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EVALUATING THE EFFECTIVENESS OF AGRICULTURAL INFORMATION SERVICES AND ASSOCIATED INFLUENCING FACTORS: A CASE OF RFIS IN SAURASHTRA

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ABSTRACT

The study was conducted in three districts viz., Junagadh, Gir Somnath and Jamnagar Districts of Saurashtra region of Gujarat. Two talukas from each selected district and three villages from each taluka were selected randomly. From each village, ten respondents were selected. Thus total 180 respondents were selected for the study. Objective of the study is to find effectiveness and impact of RFIS with given independent variables. The result of the research study indicated that in respect to personal characteristics, majority of belonged to middle age group; had middle/secondary school education and had medium size of family. In socio economical characteristics had farming + animal husbandry as main occupation; had semi medium size of land holding and medium annual income respectively. As regards to communicational characteristics, majority had medium level of mass media utilization and majority of farmers had medium level of social participation. In order to psychological characteristics, had medium level of innovativeness; majority of farmers had medium access to weather forecast; had medium level of decision-making ability; had medium level of credibility and had medium level of risk orientation. The characteristics of the farmers like; education, occupation, land holding, annual income, innovativeness, access to weather forecast, had positive and highly significant relationship with the effectiveness of RFIS. Whereas, mass media utilization, social participation, credibility and risk orientation had positive and significant relationship with the effectiveness of RFIS. Size of family and decision making ability had non-significant with the effectiveness of RFIS. Age had negative and highly significant relationship with the effectiveness of RFIS.

Keywords: *RFIS, effectiveness, agricultural information services*

INTRODUCTION

Agriculture serves as the foundation of the Indian economy, with a significant portion of the workforce directly or indirectly engaged in this sector. Approximately 60 to 70 per cent of the Indian population relies on agriculture for their livelihood, contributing only 16 to 17 per cent to the Gross Domestic Product (GDP). In contrast, during the 1950s, Indian agriculture alone accounted for more than 50 per cent of the GDP. However, over the subsequent 60 to 70 years, there has been a notable decline in the contribution of agriculture to the GDP. This trend suggests that the growth in agricultural productivity has not kept pace with the advancements in the service and manufacturing sectors, resulting in a diminished role of the agriculture sector in overall GDP. The implementation of Reliance Foundation Information Services (RFIS) involves the utilization of both modern Information Communication Technology (ICT) media and traditional face-to-face contact methods. Among the various ICT tools available today, mobile phones and the internet play a prominent role. Mobile phones, in particular, serve as versatile devices capable of storing, creating, accessing, and sharing information at any location and time. The integration of mobile phones with internet connectivity offers the additional advantage of accessing the latest information from anywhere (Pratik and Vinaya, 2021). When linked with extension advisory services, these mobile technologies prove to be cost-effective in providing timely information, thereby contributing to the improvement of rural livelihoods.

The portability of mobile phones enables users to carry them anywhere, allowing stored information to be retrieved at various locations such as input stores, farms, markets, or homes. The stored information remains accessible at any point in the future. In the context of the Saurashtra region in Gujarat, Junagadh Agricultural University (JAU), with technical support from Krishi Vigyan Kendra's (KVKs), District Agricultural Advisory and Transfer of Technology Centers (DAATTCs), and Agricultural Research Stations

(ARSs), is actively involved in providing technical assistance to RFIS across all districts. RFIS, as an ICT initiative, focuses on reaching farmers engaged in agriculture, horticulture, animal husbandry, fisheries, and other allied sectors. The transfer of technologies through RFIS includes mobile messages (text and voice), a toll-free number (1800 419 8800), bulletins, broadcasts, video conferences, veterinary camps, field awareness programs, and knowledge-on-wheels programs.

OBJECTIVES

(1) To assess the effectiveness of RFIS on beneficiaries

(2) To find out the relationship between profile and the effectiveness of RFIS on beneficiary farmers

METHODOLOGY

The study was conducted in the Saurashtra region of Gujarat which comprises of 11 districts. Three districts from these 11 were undertaken to conduct the survey namely Junagadh, Gir Somnath and Jamnagar (illustrated in figure 1) because highest number of beneficiary farmers fall in these 3 districts. Further, multistage random sampling was employed to select talukas, villages and farmers. Two talukas from each district and three villages from each taluka were selected constituting a total of 6 talukas and 18 villages. From each village, 10 farmers were selected randomly making up a total sample of 180 beneficiary farmers. An already structured scale (interview schedule) was used with modifications and presented before the respondents through a face-to-face interview method. Effectiveness of RFIS was operationalized as the integrated effect caused by the timeliness, topic of interest, adoption and satisfaction of information services provided by RFIS. Timeliness was measured on a three-point continuum namely On Time, Too Early and Too Late. Topic of interest was also measured on three-point continuum *viz.* Very interesting, interesting and not interesting. Adoption was measured as fully adopted, Partially Adopted and Not Adopted. Similarly, Satisfaction was measured as Fully Satisfied, Partially Satisfied and Not Satisfied. All these responses were given scores of 3, 2 and 1 respectively.

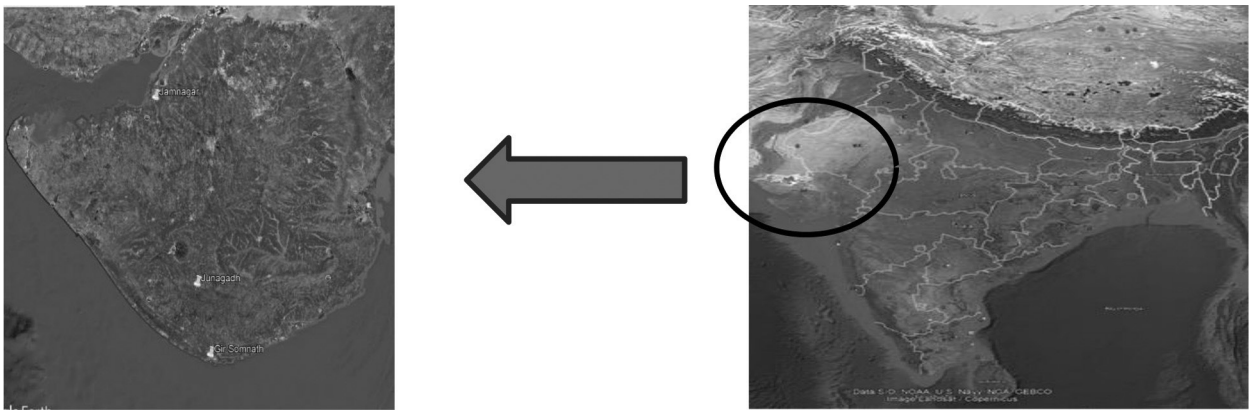

Figure 1: Location of the study

The individual respondent scores on these four components were summed up. Maximum and minimum possible scores for each respondent were 174 and 58 respectively. Then overall effectiveness of RFIS was measured by categorising the respondents on the basis of Mean and Standard deviation as shown in Table 1:

Sr. No.	Category	Range
1	**Low effectiveness of RFIS**	<Mean-SD
2	**Medium effectiveness of RFIS**	Between Mean±SD
3	**High effectiveness of RFIS**	>Mean+SD

RESULTS AND DISCUSSION

Effectiveness of Reliance Foundation Information Services (RFIS):

Timeliness of RFIS

The item wise responses on timeliness of RFIS are given in Table 2. The item wise content analysis of the timeliness of RFIS is discussed below:

It is evident from Table 2 that about three fourth of the respondents expressed that the mobile text messages were on time (75.00 per cent), followed by too early (19.90 per cent) and too late (5.10 per cent). More than three fourth of the respondents expressed that the mobile voice messages were on time (77.32 per cent), followed by too early (19.52 per cent) and too late (3.16 per cent). More than two third of the respondents expressed that knowledge on wheels programme was on time (70.61 per cent), followed by too early (16.19 per cent) and too late (13.20 per cent). More than half of the respondents expressed that the video conference was on time (54.49 per cent), followed by too early (26.10

Table 2: Timeliness of RFIS as perceived by the respondents (n=180)

Sr. No.	Category	On time		Too early		Too late	
		F	%	F	%	F	%
1	**Mobile text messages**	135	75.00	36	19.90	9	5.10
2	**Mobile voice messages**	139	77.32	35	19.52	6	3.16
3	**Knowledge on wheels programme**	127	70.61	29	16.19	24	13.20
4	**Video conference**	98	54.49	47	26.10	35	19.41
5	**Field awareness programmes**	122	67.80	40	22.19	18	10.01
6	**Phone in live**	116	64.47	45	25.00	19	10.53
7	**Veterinary camps**	105	58.42	73	40.52	2	1.06
8	**Bulletins & Broadcasts**	55	30.51	112	62.23	13	7.26
9	**Jio chat**	36	20.00	46	25.62	98	54.38

*F=Frequency %= Per cent

per cent) and too late (19.41 per cent). More than two third of the respondents expressed that field awareness programmes were on time (67.80 per cent), followed by too early (22.19 per cent) and too late (10.01 per cent). Advises from toll free number was as and when sought. More than two third of the respondents expressed phone in live was on time (64.47 per cent), followed by too early (25.00 per cent) and too late (10.53 per cent). With regard to veterinary camps more than half (58.42 per cent) of the respondents expressed that it was on time, followed by too early (40.52 per cent) and too late (1.06 per cent). Less than two third of the respondents expressed bulletins & broadcasts were on time (30.51 per cent), followed by too early (62.23 per cent) and too late (7.26 per cent). More than half of the respondents expressed that jio chat was too early (25.62 per cent), followed by on time (20.00 per cent) and too late (54.38 per cent). The top three services that were on time as perceived by the respondents were mobile voice messages, followed by mobile text messages and knowledge on wheels programme. It indicates that digital technology could be utilized to deliver timely agro advisories. It can conclude that majority of the respondents expressed that the mobile voice messages were on time, followed by too early and too late and expressed that the mobile text messages were on time, followed by too early and too late.

Topic of interest of RFIS

The item wise responses on topic of interest of RFIS services is given in Table 3. The item wise content analysis of the topic of interest of RFIS services is discussed below.

Table 3: Topic of interest of RFIS as perceived by the respondents (n=180)

Sr. No.	Item	Very Interesting		Interesting		Not interesting	
		F	%	F	%	F	%
1	**Land preparation**	78	43.35	56	31.12	46	25.53
2	**Selection of crops**	119	66.12	39	21.68	22	12.20
3	**Selection of varieties**	155	86.12	15	8.34	10	5.54
4	**Sowing time**	153	85.00	18	10.12	9	4.88
5	**Soil testing & soil test based fertilizer application**	138	76.71	22	12.19	20	11.10
6	**Weed management**	117	65.00	33	18.38	30	16.62
7	**Irrigation scheduling**	81	45.00	54	30.00	45	25.00
8	**Intercultural operations**	98	54.45	44	24.46	38	21.09
9	**Pest management**	163	90.00	8	4.95	9	5.05
10	**Disease management**	152	84.45	20	11.12	8	4.43
11	**Farm mechanisation**	100	55.64	54	30.16	26	14.20
12	**Labour management**	32	17.80	43	24.06	105	58.14
13	**Harvesting**	65	36.12	57	31.66	58	32.22
14	**Drying and storage**	48	26.67	82	45.62	50	27.71
15	**Weather related information**	136	75.62	24	13.35	20	11.03
16	**Marketing**	141	78.34	19	10.66	20	11.00
17	**Governmental schemes**	80	44.52	42	23.36	58	32.12
18	**Credit and finance**	10	5.56	8	4.34	162	90.10
19	**Insurance**	100	55.54	56	31.12	24	13.34

F=Frequency %= Per cent

It is evident from Table 3 that less than half of (43.35 per cent) respondents expressed that information on land preparation very interesting, followed by interesting (31.12 per cent), and not interesting (25.53 per cent). More than two third of the respondents expressed that the information on selection of crops was very interesting (66.12 per cent), followed by interesting (21.68 per cent) and not interesting (12.20 per cent). Majority of the respondents expressed that the information on selection of varieties was very interesting (86.12 per cent), followed by interesting (8.34 per cent) and not interesting (5.54 per cent). With respect to sowing time majority (85.00 per cent) of the respondents expressed that the information on sowing time was very interesting, followed by as interesting (10.12 per cent) and not interesting (4.88 per cent). More than three fourth of the respondents expressed that the information on soil test & soil test based information was very interesting (76.71 per cent), interesting (12.19 per cent) followed by not interesting (11.10 per cent). More than two third of the respondents expressed that the information on weed management was very interesting (65.00 per cent), followed by interesting (18.38 per cent) and not interesting (16.62 per cent). With regard to irrigation scheduling less than half (45.00 per cent) of the respondents expressed that the information on irrigation scheduling was very interesting, followed by interesting (30.00 per cent) and not interesting (25.00 per cent). More than half of respondents felt that the information on intercultural operations very interesting (54.45 per cent), followed by interesting (24.46 per cent) and not interesting (21.09 per cent). Majority of the respondents felt that the information on pest management was very interesting (90.00 per cent), followed by interesting (4.95 per cent) and not interesting (5.05 per cent). With regard to the information on disease management majority (84.45 per cent) of the respondents felt that the information was very interesting, followed by interesting (11.12 per cent) and not interesting (4.43 per cent). More than half of the respondents felt that the information on farm mechanisation was very interesting (55.64 per cent), followed by interesting (30.16 per cent) and not interesting (14.20 per cent). With regard to labour management, about one tenth (17.80 per cent) of the respondents expressed that the information on labour management was very interesting, followed by interesting (24.06 per cent) and not interesting (58.14 per cent).

More than one third of the respondents felt that the information on harvesting was very interesting (36.12 per cent), followed by interesting (31.66 per cent) and not interesting (32.22 per cent). More than one fourth of the respondents expressed that the information on drying & storage was very interesting (26.67 per cent), followed by interesting (45.62 per cent) and not interesting (27.71 per cent). More than three fourth of the respondents expressed that the information on weather related information was very interesting (75.62 per cent), followed by interesting (13.35 per cent) and not interesting (11.03 per cent). Majority of the respondents expressed that the information on marketing was very interesting (78.34 per cent), followed by interesting (10.66 per cent) and not interesting (11.00 per cent). With regards to the information on governmental schemes less than half (44.52 per cent) of the respondents expressed that the information was very interesting, followed by interesting (23.36 per cent) and not interesting (32.12 per cent). Negligible proportion of the respondents expressed that the information on credit & finance was very interesting (5.56 per cent), followed by interesting (4.34 per cent) and not interesting (90.10 per cent). It can conclude that majority of farmers are interested in disease and pest management, followed by sowing time and selection of varieties.

Adoption of information disseminated by RFIS

The item wise responses on the adoption of information disseminated by RFIS is given in Table 4. The item wise content analysis of the adoption of information disseminated by RFIS is discussed below:

Table 4 : Adoption of information disseminated by RFIS by the respondents (n=180)

Sr. No.	Item	Fully adopted		Partially adopted		Not adopted	
		F	%	F	%	F	%
1	**Land preparation**	38	21.12	107	59.46	35	19.42
2	**Selection of crops**	80	44.48	92	51.12	8	4.40
3	**Selection of varieties**	103	57.23	65	36.12	12	6.65
4	**Sowing time**	67	37.24	89	49.48	24	13.28
5	**Soil testing & soil test based fertilizer application**	114	63.35	53	29.45	13	7.20
6	**Weed management**	54	30.00	95	52.81	31	17.19
7	**Irrigation scheduling**	47	26.12	91	50.56	42	23.32
8	**Intercultural operations**	72	40.00	74	41.12	34	18.88
9	**Pest management**	103	57.23	47	26.12	30	16.65

Sr. No.	Item	Fully adopted		Partially adopted		Not adopted	
		F	%	F	%	F	%
10	**Disease management**	105	58.38	58	32.23	17	9.39
11	**Farm mechanisation**	49	27.23	102	56.67	29	16.10
12	**Labour management**	35	19.45	112	62.23	33	18.32
13	**Harvesting**	56	31.13	78	43.34	46	25.53
14	**Drying and storage**	22	12.23	96	53.34	62	34.34
15	**Weather related information**	135	75	20	11.12	25	13.88
16	**Marketing**	94	52.23	53	29.46	33	18.31
17	**Governmental schemes**	91	50.56	45	25.11	44	24.33
18	**Credit and finance**	18	10.08	89	49.48	73	40.44

F=Frequency %= Per cent

It is evident from Table 4 that 21.12 per cent of respondents expressed that they fully adopted the information on land preparation, followed by partially adopted (59.46 per cent) and not adopted (19.42 per cent). With regard to the information on selection of crops less than half (44.48 per cent) respondents fully adopted, followed by partially adopted (51.12 per cent) and not adopted (4.40 per cent). With regard to the information on selection of varieties more than half (57.23 per cent) of respondents fully adopted, followed by partially adopted (36.12 per cent) and not adopted (6.65 per cent). More than one third of the respondents fully adopted (37.24 per cent) the information on sowing time, followed by partially adopted (49.48 per cent) and not adopted (13.28 per cent). Less than two third of respondents fully adopted the information on soil testing & soil test based fertilizer application (63.35 per cent), followed by partially adopted (29.45 per cent) and not adopted (7.20 per cent). With regard to the information on weed management less than one third (30.00 per cent) of the respondents fully adopted, followed by partially adopted (52.81 per cent) and not adopted (17.19 per cent). More than one fourth of respondents fully adopted (26.12 per cent) the information on irrigation schedule, followed by partially adopted (50.56 per cent) and not adopted (23.32 per cent). With regard to the information on intercultural operations less than half (40.00 per cent) of the respondents fully adopted, followed by partially adopted (41.12 per cent) and not adopted (18.88 per cent). With regard to the information on pest management more than half (57.23 per cent) of the respondents fully adopted, followed by partially adopted (26.12 per cent) and not adopted (16.65 per cent). With regard to the information on disease management more than half (58.38 per cent) of the respondents fully adopted, followed by partially adopted (32.23 per cent) and not adopted (9.39 per cent). More than one fourth of the respondents fully adopted (27.23 per cent) the information on farm mechanization, followed by partially adopted (56.67 per cent) and not adopted (16.10 per cent). With regard to the information on labour management more than one tenth (19.45 per cent) of the respondents fully adopted the information, followed by partially adopted (62.23 per cent) and not adopted (18.32 per cent). Less than one third of the respondents fully adopted (31.13 per cent) the information on harvesting, followed by partially adopted (43.34 per cent) and not adopted (25.53 per cent). A meager proportion (12.23 per cent) of the respondents fully adopted information on drying & storage, followed by partially adopted (53.34 per cent) and not adopted (34.34 per cent). About three fourth of the respondents fully adopted the information on weather related information (75.00 per cent), followed by partially adopted (11.12 per cent) and not adopted (13.88 per cent). More than half of the respondents fully adopted the information on marketing (52.23 per cent), followed by partially adopted (29.46 per cent) and not adopted (18.31 per cent). With regards to credit and finance least (10.08 per cent) each of the respondents fully adopted the information, followed by adopted (49.48 per cent) and not adopted (40.44 per cent). It can conclude that majority of farmers adopt of soil testing, followed by disease and pest management.

Satisfaction with RFIS

The item wise responses on the satisfaction with RFIS is given in Table 5. The item wise content analysis of the satisfaction with RFIS is discussed below:

It is evident from Table 5 that less than half (45.56 per cent) of the respondents expressed that they were fully satisfied with the mobile text messages, followed by partially satisfied (41.12 per cent) and not satisfied (13.32 per cent). With regard to mobile voice messages more than one third (37.23 per cent) of the respondents expressed that they were fully satisfied, followed by partially satisfied (41.13 per cent) and not satisfied (21.64 per cent). More than two third of the respondents expressed that they were fully satisfied (72.23 per cent) with knowledge on wheels programme, followed

by partially satisfied (19.45 per cent) and not satisfied (8.32 per cent). More than two thirds of the respondents expressed that they were fully satisfied (69.45 per cent) with video conference, followed by partially satisfied (13.34 per cent) and not satisfied (17.21 per cent).

Table 5: Satisfaction with RFIS as perceived by the respondents (n=180)

Sr. No.	Item	Fully satisfied		Partially satisfied		Not satisfied	
		F	%	F	%	F	%
1	**Mobile text messages**	82	45.56	74	41.12	24	13.32
2	**Mobile voice messages**	67	37.23	74	41.13	39	21.64
3	**Knowledge on wheels programme.**	130	72.23	35	19.45	15	8.32
4	**Video conference**	125	69.45	24	13.34	31	17.21
5	**Field awareness programmes**	137	76.12	21	11.67	22	12.21
6	**Toll free number (1800 419 8800)**	126	70.11	35	19.45	19	10.44
7	**Phone in live**	127	70.53	45	25.39	8	4.08
8	**Veterinary camps**	108	61.49	62	34.37	10	4.14
9	**Bulletins& Broadcasts**	94	52.18	58	32.26	28	15.56
10	**Jio chat**	31	16.12	50	27.23	99	56.65

F=Frequency %= Per cent

More than three fourth of the respondents expressed that they were fully satisfied (76.12 per cent) with the field awareness programmes, followed by partially satisfied (11.67 per cent) and not satisfied (12.21 per cent). More than two thirds of respondents are fully satisfied with the toll-free number (70.11 per cent), followed by partially satisfied (19.45 per cent) and not satisfied (10.44 per cent). With regards to phone in live more than two third (70.53 per cent) of the respondents were fully satisfied, followed by partially satisfied (25.39 per cent) and not satisfied (4.08 per cent). With regards to veterinary camps more than half (61.49 per cent) of the respondents expressed that they were fully satisfied, followed by partially satisfied (34.37 per cent) and not satisfied (4.14 per cent). More than half of the respondents expressed that they were fully satisfied (52.18 per cent) with the bulletins & broadcasts, followed by partially satisfied (32.26 per cent) and not satisfied (15.56 per cent). It is observed that farmers were more satisfied with the programmes where farmers can directly interact (face to face or on phone) with experts/ Scientists. Hence more of such programmes need to be planned and organized to promote satisfaction of the beneficiaries. It can conclude that farmers are more satisfied with field awareness programms, followed by knowledge on wheel program. Top of Form

Overall effectiveness of RFIS in addressing the information needs of the farmers

On the basis of the perceived effectiveness of RFIS, the respondents were categorised into three categories namely low, medium and high. The results are presented in Table 6 and Fig. 1:

Table 6 : Distribution of respondents according to their effectiveness of RFIS (n=180)

Sr. No.	Category	F	%
1	Low level of effectiveness (<101.54 scores)	38	21.13
2	Medium level of effectiveness (101.54-141.42 scores)	110	61.12
3	High level of effectiveness (>141.42 scores)	32	17.75
Mean = 121.48		SD= 19.94	

F=Frequency %= Per cent

It is revealed from Table 6 and Fig. 2 that more than half (61.12 per cent) of the respondents perceived medium effectiveness of RFIS, followed by low (21.13 per cent) and high (17.75 per cent). The results correspond to timeliness, credibility, usefulness, understandability, topic of interest, adoption and satisfaction with the information provided by RFIS. The proportion of the respondents in medium and high category of effectiveness is greater than that observed in low. It could be concluded that the major proportion of the respondents fell in the category of medium to high effectiveness of RFIS. The results are in conformity with that reported by Kumari *et al.* (2018), Khodifad and Solanki (2023), Rathod *et al.* (2024), Tadepalli *et al.* (2024).

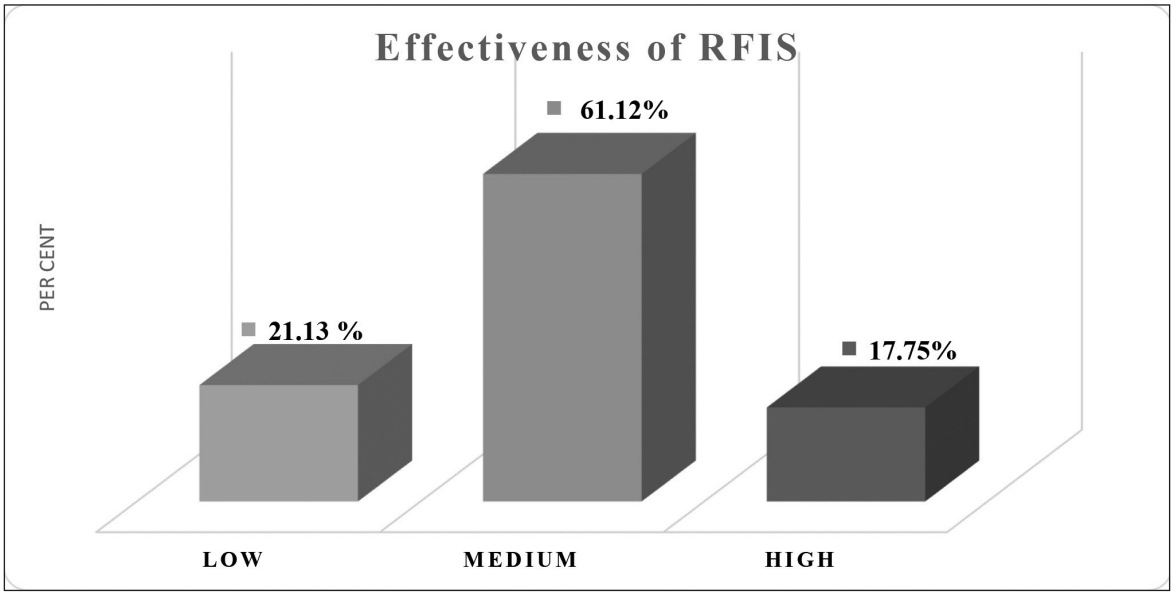

Fig. 2: Distribution of respondents according to their effectiveness of RFIS

Association between the selected characteristics of farmers and their effectiveness of RFIS on beneficiary farmers

In order to ascertain the relationship between the effectiveness (dependent variable) of the farmers and their selected characteristics (independent variables), the co-efficient of correlation ('r') were calculated. The empirical hypotheses were stated for testing the relationship and its significance of correlation are given in Table 7.

Table 7: Association between selected characteristics of farmers with the effectiveness of RFIS

(n = 180)

Sr. No.	Independent variables	'r' value
X_1	Age	-0.5546**
X_2	Education	0.4850**
X_3.	Size of family	0.0402^{NS}
X_4	Occupation	0.2650**
X_5	Size of land holding	0.2167**
X_6	Annual income	0.3012**
X_7	Mass media utilization	0.1612*
X_8	Social participation	0.1865*
X_9	Innovativeness	0.2931**
X_{10}	Access to weather forecast	0.3740**
X_{11}	Decision making ability	0.0954^{NS}
X_{12}	Credibility	0.1345*
X_{13}	Risk orientation	0.1745*

* = Significant at 5% level, ** = Significant at 1 % level, NS = non-significant

The relationship between effectiveness of RFIS and their age the calculated value of co-efficient of correlation (r = -0.5546) was found negative and significant at 0.01 level. The possible reason might be that, the young farmers are more connected with mass media leading to RFIS. Relationship between effectiveness of RFIS and their education, the calculated value of co-efficient of correlation (r = 0.4850) was found positive and significant at 0.01 level. This might be due to the fact that educated farmers generally have progressive behavior, rational thinking and education play an important role in motivating, helps in getting the information, increasing knowledge level and also broadening the effectiveness. Relationship between effectiveness of RFIS and their size of family, the calculated value of co-efficient of correlation (r = 0.0402) was found positive and non-significant. The possible reason might be that, the size of family does not affect the effectiveness of farmers. Relationship between the effectiveness of RFIS and their occupation the calculated value of co-efficient of correlation (r = 0.2650) was found positive and significant at 0.01 level. This might be due to farmers whose occupation farming + animal husbandry has much more knowledge about scope of effectiveness than the farmers whose occupation is only farming, animal husbandry and services/business. The service/business farmers are more expose with other people and get more knowledge about higher studies. Relationship between the effectiveness of RFIS and their size of land holding. The calculated value of co-efficient of correlation (r = 0.2167) was found positive and significant at 0.01 level. The possible reason might be that, with the increase in their size of land holding there is an increase in their income. Relationship between the effectiveness of RFIS and their annual income. The calculated co-efficient of correlation value (r = 0.3112)

was found positive significant at 0.01 level. This might be due, that annual income is total earned amount in rupees from all sources by the respondents and her family members. Relationship between effectiveness of RFIS and mass media utilization. The calculated value of co-efficient of correlation (r = 0.1612) was found positive and significant at 0.05 level. The result clearly indicated that mass media utilization play role in regards to the effectiveness. Relationship between the effectiveness of RFIS and social participation, the calculated value of co-efficient of correlation (r = 0.1856) was found positive and significant at 0.05 level. This might be due the fact that the farmers having contact with their near and tear through social participation might realize more ill effects of climate change on their agriculture farming. Relationship between effectiveness of RFIS and innovativeness, the calculated co-efficient of correlation value (r = 0.2931) was found positive and significant at 0.01 level. This might be due to the fact that innovative farmers always have scientific attitude towards farming hence, they analyze their innovative ideas with all the farming activities. Relationship between the effectiveness of RFIS and access to weather forecast, the calculated co-efficient of correlation value (r = 0.3740) was found positive and significant at 0.01 level. This might be due to fact that the farmers having more access to weather forecast might be able to get information from RFIS and use at their field level. Relationship between the effectiveness of RFIS and decision making ability, the calculated co-efficient of correlation value (r = 0.0954) was found positive and non-significant. The possible reason might be that, the decision making ability does not affect the effectiveness of farmers. Relationship between the credibility and their effectiveness, the calculated co-efficient of correlation value (r = 0.1345) was found positive and significant at 0.05 level. Relationship between the effectiveness of RFIS and risk orientation, the calculated co-efficient of correlation value (r = 0.1745) was found positive and significant at 0.05 level. This might due to innovative behavior of farmers, they might be willing to take moderate risk for trying new idea in their farm situation. They might not get success due to various reasons.

IMPLICATIONS

The findings of the study will be useful to the extension administrators, planners, extension personnel, universities, department of agriculture. Several studies have shown the effectiveness of digital services in India. Uma (2014) in his analysis of an innovative approach through interactive information project reported that majority of the farmers (98.30%) perceived the information coming from AKPS as understandable, clear and effective. Patel *et al.* (2015) while assessing the Kisan Mobile Advisory services in Mehsana district of Gujarat, stated that 42.50 per cent of the farmers expressed that the messages received were highly understandable, 67.50 per cent stating that the messages were timely and 44.00 per cent expressing that the messages were fully applicable to their local farming situations indicating the effectiveness of KMA services in the district. Bhuva *et al.* (2024) Studied on attitude of the employees about ICTs apparatus for exploring Agricultural Information. Found majority (98.50 per cent) of the employees of NAU, NGO and line departments as well as private stakeholders possessed favorable to more favourable attitude towards ICTs apparatus. The accessibility and utility pattern found to have positive and highly significantly correlated with the attitude of employees towards ICTs apparatus. Zade *et al.* (2024) Assessing the effectiveness of ICT tools among the academic research scholars through a PCA-based index development approach. Most scholars perceived the effectiveness to be very high in terms of content quality (50.84 per cent) followed by 45.81 per cent (in terms of communication efficacy). Thus, overall effectiveness was high but efforts can be made towards improvement of presentation quality which was perceived to be high by 43.02 per cent. Tankodara *et al.* (2022) Studied on ICT operational self-confidence of the farmers. It was observed that more number of the farmers were having with medium to very low level of ICT operational self-confidence. Majority of the farmers were confident in operating smart phone, exchanging information through WhatsApp and using farm information source like YouTube. Kumar and Jyothi (2019) on his study on RFIS in Guntur district of Andhra Pradesh revealed that majority of the farmers (60.84 per cent) expressed that RFIS had medium effectiveness followed by 21.66 per cent having Low effectiveness of RFIS and 17.50m per cent having high level of effectiveness of RFIS. In the era of digitalization, India is also getting itself on the track. RFIS service is a public-private partnership between government and Reliance foundation. For its effectiveness, we need a strong back-ground of digital literacy and efficient internet services. Suriyapriya *et al.* (2018) on their study on their research on the effectiveness of mobile agro-advisory services on FPOs members reported that majority of the FPOs members (80.00%) found the information to be highly relevant. This gives enough evidence of the power of mobile services in order to disseminate relevant and timely information to farmers.

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CONFLICT OF INTEREST

There exists no conflict of interest among researchers.

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