

Technological Gap Among The Tribal Farmers

A. J. Patel¹ and J. C. Trivedi²

INTRODUCTION

There is 14.92 per cent tribal population in Gujarat. Among them 92.68 per cent tribals are living in rural areas and out of them 86.00 per cent are agriculturist and agricultural labourers having 21.14 per cent of literacy. Tribal areas being hilly, rocky and the land being undulating shallow having inferior type and very less awareness of agriculture resulting in backwardness. The tribal agriculture is mostly of subsistence in nature and characterised by the production of food grains just sufficient to meet their requirements generally at low level of living. It is clear that not only capital or finance is the barrier of the tribal farmers but their ignorance towards new agricultural technology and conservatism are also the obstacles in their progress. It is true that, India's real development lies in the development of these people. The gap between the poor and rich is very wide in many ways. The physical and mental separation of the tribals is responsible for their economic and social backwardness. They remain aloof from the rest of the society for generation. The isolation of the tribal areas from the out side world has prevented the

tribal from being exposed to new ideas and they are, therefore, extremely tradition bound and prime in their approach. This means that, when conscious and deliberate efforts were made to introduce them to methods of agriculture with which they are unfamiliar, they are likely very slow in accepting them.

METHODOLOGY

The present study was carried out in the tribal areas of Vadodara District of the Gujarat State in the year 1993-94. Out of the five talukas of the tribal sub-plan project, three talukas viz. Chhotaudepur, Naswadi and Pavi-Jetpur were selected purposively for this study. The villages in each selected taluka were classified into three groups viz. High, Medium and Low Communication facilities. The communication facilities score developed by Murthy and Singh (1974) was used. Two villages from each group were selected randomly. By this procedure, six villages were selected from each taluka representing the three levels of communication facility viz. High, Medium and Low, In all, 18 villages from three talukas were selected and from each village 15 tribal farmers were selected

1 Asstt. Res. Scientist (Ext.), Wheat Research Station, GAU, Vijapur.

2. Extn. Educationist, Extension Education Institute, GAU, Anand.

randomly. By this procedure, 90 tribal farmers from each taluka were selected which constituted total sample of 270 tribal farmers for the study.

For the purpose of technology, four crops viz. paddy (Drill), Maize, Tur and Black-gram were selected for the present study. These four crops are major crops of the area. The practices of the technologies for each crop included in the present study were as under :

1. Use of high yielding/hybrid/improved seeds of varieties of major crops.
2. Farm yard manure use for all the four major crops.
3. Use of chemical fertilizers for all the four crops.
4. Use of plant protection measures for all the four crops.

The technological gap was measured with the help of technological gap index developed by "All India co-ordinated Research programme in Extension", I.A.R.I., New Delhi (1979). The formula adopted for measuring technological gap index is as under :

$$\text{Technological gap index} = \frac{R - A}{R} \times 100$$

Where, R = Recommended practice
A = Practice actually adopted by the respondents.

Overall technological gap was calculated considering technological gap in

each of the practice selected for major crops in this study.

Technological gap :

Technological gap is a difference between recommended technologies or practices of crops and the practices or technologies which is actually used by the tribal farmers. Four major crops viz. (i) Maize, (ii) Paddy, (iii) Tur and (iv) Black gram were selected for the purpose of technology. The findings of the technological gap of major crops and overall technological gap are presented below :

Extent of technological gap in high yielding hybrid and improved seeds of varieties of major crops.

The data for the extent of technological gap in use of high yielding, hybrids and improved seeds of varieties of major crops are presented in Table 1.

It can be concluded from the data presented in Table 1 that majority (72.59, 67.04 and 52.96 per cent) of the respondents had placed in low level of technological gap for Maize, paddy and Tur crop, respectively. While in case of Black-gram crop majority (90.37 per cent) of the respondents had placed in high level of technological gap in respect of high yielding, hybrid and improved seeds is concerned.

The probable reasons might be that majority of the tribal farmers migrated in search of agricultural labour work in the

Table 1 : Extent of technological gap in high yielding, hybrid and improved seeds of varieties of major crops (N=270)

| Sr. No. | Level of Technological gap | Index range | Maize | Paddy | Tur | Black gram |
|---------|----------------------------|--------------|----------------|----------------|----------------|----------------|
| 1. | Low level | Upto 33 | 196 (72.59) | 181 (67.04) | 143 (52.96) | 26 (9.63) |
| 2. | Medium level | 34 to 66 | 00 | 000 | 00 | 00 |
| 3. | High level | 67 and above | 74 (27.41) | 89 (32.96) | 127 (47.04) | 244 (90.37) |
| Total | | | 270 | 270 | 270 | 270 |
| Mean | | | 27.41 | 32.96 | 47.04 | 90.37 |

(Figures in parenthesis represent percentage)

forward areas of the Vadodara district as well as in the forward areas of the Gujarat State, where the progressive farming for maize, paddy and Tur crop had been done by the non-tribal farmers. Tribal farmers might be heard and seen the bumper yield of the different high yielding varieties of the different crops by their naked eyes. Hence, they have adopted high yielding varieties so the technological gap in respect of high yielding hybrids and improved seeds of the different crop was low.

Extent of technological gap in use of farm yard manure in major crops :

The data for the extent of technological gap in use of farm yard manure in major crops are presented in Table 2.

The data in Table 2 reveal that majority (8.89 and 67.41 per cent) of the respondents had used farm yard manure

Table 2 : Extent of technological gap in use of farm yard manure in major crops. (N=270)

| Sr. No. | Level of Technological gap | Index range | Maize | Paddy | Tur gram | Black gram |
|---------|----------------------------|--------------|----------------|----------------|----------------|----------------|
| 1. | Low level | Upto 33 | 213 (78.89) | 182 (67.41) | 52 (19.26) | 65 (26.07) |
| 2. | Medium level | 34 to 66 | 00 | 00 | 00 | 00 |
| 3. | High level | 67 and above | 57 (21.11) | 88 (32.59) | 218 (80.74) | 205 (75.93) |
| Total | | | - 270 | 270 | 270 | 270 |
| Mean | | | - 20.56 | 32.59 | 80.74 | 75.93 |

(Figures in parenthesis represent percentage)

in Maize and paddy crops respectively. While majority (80.74 and 75.93 per cent) of the respondents were in high level of technological gap in Tur and Black-gram crops respectively.

It can be, concluded that majority of the respondents were in low level of Technological gap for Maize and paddy crops while majority were in high level of technological gap for Tur and Black-gram crops.

Tribal farmas had used very less farm yard manure so far Tur and Black-

and paddy crops only because both are the food grain crops and they might be fulfilling their food grain requirements. The other reason might be that, tribal farmers might be giving less important to Tur and Black-gram crops as compared to Maize and paddy crops.

Extent of technological gap in the use of chemical fertilizers in major crops.

The respondents were grouped into three categories in respect of their extent of technological gap in use of chemical fertilizers-in major crops and the data in

Table 3. Extent of technological gap in use of chemical fertilizers in major crops. (N=270)

| Sr. No. | Level of Technological gap | Index range | Maize | paddy | Tur gram | Black gram |
|---------|----------------------------|--------------|----------------|----------------|----------------|----------------|
| 1. | Low level | up to 33 | 50 (18.52) | 00 | 00 | 8 (2.96) |
| 2. | Medium level | 34 to 66 | 64 (23.70) | 1 (0.37) | 1 (0.37) | 144 (53.34) |
| 3. | High level | 67 and above | 156 (57.78) | 269 (99.63) | 269 (99.63) | 118 (43.70) |
| Total | | | 270 | 270 | 270 | 270 |
| Mean | | | - | 69.63 | 99.81 | 88.89 |

Figures in parenthesis represent percentage.) gram crops are concerned. The probable reasons might be due to less number of farm power possessed by the tribal farmers. Hence, they are not in position to make required quantity of farm yard manure. Thus, whatever farm yard manure they made had used in Maize and paddy crops only. They had used FYM in Maize

this respect are presented in Table 3.

The data presented in Table 3 concluded that majority of the respondents were found to hvae medium to high level of technological gap in respect of use of chmical fertilizers for all the four major crops.

Technological Gap Among...

The probable reasons might be due to medium to low level of knowledge regarding use of technology among tribal farmers, neutral to unfavourable attitude of the tribal farmers towards the use of chemical fertilizers as well as their poor economic condition etc.

Extent of technological gap in use of plant protection measures.

The data in this connection are presented in Table 4.

It can be concluded from the data presented in Table 4 that majority (100.00, 98.89, 99.26 and 99.63 per cent) of the respondents had medium level of technological gap so far use of plant protection is concerned for all the four major crops-Mize, Paddy, Tur and Black-garm respectively.

The probable reasons might be that due to poor economic condition of the

tribal farmers, medium level of knowledge about the recommended plant protection measures as well as low tendency to invest more in agriculture.

Overall technological gap :

Overall technological gap was calculated by considering technological gap in each of the practice. The data in this respect are presented in Table 5.

The data presented in Table 5 reveal that majority (70.74 per cent) of the respondents were in medium level of overall technological gap while 28.89 per cent of the respondents were in high level of overall technological gap.

It can be concluded that majority (70.74 per cent) of the respondents were in medium level of overall technological gap.

Table 4 : Extent of technological gap in use of plant protection measures in major crops. (N=270)

| Sr. No. | Level of Technological | Index range | Maize | paddy | Tur gram | Black |
|---------|------------------------|--------------|-----------------|----------------|----------------|----------------|
| 1. | Low level | up to 33 | 00 | 2 (0.74) | 1 (0.37) | 00 |
| 2. | Medium level | 34 to 66 | 270 (100.00) | 267 (98.89) | 268 (99.26) | 269 (99.63) |
| 3. | High level | 67 and above | 00 | 1 (0.37) | 1 (0.37) | 1 (0.37) |
| Total | | | 270 | 270 | 270 | 270 |
| Mean | | | - | 50.00 | 99.81 | 88.89 |

Figures in parenthesis represent percentage.)

Table 5 : Distributon of the respondents according to their overall technologi- cal gap. (N = 270)

| Sr. No. | Level of Technological gap | Index range | Number | Per cent |
|---------|----------------------------|--------------|--------|----------|
| 1. | Low level | up to 33 | 1 | 0.37 |
| 2. | Medium level | 34 to 66 | 191 | 70.74 |
| 3. | High level | 67 and above | 78 | 28.89 |
| Total | | | 270 | 100.00 |

Mean = 60.44

SD = 10.64

The probable reasons might be that is no irrigation facility, majority of the illiterate farmers, poor economic condition, medium knowledge level of recommended package of practices for different crops, medium economic motivation, medium scientific orientation, medium risk preference and medium cosmopolite localiteness. So

that tribal farmers follow or adopt the traditional farming and possess low tendency to invest more in agriculture.

The findings on exten of gap in respect of selected practcies of major crops conclusively prove that overall technological gap was medium among tribal farmers.

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