



Value of Extension Work and Extension Education in Indian Agriculture: A Review

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Abstract

Extension Education and Extension work play an important role in Indian Agriculture. It was observed that sometimes researchers may be confused to distinction extension education from extension work. The study focuses the concept, role and differences of extension education and extension work. The study was conducted during 2017-18. All the secondary information was taken for conducting of the study. It was found from the study that both extension education and extension work play an important role for development of socio-economic condition of people and developing and transforming new and existing knowledge.

Keywords: Extension Education, Extension work, role, socio-economic condition, Knowledge

Introduction

Agricultural extension serves as a bridge between the agricultural research scientists and the potential users of research findings. It aims at helping research scientists to design and undertake needs and a problem based research and at the same time encourages and enables farmers and others to adopt new scientific knowledge and useful research results/agricultural technologies for increasing agricultural production leading to enhanced farm income and better quality of life for all in the rural area. Extension education and extension work is used in various fields, such as agriculture, animal husbandry, dairy, veterinary, health, home science, industry, cooperative and forestry. Therefore, it is necessary to understand basic concept of extension education and extension work for those who are associated with it in some way or the other. To fully understand the nature of extension education, it is important to study various definitions given by different scholars.

Extension Education

Extension education is an applied science consisting of content derived from research, accumulated field experiences and relevant principles drawn from the behavioural science synthesised with useful technology into a body of philosophy, principles, content and methods focussed on the problems of out of school education for adults and youth (J.P. Leagans, 1961). Extension Education is defined as an educational process to provide knowledge to the rural people about the improved practices in a convincing manner and help them to take decision within their specific local conditions (O. P. Dahama,1973). Extension education is an applied behavioural science, the knowledge of which is applied to bring about desirable changes in the behavioural complex of human beings usually through various strategies & programmes of change & by applying the latest scientific & technological innovations.

Extension education at a glance

- (1) It is a system in which youth both male and female, adult people and women are encouraged to work for their own development and prosperity.
- (2) Extension Education is an informal system of education for all rural people.
- (3) Extension Education brings required change among the people of rural area.
- (4) Extension Education helps only those people who are prepared to help themselves.
- (5) It educates people as to how to achieve their target.
- (6) Extension Education educates people through “learning by doing” and “seeing is believing”.
- (7) Extension Education is a two-way system of education. It brings scientific knowledge to the rural people and conveys the problems of rural people to the scientific institution for solution.
- (8) Extension Education works together with the rural people, and thereby helps people to bring prosperity to their home, family, society, community and country.
- (9) Extension Education helps in personality development, raising standard of living of people, developing local leaders and development of society and country.
- (10) Extension Education is a continuous educational process, which goes on between teachers and learners. In this both teacher and learner benefit and learn from each other.

➤ Objectives of Extension Education

The main aim of Extension Education is to bring about all-round development of rural people. In this all-round development educational, social, economic and political developments are included.

In this context the objectives of Extension Education are as following:

- (1) To increase the net income of farmers by more production and proper marketing system.
- (2) To raise the standard of living of rural people.
- (3) Development of rural areas.
- (4) To increase the facilities for social, cultural and entertainment programmes for rural people.
- (5) To develop rural leadership.
- (6) To develop the feeling of self-dependence among rural people.
- (7) To provide educational and health facilities in rural areas.
- (8) To develop feeling of patriotism and love for society by developing civic sense among rural people.
- (9) To encourage rural people to participate in community programmes.
- (10) To train rural youth for development works.

➤ Extension education principle

1. **Principle of cooperation and participation:** Principle of cooperation and participation is very important in extension education. Ultimately without the cooperation of people the work cannot be successful and desired result cannot be achieved. The first task of extension education is the cooperation of people and their participation in work. People should realise that the task of extension education is their own task. Participation in extension work generates confidence among people for the work. It is not essential that all the members of the society should participate but extension worker should try for maximum participation of people.
2. **Principle of applied science and democratic approach:** Extension Education is based upon democratic principles. It is based on discussions and suggestions. Discussions are held with the people on actual condition so that they participate in work. Extension worker provide practical look to the scientific inventions so that farmers can easily adopt them in their farm.

3. **Principle of whole family:** In Extension Education, principle of whole family is of utmost importance. Family is a part of the community, so there should be development of each member of the family and extension education should be for each and every member of the family, i.e., boys, girls, male and female, then only success can be achieved.
4. **Importance of Extension Education:** Extension Education is primarily for the rural development. Its main objective is to bring necessary change in the beliefs or views of people. Extension education is an educational process by which capabilities among people are developed to understand their problems and resources. It is utilized to make scientific methods available to the rural people, so that they can raise their agricultural production and their standard of living. In India, the aim of extension education is community development, which is possible only by bringing change in the behaviour complex of rural people. Extension education plays major role in bringing desirable change in rural people.

Extension Work

Extension work includes the process of Extension Education i.e. the process of teaching and learning. Besides the process, in extension work are included organizations, administration, supervision, finances as well as the programs for the overall development. The extension worker's role lies in mastering the extension technologies, educate villagers about their programmes get them interested in examining the new ways of thinking and help them try out innovation.

➤ Extension works with rural people:

Only the people themselves can make decisions about the way they will farm or live and an extension agent does not try to take these decisions for them. Rural people can and do make wise decisions about their problems if they are given full information including possible alternative solutions. By making decisions, people gain self-confidence. Extension, therefore, presents facts, helps people to solve problems and encourages farmers to make decisions. People have more confidence in programmes and decisions which they have made themselves than in those which are imposed upon them. Agricultural innovation systems are a paradigm in which information dissemination need not be performed only by extension workers. Extension workers must have an extensive knowledge of various agricultural disciplines and they should have the ability to deal with farmers and persuade them to adopt modern agricultural techniques and ideas so as to use them on their farms [Robertson, 2012].

➤ Principle of extension work

1. **Adaptability principles in use of extension teaching methods:** Extension worker should have knowledge of extension methods so that they can select proper method according to the condition. Teaching methods should be flexible so that they can be properly applied on people according to their age groups, educational background, economic standard and gender. In extension education two or more methods should be applied according to principle of adaptability.
2. **Principle of leadership:** The participation or inclusion of local leaders in extension programmes is the only criteria for assessing the success or failure of any extension work.
3. **Principle of satisfaction:** If people are not interested in extension work then there is no possibility that extension work can be carried on for a long time. In a democratic structure/set-up people cannot be run in a mechanized way. They should derive full satisfaction from extension work. Extension worker should give priority to those work in which there is scope for immediate benefits. Primary satisfaction is very helpful for the future of extension work.

4. **Principle of evaluation:** It is necessary to evaluate the extension work after a certain period so that merits and demerits of extension work can come to light and necessary changes be brought about. Evaluation generates confidence in people.
5. **Principle of neutrality:** Extension worker should never take interest in local politics. If he will not behave in this manner then lots of difficulties in extension work will arise. Therefore, remaining neutral is more beneficial. Extension worker should never express his special affection or hatred towards any person.
6. **Principle of encouragement:** In extension work, principles of encouragement have great importance. Under pressure no work can be done in extension programme, for this active workers in this field should be encouraged so that they participate and enthusiastically remain active.
7. **Principle of trained specialists:** It is very difficult that extension personnel should be knowledgeable about all problems. Therefore, it is necessary that specialists should impart training to the farmers from time to time.

Role of Extension Worker

Extension worker is like a teacher, philosopher, leader, guide and colleague for the community and on the basis of his special qualities he is able to carry on developmental programme successfully. It is undoubtedly true to say that the success and failure of development programmes depend upon the qualities of extension worker. Now we will do realistic study of those necessary qualities and capabilities of extension worker. The extension workers' role is to teach the farmers about how to use new technologies. Knowledge and application of extension education principles, the extension workers help a lot in determining the needs constraints, priorities and opportunities for farmers. They also helps in teaching farmers the value of improved agriculture, recommending suitable crops, encouraging adopting of appropriate technologies, and evaluating farmers' reaction and attitudes toward development projects.

Extension work is an out of school system of education in which adult and young people learn by doing. It is partnership between the Govt. and the people, which provides service and education designed to meet the people. Its fundamental objective is the development of the people (Kelsey and Harne, 1963).

The role of extension workers in agricultural technology transfer (Aremu et al. 2015):

- Extension worker create awareness of innovation, something new or perceived to be unknown before to his clients.
- Persuasion of the usefulness or importance of the new technology.
- Reinforcement of continued use of technology that is created. The interest to continue to practice the new idea that was introduced is sustained through supporting services like input.
- Intermediary between the researchers and farmers. This is done by creating awareness to the farmers, and also taking of farmer's problem to the researchers.
- Diagnose problems by telling them the way out.
- Extension workers stabilize change and attempts to prevent discontinuance, individuals tend to seek confirming information for the decision they may make.
- Extension workers can effectively stabilize new behaviour by directing, and reinforcing messages to those clients who have adopted innovation.
- Extension workers act as catalyst to speed up the rate at which his clients accept changes or innovation.

- Extension worker is a solution provider that is he or she has an idea about effective solution to farmers problems
- Extension worker play a role of resource linker that is linking them with necessary agricultural inputs, to locate source of finance for their farms.
- Strengthening and supporting farmer organization.

Agricultural extension services are very important in the development of rural knowledge and innovative systems for farmers. These services are key in informing and influencing rural household decisions, especially in the developing countries which are generally more in need for such guidance services(Alex *et al.* 2002)

The duties of agricultural extension workers include introducing farmers at agricultural training courses into training programs on various agricultural subjects in order to provide them with information and knowledge about methods and techniques of agriculture, and, consequently, increase their production and income efficiency, improve their living, and raise the social and educational standards of rural life. Agricultural extension takes care in the youth and women in rural areas and enables them to develop their knowledge of various subjects concerning agricultural and social issues. Agricultural extension focuses on two main facets, as follows (Bello *et al.*, 2008). It deals with the behaviour of rural people in terms of influencing them through education and the exchange of information. The aim is to assist the people in gaining a livelihood, improving the physical and psychological level of living of rural families and fostering rural community welfare. - As a service, agricultural extension makes a government ministry, a university or a voluntary agency as useful as possible to the people who support it through taxes and donations.

Extension Education Versus Extension Work:

Extension education	Extension work
Extension education starts with theory & works up to practical	The extension worker starts with practical and may take up theory later on.
Students and extension worker study subjects.	Farmers study problems.
Fixed curriculum offered.	It has no fixed curriculum or course of study & the farmers help to formulate the curriculum.
Authority rests with the teacher.	Authority rests with the farmers.
Teacher instructs the students, extension worker.	Teacher teaches & also learns from the farmers.
Extension education is mainly vertical.	Extension work is mainly horizontal.
Extension educationist more or less homogeneous audience	The Extension Worker has a large & heterogeneous audience.
It is rigid as well as flexible.	It is flexible.
It has all pre-planned & pre-decided programmes.	It has freedom to develop programmes locally & they are based on the needs & expressed desires of the people.
It is more theoretical.	It is more practical & intended for immediate application in the solution of problems.

Knowledge is a prerequisite and therefore a qualification in at least one field of technical agriculture is a necessity for the extension worker. If the Extension worker wants to be successful he/she must be able to communicate in agriculture. What is expected today is that every extension agent must be an expert in at least one field of technical agriculture. To be successful the extension agent must be technically empowered in agriculture to deliver a

service of excellence. The extension agent must have the knowledge and skills to plan a farm physically, biologically and economically, as well as the skills to adapt and transform the technical message to be applicable (and sustainable) to the specific farm and farmer.

Value of Extension Work in India

Indian agriculture is essentially small farm agriculture with the majority of farmers owning less than 1 ha of land. Small and marginal farmers now constitute over 80 percent of farming households in India. The average farm size has been declining. “The slow growth of opportunities in the non-farm employment sector has led to the proliferation of tiny and economically non-viable holdings” (National Commission on Farmers, 2006). The land and water resource base for an average farm holding has declined over the last few decades and this essentially means producing more food from less land and water resources. There are wide gaps in yield potential and national average yields of most commodities are low. “In addition to stressed natural resources and very inadequate rural infrastructure, there was clear evidence of technology fatigue, run-down delivery systems in credit, extension and marketing services and of insufficient agricultural planning at district and lower levels” (Planning Commission, 2011). The last few years have also witnessed the diversification of agriculture towards high value commodities such as fruits, vegetables and livestock products at a fast pace. High value commodities account for a large share of the total value of agricultural production in a number of districts in India. Urbanisation has also resulted in the emergence and rapid expansion of super-markets for retailing agricultural goods. “However the raising demand for food items and relatively slower supply response in many commodities has resulted in frequent spikes in food inflation. The need for a second green revolution is being recognized more than ever before”. (Government of India, 2011) The country is also experiencing change in key climate variables, namely temperature, precipitation and humidity which has already started affecting its agriculture and it has to consider adaptive measure to cope with these changes. Measures may include the introduction of the use of alternative crops, changes to cropping patterns, and promotion of water conservation and irrigation techniques (Government of India, 2008).

These observations have serious implications for organising the extension system in India, where 83 percent of farmers meet their livelihoods from small and marginal land holdings. It is well acknowledged that smallholders’ vital contribution to India’s food and agricultural economy and national food security depends on their responsiveness to public policies and to national investments in agricultural research and development and public infrastructure. Any decline in public investment in these critical public goods raises concerns for future agricultural growth. So the “elite bias” in access to information can seriously impede the growth of agriculture in future. Given the skewed nature of distribution of advanced electronic assets in favour of resource-rich farmers, personal contacts provided by extension workers carry greater weight in achieving extension objectives among small farmers. The departments of agriculture of State governments are still the main agricultural extension agencies in India in terms of number of personnel and geographical coverage. India has a total of 0.12 million agricultural extension workers to serve a net cropped area of 141 million hectares and 158 million operational holdings.

Agricultural extension work can and should play an important role in addressing many of these challenges. Perhaps, there is no agency at the ground level, other than agricultural extension work that can provide knowledge support to farmers and other intermediaries who are supporting farmers and at the same time support programme implementation. Considering the changing nature of agriculture and the evolving challenges, producers currently need a wider range of support, including organisational, marketing, technological, financial and entrepreneurial. To be successful, farmers require a wide range

of knowledge from different sources and support to integrate these different bits of knowledge in their production context.

The number and diversity of organizations involved in extension and advisory services have increased over the past few years and extension should also play an increasingly important intermediation and facilitation role to support application of new knowledge including technical knowledge. To do this, it should also reform its strategies and programme delivery architecture to better meet the needs of its large number of clients representing varied resource base and risk bearing capacity.

Restructuring and strengthening of agricultural extension system has to be a judicious mix of extensive physical outreach of personnel, enhancement in quality through domain experts & regular capacity building, interactive methods of information dissemination, Public Private Partnership and pervasive & innovative use of ICT / Mass Media. Agri entrepreneurs, agri-business companies and experts in NGOs also need to be involved to further bolster the public extension system. The Extension Working Group, therefore, recommends that National Mission on Agricultural Extension be launched during the 12th Plan to deepen, widen and carry forward the extension reforms agenda of 11th Plan to meet the challenges brought out in the 12th Plan Approach Paper and those brought out by the Hon' Prime Minister for achieving the plan objectives of faster, sustainable and more inclusive growth.

Conclusion

Completing a successful Extension educational program is a very fulfilling and rewarding experience. In fact, it is one of the greatest feelings of accomplishment that occurs through extension work. Developing and delivering an effective extension educational program can be a challenge, and it requires a great deal of commitment. For some extension professionals, this may be an aspect of the job that they find most difficult. It may be a new challenge for faculty who have had little education, knowledge or experience in this area. How one carries out the various phases of an educational program directly affects its success and eventual outcomes.

It may be concluded from the above study that work of agricultural extension is the basis for the development of the agricultural sector, and without agricultural extension, it does not have any benefit from modern agricultural techniques and modern agricultural information. Agricultural extension work is responsible for the transfer of agricultural technologies to farmers, and to convince farmers to adopt modern agricultural techniques. Agricultural extension work is the bridge that connects farmers with agricultural research centers in order to transfer all agricultural techniques to farmers and teach them how to use them in their farms. As well as we conclude, that the agricultural extension workers have an effective and important role in helping farmers solve agricultural problems.

One of the problems facing the agricultural extension work at the moment is the lack of clarity and knowledge of the role of agricultural extension in the transfer of agricultural technologies. And lack of knowledge of the role of agricultural extension in helping farmers to adopt modern agricultural techniques. The work of Agricultural Extension is a large and complex work, which deals with all areas of agricultural work, agricultural techniques and deals with farmers, and offers a variety of services and assistance to farmers, agricultural extension has a big role in increasing agricultural production in quantity and quality. Through the transfer of all the modern technologies and means of agricultural production in all areas of agriculture, such as methods of growing crops, new types of seeds, fertilizers, types of pesticides, types of modern agricultural mechanization, food industry, how to best use agricultural soil, crop rotations, as well as the development of information and skills of farmers by organizing them and their participation in training courses in various agricultural fields in order to develop their knowledge and their knowledge in agricultural fields.

Extension education is the process of arranging situations in which the things to be learnt are brought to the notice of the learners, their interest is developed & desire aroused, i.e. they are stimulated to action. The extension-teaching methods are the tools & techniques used to create situations in which communication can take place between the rural people & the extension workers. They are the methods of extending new knowledge & skills to the rural people by drawing their attention towards them, arousing their interest & helping them to have a successful experience of the new practice. A proper understanding of these methods & their selection for a particular type of work are necessary. So without proper knowledge of extension education an extension worker unable to reached an organisation objective and it can also clear from the above study that value of extension education is no more without doing any extension work. So both Extension education and extension works are important in present context for development of socio-economic condition of people and developing and transforming new and existing knowledge.

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