in community organisation, group formation, handling process issues in group forming, organising group discussion for setting direction, mobilizing local resources, participatory planning, concept of equity in sharing benefits and various tools like Participatory Rural Appraisal, Rapid Rural Appraisal and Participative Learning Appraisal.

(c) Competency in managerial skills is one of the major requisite for any individual as well as for organisational effectiveness. Management skills are equally important

for developmental personnel at all the levels. The extension functionaries in coming years under changing scenario after operationalisation of GATT agreement, will have to play larger role as manager to discharge their responsibilities. Major areas for development of management skills for extension personnel will be man management including self, information management and its timely dissemination through appropriate means/media, and general management skills for effective handling of development functions mentioned earlier.

For man-management, the skill requirement on one hand will be on “team work” to achieve synergy from the efforts of farmers groups, extension and marketing support provided by the private and government sectors. On other hand, the skills requirement will be for leadership, coordination, motivation, delegation, clarity of objectives, analysis of resources environment, and developing strategic plans, project planning, timely action, review & feedback for individual effectiveness to manage team work.

In the era of information technology, where information play a vital and decisive role in taking strategic decision, extension personnel will have to acquire latest knowledge as well skills in use of various electronic devices such as computers, multimedia, internet etc. The day is not far when tele/video conferencing will be common means to interact with larger number of farmers to extend extension messages or sharing market information by extension personnel. In coming years, the area of management and communication skills be the largest segment for competency building among agricultural extension personnel for supporting farming community.

- (d) Farmers are not likely be only producer of crops/commodities but also play role as agri-preneur in coming years for which they will certainly require support from existing extension system. To make agriculture a remunerative activity need for a strong marketing extension has been felt in recent years after signing of GATT/WTO agreement by India. With changing scenario of agriculture, due to adoption of subsistence to commercial agriculture by farming community, extension personnel will require skills in certain areas related with agri-business such as cost / benefit analysis of pro-

duction and its marketing, handling agriculture marketing intelligence, demand supply analysis of commodities and value addition to agriculture produce etc.

The type & extent of Organisational, Management and Communication skills to be given to extension personnel can be decided on the framework of organisation & management of agricultural extension system likely to emerge in new millennium. In order to develop a demand responsive extension system for Indian agriculture "National Agricultural Technology Project" is initiated in six states on experimental basis, suggesting a lot many changes in present systems & organisation of research & extension services to farmers. This will also add many new capabilities required for extension personnel, in the agenda for Human Resource Development. To emerge as leaders in Agriculture Sector, Human Resource Development of extension personnel and farmers will be the most potential area for attention in new millennium.

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