TECHNOLOGICAL GAP IN RICE PRODUCTION TECHNOLOGY

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Transfer of technology in Agriculture is a function of two interacting system, the client system and the change agent system. The client system comprises the farmers and their social, culture, economic and technological environment. Extension personnel and their organizational environment constitute the change agent system. Technology is the essential input to augment the production and consequently the socio-economic process in society and consequently promote the socio-economic status in society. The researches aim at generating useful technologies meant for the development of ultimate users but the challenging situation regarding adoption of the technologies generated by situation. It is estimated that about 30% of the available technologies are adopted by the farmers.

The commonly indicated causes for this gap are inadequate, ineffective extension education, inadequate input supply, inadequate credit supply and inadequate marketing infrastructure. (Hansra and Adhigura 1998).

Although, public extension service has contributed for achieving self-sufficiency in food grain production, in recent past it is general disappointing in transferring improved agricultural technique from researchers to farmers in developing country. (Roger 1987).

A large number of research findings on scientific agriculture have been evolved but not all of them have been adopted by the farmers. This has resulted into a wide gap between available scientific knowledge in agriculture science and its practical application or adoption. Therefore, the main task of extension service is to narrow the technological gap by enabling the farmers to achieve the same production as it is achieved as the research stations or demonstration farms.

In this context, a study was taken up to identify the nature of technological gap of the client system and the change agent system in agriculture with the following objectives.

1. To study the socio-economic profile of respondents.
2. To study the technological gap in transfer of rice production technology.
3. To study the correlationship between socio-economic variables and technological gap in rice production technology.

METHODOLOGY

The study was purposively conducted in Ranipur block of Mau district (U.P.) on the ground of being a major rice growing area. Four villages were randomly selected from the village list of the block for the study. From sample village, four categories of respondents/ farmers were selected on the basis of proportionate random sampling technique with respect to land holding size, framing the categories viz. Marginal, small, medium and large farmers. Thus, there were 100 respondents in total for the study undertaken.

The structured pre-tested interview schedule was used for collecting the needful information and for analysis and interpretation of data, the appropriate statistical measurements were used.

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RESULTS AND DISCUSSION

The table depicted that the majority of rice growers (58%) were from middle age group. Regarding educational status, the majority (9%) were found literate amidst which most of the farmers (21%) were graduate and above followed by high school (20%) and primary level (19%). In caste composition, the respondents majority (52%) belonged to general caste. With respect to family type, the majority of the respondents (78%) were from joint families whose (90%) family size were in between 5-17 members. The holding size was reported small by the majority (35%) of the respondents and the occupation, agriculture by (79%). Most of the farmers (39%) had their participation in one organization only. The socio-economic status of the respondents as reported by the majority (67%) was of medium level. The scientific and risk orientation were also of medium categories as reported by the majority of rice growers viz. (79%) and (67%) respectively.

Socio-economic profile of the respondents :

S. No.	*Socio economic profile categories*	Rice growers (N =100)	
		Frequency	Percentage
1.	**Age composition**		
	Up to 40 years (young)	23	23.00
	41-63 years (middle)	58	58.00
	Above 63 years (old)	19	19.00
	Mean: 52		
2.	**Educational status**		
	Illiterate	0.9	09.00
	Literate	91	91.00
	a-Primary	19	19.00
	b-Middle	18	18.00
	c-H.S.	20	20.00
	d-Intermediate	13	13.00
	e-B.A. and above	21	21.00
3.	**Caste composition**		
	General caste	52	52.00
	Backward caste	12	12.00
	Scheduled	36	36.00
4.	**Family type**		
	Single	22	22.00
	Joint	78	78.00
5.	**Family size**		
	Upto 4 members	01	01.00
	5-17 Members	90	90.00
	Above 17 members	09	09.00
	Mean: 10.32		
6.	**Holding size**		
	Marginal (up to 2.5 acres)	25	25.00
	Small (2.6-5.00 acres)	35	35.00
	Medium (5.1-10.0 acres)	24	24.00
	Big (above 10.00 acres)	16	16.00
	Mean: 7.13		
7.	**Occupation**		
	Agriculture labour	02	02.00
	Caste occupation	00	00.00
	Service	17	17.00
	Agriculture	79	79.00
	Business	02	02.00
8.	**Social participation**		
	No participation	59	59.00
	Member of one organization	39	39.00
	Member of two organization	01	01.00
	Member of more than two organizations or office bearer	01	01.00
9.	**Socio-economic status (S.E.S.)**		
	Upto 75(low)	15	15.00
	76-109 (middle)	68	68.00
	Above 109 (High)	17	17.00
	Mean : 92.39		
10.	**Economic motivation**		
	Upto 24 (low)	25	25.00
	25-28 (medium)	67	67.00
	Above 28 (high)	08	08.00
	Mean: 26.05		
11.	**Scientific orientation**		
	Upto 23(low)	15	15.00
	24-26(medium)	79	79.00
	Above 26 (high)	06	06.00
	Mean: 24.64		
12.	**Risk orientation**		
	Upto 22(low)	20	20.00
	Medium 23-26	67	67.00
	Above 26 (high)	13	13.00
	Mean: 24.15		

Technological Gap :

It is obvious from Table-1 that majority of respondents (60.00%) were observed in the medium (upto 35) category of technological gap, followed by high (21.00%) and low (19.00%) respectively.

Table 1. Overall technological gap in rice producation tchnologies

Categories (scores)	Respondets	
	Number	Percentage
Low (up to 35)	19	19.00
Medium (36-63)	60	60.00
High (above 63)	21	21.00
Total	**100**	**100.00**

Mean=49.91, S.D.=14.17, Min.=22.40, Max=73.64

Table-2 Showing practice wise technological gap in rice production technologies

S. N.	Rice production technologies practices	Average Technological gap (%)	Rank order
1	Improved seed	77.97	I
2	Nursery bed preparation	24.74	X
3	Nursery sowing and raising	56.60	III
4	Land preparation for trans lanting of paddy	32.53	IX
5	Transplantation	39.31	VIII
6	Fertilizer application	54.03	IV
7	Irrigation	43.83	VII
8	Weeding	53.08	V
9	Plant protection measures	61.33	II
10	Harvest/post harvesting	51.44	VI

It is obvious from Table-2 that out of 10 rice production technological practices, four rice production technological practices were observed major by the majority in widening the technological gap in rice production technology such as (I) Improve seeds (HYV) (77.97%), (II) Plant protection measure (61.33%), (III) Nursery sowing and raising (56.60%) and (IV) Fertilizer application (54.03%) were felt by almost all the members of the farming community.

It is evident from the value of correlation coefficient as reported in Table (3) that among 26 variables, three variables i.e. family type, knowledge gap and constraints were found highly significant and positively correlated with extent of technological gap. The variables found highly significant but negatively correlated with technological gap were education, caste, housing pattern, informal sources, knowledge and adoption extent.

Table 3. Correlation coefficient (r) between different variables and extent of technological gap

Variables	Correlation coefficient (r)
Age	0.0505
Education	-0.3130**
Caste	-0.4026**
Family type	0.2485**
Family size	0.1128
Irrigated areas (Acres)	-0.2413*
Un-irrigated areas (Acres)	-0.1179
Fragmentation index	0.1456
Housing pattern	-0.2591**
Occupation	0.0318
Social participation	0.0097
Farm power	-0.1409
Agril. Implements	-0.2018*
Housing hold materials	-0.0403
Transport facilities	-0.0427
Communication media	-0.0248
Formal sources	-0.0509
Informal sources	-0.2625**
Mass media exposure	0.0731
Economics motivation	0.0840
Risk orientation	0.0479
Scientific orientation	-0.1119
Knowledge	-0.9784**
Knowledge gap	0.9785**
Adoption	-1.0000**
Constraints	0.3120**

* Significant at 0.5 probability level= 0.1946
** Significant at 0.01 probability level = 0.2540

CONCLUSION

On the basis of above findings three variables viz., family type, knowledge gap and constriants were found highly significant and positively correlated with extent of technological gap. The variables found highly significant and negative correlated with technical gap were education, caste, housing pattern, informal sources, and knowledge and Adoption extent. The variables i.e. irrigated areas and Agril. implements were found to be significant but negatively correlated.

Majority of respondents had medium level of adoption followed by respondents who had low level and high level of adoption extent.

Suggestions:

The following suggestions were made on the basis of the present investigation.

1. The state department of Agriculture should to ensure the timely and adequate supply of inputs and to make good road for carrying inputs and disposal of farm conveniently.
2. Ensure the adequate farmer's training on paddy technology for increasing the knowledge level of the farmers.
3. Lack of knowledge about the different package of practices, non-availability of plant protection chemicals, no availability of seed treatment chemical, lack of good market, lack of advice and guidance form change agents, high irrigation charges, non -availability of HYV seed/fertilizer, inadequate supply of diesel for irrigation, lack of fertility of land, more incidence of pest and disease, non-availability of skilled farm workers, lack of technical knowledge for field application, lack of moisture retention of land, lack of land leveling, fragmentation of land leveling were observed as major constraint to adoption of recommended practices of paddy production technology. These constraints may be overcome by the respective extension and administrative personnel to facilitated the frequent diffusion and adoption of innovative technologies. So, as to bridge up the technological gap existing there in rice grower's community.

REFERENCES

1. Chitnis, D.H. and Bhilegaonkar, M.G. (1985), Technological gap in dry farming system an analysis. *Maharashtra J. of Ext. Edn.*, Vol. IV, pp. 73-76.
2. Gupta, A.K. and Sood, A. (1993). Technology gap on production of paddy. *Indian J. of Ext. Edn.*, Vol. XXIX. Nos. 3&4, pp. 87-88.
3. Hansara, B.S. and Adhiguru, P. (1998). Agril. Transfer of technologies approaches since independent in *Indian J. of Ext. Edn.*, 9 (4).
4. Sharma, M.L. and Khan, M.A. (1997). Communication sources of South Eastern Madhya Pradesh. *Agril. Ext. Review*, Vol. 9, 21-22.
5. Waghdhare, K.W. and Dupare., U. (1997). Factors facilitating adoption of soybean cultivation technology. *Agril. Ext. Review*, Vol. IX, No. 4: 14.

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