

One more important factor for the success of any programme is to provide necessary sufficient condition. For example, Pani Samiti is ready to implement the programme but what happens if money is not delivered to them on time? Or Pani Samiti timely submits the Village Action Plan but they do not get approval timely? If their demands are not fulfilled on time gradually they start losing interest. Or people understands the importance of drinking safe water but safe water is not provided to them regularly and in sufficient quantities? Thus communication has an important role to play but success of the programme is just not depend on communication, various other factors also have their own role in it.



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7. Communication Behaviour among Tribal Farmers of Gujarat

INTRODUCTION

Communication behaviour towards in the present context means the response of the tribal farmers towards use of different extension and communication methods and credibility given to the different extension and communication methods by the farmers for getting the complete idea for adoption of soil and water conservation technologies for sustainable agricultural production in the watershed development.

According to Rogers, "adoption process is the mental process through which an individual passes from hearing about an innovation to final adoption." Adoption is a sequence of thoughts and actions, which an individual goes through, before he finally adopts a new idea (Reddy, 1987).

Rogers and Shoemaker (1971) defined credibility as "the degree to which a source is perceived as trust worthy and having expertise by the receiver." Credibility of different extension methods and audio-visual aids varies from person to person because it depends on user's interest, knowledge, understanding and orientation with extension methods and audio-visual aids. Literate persons may assign more credibility to written extension methods, whereas, illiterate may assign

more credibility to skill oriented practical methods in which audio and visual senses are involved. Therefore, for effective transfer of Soil and Water Conservation (SWC) technologies, a suitable extension method or combination of extension methods should be used according to need and understanding of beneficiaries.

The extension methods for transfer of technology involve audio, visual aids and a combination of both audio-visual aids. The credibility of audio-visual methods may be more than the individually audio methods and visual methods, because in audio-visual, information regarding particular innovation can be heard as well as seen. The study was taken to assess the communication behaviour of farmers towards different extension and communication methods with the following objectives:

- (i) To study the communication behaviour of tribal farmers SWC technologies.
- (ii) To assess the frequency use and credibility behaviour by the farmers towards extension and communication methods in adoption of SWC technologies.
- (iii) To study the interrelationship in between socio-economic variables and the communication behaviour of tribals.

MATERIAL AND METHODS

The study was conducted during 1993-94 in Navamota watershed in Khedbrahmma taluka of district Sabarkantha in Gujarat State. Sabarkantha, the Northern most district bordering Rajasthan and the watershed falls in the lower hills of Aravali belt with undulating topography. The watershed is located at 24° 13' N latitude and 73° 01' E longitudes at a height of 204 m above mean sea level. The total area of the watershed is 313 ha covering parts of the villages of

Navamota, Umbora, Chhapra and Kheroj. Farmers of the watershed were economically poor having small and marginal land holdings. Eighty-six percent of population were tribals. A survey of 50 farm families living inside the watershed was carried out with the help of structured schedule and personal interview. The socio-economic traits were measured with the help of available scale of Parekh and Trivedi (1963) with modifications. A three-point-continuum structured schedule was developed to measure the adoption behaviour of tribal farmers and scoring was done as score 0 for not aware; 1 for aware but not adopting and 2 for adopting. Another schedule was also developed to assess the credibility behaviour of farmers towards important sixteen extension methods as described by Reddy (1987). The responses of the respondents were recorded on the schedule against each extension method on three-point-continuum scale as less trusted, trusted and most trusted. The scoring was done as 1 for less trusted, 2 for trusted and 3 for most trusted extension method. To find out frequency use of extension and communication methods, the responses were recorded on five-point-continuum scale and scores were assigned as 1, 2, 3, 4 & 5 for sometime in a year, monthly, weekly, more than once in a week and daily respectively. The data were computed to find out the credibility intensity index and frequency intensity index scores towards a particular extension method was determined. It may be expressed in equation as below:

$$\text{Credibility Intensity Index} = \frac{\sum_{i=1}^N CS_i}{N}$$

where,

CS_i = Credibility score assigned by the respondents to the i th extension method.

N = Total number of respondents.

The frequency use intensity index was also calculated in the same way as in case of credibility intensity index as below:

$$\text{Frequency Use Intensity Index} = \frac{\sum_{i=1}^N FS_i}{N}$$

where,

FS_i = Frequency use score assigned by the respondents to the i th extension method.

N = Total number of respondents.

Communication Behaviour

To find out the communication behaviour of tribal farmer's the following simple relationship was hypothesised:

$$CB = \sum_{i=1}^N (F_i + C_i + A_i)$$

Where, CB is the communication behaviour of farmers; F_i is weightage of frequency use of communication and extension methods by farmers; C_i is weightage of credibility given to communication and extension methods by farmers, A_i is weightage of adoption behaviour of farmers towards SWC techniques and N is the total number of respondents (Bagdi and Singh, 1995).

RESULTS AND DISCUSSION

Frequency Use of Extension and Communication Methods

Radio and television were most frequently used extension methods by the tribal farmers in adoption of SWC technologies and assigned maximum frequency mean scores 2.62 and 2.44 respectively and placed on top of hierarchy of rank order (Table 7.1). Discussion meeting method occupied third position in rank order

Table 7.1. Frequency of Extension Methods used by Farmers in Adoption of SWC Technologies

Extension methods	Frequency use by respondents					Frequency Rank order
	Sometime in a year	Monthly	Weekly	More than once in a week	Daily	
Farm and Home visit	13 (26)	31 (62)	6 (12)	0	0	IV
Office call	12 (24)	0	0	0	0	XIII
Personal letter	9 (18)	1 (2)	0	0	0	XIV
Result demonstration	27 (54)	16 (32)	0	0	0	V
Method demonstration	26 (52)	3 (6)	0	0	0	VI
Training	18 (36)	4 (8)	0	0	0	VII
Lecture meeting	7 (14)	0	0	0	0	XV
Discussion meeting	3 (6)	26 (52)	15 (30)	3 (6)	0	III
Tour	10 (20)	5 (10)	0	0	0	X
Bulletin	6 (12)	0	0	0	0	XVI
Newspaper	5 (10)	4 (8)	4 (8)	0	0	VIII
Radio	8 (16)	13 (26)	16 (32)	6 (12)	5 (10)	I
Television	14 (28)	15 (30)	8 (16)	6 (12)	6 (12)	II
Exhibition	15 (30)	3 (6)	0	0	0	IX
Poster	13 (26)	1 (2)	0	0	0	XI
Documentary film	14 (28)	0	0	0	0	XII

(Figures in parentheses are in percentage).

with 2.24 frequency mean score. The farm and home visit and result demonstration methods were on fourth and fifth ranks with 1.86 and 1.18 frequency mean scores respectively. Similar findings were also reported by Laxminarayana and Veerbhadraiah, 1992.

Credibility of Extension Methods among Tribal Farmers

The most credible and effective extension method in transfer of soil and water conservation technologies was result demonstration as perceived by the majority (72%) of respondents with maximum credibility mean score 2.68. Training was also considered second most trusted method and assigned 2.48 credibility mean score. Farm and home visit, television and discussion meeting were placed on third, fourth and fifth rank orders with credibility mean scores 2.36, 2.34 and 2.24 respectively. Therefore, the most trust worthy and effective methods in transfer of soil and water conservation practices as considered by tribal farmers were result demonstration, training, farm & home visit, television and discussion meeting (Table 7.2). The least trusted extension and communication methods for adoption of SWC practices as perceived by tribal farmers were bulletin, office call, personal letter, lecture meeting and newspaper, tour and poster with credibility intensity indices 1.00, 1.02, 1.12, 1.14, 1.42 and 1.48.

Adoption Behaviour

Frequency distribution of different soil and water conservation practices adopted by tribal farmers in the watershed are in Table 7.3. The practices were grouped into two categories on their basis of adoption by farmers, as (i) individually adopted: these practices were adopted by individual farmer on their land and (ii) community adopted: these practices were adopted by farmers in group or community basis.

Table 7.2. Credibility of Extension Methods among Tribal Farmers in Adoption of SWC Technologies

Extension Methods	Credibility behaviour of respondents				Rank order
	Less trusted	Trusted	Most trusted	Credibility Intensity Indices	
Farm and home visit	5 (10)	22 (44)	23 (46)	2.36	III
Office call	49 (98)	1 (2)	0 (0)	1.02	XV
Personal letter	46 (92)	4 (8)	0 (0)	1.08	XIV
Result demonstration	2 (4)	12 (24)	36 (72)	2.68	I
Method demonstration	9 (18)	35 (70)	6 (12)	1.94	VII
Training	2 (4)	22 (44)	26 (52)	2.48	II
Lecture meeting	44 (88)	6 (12)	0 (0)	1.12	XIII
Discussion meeting	8 (16)	22 (44)	20 (40)	2.24	V
Tour	31 (62)	17 (34)	2 (4)	1.42	XI
Bulletin	50 (100)	0 (0)	0 (0)	1.00	XVI
Newspaper	43 (86)	7 (14)	0 (0)	1.14	XII
Radio	2 (4)	35 (70)	13 (26)	2.22	VI
Television	5 (10)	23 (46)	22 (44)	2.34	IV
Exhibition	21 (42)	19 (38)	10 (20)	1.78	VIII
Poster	32 (64)	12 (24)	6 (12)	1.48	X
Documentary film	22 (44)	25 (50)	3 (6)	1.62	IX

(Figures in parentheses indicate the percentage).

Table 7.3. Frequency Distribution of SWC Practices Adopted by Tribal Farmers of Navamota Watershed

Technology	Not aware	Aware but not adopting	Adopting
(i) Adoption on Individual Basis			
Contour farming	2 (4)	3 (6)	45 (90)
Intercropping	1 (2)	5 (10)	44 (88)
Cover cropping	38 (76)	9 (18)	3 (6)
Green manuring	30 (60)	12 (24)	8 (16)
Mulching	42 (84)	8 (16)	—
Summer ploughing	13 (26)	29 (58)	8 (16)
Multiple cropping	33 (66)	13 (26)	4 (8)
Strip cropping	50 (100)	—	—
Land levelling	18 (36)	27 (54)	5 (10)
Bunding:			
a. Marginal bunding	24 (48)	6 (12)	20 (40)
b. Contour bunding	2 (4)	16 (32)	32 (64)
Terracing	29 (58)	18 (36)	3 (6)
Sodding of bunds	27 (54)	19 (38)	4 (8)
Grassed waterway	44 (88)	5 (10)	1 (2)
Agro forestry	6 (12)	27 (54)	17 (34)
(ii) Adoption on Community Basis			
Peripheral bunding	50 (100)	—	—
Check dam	11 (22)	38 (76)	1 (2)
Gully plug	43 (86)	7 (14)	—
Gully head protection works	49 (98)	1 (2)	—
Dug out pond	9 (18)	41 (82)	—
Silvipasture system in grazing land	38 (76)	9 (18)	3 (6)
Staggered planting of sloppy land	49 (98)	—	1 (2)

(Figures in parentheses indicate the percentage).

Majority of farmers (90%) have adopted "contour farming" practice; 3 farmers were aware but not adopting and only 2 farmers were unaware of the practice. The second most popular SWC practice was "intercropping" with 88 percent of adoption level; 5 farmers were aware of it but not adopting and only 1 farmer was unaware of it. The third important SWC practice was "contour bunding," in this practice out of the total 50 farmers and 32 farmers were adopting the practice, 16 farmers were aware but not adopting and 2 farmers were unaware about the practice. The fourth important SWC practice was "marginal bunding" in which out of total 50 farmers 20 farmers were adopting the practice, 6 farmers were aware but not adopting and 24 farmers were unaware about the practice. The fifth important SWC practice considered by tribal farmers was "agro forestry" in which out of the total 50 farmers 17 farmers were adopting; 27 farmers were aware but not adopting and 6 farmers were unaware the practice. Strip cropping, peripheral bunding and gully head protection works were the other extremes as the respondents were not even aware of them.

The Table 7.3 also reveals that there were some important SWC practices, which were aware but not adopting by majority of farmers. The such important practices were "dug out pond" was not adopted by any farmer, whereas 41 farmers were aware but not adopting; "check dam" was adopted by one farmer and 38 farmers aware but not adopting; "summer ploughing" was adopted by 8 farmers and 29 farmers aware but not adopting and followed by the "land levelling" was adopted by 5 farmers and 27 farmers were aware but not adopting. The farmers may not be able to adopt these practices due to high cost incurred in adoption or unsuitability to the field conditions. Therefore, the low-cost or no-cost soil and water conservation technologies suitable a needed to the specific field conditions

may be developed for their easy adoption by farmers. The adoption of SWC practices also depends on community joint decision and participation, particularly in those practices, which are adopted on community basis.

Table 7.4. Regression Analysis of Communication Behaviour of Farmers

Variable	Regression coefficient	Student "t" value
Age	2.339	1.229
Land holding	1.245	1.701
Education	3.423	2.186*
Family size	-8.370	-0.951
Family education	2.163	0.483
Frequency use	9.930	30.750**
Credibility	1.029	23.497**
Adoption	7.880	18.953**

$R^2 = 0.988$.

* Significant at 5 percent level of probability.

** Significant at 1 percent level of probability.

INTERRELATIONSHIP BETWEEN COMMUNICATION BEHAVIOUR AND SOCIO-ECONOMIC TRAITS OF TRIBAL FARMERS

The Table 7.4 reveals the interrelationship in between dependent variable i.e., communication behaviour with eight independent variables viz., age, land holdings, education, family size, family education, frequency use, credibility and adoption. The multiple linear regression analysis of eight independent variables with communication behaviour of farmers was done. Educational status was found positively and significantly correlated with the communication behaviour at 5 percent level of probability. The frequency use and credibility of extension and communication methods were found positive and significant with communication behaviour at 1 percent level of probability. Adoption

behaviour of farmers towards SWC practices was also found positive and significant with communication behaviour at 1 percent level of probability. Overall 98.8 percent of variation in the communication behaviour was explained by the independent variables included in the study, as seen by the R^2 value.

CONCLUSION

It may be concluded that the most trusted extension and communication methods perceived by rural tribal farmers in adoption of soil and water conservation technologies were result demonstration, training, farm & home visit, television and discussion meeting. Therefore, for easy and effective transfer of SWC innovations from experimental field to agricultural fields of rural tribal farmer's the result demonstration, training and farm & home visit extension methods should be used more frequently by scientists and field extension personnel. The most important soil and water conservation technologies adopted for sustainable agricultural production in the watershed were contour farming, intercropping, contour bunding, marginal bunding and agroforestry. The farmers may not be able to adopt engineering SWC technologies due to high cost incurred in adoption or unsuitability to the field conditions. Therefore, the low-cost or no-cost soil and water conservation technologies suitable and needed to the specific field conditions may be developed for their easy adoption by farmers.

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8.

ICT in Higher Education: Scope and Challenges

INTRODUCTION

Information Communication Technology (ICT) has become the most widely used or pronounced buzzword of the computer industry. It has helped in all walks of life in one way or the another. ICT is the modern science of gathering, storing, manipulating, processing and communicating desired types of information in a specific environment. 'Computer Technology' and 'Communication Technology' are the two main supporting pillars of this technology and the impact of these two in the information storage and dissemination is vital. In the field of education too, ICT plays a strong and influencing role. Every walk of our life and the quality of work life in general are greatly influenced and determined by ICTs (Samantaray, 2000).

Today, ICT covers and controls various areas of society and human lives viz.,

- Easy communication to any part of the world.
- Rapid access to information.
- Easy access to library, library catalogues.
- Health information, medical guidelines and treatment suggestions.
- On-line leisure time activities etc.