



Transfer of Agricultural Technologies through Recent Extension Communication techniques for Farmer's Prosperity

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ABSTRACT

The effective transformation of technologies is high need of the hour to save food which may helpful to feed the mounting population of country. Effective extension in agricultural development requires a change of extension approach as a sole strategy in achieving effective and competitive agricultural development. Extension, in the current faces challenges of tackling objectives like promoting environmentally sustainable agricultural practices and efficiently linking of farmers to local and international markets including non-farm employment and enterprise expansion pairing technology transfer with other services relating to both input and output markets. Extension should play the key role to transfer of technical knowledge among the different entities to improve the overall performance of the innovation system. The recent advances in ICT can be used effectively in extension education for transfer to technologies by using digital extension paradigm for transfer of technology. The technology transfer involves a top-town approach that delivers specific recommendations to farmers about the practices they should adopt by 1. Mobile access for audio interaction and messaging 2. Television (audio-video) 3. Interactive video chat through android mobile phones 4. Tele-conferencing 5. E-mail 6. Face book 7. Whatsapp 6. Computer etc. In the present scientific era the technology, which is profitable, demonstrable, compatible and its dissemination should be quick. The Internet and other forms of computer networking can be of much useful for exchange of markets and other kinds of technical information to ascertain the prosperity and profitability of the farmers.

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INTRODUCTION

In the present scientific era what is needed is the technology, which is profitable, demonstrable, compatible and its dissemination should be quick. Secondly, the present extension system does not have inherent marketing element, which in fact, is closely associated with the development of agriculture. Information and Communication Technology provides information about any event taking place anywhere in the world, at any time, available to any person anywhere in the world at any time. The Internet and other forms of computer networking can be of much use for exchange of market and other kinds of information with the farmers [2]. Many agricultural technicians deployed to help farmers have been educated in agriculture schools. Unfortunately, they have very little practical experience this is one of the reasons why agriculture courses have lost their appeal [4].

The importance of agriculture as a viable driver for economic development and sustainable livelihood is widely acknowledged. There has been spectacular growth in agricultural production which is closely linked with information technology. This can better be achieved by empowering the farmers with latest technical "know-how" and "do-how" that fasten sustainable agriculture.

The research institutions and universities being donor of research technologies/practices need to have close linkage with industries requiring manpower and farmers requiring technology of 'know-how' and 'do-how' in order to boost agricultural production and thereby increase their income and level of living. No doubt, a trained team of extension specialists all over the country is striving hard to disseminate the available technologies to the farmers but this present extension system consumes more time and money to cover large population of farming community spread all over the country. The farmers also need quick and latest information with regard to marketing trend of different agricultural commodities, which is

difficult to pass on through the existing manpower in present extension system because of several inherent limitations/weaknesses. In this context, the role of ICT is very crucial.

There is need to have research park innovation centers, information kiosks, computer networking etc. at universities/research institutions and extension workers headquarters as these facilities can dramatically change the course of agriculture in the country. Information and Communication Technology (ICT) has, in fact, changed the paradigm used in everyday life. Information and Communication Technology provides information about any event-taking place anywhere in the world, at any time, available to any person anywhere in the world at any time. The Internet and other forms of computer networking can be of much use for exchange of market and other kinds of information with the farmers. Extension education aims at bringing about changes in attitude, knowledge and skills of farmers, homemakers, etc. It is clear that extension education is mainly concerned with educating clientele not in letters, alphabets, grammar or language but in the techniques of raising better crops, better animals, better fruit plants, rearing children scientifically taking care of nutrition of family etc. [1]

DETAIL DISCUSSION AND SUGGESTIONS for TRANSFER of TECHNOLOGY through NEW EXTENSION PARADIGM

The recent advances in ICT described as under can be used effectively in extension education for transfer to technologies:

- 1. Dial Access:** It is audio technology, which uses in the telephone network. The clientele can access audio cassettes, information relevant to their profession round the clock.
 - 2. Television:** Educational television is used for education of community of villages having assessed to television; therefore, it can be very effective medium of instructions. Television of course, can inform, entertain and educate on variety of subjects both of the farms and the home.
 - 3. Video:** It can be successful medium for use in education and training. It is useful for complex practices. Video film can be made in real life situations incorporating dialogue with narration, background music and sound effects.
 - 4. Interactive video:** This technology combines attribute of sounds, motion colour, audio and tailored information via branching presentation. This is also useful because it allows a viewer to participate in a simulated conversation on a TV screen. It can point to point or point to multi point operation, however, the later configuration is more effective than the former. In a two way configuration, different persons can hear and see each other whereas in one way configuration, the information is transmitted to one location to a number of geographically scattered sites. Hence, the possibility of feed-back is limited.
 - 5. Tele-Conferencing:** It is new forms of video based communication via telephone lines or satellite broadcast. It is suitable for face-to-face meeting. It is a good medium for subject matter specialist to discuss with various farmers simultaneously or the farmers themselves can conference with other farmers to share experiences and find solution to their problems.
 - 6. E-mail:** It is non-interactive communication of text, data or voice measures between a sender and receiver by using tele-communication link. E-mail messages are from machine to machine.
 - 7. Computer:** Computer can become an integral part of information dissemination system. The relevant and up-dated information can be fed to the computer and as a result it can provide answers to the problems raised by the farmers. As and when need arises, the already information fed in the computer can be up-dated and disseminated to the extension agents. Projection systems can be directly connected to such computers for effective display in a large gathering.
 - 8. Local Area and Wide Area network (LAN and WAN):** LANs confine to same building whereas WAN span across the globe. Internet is a glaring example for WAN.
 - 9. Compound Disc Read only Memory (C.D.ROM):** It is a memory device used to store information of permanent nature. It is useful, efficient and economical medium for storing and publishing large amount of information.
 - 10. Digital Video Interactive:** It combines video and CD-ROM into one medium.
- Extension worker with the use of these methods can reach a large number of farmers/farm women with the same or less effort, disseminate information quickly and conveniently, reduce travel cost etc. Moreover, these help extension functionaries refreshing and up-dating their own knowledge as well as use them effectively to transfer technology to the farmers/farm women either singly or in combination [5].

FOUR PARADIGMS OF AGRICULTURAL EXTENSION

Any particular system can be described both in terms of both how communication takes place any why it takes place. It is not the case that paternalistic systems are always persuasive, nor is it case that

participatory projects are necessary educational. Instead there are four possible combinations, each of which represents a different extension paradigm. As follows:

1. Technology Transfer (Persuasive+ Paternalistic):

This paradigm was prevalent in colonial times, and reappeared in the 1970's when the Training and Visit system was established across Asia. Technology transfer involves a top -town approach that delivers specific recommendations to farmers about the practices they should adopt.

2. Advisory Work (persuasive + participatory):

This paradigm can be seen today where government organizations or private consulting companies responds to farmers enquiries with technical prescriptions. It also takes the form of projects managed by donor agencies and NGOs those participatory approaches to promote pre-determined packages of technology.

3. Human Resource Development (Educational + paternalistic):

The paradigm dominated the earliest days of extension in Europe and North America. When universities gave training to rural people who were too poor to attend full time course. It continues today in the outreach activities of colleges around the world. Top-town teaching methods are employed, but students are expected to make their own decisions about how to use the knowledge they acquire.

4. Facilitation for Empowerment (Educational +Participatory):

This paradigm involves methods such as experimental learning and farmer-to-farmer exchanges. Knowledge is gained through interactive processes and the participants are encouraged to make their own decisions. The best know examples in Asia projects that use Farmer Field School (FFS) or participatory technology development (PTD). That means the provisions of information to farmers on agricultural production technologies designed to increase production protect natural resources and the environment, or achieve some other objective [3].

CONCLUSION

The public extension services for farmers have not improved both in terms of intensity of involvement and coverage by different new extension paradigm as per need. With this the government should also increase extension support to enhance the organization capability to make internal and external adjustment whether for service delivery or training in response to changes in the environment. Secondly, Policies guidelines are also required to initiate and operational linkage framework and stimulate positive attitude toward building linkage leadership and orientation of stakeholders for functional and sustainable interaction in the system. This study may helpful for farmers and extension workers to provide information on how to transform and strengthen pluralistic agricultural extension and advisory systems in moving toward the broader goal of increasing farm income and improving rural livelihoods.

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