

## **Technological Gap And Its Relationship With Socio-personal Economic, Psychological, Situational and Communication Traits of Tribal Maize Growers**

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### **INTRODUCTION**

Maize is an important cereal crop and a staple food of tribals. Modern inputs as hybrid seeds insecticides, chemical fertilizers and improved implements are hardly use by tribal farmers for their agriculture. Therefore, agricultural production is not coming up according to expectation on the tribal area. Farm technologies for increasing maize production are being communicated to the tribals through the transfer of technology projects, eventhough the productivity is low on the tribal farms. This may be due to partial or non-adoption of recommended maize cultivation technology. As a result, there is a considerable gap in use of production technology recommended by a change agent. The adoption of recommended practices by the farmers is influenced by some traits of the farmers.

Keeping this in view, the present study was designed with the following objectives.

- (1) The technological gap in adoption of maize cultivation technologies
- (2) The relationship of socio-personal, economic, psychological situational and

communication traits of tribal famrers and technological gap.

### **METHODOLOGY**

The present study was conducted in four tribal talukas viz. khedbrahma, Bhiloda, Vijaynagar and Meghrej of sabarkantha district. Based on tribal population in the taluka, 5 villages each from Khedbrahma and Bhiloda talukas, 3 villages form Vijaynagar taluka and 2 villages form Meghrej taluka were randomly selected. Fifteen tribal farmers were randomly selected from each selected villages making a sample of 225 farmers. The sample size was decided on the basis of coefficient of variability in technological gap. The date were collected by personal interview method with the help of structured schedule. Eight improved practices of kharif maize cultivation were identified to know the technological gap. The technological gap index in each of the practice as well as overall technological gap of each respondent was calculated with the help of formula developed by Dudey *et al.* (1981) Zero order correlation was used to measure the estimating association between various traits and technological gap.

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**RESULTS AND DISCUSSION***Average Technological Gap :*

The data regarding average technological gap in different components of maize cultivation are summarized in Table 1.

varieties, spacing, seed rate and chemical fertilizers. There was a medium technological gap (34.66 per cent) in irrigation. A low (0.33 per cent) technological gap was found in thinning and no technological gap was found in weed control.

**Table 1 : Average technological gap in different comonents of maize cultivation.**

Item No	Differents components of maize technology	Average techno. gap	Rank
1	Recommended varieties	95.56	II
2	Recommended seed rate	95.11	III
3	Sowing distance (Spacing)	95.56	II
4	Thinning	18.00	VI
5	Chemical fertilizers	81.11	IV
6	Weed Control	00.00	VII
7	Irrigation	51.56	V
8	Plants Protection	96.89	I
Overall gap		54.77	

A perusal of Table-1 revealed that the reveage technological gap was found varied from component to component and could be ranged from zero per cent to 96.89 per cent. The maximum technological gap was observed in plant protection (96.89 per cent) followed by recommended varieties (95.56 per cent), spacing (95.56 per cent), recommended seed rate (95.11 per cent), chemical fertilizers (81.11 per cent), irrigation (51.56 per cent) and thinning (18.00 per cent).

It could be further inferred that there was a high (above 66 per cent) technological gap in plant protection,

The probable reason for higher percentage of technological gap in plant protection would be high cost of pesticides, non-availability of plant protection appliances and unawareness about pests and diseases.

Inadequate irrigation facilities, slopy and hilly land, high cost of fertilizers, non-availability of fertilizers in retail, lack of knowledge and traditional nature of tribal farmers might be the reasons for high technological gap in the use of chemical fertilizers.

## Technological Gap And...

The possible explanation for high technological gap in varieties might be the non availability of high yielding varieties seed in village, late maturing character of hybrid variety and lack of knowledge about recommended varieties.

Tribal farmers had not adopted spacing due to non-availability of improved implements and lack of knowledgs about the benefits of spacing, which, might be the causes for high technological gap.

The probable reasons for high technological gap in seed rate might be lack of knowledge about seed rate and to get more fodder.

The overall technological gap against recommended production technology was found to be 54.77 percent.

The finding was similar to the findings reported by Trivedi (1984) and Desai (1993).

### **Relationship of socio-personal, economic, psychological, situational and communication traits of the farmers and technological gap for maize crop.**

Selected socio personal economic, psychological, situational and comm. traits were studied to find out their relationship with technological gap. Data in this respect are presented in Table-2.

#### **(A) Relationship of Socio-personal Variables with technological gap.**

It could be seen from Table-2 that

family education, status of farmers, training received and social participation were found negative but they had significant relationship with the tcehnological gap having their 'r' value- -0.443,-0.217, - 0.422,- 0.410 and 0.207 respectively. It indicates that as the education of the farmers, family education, status of the farmers, training received and social participation increases the technological gap decreases.

The finding was in line with Kulkarni (1979) and Desai (1993).

The variables, age and family size failed to establish any significant relationship with technological gap.

#### **(B) Relationship of Economic Variables with Technological Gap.**

Date from Table-2 revealed that three variables viz. farm machinery equipment possessed (-0.214), annual income (-0.296) and fram planning (-0.304) had a negative and significant correlation with the technological gap indicated that as the farm machinery: equipment possessed, income level and fram planning increases, the technological gap decreases.

The finding was similar to that of Desai (1993).

The variables viz. fram size, live stock possessed implement possessed and indebtedness did not establish any significant relationship with the technological gap.

**Table 2 : Relationship of Socio-personal, economic, psychological situational and communication variables with technological gap.**

Sr. No.	Variables	Correlation Coefficient
<b>A.</b>	<b>Socio-personal Variables</b>	
	1. Age	0.056
	2. Family size	0.041
	3. Education	- 0.443**
	4. Family education	- 0.217**
	5. Status of the farmers	- 0.422**
	6. Training received	- 0.410**
	7. Social participation	- 0.207**
<b>B.</b>	<b>Economic variables</b>	
	1. Farm size	- 0.023
	2. Livestock possessed	0.023
	3. Farm machinery/equipment possessed	- 0.214**
	4. Annual income	- 0.296**
	5. Implement possessed	- 0.108
	6. Indebtedness	0.049
	7. Farm Planning	- 0.304**
<b>C.</b>	<b>Psychological variables</b>	
	1. Perception about instutional credit.	- 0.204**
	2. Attitude towaed HYVS	- 0.160*
	3. Scientific orientation	0.114
	4. Risk perference	- 0.104
	5. Economic motivation	0.104
	6. Overall modernity	- 0.450**
	7. Knowledge about technology	- 0.336**
<b>D.</b>	<b>Situational variables</b>	
	1. Cropping system	- 0.209**
	2. Cropping intensity	- 0.188**
	3. Irrigation potentiality	- 0.167**
	4. Agril. infrastructure facilities	- 0.220**
<b>E.</b>	<b>Communication variables</b>	
	1. Extension participation	- 0.464**
	2. Sources of information	- 0.490**
	3. Source credibility	- 0.340**

\*\* Significant at 0.01 level of probability.

**(C) Relationship of psychological variables with Technological gap**

Table-2 portrays that perception about institutional credit (-0.204), attitude toward high yielding varieties (-0.160), overall modernity (-0.450) and knowledge about technology (-0.336) were found to have a negative and significant association with technological gap. It was also observed that as the perception about institutional credit, attitude toward high yielding varieties, overall modernity and knowledge level about technology increases the technological gap decreases.

This finding supports the view expressed by Trivedi (1984), Patel (1988) and Desai (1993).

The variables namely scientific orientation, risk preference and economic motivation could not establish any significant relation with technological gap.

**(D) Relationship of situational variables with Technological Gap**

Data presented in Table-2 show that all the four variables viz. cropping system, cropping intensity, irrigation potentiality and agricultural infrastructure facilities had negative and significant association with technological gap. Having the 'r' values, -0.209, -0.188, -0.167 and -0.220 respectively. Data further reveal that as the cropping system, cropping intensity, irrigation potentiality and agricultural infrastructure facilities increases the technological gap decreases.

This finding was supported by Trivedi (1984) and Desai (1993).

**(E) Relationship of Communication variables with technological gap.**

Data from Table-2 revealed that, extension participation, sources of information and source credibility were found to have a negative and significant association with technological gap indicated that as the extension participation, sources of information and source credibility increases the technological gap decreases.

The finding was similar to Desai (1993).

**CONCLUSION**

It is evident from the finding of the study that there was a high technological gap in plant protection, varieties, spacing, seed rate and chemical fertilizers. No technological gap was found in weed control.

Education, family education, status of the farmers, training received, social participation, farm machinery/ equipment possessed, annual income, farm planning, perception about institutional credit, attitude toward high yielding varieties, overall modernity, knowledge about technology, cropping system, cropping intensity, irrigation potentiality, agricultural infrastructure facilities, extension participation, sources of information and source credibility were negatively related with technological gap.

### IMPLICATIONS

(1) A high technological gap was observed in plant protection variety, spacing, seed rate and chemical fertilizers. Thus, the extension agency needs to put in more educational efforts to transfer the available technical know-how of these practices to the farmers as speedily as possible.

Moreover, more emphasis on such items should be given in farmers' training programmes.

(2) There are some important variables such as education, status of the farmers, training received, overall modernity, extension participation, sources of information and knowledge about technology who had highly association with technological gap. Hence, effort should be made by the extension agency as well as Government to increase education facility, training facility and information sources to minimise the technological gap.

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It is my certain conviction that no man loses his freedom except through his own weakness

- GANDHI