Level of Modernization of Vegetable Growers of Lakhimpur District of Assam

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Abstract
This study assessed the level of modernization of vegetable growers and measured some important agro-economic, socio-psychological and management characteristics of vegetable growers. A total of 120 respondents of Lakhimpur district of Assam constituted the final sample from the 8 selected villages. Most of the respondents were young to middle aged and about 30.00% of the respondents read up to higher secondary level. A huge number of respondents (42.50%) did not undergo any training. Majority of the respondents (75.83%) had medium level economic motivation. Majority of the respondents were without any official position in socio-politico organization (65.00%), had medium level scientific orientation (74.17%), had medium level of risk preference (61.66%) and 70.83% of them had medium level of achievement motivation. Most (80.00%) of them had medium to high level of marketing orientation. Majority of the respondents (73.33%) had medium level of modernization, followed by 16.67% with high modernization and 10.00% of them had low level of modernization. Age had shown a negative and highly significant relationship with the level of modernization while age and social participation were positively and significantly correlated with modernization. Other independent variables i.e., education, scientific orientation, risk preference, achievement motivation and market orientation had shown positive and significant correlation with the level of modernization.

Keywords: Vegetable growers, economic motivation, adoption, attitude, knowledge, modernization.

Introduction
The replacement by vegetable in the conventional rice based cropping pattern itself is a modern phenomenon. The transformation from a cereal grower to a vegetable grower means change from conventional grower to a modern grower. Again, a shift to a vegetable enterprise requires a changed outlook towards institution. A vegetable farmer with his typical outlook and value disposition has been subjected to the existing socio-economic and cultural systems. This is endorsing a reason that one behaves in a situation according to his orientation. Any person may have many and varied characteristics but in the process of modernization of agriculture, the role of economic factor is undisputed. Adoption of any costly innovative practice intervening present economic relation and equilibrium rightly and inevitably involves consideration of economic factors. So, an attempt was made to throw some light on the process of modernization of vegetable cultivation in relation to different personal characteristics of farmers, the present study has been designed to assess the level of modernization of vegetable growers, to measure some important agro-economic, socio-psychological and management characteristics of vegetable growers and to study the intra and inter level relations of selected characteristics of vegetable growers. People, who are willing to deviate from traditional norm and were aware of events and personalities in the larger society, were also more amenable to modernize their farming procedure (Kivlin et al., 1971). Farm size and education was highly related to modernization. Delineated tenure system, limited availability of land, poor credits facility and low level of technology were the serious stalesmates standing in the way of modernizing Indian farmers (Dasgupta, 1977). Medium farmers were more prone to adoption of modern technology to increase the agricultural productivity than the small farmers (Chattopadhyay, 1981). He found that big farmers seem more likely to adopt the modern technology for reasons of prestige than reasons for profitability. Barring age and size of holding, all other variables viz. education, social participation, non-fatalistic orientation, economic motivation exhibited stronger and positive correlation with the level of modernization of betel vine (Acharjee, 1992). Risk orientation, innovation proneness, economic motivation, management orientation was positively and significantly correlated with modernization (Pandit, 1995). Education, holding size, income, achievement motivation, cosmopolitan orientation, risk orientation, scientific orientation, participation in training and mass media use were positively and significantly correlated with modernization level while age and social participation were found to be non-significant (Chandrasekhar et al., 2001).

Materials and methods
Experimental design: The study was conducted in four randomly selected development block of Lakhimpur...
district of Assam. From each of the selected development blocks, two villages each were selected using purposive cum random sampling technique for the present study. A total of 120 respondents constituted the final sample from the 8 selected villages. The data was collected by the investigator himself using interview schedule. A total of 9 independent variables (Age, education, training exposure, economic motivation, socio-politico participation, scientific orientation, risk preference, achievement motivation, marketing orientation) were selected for the study and structural schedule and scales were used to measure them. Level of modernization was the dependent variable for the study. It was expressed in terms of index of modernization, which was defined as summation of knowledge level, attitude level and adoption level of vegetable cultivars. The methodology developed and followed by Roychoudhury (1976) had been utilized in this study with slight modification. A list of agricultural innovations which had been advocated for the vegetable (Potato, tomato and brinjal) farming in Lakhimpur district was prepared in consultation with the experts, village level extension workers and officials of field management committees. A total of 20 numbers of innovations were used for the study. To measure knowledge level, which was expressed in terms of index of knowledge, the following three questions had been put to the respondents:

1. Have you heard about the innovation? (variety, chemical/fertilizer)
2. What is the recommended dose of the variety or what purpose it can be used? (in case of plant protection chemical and fertilizers)
3. What is the spacing of this variety or what is its recommended dose? (in case of plant protection chemical and fertilizers).

For a positive answer to the first question one score was given and no score was given for a negative answer. For a correct answer for the second and third question, a score of two was awarded and for a near correct answer one score was given. For a wrong answer, no score was awarded. In case of seed rate, spacing and recommended dose, correct answer stood for 100% accuracy and near correct answer stood for 80% or more (but below 100%) accuracy. Same procedure was followed to ascertain accuracy for the purpose for which innovations were used. The total score, which had actually been received by a respondent, was divided by the total score that he could achieve (100), by giving all correct answer in respect of all (20) innovations and was multiplied by 100 to get knowledge index. To measure adoption level, which was measured in terms of index on adoption, the following two questions were put to the respondents:

1. For how many years you have been using these variety/plant protection chemicals/manures/fertilizers?
2. Percentage (%) of potential area covered.

A formula suggested by Dasgupta (1974) was used to measure adoption index for a particular innovation. To get the actual adoption index for a particular respondent, the adoption indexes he received for all the 20 innovations were added together. To measure attitude level, which was measured in terms of attitude index, following three questions with options were put to the respondents:

1. Does the innovation give good result? (Yes/No)
2. This innovation should be used at the earliest opportunity (Yes/No)
3. This is an innovation which should be recommended to others (Yes/No)

For a positive (yes) answer, a score of one was awarded and no score (0) was awarded for a negative response. The total score, which had actually been received by a respondent, was divided by total score he could achieve (60) by giving positive response for all the innovation and the result was multiplied by 100 to get attitude index. In measuring the index to modernization of vegetable cultivation for a particular respondent, the three indexes described above were added together and divided by three.

Results and discussion
It was found that most of the respondents were young to middle aged. About 30.00% of the respondents read up to higher secondary level. A huge number of respondents (42.50%) did not get any training. Majority of the respondents (75.83%) had medium level economic motivation. Majority of the respondents (65.00%) were without any official position in socio-politico organization and majority of the respondents (74.17%) had medium level scientific orientation. Majority of the respondents i.e. 61.66% had medium risk preference and 70.83% of them had medium level of achievement motivation. Most (80.00%) of them had medium to high level of marketing orientation. It is clear from Table 1 that majority of the respondents (73.33%) had medium level of modernization, followed by 16.67% with high modernization and 10.00% of them had low level of modernization. Relationship of some selected characteristics of the farmer with the extent of level of modernization: Table 2 presents the correlation coefficient of level of modernization with the 9 independent variables. It is clear from the table that age had shown negative and highly significant relationship with the level of modernization. On the other hand, except socio-politico-participation, all the independent variables i.e. education, scientific orientation, risk preference, achievement motivation and marketing orientation had shown positive and significant correlation with the level of modernization. The result indicated that younger the respondents, higher were their level of modernization. It was quite natural because the younger generation with adequate exposure to education and training had good knowledge base, high level of positive attitude and in
comparison to relatively as a farmer adoption. Education and exposure to training help an individual to become technically sound along with the knowledge and skill about the particular innovation which ultimately resulted improvement of level of modernization. People who want to achieve more in life are highly motivated and they always look forward for more income to have a better life. That is why achievement motivation had shown a highly significant and positive relationship with the modernization level. The farmers who have better knowledge on price, market and consumer behavior should have better market orientation. The result is evident from a positive and highly significant relationship of marketing orientation with the level of modernization. A farmer who wants to get higher yield and economic profit and wants to live descent life is more prone to change. That is why farmers with higher economic motivation had higher rate of modernization level. With the increase of motivational level (both economic and achievement), scientific attitudes towards life, high degree of risk taking ability, good knowledge of market the acceleration of a modernization process went up proportionally with the change of the positive factors in the behavioral complex on human being, chances of non-compliances with any continued practices went on reductive. Rather farmers will try more new practices in new area with all element of modernization process. That was how the proportional increase in the above variables has been associated with the level of modernization. The results were in line with Chattopadhyay (1981), Acharjee (1992), Pandit (1995) and Chandrasekhar et al. (2001).

Conclusion
In present scenario, survival of farmers, especially small and marginal farmers is challenged by continuously reduced land holdings, decrease subsidies for inputs, increased labour costs, input costs and slow increase in price per unit volume of output of grain-based crops. On the other hand, increase urbanization, rising purchasing power and increase awareness about health benefits of vegetable consumption among economically middle and high strata of society leads to more demand of vegetables. Welfare schemes of Government of India like MNREGA, mid-day meal scheme, food security bill provides more scope for economically weaker section of society to include nutritious and high value commodities (like vegetable) in their diet, by supporting them to invest less on food grains. Under these conditions, diversification of cropping system with high value crops like, vegetables can be regarded as a viable option for Indian farmers to improve their incomes and the economic viability of Indian Agriculture. The major findings of the present study have a number of implications for policy makers at government levels, various extension workers and programme executing agencies, planner and administrator. Some of the implications are given below:

1. Modernization in agriculture and allied enterprises does not only present economic implications but also a tremendous amount of psychological implication.
2. Any isolated intervention encompassing either material or non-material factors could not make the process complete or accomplished.
3. So, in modernizing farm and farmers taking tomato, brinjal and potato as a test case, we need to adopt a package approaches which would ensure all the three basic psychomotor parameters viz. knowledge change, attitude change and change in adoption behavior to bring about a desirable change in modernization process.

The material and non-material, economic and non-economic, qualitative and quantitative elements of modernization process are being tuned or fabricated together in a dichotomy of interdependence to characterize and classify modernization process as a whole.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Independent variable</th>
<th>Correlation coefficient</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Age</td>
<td>-0.37</td>
<td>-4.31**</td>
</tr>
<tr>
<td>2.</td>
<td>Education</td>
<td>0.25</td>
<td>2.86**</td>
</tr>
<tr>
<td>3.</td>
<td>Training exposure</td>
<td>0.45</td>
<td>5.48**</td>
</tr>
<tr>
<td>4.</td>
<td>Economic motivation</td>
<td>0.25</td>
<td>2.86**</td>
</tr>
<tr>
<td>5.</td>
<td>Socio-politic participation</td>
<td>0.12</td>
<td>1.31</td>
</tr>
<tr>
<td>6.</td>
<td>Scientific orientation</td>
<td>0.36</td>
<td>4.19**</td>
</tr>
<tr>
<td>7.</td>
<td>Risk preference</td>
<td>0.20</td>
<td>2.23*</td>
</tr>
<tr>
<td>8.</td>
<td>Achievement motivation</td>
<td>0.30</td>
<td>3.42**</td>
</tr>
<tr>
<td>9.</td>
<td>Marketing orientation</td>
<td>0.45</td>
<td>5.48**</td>
</tr>
</tbody>
</table>

* indicates Significant at 5% level of probability ≥ 1.98 (118 d.f.), ** indicates Significant at 1% level of probability ≥ 2.61 (118 d.f.), NS indicates not significant.

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References


