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Technology transfer for rural development: Scopes and problems

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Abstract

Rural India faces a severe technological deficit. There is a gap between technological development and its applications in rural areas. A large number of voluntary organizations are involved in developing technologies for rural areas. However, these technologies have hardly touched the lives of rural population. Data on rural market potential shows that a population of about 250 million in rural areas exhibits a high level of market potential. This is almost 25 per cent total population of India. With such a high market potential, why have the good efforts of organizations developing technologies, devices and products for rural areas not borne any fruit? The study was set up to examine the causes and implication of slow pace of technology transfer and adoption in rural agriculture. Based on this major objective, the paper also examines the role of extension agent in technology transfer and adoption; identify factors against technology transfer and adoption. Most of the technologies being propagated in rural areas are urban-based and biased. They trickle down to rural areas. This paper comprises that rural population is not composed of subhuman beings. Their needs and aspirations are similar to those living in urban areas. Technology development should take place keeping these aspirations in view. This paper involves the rural innovations and agricultural development which constitutes the crucial aspect of rural development. Based on these, the paper therefore, concluded by recommending that provision should be made for the expansion of innovative technologies that must be economically viable, culturally compatible etc.

Keywords: Technological adoptions, rural development, rural innovations

1. Introduction

Technology transfer is a multi-level process of communication involving a variety of senders and receivers of ideas and materials. As a response to market failure, or as an effort to accelerate market-driven social change, technology transfer may combine public and private apparatus or rely solely on public institutional mechanisms to identify, develop, and deliver innovations and information. Technology transfer institutions include universities, government ministries, research institutes, and what may be termed the ‘project sector’. The challenges to technology transfer efforts center on developing indigenous capacity to generate and adapt agricultural technology to local conditions.

2. Need of the study

- a. Within the context of the agricultural industry, and particularly from the perspective of those involved in primary production, the term ‘Tech Transfer’ has often meant the delivery or dissemination of the latest information on best management practices, or perhaps a presentation on the newest technological tools.
- b. The term ‘Tech Transfer’ is becoming increasingly associated with the activities focused towards moving a concept along the research-development-commercialization process; ultimately leading to tangible products and technologies farmers can choose from the marketplace.
- c. The transfer of knowledge from research into farming practice is a constant requirement for the industry to develop new ways of working and thinking. It is crucial to realizing the value of innovative research. Saskatchewan Ministry of Agriculture funds research projects that provide new knowledge in both the Knowledge Transfer and the Tech Transfer (product development) streams

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3. Research Methodology

Data: Secondary data

Study: Descriptive

4. Objectives

- a. To examine the causes of slow pace of technology transfer and adoption in rural agriculture
- b. To examine the role of extension agent in technology transfer and adoption
- c. To analyze what provision should be made for the expansion of innovative technologies that must be economically viable, culturally compatible etc.

5. Findings & Analysis

5.1 Objective 1: To examine the causes of slow pace of technology transfer and adoption in rural agriculture

- a. The major reason or cause for the slow pace of technology transfer and adoption in rural agriculture is the collapse of agricultural extension services.
- b. At present the extension service is very weak and lacks direction. In spite of the good programmes being introduced by the Federal Government to the states, when one goes down to the grass—roots one would find that government activities are at a very low level; farmers are very much on their own.
- c. Lack of adequate liaison between extension and research.
- d. Lack of trained personnel both in quantity and quality so that the few that are available are spread too thinly to be effective.
- e. Inadequate financial support. In most cases the amount allocated is only barely available to pay for the salaries of the staff. This therefore limits the volume of work that can be successfully carried out with the farmers.
- f. Lack of effective communication system for delivery of research results to the extension services and to the farmers. At present, since there are not enough extension agent in the states to carry this cut and this has resulted in poor linkage between research and extension. It is mostly because of this weakness in the linkage between research and extension vis-a-vis the farmers that research finding or technologies have often delayed or even failed to reach the farmers.

5.2 Objective 2: To examine the role of extension agent in technology transfer and adoption

- a. The extension workers' role is to teach the farmers about how to use new technologies.
- b. 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.
- c. Extension workers are also help in encouraging farmers in involvement in project identification, planning, implementation, and evaluation as well as support viable development projects
- d. Extension worker create awareness of innovation, something new or perceived to be un known before to his clients.
- e. Reinforcement of continued use of technology that is created.
- f. The interest to continue to practice the new idea that was

introduced is sustained through supporting services like input.

- g. 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.
- h. 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.
- i. Extension workers can effectively stabilize new behavior by directing, and reinforcing messages to those clients who have adopted innovation.
- j. Extension workers act as catalyst to speed up the rate at which his clients accept changes or innovation.

5.3 Objective 3: To analyze what provision should be made for the expansion of innovative technologies that must be economically viable, culturally compatible etc.

- a. Economic feasibility or viability that is the dependability and risk minimization potentials, conveniences, low initial cost, decreasing discomfort, psychological satisfaction or saving of time.
- b. A cheaper technology will be adopted faster than a more expensive one. Because farmers are eager to make money, extension workers must show them how a new technology will benefit them financially.
- c. Social acceptability that is compatibility with community structure norms and beliefs.
- d. Technologies that compatible with existing farm practices encourage a positive attitude toward change, improve the agent's credibility, and may be adopted faster.
- e. Infrastructural compatibility that is capability of being accommodated by the present level of infrastructure.
- f. Complexity is the degree to which a technology is perceived to be relatively difficult to understand and use.
- g. Technologies that are more complex to understand and use have lower rates of adoption. - Visibility or observability is the degree to which the results of a new technology are visible or observable.

6. Conclusion

The paper has been revealed that the causes of slow pace of technology transfer and adoption include lack of adequate liaison between extension and research. Lack of trained personnel both in quantity and quality, inadequate financial support to the research - extension programmes; Lack of effective communication system for delivery of research results to the extension services and to the farmers. The study sees this collapse of agricultural extension services as being the major cause of the slow pace of technology transfer. Study also shows the role of extension worker which acts as an 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. Finally the study shows about the suggestions that what provisions should be made for easily adoption of technology

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