

COMMUNICATION AND EXTENSION METHODS FOR EFFECTIVE TRANSFER OF SOIL AND WATER CONSERVATION TECHNOLOGIES

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ABSTRACT : A study was conducted during 1993 in Navamota Watershed in Khedbrahma taluka of Sabarkantha district of Gujarat to find out the communication behaviour of tribal farmers towards soil and water conservation practices. In the Watershed 86 per cent farmers are tribal with small and fragmented land holdings and poor economic condition. There is mounting pressure on land due to increased biotic pressure. All the farmers practise agriculture as primary occupation. There is little or negligible farming on contours. Only 36 per cent farmers are literate, out of which only 10 per cent are of more than primary school standard. It is also observed that "Farm and Home Visit" method of communication is the most effective. The communication behaviour of farmers is significantly correlated with educational status, frequency use, credibility of communication and extension methods and adoption behaviour of farmers.

Communication and extension methods play a vital role in transfer of new technologies which has been developed by researchers. Such methods are very useful to make rural farmers know, understand, accept and adopt integrated soil and water conservation (SWC) innovations in order to conserve natural resources and increase agricultural production on sustainable basis.

SWC to a large extent depends on a steady and sustained flow of latest technological innovations through suitable communication and extension methods. The scientific package of practices on SWC may be provided in the simplest form so that farmers may understand easily, accept and adopt the innovations. The study was made with the objectives: (i) to evaluate the various communication and extension methods used by the farmers in acquiring knowledge about SWC technologies, (ii) to analyse the communication behaviour of the farmers towards SWC technologies and (iii) to find out the relationship of socio-economic and personal characters (independent variables) with communication behaviour (dependent variable).

MATERIALS AND METHODS

The study was conducted in Navamota watershed located in Khedbrahma taluka of district Sabarkantha in Gujarat state. Sabarkantha is the northern most district bordering to Rajasthan and the watershed falls into the lower hills of Aravali belt having undulating topography. The watershed is located at 24° 13' N latitude and 73° 01' E longitude at a height of 204 m above m.s.l. The total area of the watershed is 313 ha covering parts of the villages of Navamota, Umbora, Chhapra and Kheroj. The farmers of the watershed are poor having small and marginal land holdings. Eighty six per cent of the population are tribals practising subsistence level farming. Under this study a survey of all the 50 farm families living inside the watershed was carried out with the help of a purposely structured schedule. The data were analyzed to find out the frequency and credibility of rural farmers towards use of communication and extension methods and to find out simultaneously the adoption level of farmers towards SWC practises. To measure the socio-economic variables

the available schedule of Trivedi and Pareek (1963) was used. A standard schedule was developed to measure the frequency use, credibility of communication and extension methods including adoption behaviour of farmers towards SWC technologies. To study the communication behaviour of rural farmers 21 communication and extension methods were selected as used by Reddy (1987).

To find out the communication behaviour of rural farmers the following simple relationship was hypothesized:

$$CB = \sum_{i=1}^n (F_i + C_i + A_i), \text{ in which CB is the}$$

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 and A_i is weightage of adoption behaviour of farmers towards SWC techniques.

Communication behaviour is dependent variable and as per the above model it comprises of frequency use of communication and extension methods, credibility given to communication and extension methods by the farmers and adoption behaviour of farmers towards SWC technologies.

A set of eight independent variables pertaining to socio-economic and personal characters of the farmers were selected are age, land holding, education, family size, family education, frequency, credibility and adoption.

RESULTS AND DISCUSSION

To study the communication behaviour of farmers 21 communication and extension methods were selected: 1) farm and home visit 2) office call

3) telephone call 4) personal letter 5) result demonstration 6) method demonstration meeting 7) training 8) lecture meeting 9) conference 10) discussion meeting 11) tour 12) bulletin 13) leaflet 14) news paper 15) circular letter 16) radio 17) television 18) exhibition 19) poster 20) documentary film 21) puppet show.

Effect of communication and extension methods

Data on different communication and extension methods used for acquiring knowledge of SWC practices by the farmers are presented in table 1. Farm and home visit, television, radio, discussion, meetings, result demonstration and method demonstration methods were the most effective communication and extension methods used by the tribal farmers for acquiring improved SWC technologies. The farm and home visit method was used by all the 50 tribal farmers, in which 13 farmers used the method some time in a year, 31 farmers at monthly interval and 6 farmers used at weekly interval. None of the farmers used this method as more than once a week (or daily). It might be due to the fact that farm and home visit methods provides an opportunity for across the table discussion and results in providing clarity. The second most important method was television which was used for acquiring SWC knowledge by 49 out of 50 farmers. It might be due to the fact that the television with audio and visual effects is emerging as a very powerful medium among middle class and even low income group families. Fourteen of the 49 farmers watch TV occasionally, 15 farmers watch at monthly interval, 6 use the medium even daily. The third most important method considered by the rural farmers was radio. Forty eight out of 50 farmers were using this method for acquiring knowledge. In this method 8 were listening to radio sometimes in a year, 13 were using at monthly interval, 16 were listening to radio at weekly interval, 6 used more than once

Table 1. *Frequency use of communication and extension methods by farmers*

Method	Frequency					Total
	Sometime in a year	Monthly	Weekly	More than once in a week	Daily	
Farm and home visit	13	31	6	0	0	50
Office call	12	0	0	0	0	12
Telephone call	0	0	0	0	0	0
Personal letter	9	1	0	0	0	10
Result demonstration	27	16	0	0	0	43
Method demonstration meeting	26	3	0	0	0	29
Training	18	4	0	0	0	22
Lecture meeting	7	0	0	0	0	7
Conference	4	0	0	0	0	4
Discussion meeting	3	26	15	3	0	47
Tour	10	5	0	0	0	15
Bulletin	6	0	0	0	0	6
Leaflet	3	0	0	0	0	3
News paper	5	4	4	0	0	13
Circular letter	4	1	0	0	0	5
Radio	8	13	16	6	5	48
Television	14	15	8	6	6	49
Exhibition	15	3	0	0	0	18
Poster	13	1	0	0	0	14
Documentary	14	0	0	0	0	14
Puppet show	3	0	0	0	0	3

a week and 5 farmers used radio daily for acquiring knowledge of soil and water conservation. The fourth important method was discussion meetings while result demonstration was considered fifth important method for acquiring the knowledge as envisaged in the study.

It appears from Table 1 that the frequency use of communication and extension methods was low by tribal farmers in the watershed as out of 21 communication and extension methods only two i.e. TV and radio (used by 6 and 5 farmers, respectively) were interacted with tribal farmers daily. The findings corroborated with those of Lakshminarayan and Veerbhadraiah (1992), where they found the importance of farm and home visit method in transfer of technologies.

Communication behaviour of the farmers and its interrelationship with socio-economic and personal traits.

The table 2 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, credibility and adoption.

The multiple linear regression analysis of eight independent variables with communication behaviour of farmers was done. Educational status provided significant contribution (at 5% level) to communication behaviour. The frequency use and credibility of communication and extension methods were found highly significant with

Table 2. Regression analysis of communication behaviour of farmers

Variable	Regression coefficient	Standard error	Std.Part. regr.coef.	Std.Err. part. coef.	Student t value
Age	2.3399	1.9043	2.3743	1.9323	1.229
Land holding	1.2459	7.3264	2.9906	1.7586	1.701
Education	3.4237	1.5660	5.1829	2.3706	2.186*
Family size	-8.3703	8.7978	-1.7436	1.8326	-0.951
Family education	2.1630	4.4749	8.9583	1.8534	0.483
Frequency	9.9309	3.2296	6.5033	2.1149	30.750**
Credibility	1.0297	4.3822	4.2279	1.7993	23.497**
Adoption	7.8804	4.1578	3.4569	1.8239	18.953**

$R^2 = 0.988$; * = Significant at 5% level of probability ; $F = 440.09$; ** = Significant at 1% level of probability

communication behaviour. Adoption behaviour of farmers towards SWC practices was also found highly significant with communication behaviour. Overall 98.8 per cent of variation in the communication behaviour was explained by the independent variables included in the study, as seen by the R^2 value.

REFERENCES

Lakshminarayan, M.T. and Veerabhadraiah, V.

(1992), Extension teaching methods used by field extension functionaries. *Indian J. Ext. Edu.*, **28** (3&4) : 34-37.

Reddy, A. Adivi (1987) Extension education. Sree Lakshmi Press, Bapatla (A.P.), p. 31-90.

Trivedi, G. and Udai Pareek (1963) Socio-economic status scale measurement in extension research, New Delhi.

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