

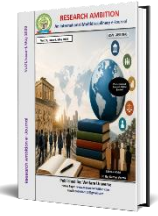


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Technology and Social Change among Farmers: An Analytical Study

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KEYWORDS

Farmers, Technology, Agriculture, Development, Rural Society.

ABSTRACT

This article focuses on the how technology help to social change among farmers and rural society because technology is a part of the being of man, technology and science are thus inevitable partners in a social system. Without understanding the existential reality (Science) one cannot hope to create blue prints of altering it as a part of one's 'tactics of living' (technology). A survey of farmers was carried out with the help of an interview schedule. Farmers are using new varieties of seeds. Economically well off and socially well-placed farmers and backward class farmers with big landholdings had shown higher levels of adoption small farmers were gradually picking up the new agricultural techniques.

Introduction:

In the modern world, science knowledge and technological development have become a prerequisite in enhancing the welfare of rural people (small and marginal farmers, agricultural labourers etc.). Much has been done in the last few decades in the development and application of new technologies, but the fruits of this have not yet fully been felt in many rural areas. Thus, meaningful rural development can be achieved with the effective utilization of appropriate modern technologies. These technologies can boost productivity of agriculture related activities and create new jobs in rural areas (Joshi, 2005, pp. 4–7). S.K. Olimowski (1983:38) considers technology as 'tactics of living'. The fashioning of tools and implements is a part of the 'tactics of living' as are the procedures, patterns and formulas constituting

the techniques of dealing with various life situations. Technology is a part of the being of man, technology and science are thus inevitable partners in a social system. Without understanding the existential reality (Science) one cannot hope to create blue prints of altering it as a part of one's 'tactics of living' (technology). The awful power of science and technology becomes restrained without understanding in the awareness of the social, political and ecological consequences of the modern technology. Mohammad Salim (1986) found that adoption of innovations in agriculture was a gradual process and was influenced by the socio-economic conditions of the farmers. It was found that developmental agencies and mass media played significant role in the process of diffusion of new agricultural technology. Traditional farm implements were replaced by modern ones such as

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tractor, thresher etc. According to Deshraj Sabharwal (2001) agricultural technology has made very sharp contribution in productivity and agriculture has been brought near to the national market. Meanwhile, it has also been changing the dynamics of agrarian relationships, lessening the traditional patron-client and institutional dependence of agricultural labourers. These changes have had an impact on wages, labour practices, employment and rural poverty and have made it increasingly harder for the marginal farmers to survive. In the same way, Ranbir Singh (2007, pp. Fortunately, by 1968, Punjab and Haryana had experienced the Green Revolution thanks to the introduction of high-yielding seed varieties, chemical fertilizers, agricultural machinery, cheap credit and assured irrigation facilities (49–51). This technological shift had created a tremendous boost in agricultural production, fast economic growth and significantly transformed the social and cultural life of the rural folks in both states.

All the above and many other social scientists have studied various issues empirically to know the problems of farming and suggest how to solve those. Thus, the present study is to focus on their motivation, adoption and consequences for farmers from new agriculturally based technology at micro level.

Statement of the Problem:

In the light of the above the present study focuses open the following specific questions:

1. What is the socio-economic background of the farmers in rural setting?

2. What are the motivating factors for the adoption of the technology?
3. What types of technology used by farmers?
4. What are the consequences of the technology on farmers?

The first question takes note of the social-economic background of farmers in rural setting in terms of age, sex, religion, caste, education, landholding and type of family.

The second question takes note of the farmers, motivation by the various sources e.g. cooperative society, private fertilizer company like IFFCO, T.V., communication between farmers, Ganna Garam Savek and Machali Farm House.

The third question takes note of the types of technology used by the farmers like mechanical innovations (tractor, thresher, seed drills, irrigation machineries and tubewells) and Bio-chemical innovations (fertilizers, pesticides, insecticides and weed killers).

The last question takes into account the consequences, benefits of the technology on farmers and how does it help in changing their life style.

Methodology:

The above issues were studied at the micro level in a village of Bulandshahr district in the state of Uttar Pradesh in the western part of the country. Bulandshahr lies in the Ganga–Yamuna Doab area, between 28.4° to 28° latitude and 77° to 78° longitude and is situated at an altitude of about 237.44 metres above sea level. Administratively, the district consists of seven tehsils, 16 development blocks and 1244 villages.

A multicaste village, having adequate farmers with

modern agriculture technology was selected purposive for the study. The village is situated in Uncha Gaon Block, 4 kilometres away from the block office and 44 kilometres from the district headquarters towards Northeast. The inhabited portion of the town is about 960 bighas in extent and 500 metres in length from east to west and 800 metres from north to south. Outside the residential area the land use is mainly agricultural.

The 2001 Census gave the village's population as 2,972. In 2005 there were 1637 voters on the electoral roll. The total number of households in the village was 388 and there were 13 wards in the village according to the population. The Hindu population was 78.49 per cent and the Muslim population was 21.51 per cent. There were 14 different castes of people.

The number of farmers in the village was 315, from whom 100 farmers were selected by using purpose sampling technique as the respondents. Interviews, observations and case studies were all used as means of collecting data. The fieldwork was carried out in the second half of 2005.

Findings:

On the basis of analysis of the facts collected from 100 respondents and four case studies and general observations, we arrive at the following findings:

Socio-Economic Background of the Farmers:

1. The largest segment (38%) of the respondents belongs to the age group of above 66 years and the smallest segment (11%) of the respondents belongs to the age group of (20-35) years old.
2. Large majority (93%) of the respondents belongs to the male category and the

smallest segment (7%) of the respondents belong to the female category.

3. Large majority (96%) of the respondents belongs to the Hindu religion and the smallest segment (4%) of the respondents belongs to the Muslim religion.
4. The largest segment (46%) of the respondents belong to the Jat caste and the smallest segment (7%) of the respondents belong to Baniya caste.
5. The largest segment (33%) of the respondents are upto 12th education standard and the smallest segment (13%) of the respondents are illiterate.
6. The largest segment (31%) of the respondents have land holding (31-45) bighas and the smallest segment (12%) of the respondents have land holding above 61 bighas.
7. Large majority (85%) of the respondents belongs to the joint family and the smallest segment (14%) of the respondents belongs to the nuclear family.

Motivating Factors for the Adoption of the Technology:

1. Majority (56%) of the respondent are motivated by the co-operative society and the smallest segment (8%) of the respondents are motivated by the NGO and machali farm house.
2. The largest segment (48%) of the respondents is motivated by the three factors and the smallest segment (11%) of the respondents are motivated by the four factors.

3. Majority (56%) of the respondents are motivated by the government agencies and less than half (44%) of the respondents are motivated by the non-government agencies.
4. The largest segment (26%) of the respondents who are motivated by cooperative society belong to Jat caste and only one respondent is motivated by T.V. and communication between farmers belong to Baniya and Ansari caste.
5. The largest segment (19%) of the respondents who are motivated by cooperative society belong 12th standard and the smallest segment (2%) of the respondents who are motivated by machali farm house are above 12th standard.
6. The largest segment (17%) of the respondents is motivated by cooperative society belong to the land group (31-45) bighas and only one respondent is motivated by machali farm house belong to the land group (above 61) bighas.
7. The largest segment (48%) of the respondents is motivated by cooperative society belong to joint family and the smallest segment (4%) of the respondents are motivated by T.V., communication between farmers and machali farm house belong to nuclear family.

Types of Equipment Adopted by Farmers:

1. Majority (61%) of the respondents are tractor and seed drills owner and the smallest segment (39%) of the respondents are not tractor and seed drills owner.
2. Majority (54%) of the respondents are thresher owner and the smallest segment 46% of the respondents are non-thresher owners.

3. Majority (57%) of the respondents have tubewells with starter owner and the smallest segment (31%) of the respondents are non-owner of tubewells.
4. Majority (54%) of the respondents are the spraying machines owner and the smallest segment (46%) of the respondents are not the spraying machines owner.
5. Majority (57%) of the respondents are the storage facilities users and the smallest segment (43%) of the respondents are not the storage facilities users.
6. Majority (63%) of the respondents have not ownership on equipment technology and the smallest segment (37%) of the respondents have ownership on equipment technology.
7. The largest segment (29%) of the respondents who have not ownership on equipment technology belong to Jat caste and only one respondent has ownership on equipment technology belong to Ansari caste.
8. The largest segment (21%) of the respondents who have not the ownership on equipment technology belong upto 12th and the smallest segment (5%) of the respondents who have ownership on equipment technology are illiterate.
9. The largest segment (20%) of the respondents have not ownership on equipment technology belong to the land group (31-45) bighas and the smallest segment (4%) of the respondents who have ownership on equipment technology belong to the land group above 61 bighas.
10. The largest segment (54%) of the respondents is those who have not ownership on

equipment technology belong to joint family and the smallest segment (5%) of the respondents who have ownership on equipment technology.

Types of Non-equipment Technology adopted by Farmers:

1. All the respondents are fertilizer users.
2. Majority (78%) of the respondents are pesticides users and the smallest segment (22%) of the respondents are not pesticides users.
3. Majority (54%) of the respondents are not using new varieties of seeds and the smallest segment (46%) of the respondents are using new varieties of seeds.
4. Majority (54%) of the respondents are not the fertilizers/pesticides and new seeds user and the smallest segment (46%) of the respondents are the fertilizers/pesticides and new seeds users.
5. The largest segment (24%) of the respondents are non-users of non-equipment technology belong to Jat caste and the smallest segment (2%) of the respondents are user of equipment technology belong to Ansari caste.
6. The largest segment (17%) of the respondents who are not the users of non-equipment technology belong upto 8th & upto 12th standard and the smallest segment (6%) of the respondents who are users of non-equipment technology are illiterate.
7. The largest segment (16%) of the respondents who are non-user of equipment technology belong to the land group (31-

45) bighas and the smallest segment (5%) of the respondents who are users of non-equipment technology belong to the land group above 61 bighas. The largest segment (48%) of the respondents who are not users of non-equipment technology belong to joint family and the smallest segment (8%) of the respondents who are user of equipment technology belong to nuclear family.

The present study just limited to general observation, interview and case study methods with a small number of respondents. Therefore, the findings are limited and provisional. Further detailed study may bring about the clear and general picture.

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