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Factors Affecting Utilization of Communication Sources by the Farmers of Jammu & Kashmir

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ABSTRACT

The study was carried out to find out the socio-economic characteristics of farmers affecting the utilization of various communication sources in Samba district of Jammu and Kashmir state of India. A multistage random sampling technique was used for drawing a total sample of 120 respondents. The data was collected through a well-structured interview schedule. The study showed that average age of the respondent was 57.04 years; nearly one-fourth of respondents were illiterate; majority of the respondents (83%) were having telephone connectivity and average operational land holding of the respondents was 1.74 hectares. Educational level, telephone connectivity and irrigation availability were significantly affecting the awareness, utilization and perceived effectiveness of different communication sources. Less sharing of information among farmers; distant location of agricultural university; method demonstrations, field days, kissan melas, exhibitions, result demonstration were not organized on a regular basis; having less time to use mass media sources and illiteracy of the respondents were the major problems in using mass media and interpersonal communication sources.

Keywords: Communication sources, perceived effectiveness, utilization

INTRODUCTION

The majority of the population in India (70%) is rural habitat and engaged in agriculture (Anonymous, 2017). Indian Agriculture contributes a total of 17.4 per cent of the total GDP, and approximately 58 per cent Indians derive their livelihood from the agricultural sector (Anand, 2017). Unfortunately, the agriculture sector is not giving the output, which is expected with such a workforce engaged in it. This may be due to non-adoption of the latest technologies and poor farm management practices followed by the farmers. Due to limited communication facilities, the solution to these problems often remains out of reach. Thus it is utmost important to improve communication sources. Communication sources whether interpersonal or mass media can enhance farming communities' opportunity by providing timely and requisite information and correct advisories. Individuals tend to use different communication sources and channels for obtaining technology depending upon the availability of information sources and their situation. Utilization of different communication sources depends on the socio-economic situations of the farmers. Educational status, age, experience, farm size, irrigation availability, income, etc can hinder the utilization of various communication sources as in a study conducted by Ariyo *et al.*, (2013). They reported that low-level income constituted 15.74 per cent of the factors affecting utilization of mass media. Thus this study was conducted to find out the various socio-economic characteristics of farmers that affect the utilization of different communication sources and to find out the constraints encountered by the farmers in the utilization of communication sources.

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METHODOLOGY

The study was conducted in Samba district of Jammu and Kashmir state of India. The multistage sampling method was used for the selection of blocks, villages and respondents. Two blocks namely Purmandal and Vijaypur were selected by using random sampling without replacement method. Out of these two blocks, six villages from each block were selected by following systematic method of sampling. Thus in all, twelve villages were selected for present investigation. Ten farmers from each village were selected as respondents by using without replacement random sampling method. A total of 120 farmers were selected as respondents to collect data for the present study. The interview schedule was developed for data collection after consulting the experts. The interview was conducted in local dialect *i.e.,* Dogri. The audio recording of all the interviews of the individual respondent was also done and saved for further references.

Mass media and interpersonal communication sources were selected. Mass media includes print media (newspaper, farm magazine, folders/ leaflets, wall paintings/ banners/ hoardings) and electronic media (mobile phone, internet, radio, television). Interpersonal communication sources consists of personal localite sources (progressive farmers, panchayat members, neighbours, relatives/ elders/ friends, group meeting), personal cosmopolite sources (staff of department of agriculture/ agricultural university, bank personnel, members of NGO, personnel of private companies, private input dealers) and personal cosmopolite channels (method demonstration, farmers training, result demonstration, field days/ flag day, study tour, farm exhibition, *kissan mela*, campaign).

Based upon the above mentioned mass media and interpersonal communication sources, the awareness, utilization and perceived effectiveness of these sources were taken as dependent variables and were calculated. A score of one for yes and zero for no was assigned for each item of mass media and interpersonal communication sources and total score was computed. The minimum score and maximum score possible were zero and twenty-seven respectively.

RESULTS AND DISCUSSION

The data in Table 1 revealed that the mean age of the respondents was 57 years. Majority of the farmers fell under middle age group. The mean education of the respondents was 6.7 years *i.e.* studied up to 7th class standard and more than one-fourth of respondents were educated up to middle and same were up to high school, followed by primary and below primary school education. The education up to higher secondary and graduates was low. Whereas more than one-fourth of the respondents were illiterate. The average experience of the respondents in farming and cultivation of wheat crop was 36 years. The results of the present study revealed that the average operational land holding in the study area was 1.74 hectares. The

Table 1: Descriptive statistics regarding socio-economic status of the farmer

Parameter	Total (n=120)
Mean age (years)	57.04 ± 14.09
Young (18 to 45 years) (%farmers)	21
Middle age (45-61 years)	41
Old age (61-87 years)	38
Mean education (Formal number of schooling years completed)	6.68 ± 4.54
Education level (%farmers)	
Illiterate	26
Below primary	2
Primary	12
Middle	26
Matriculate	25
10+2	5
Graduate and above	5
Average farming experience (years)	35.79 ± 16.48
Average operation farm size (ha)	1.74±2.36
Owned	1.27±1.05
Leased in	0.48±2.0
Leased out	50.01±0.11
Irrigation availability (No.)	50
Occupation	
Agriculture as main occupation	35
Agriculture as subsidiary occupation	65
Telephone connectivity (%farmers)	83
Average Annual Family income (Rs)	211858.3±2303668

average owned land holding was 1.27 hectares. The results revealed that 50 per cent of the respondents were having irrigation facility. About35 per cent of the respondents had agriculture as main occupation. The average annual family income, in Samba district of the respondent's household was Rs 211858.3 (±230366.8).

Relationship between dependent variables and independent variables

Table 2 revealed that awareness had a significant relationship with education, land holding, irrigation availability and telephone connectivity. Utilization had a significant relationship with education, irrigation availability and telephone connectivity. Perceived effectiveness had a significant relationship with education, land holding, irrigation availability and telephone connectivity.

Table 2: Correlation of awareness, utilization and effectiveness of different communication sources with independent variables

	Awareness	Utilization	Effectiveness
Age (X_1)	-0.093 (0.313)	0.018 (0.898)	-0.002 (0.987)
Education (X_2)	0.424 (0.000)	0.324 (0.000)	0.326 (0.000)
Experience (X_3)	-0.174 (0.057)	-0.010 (0.911)	-0.020 (0.829)
Land holding (X_4)	0.208 (0.022)	0.163 (0.076)	0.198 (0.030)
Irrigation availability (X_5)	0.194 (0.033)	0.230 (0.011)	0.283 (0.002)
Occupation (X_6)	-0.033 (0.718)	0.095 (0.302)	0.113 (0.220)
Annual family income (X_7)	0.136 (0.138)	0.030 (0.748)	0.032 (0.729)
Telephone connectivity (X_8)	**0.313 (0.000)**	**0.229 (0.012)**	**0.218 (0.017)**

Figures in parentheses are p- value

It is concluded that high education helps the respondents to consult different sources for obtaining agriculture information whereas land holding and irrigation availability propels the respondents in the study area to get the information from diverse sources to increase their productivity. Good telephone connectivity also helps the respondents to remain in touch with different sources that provide agricultural information easily and that is the reason there is a significant relationship between the education, irrigation availability and telephone connectivity.

Factors affecting different dependent variables

Linear regression model was applied to ascertain the factors affecting the dependent variables. The dependent variables taken were awareness of the respondents about different communication sources, utilization of different cosmopolite sources and the perceived effectiveness of different communication sources. The independent variables were age, education, experience, landholding, irrigation availability, occupation, annual family income and telephone connectivity.

Factors affecting awareness about communication sources

The findings in Table 3 reveal that independent variables *viz.* education level, telephone connectivity and irrigation availability had positive and significant effect on awareness. The model further explained that the variables affecting awareness were education level

Table 3: Factors affecting awareness of communication sources

Coefficient	Model	β	Std. Error	t	Sig.
1	**(Constant)**	16.713	.402	41.589	<0.001
	Education level	.254	.050	5.093	<0.001
2	**(Constant)**	15.811	.559	28.272	<0.01
	Education level	.216	.052	4.173	<0.001
	Telephone connectivity	1.400	.615	2.277	.025
3	**(Constant)**	15.255	.609	25.040	<0.001
	Education level (X_2)	.190	.052	3.642	<0.001
	Telephone connectivity (X_8)	1.693	.621	2.726	.007
	Irrigation availability (X_5)	.968	.453	2.138	.035

R^2=0.180 & Adjusted R^2= 0.173, R^2=0.215 & Adjusted R^2= 0.202, R^2=0.245 & Adjusted R^2= 0.225

(R^2 = 0.180, p = 0.000), telephone connectivity (R^2 =0.215, p= 0.007) and irrigation availability (R^2 = 0.245, p= 0.035).

Adjusted R^2 values indicates that education level (X_2) caused 17 per cent variation in awareness, whereas both education level (X_2) and telephone connectivity (X_8) caused 20 per cent variation in the awareness and all these i.e. education level (X_2), telephone connectivity (X_8) and irrigation availability (X_5) caused 22.5 per cent variation in the awareness.

$$Y_{13} = 15.255 + 0.190\,(X_2) + 1.693\,(X_8) + 0.968\,(X_5)$$

OLS equation indicates that one unit increase in variable education level (X_2), telephone connectivity (X_8) and irrigation availability (X_5) it will increase the awareness by 0.19, 1.69 and 0.968 units.

Education level provides the necessary exposure to the respondent farmers, telephone facility provides the continued connectivity and assured irrigation facility empower the farmers economically and these affect the awareness status of the respondents about different communication sources in the study area.

Factors affecting utilization of communication sources

Table 4 revealed that among all these independent variables, the education level, irrigation availability and telephone connectivity had positive and significant effect on utilization of communication sources. The model further explained that the variables affecting utilization were education level (R^2 = 0.105, p = 0.015), irrigation availability (R^2 =0.137, p= 0.013) and connectivity telephone (R^2 = 0.168, p= 0.041).

Adjusted R^2 values indicates that education level (X_2) caused 9.7 per cent variation in utilization, whereas both education level (X_2) and irrigation availability (X_5) caused 12 per cent variation in the awareness and all these i.e. education level (X_2), irrigation availability (X_5) and telephone connectivity (X_8) caused 14.6 per cent variation in the utilization of communication sources.

$$Y_{14} = 2.113 + 0.225\,(X_2) + 1.999\,(X_5) + 2.244\,(X_8)$$

OLS equation indicates that one unit increase in variable education level (X_2), irrigation availability (X_5) and telephone connectivity (X_8) will increase the utilization by 0.225, 1.99 and 2.244 units respectively.

Factors affecting perceived effectiveness of communication sources

Table 5 revealed that among all these independent variables, the education level, irrigation availability and telephone connectivity had positive and significant effect on perceived effectiveness. The model further explained that the variables affecting perceived effectiveness were education level (R^2 = 0.106, p = 0.017), irrigation availability (R^2 =0.160, p= 0.002) and telephone connectivity (R^2 = 0.170, p= 0.038).

Table 4: Factors affecting utilization of communication sources

Coefficient	Model	β	Std. Error	t	Sig.
1	**(Constant)**	4.318	.698	6.185	<0.001
	Education level	.322	.087	3.716	<0.001
2	**(Constant)**	3.695	.750	4.930	<0.001
	Education level	.292	.086	3.379	.001
	Irrigation availability	1.638	.781	2.097	.038
3	**(Constant)**	2.113	1.063	1.988	.049
	Education level (X_2)	.225	.091	2.465	.015
	Irrigation availability (X_5)	1.999	.790	2.530	.013
	Telephone connectivity (X_8)	2.244	1.083	2.071	.041

R^2=0.105 & Adjusted R^2= 0.097, R^2=0.137 & Adjusted R^2= 0.122, R^2=0.168 & Adjusted R^2= 0.146

Table 5: Factors affecting effectiveness of communication sources

Coefficient	Model	β	Std. Error	t	Sig.
1	**(Constant)**	6.067	1.358	4.468	<.001
	Education level	.630	.168	3.740	<.001
2	**(Constant)**	4.496	1.439	3.124	.002
	Education level	.555	.166	3.345	.001
	Irrigation availability	4.136	1.500	2.756	.007
3	**(Constant)**	1.423	2.040	.697	.487
	Education level (X_2)	.425	.175	2.425	.017
	Irrigation availability (X_5)	4.836	1.516	3.189	.002
	Telephone connectivity (X_8)	4.359	2.080	2.096	.038

R^2=0.106 & Adjusted R^2= 0.098, R^2=0.160 & Adjusted R^2= 0.146, R^2=0.170 & Adjusted R^2= 0.170

Adjusted R^2 values indicates that education level (X_2) caused 9.8 per cent variation in effectiveness, whereas both education level (X_2) and irrigation availability (X_5) caused 14.6 per cent variation in the effectiveness and all these i.e. education level (X_2), irrigation availability (X_5) and telephone connectivity (X_8) caused 17 per cent variation in the effectiveness.

$$Y_{15} = 1.423 + 0.425\ (X_2) + 4.836\ (X_5) + 4.359\ (X_8)$$

OLS equation indicates that one unit increase in variable education level (X_2), irrigation availability (X_5) and telephone connectivity (X_8) it will increase the utilization by 0.425, 4.836 and 4.359 units.

Problems encountered by the respondents in utilization of source of communication

The results in Table 6 revealed that the less sharing of information between farmers was ranked as the major problem as it was reported by 80 per cent of the respondents. The reasons for the different problems in using personal localite as a source of communication may be there is less exposure among the respondent farmer about sharing of agricultural information on community basis. Respondents reported that they cannot visit the agricultural university frequently for obtaining the agriculture information because it is far off located from them and is rarely covered under any programme by the agricultural university and department of agriculture for the dissemination of latest information. Moreover, field extension functionaries of state department of agriculture pay the visit to only contact farmers with the hope that they will further disseminate the information to the fellow farmers whereas, in reality, they fail to do so. Illiteracy is also the major problem reported by the

Table 6: Problems encountered by the farmers in using different communication sources

n=120

Type of problem[1]	Farmers (%)
Less sharing of information between farmers	80
Absence of progressive farmer to give information	35
Area being rainfed, there is no prospects of agriculture	27
Less area under cultivation	13
Lack of proper knowledge in the personal localite	12
Less time to contact personal localite	7
Distant location of agricultural university.	31
Provides wrong information	11
Information provided was not profitable	9
More formalities of bank personnel	8
Less time to contact personal cosmopolite sources	7
Selectivity of the personal cosmopolite sources towards farmers	5
Never being organised nearby	53
Having no time to get contact with impersonal localites	23
Illiterate	29
Lack of knowledge to operate mass media	13
Interference of children	12
No section of agriculture information in newspapers	8
Poor eye site to use AV media	6
Newspaper not coming in their area	3

[1]Multiple responses

respondents in grasping the different content of the programmes covered by the mass media and this illiteracy might make them unable to operate different mass media effectively and more age is causing eye site problem among the respondents which make them unable to read and watch different mass media with ease. Some of the study areas were far located and it creates a problem in obtaining the newspaper and other print materials regularly.

CONCLUSION

It can be concluded from the study that the respondent's education level, irrigation availability, telephone connectivity significantly affects the awareness, utilization and effectiveness of communication sources used by the respondents in the study area. Extension agency must promote farmer-to-farmer extension system, such as by the formation of farmer's club, self- help groups etc. Agricultural information must be published in local dialect, so that the farming community of that particular area may read it and apply that information in their actual and local farming situation. Awareness must be created among the farming community about the utilization and effectiveness of latest agricultural channels such as DD Kissan (24X7), so that these can be utilized to its full extent.

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