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Awareness of Technology and Its Adoptional Pattern among Peasant Societies

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Abstract:

The modern era is full of tremendous development of innovative technologies to be used in almost every sphere of human life. The basic goal of technology is to increase the production and improvement of the quality of life. Keeping this view in mind, efforts have been done to understand the awareness of technology and its adoptional patter of technology in rural people. For this purpose hundred respondents have been randomly selected from two types of villages, i.e., developed and undeveloped from Madhya Pradesh. To enquire the awareness and adoption, a scale related to technological transformation was used administered on respondents. After analysis of obtained data it was found that educated, awarded and enriched respondents have shows more positive and optimistic attitude towards innovative and human friendly technologies. Present paper highlights the importance of technology and its usage.

Key words: *Perceptibility, Transformation, Technology, Awareness, Adoption.*

Introduction:

The villagers of India were ignorant of the advantages of science and technology and remained highly dependent on the natural resources and traditional methods for their upliftment. Consequently India embarked upon huge programme of rural development and welfare with emphasis on modernization of agricultural technologies in order to ameliorate the conditions of the rural poor.

Technological change does not, as many people think, merely lead to increased production and reduced cost, but also results in complex technical and economic problems, and social, psychological and cultural issues of greater importance. The mechanized areas are seen to have increased their social activities, compared to those where technology has had little impact. As a result, there is an increase in social mobility and exposure to mass media marked by greater participation in various activities. The advancement of science and technology played an important role in improving economic, social and cultural aspects of national life.

There are several possibilities in respect of technology which could serve as an instrument of rural transformation: existing traditional technologies, upgradation or modernization of traditional technologies and development of completely new technologies. The traditional technologies have their cultural roots in their respective societies and have evolved gradually over a long period of time. Innovations incompatible with the socio-cultural milieu were not quickly accepted by people as traditional technologies were related to the local resources and the surrounding culture and its needs. Thus, traditional technologies having cultural affinity with societies in which they evolved are strong contenders for the retrieval of their status in the rural economy. By and large the traditional products have lost their market as compared with the products of modern technology. Also the modern technology, following the western model, largely remained confined to the urban areas creating a bias against traditional technologies. The result is that the rural economy has been marginalized.

Technology has undoubtedly assumed the status of a potential factor of social change in a society. In view of the importance of agriculture Indian planners laid emphasis on agricultural technology in the programmes of planned changes. It is related to three aspects of rural economy: the first is the technology for crops and livestock. The second is for the preparation of food and

other articles for consumption and the third is technology for transport and communication. Moreover, other technologies including domestic appliances also have reached to villages to some extent.

Conceptually technology may be considered as the combination of totality of techniques employed by people during a given period of time for the purpose of adaptation to their bio-physical environments.

Review of Literature:

The policy efforts of Government of India relating to rural development, with greater emphasis on poverty alleviation, have been appreciated. But its implementation seems to be not go effective. It is necessary that the process of planning should begin from the grass roots level and that an increased awareness and interest among the farmers for adoption of these innovations is to be systematically created. Main emphasis should be on technological awareness and adoption. Awareness of technology means enhancing the curiosity for new rural technology relating to the basic needs of villagers.

Muthayya (1972) reported that the farmers were aware of the relationship between increase in agricultural production and self-sufficiency of the nation in terms of food. Though majority of the respondents were not aware of the new farming practices, a few had some knowledge of fertilizers, pesticides and high yielding varieties of seeds. The respondents were aware of official and non-official functionaries working in the Block. All the officials and the majority of leaders were aware of the Indo-Dutch project implemented by its name and the medical services offered, the Balwadis and Mahila Mandals as the components of the programme implemented.

They were also aware of the sources of finance for this project (Muthayya, 1972 a). The elected leaders had a higher level of awareness and contact with officials. However, the awareness of non-leaders and contact with officials and non-officials was very low. The awareness of the functions of the Panchayat were in terms of providing civic, health, and communication facilities to the village (Muthayya & Mathur, 1979).

In another study (Muthayya & Prasad, 1983 a), it was found that the awareness of welfare programmes was low among the disadvantaged groups. Some of the welfare programmes in which

they had higher level of awareness, were: distribution of surplus land, allotment of house and sites, and abolition of dowry and untouchability. Among other welfare programmes, reservations for elected bodies, job reservations, free supply of books and scholarships for children were known to a larger extent.

Muthayya and Prasad (1984 a) in a study related to welfare programmes, found low level of awareness in the disadvantaged group, especially, in regard to some of the facilities provided for education of their children. Majority of them were not aware of the facilities like special coaching classes for competitive examinations and hostel-facilities.

In a study of the awareness of welfare programmes (Muthayya & Prasad, 1983 a), it was found that the majority of respondents were aware of mid-day meal programme, free school education for children, balwadis, family planning, applied nutrition programme, adult education, and housing. In another study (Muthayya & Prasad, 1984 b), the respondents indicated certain amount of unhappiness and lack of awareness of certain aspects of process of displacement.

As for health facilities and practices (Muthayya 1972 a) majority of the respondents did not believe in household remedies for certain ailments, and diarrhea among children below one year was not associated with the cutting of teeth but believed that injection is the only remedy for any ailment. With regard to medical facilities, the majority of respondents preferred private doctors to Government doctors as they felt that they did not receive sufficient attention at the primary health centre and they would prefer a known though untrained *Dai* to perform the delivery

Muthayya, Naidu, and Aneesuddin (1979) have reported that elected leaders had a higher level of awareness and contact with officials. Singh (1983 a) found that awareness about health technology was very low in the low socio-economic status groups of Hindus, Muslims, and tribal Hindus. Empirical evidence suggests that awareness is determined by several socio-psychological factors such as achievement motivation, mass media exposure, education, economic status, and risk taking behaviour.

Naika and Sethu Rao (1988), in their study of adoption programme of selected farm practices between adopted and non-adopted villages, observed that the farmers from adopted village had higher mean adoption score, than non-adopted village respondents. Sharma (1977) found that a majority of farmers was not aware of the different extension techniques used by the

village level workers (VLWs). Techniques like "indirect influence", "personal contact by VLW" and "result demonstration" were found to be more effective than other extension techniques in motivating farmers to adopt improved agricultural practices.

Bhowmik, Maity, and Santra (1980) reported that farmers hailing from upper social class showed a relatively higher level of adoption of agricultural innovations whereas poor farmers did not have the means and methods to accept them and make use of them.

In another study on adoption behaviour (H.S.P. Sinha & S.K. Sinha, 1980), it was found that farmers who were young, close to agricultural research centres, had higher education, and large holdings adopted agricultural technology. Potentiality, i.e., the scope for extending adoption of an innovation by a farmer, if he so desires; extent, which measures actual adoption of innovation; time, which includes (a) the year when the innovation was communicated to the community, (b) the year when innovation was first adopted, and (c) the year of investigation; and consistency, which implies continuity in use were considered as important factors as determinants of the extent of adoption of wheat technology. In a review of studies using an innovativeness scale, Rogers (1962) concluded that adequate measures of innovativeness must take into consideration a larger number of factors. They also suggested that the time of adoption of each new idea should also be utilized in the measures besides obtaining data about the number of innovations adopted and allowance should be made for items that do not apply to all individuals.

On the basis of above review the following objectives have been formulated to study the problems:

- To study the patterns and differences in awareness of various types of technologies in developed as well as undeveloped respondents.
- To examine the differentials between developed and undeveloped villages regarding adoptional patterns on various types of technology.

Methodology of Research:

Two types of villages have been taken for the study, i.e., developed villages and undeveloped villages. In developed villages, two villages named Misrode and Bawavia have been purposively selected near by Bhopal city and two villages namely Van and Sojua under undeveloped category have selected near Vidisha city. Researcher has randomly selected hundred respondents from all four villages, twenty five from each village. Their age ranged between 22 to 70 years (Mean 41.92, SD 11.69). They represented different caste groups and socio-economic levels prevailing in the region.

Technology Scale:

This scale has been constructed to assess the development due to technological advancement in two areas. First, awareness of technology and second adoption of technology. For this, initial data were collected on a small sample (N = 20) in which the villagers were probed regarding different aspects of technology. The participants were asked about their experiences with different types of machines instruments /equipments /gadgets of domestic, agricultural, industrial, health, educational, and recreational categories. The detailed discussions with villagers provided the raw data for development of technology scale. A total of 50 machines /instruments /equipments /gadgets were selected and printed on a sheet and questions related to each was asked to assess awareness, adoption and its impact on village life.

The first subscale was related to awareness of technology. The responses were required on 3-point scale ranging from "heard" (1) to "have used technology" (3). The minimum score was 50 and maximum was 150.

The second subscale was about adoption of technology and same strategy was adopted to elicit responses. On this measure a score of 1 was given if a respondent showed desire to adopt the technology related to different areas of life, a score of 2 was given if he had seen instrument/machines/gadgets/equipments using by others and a score of 3 was given, if he himself has adopted.

Procedure

By introducing himself before a group of villagers and explaining the purpose of the visit to them and sometimes handing over the interview schedules to some of the literate and influential persons of the villages, the researcher tried to remove the suspicion from the minds of the respondents about himself as an outsider. After being convinced, the selected measures, i.e., scientific attitude scales were administered individually. Main instructions, which was related to scales were noted at the top of each measure. Finally the technology scale was administered with general, verbal instructions. Main instructions were printed at top of the scale.

The SS were asked to give answers to all the items after clarification of instructions. In case of illiterate subjects researcher had noted the answer of items verbally given by those respondents.

Results and Discussions:

Here one thing should be clear that technology scale had six components, i.e., agricultural, educational, industrial health, recreational and domestic. First of all efforts have been done to draw conclusion about awareness of technology from the selected respondents. Obtained results have presented in table-1.

Table-1
Awareness of Technology in the Farmers of Developed and Undeveloped Villages

Area of Technology	Developed Villages		Undeveloped Villages		t (98)
	M	SD	M	SD	
Agriculture	40.64	2.07	33.18	3.21	14.35**
Education	12.24	2.84	7.34	3.14	8.17**
Industry	23.78	1.11	2.34	1.72	5.54**
Health	15.42	3.27	9.16	5.09	6.89**
Recreation	14.90	1.31	10.84	2.82	9.67**
Domestic	30.38	3.83	16.84	4.75	15.74**

** $p < .01$

Table 1 clearly indicated that respondents belonging to developed villages have showed greater mean values on every technology sphere than respondents of undeveloped villages. It is clear from results that differences between two groups are significant.

This trend was shared by the participants from developed as well as undeveloped villages but the awareness was substantially greater among the farmers from developed villages. The differences in the mean awareness scores of these two groups were statistically significant across all the areas. Thus, the participants from developed villages appeared to be technologically more aware than their counterparts from undeveloped villages.

An analysis of the relative awareness in various fields of technologies among rural people revealed that people of both the settings were comparatively more aware in agricultural technology than other areas. Awareness in the recreational field occupied the second place in developed villages while undeveloped villages industrial technology was at the second place. The

respondents of developed villages placed industrial technology at the third number while in undeveloped villages recreational technology was found at the third number. It is clear from table that awareness was very low in case of educational and health technologies in developed as well as in undeveloped villages.

Adoption of Technology

The problems of adopting technology were examined at the individual level. To this end the participants were asked to rate the use of technology in different areas. Table 2 shows that adoption of technology was greater in the farmers from developed than undeveloped ones. Similar results were found in various sub areas for adoption or technology. Results indicated that the respondents belonging to developed areas showed greater adoption of various technologies than their counterparts from undeveloped villages. It is clear that adoption of technology was also greater in those areas in which, awareness was greater.

Table-2
Adoption of technology in the Farmers of Developed and Undeveloped villages

Area of Technology	Developed Villages		Undeveloped Villages		t (98)
	M	SD	M	SD	
Agriculture	36.90	3.20	30.67	2.91	10.21**
Education	9.80	2.86	5.90	2.06	7.96**
Industry	17.34	3.37	15.06	2.64	3.78**
Health	10.64	4.38	7.54	3.26	4.03**
Recreation	13.04	2.90	8.22	2.33	9.09**
Domestic	23.22	6.16	14.74	2.99	8.74**

** p < .01

Conclusion

The study of rural development is a multidimensional problem and involves a number of conceptual and practical issues. A close perusal and reflection on this attempt suggests that the study and its findings have certain boundary conditions. It seems relevant to briefly analyze them as it would also help planning for further research in more fruitful ways.

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