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## A study on communicational characteristics of the farmers in Chhattisgarh plains with reference to IPM in major crops

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### Abstract

The term cropping system refers to the crops, crop sequences and management techniques used on a particular agricultural field over a period of years. It includes all spatial and temporal aspects of managing an agricultural system. Historically, cropping systems have been designed to maximize yield, but modern agriculture is increasingly concerned with promoting environmental sustainability in cropping systems. The study was conducted in two irrigated districts namely Janjgir - Champa and Dhamtari and two rainfed districts namely Korba and Mahasamund in Chhattisgarh Plains. From the each of the selected districts two representative blocks namely Kurud and Dhamtari from Dhamtari district and Janjgir and Champa from Janjgir- Champa district were selected purposively. Similarly, two blocks Pali and Katghora from Korba district and Mahasamund and Bagbhra from Mahasamund district were selected. From each selected block two representative villages were selected randomly. Therefore 8 irrigated and 8 rainfed villages were considered for the study. Total 16 villages were selected. From each selected village 20 representative farmers were selected randomly. In this way a total of 160 (20X8) farmers from irrigated and 160 (20X8) farmers from rainfed area were selected. Thus total 320 farmers were considered as respondents for the present study. The data revealed that sampled farmers had irrigated land 56.38 Percent respondents used medium level of information sources for insect pest management practices on contrast slight higher 58.13 Percent farmers of rain fed situation utilized medium level of different information resources. Regarding face to face information sources of irrigated farmers, it was found that majority of the respondent 48.75 Percent always obtained information from friends/relatives/neighbours, followed by 35.63 Percent always obtained information from progressive farmers. As regards to impersonal information sources of irrigated respondents, it was noted that only 14.37 Percent and 6.25 Percent obtained information from bulletin and visit to exhibitions. As regards to mass media information sources 38.12 Percent and 37.50 Percent of the respondents always obtained information through radio and television, however 41.88 Percent and 40 Percent of the respondents sometime obtained information from television and radio.

**Keywords:** Communicational, irrigated, farmers, media, bulletins

### 1. Introduction

The term cropping system refers to the crops, crop sequences and management techniques used on a particular agricultural field over a period of years. It includes all spatial and temporal aspects of managing an agricultural system. Historically, cropping systems have been designed to maximize yield, but modern agriculture is increasingly concerned with promoting environmental sustainability in cropping systems. Almost a billion households in Asia, Africa and the America depend on rice systems for their main source of employment and livelihood. About four-fifths of the world's rice is produced by small-scale farmers and is consumed locally. Rice systems support a wide variety of plants and animals, which also help supplement rural diets and incomes. Rice is therefore on the frontline in the fight against world hunger and poverty. Rice is also a symbol of both cultural identity and global unity. The number of festivals, rituals, celebrations and recipes that are centred on this crop is noteworthy. For all of these reasons, "Rice is Life" was the adopted slogan of International Year of Rice by FAO (Year 2004). Estimated Global area of rice is 164.7 million ha (FAO, 2013). In 2016-17, the (Estimated) production of rice was 750 million tonnes (USDA-2017). India stands first in terms of area under cultivation and second in production after China (Pippal *et al.* 2017) <sup>[1]</sup>. On an average, the world yields of one ha of rice could sustain 5.7 persons per year.

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## 2. Methodology

The study was conducted in two irrigated districts namely Janjgir-Champa and Dhamtari and two rainfed districts namely Korba and Mahasamund in Chhattisgarh Plains. From the each of the selected districts two representative blocks namely Kurud and Dhamtari from Dhamtari district and Janjgir and Champa from Janjgir- Champa district were selected purposively. Similarly, two blocks Pali and Katghora from Korba district and Mahasamund and Bagbhra from Mahasamund district were selected. From each selected block two representative villages were selected randomly. Therefore 8 irrigated and 8 rainfed villages were considered for the study. Total 16 villages were selected. From each selected village 20 representative farmers were selected randomly. In this way a total of 160 (20X8) farmers from irrigated and 160 (20X8) farmers from rainfed area were selected. Thus total 320 farmers were considered as respondents for the present study. The data were collected by a personal interview with the help of a pre-tested structured interview schedule.

## 3. Results and Discussion

### Communicational characteristics of the respondents

The independent variables like sources of information and exposure to mass media were considered as communicational variables for this study.

### Sources of information

The Table 1 presented the data of overall use of information sources by respondents. The data revealed that majority 56.38 percent of the respondents having irrigation facilities had used medium level of information sources, followed by 25.12 percent had used low level of information sources, while 18.50 percent of the respondents used high level of information sources. Regarding the rainfed dependent respondents, the data further debunked that majority of the respondents 58.13 percent had used medium level of information sources, followed by 28.12 percent used low level of information sources, while 13.75 percent of the respondents used high level of information sources.

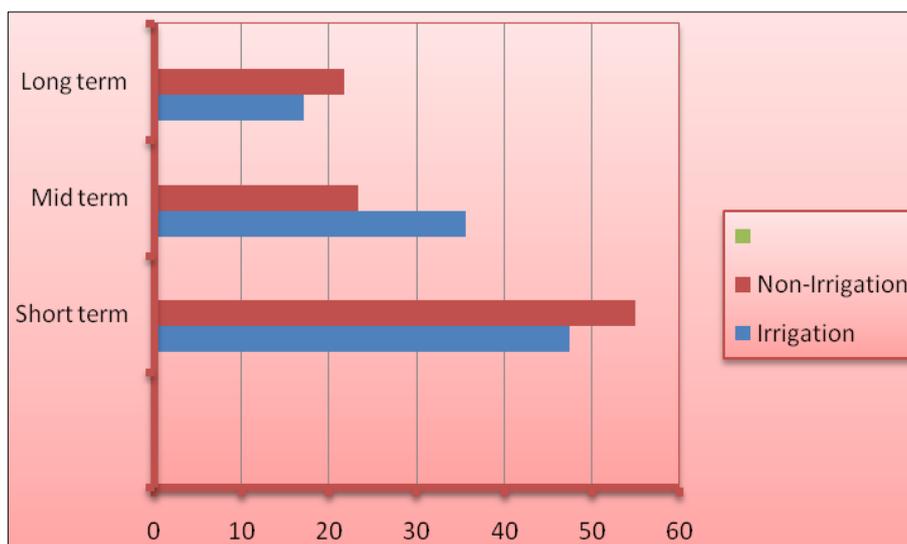


Fig 1: Distribution of the respondents according to their duration of credit

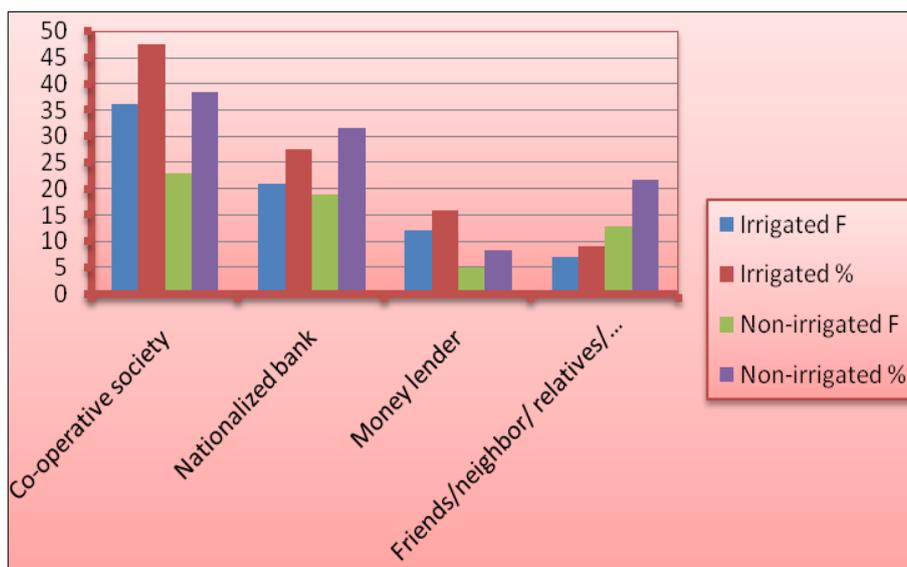
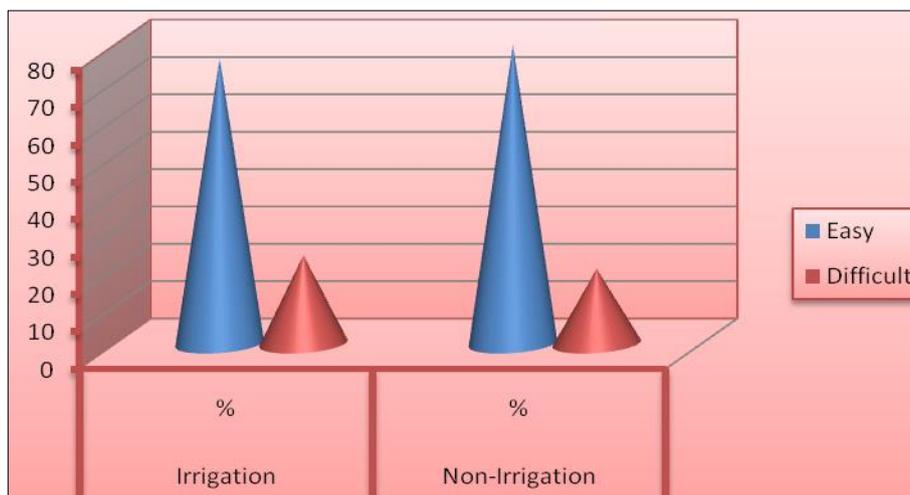


Fig 2: Distribution of the respondents according to their sources of credit

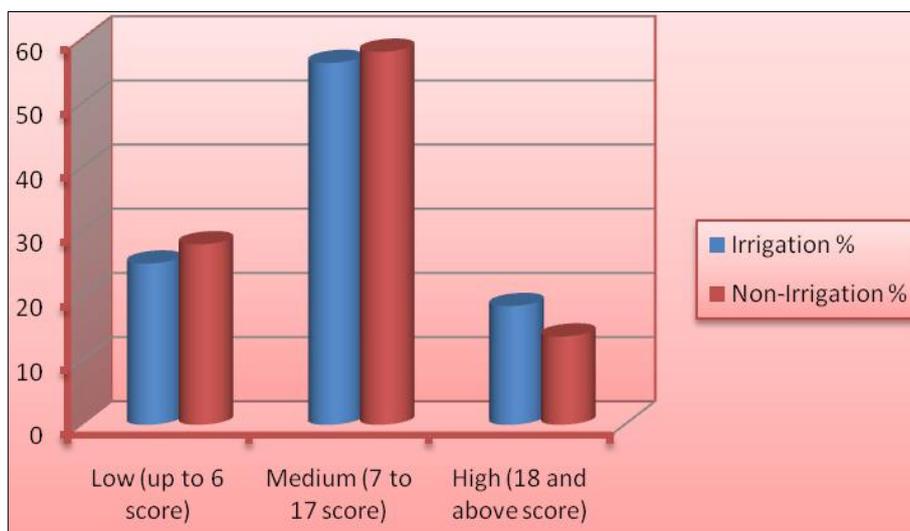
**Table 1:** Distribution of the respondents according to overall use of information sources (n= 320)

Sl. No.	Use of information sources	Irrigated		Non-irrigated	
		F	%	F	%
1.	Low (up to 6 score)	39	25.12	45	28.12
2.	Medium (7 to 17 score)	92	56.38	93	58.13
3.	High (18 and above score)	29	18.50	22	13.75
	Total	160	100.00	160	100.00
	X= 11.9	S.D.= 4.8			

F = Frequency



**Fig 3:** Distribution of the respondents according to their availability of credit



**Fig 4:** Distribution of the respondents according to overall use of information sources

The Table 2 depicted the information sources those were utilized by the rice based cropping system respondents for obtaining information related to IPM.

As regards face to face contact the 48.75 percent respondents having irrigation facilities had always obtained the information from friends/relatives/neighbors, followed by 35.63 percent respondents always obtained information form progressive farmers.

It has been further observed that respondents had irrigation facilities 26.25 percent, 21.25 percent, 10.63 percent and 8.13 percent of the respondents always obtained information from the ADOs, Rural leaders, Scientists and panchayat samiti. However, 64.38 percent, 51.87 percent, 50 percent, 44.37 percent, 41.25 percent and 38.12 percent of the respondents sometimes obtained information from the RAEO's,

progressive farmers, friends/relatives/neighbors, scientists, rural leaders and panchayat Samiti respectively.

In continuation to above, respondents had irrigation facilities 53.75 percent, 45 percent, 37.50 percent, 12.50 percent, 9.37 percent and 1.25 percent of them had never obtained information from the panchayat samiti, scientists, rural leaders, progressive respondents, RAEO sand friends/relatives/neighbors respectively.

As regards to group contact information sources utilized by the respondents having irrigation facilities, it was noted that only 14.37 percent, 6.25 percent, 5.62 percent, 5.0 percent, 3.12 percent and 1.25 percent of the respondents always obtained information form bulletin, visit to farmers tour, discussion, participation in training, visit to field demonstration and visit to kisan mela respective.

**Table 2:** Distribution of respondents according to their frequency of use of information sources (n=320)

Sl. No.	Sources of information	Irrigated			Non-irrigated		
		Always F/ (%)	Some Times F/ (%)	Never F/ (%)	Always F/ (%)	Some Times F/ (%)	Never F/ (%)
A	<b>Face to face contact</b>						
1.	Scientists	17 (10.63)	71 (44.37)	72 (45.00)	19 (11.88)	65 (40)	76 (47.5)
2.	RAEO's	44 (26.25)	100 (64.38)	16 (9.37)	38 (23.75)	98(61.25)	24 (15)
3.	Panchayat samiti	15 (8.13)	58 (38.12)	87 (53.75)	15 (9.37)	58 (36.25)	87 (54.38)
4.	Rural leader	34 (21.25)	66 (41.25)	60 (37.50)	20 (12.5)	61 (38.12)	79 (49.38)
5.	Progressive respondents	59 (35.63)	80 (51.87)	21 (12.50)	60 (37.5)	88 (55)	12 (7.5)
6.	Friends/Relative/Neighbors	79 (48.75)	78 (50.00)	3 (1.25)	82 (51.25)	75 (46.88)	3 (1.88)
B.	<b>Group contact</b>						
1.	Farmers tour	24 (14.37)	8 (6.25)	128 (79.38)	28 (17.5)	8 (5)	124 (77.5)
2.	Visit to demonstration	7 (3.12)	12 (9.38)	141 (87.50)	2 (1.25)	14 (8.75)	144 (90)
3.	Group Discussion	11 (5.62)	46 (30.63)	103 (63.75)	8 (5)	45 (28.12)	107 (66.88)
4.	Participation in Training	8 (5.0)	25 (15.62)	127 (79.38)	4 (2.5)	25 (15.63)	131 (81.88)
5.	Visit to exhibitions	12 (6.25)	52 (34.37)	96 (59.38)	8 (5.00)	65 (40.63)	87 (54.38)
6.	Visit to Kisan Mela	4 (1.25)	16 (11.88)	140 (86.87)	5 (3.12)	25 (15.63)	130 (81.25)
C.	<b>Mass Media sources</b>						
1.	Television	60 (37.50)	67 (41.88)	33 (20.62)	68 (42.5)	78 (48.75)	14 (8.75)
2.	Radio	62 (38.12)	62 (40.00)	36 (22.50)	65 (40.63)	45 (28.12)	50 (31.25)
3.	Newspapers	32 (18.75)	42 (28.12)	86 (53.13)	28 (17.5)	60 (37.5)	72 (45)
4.	Farm publications	17 (10.62)	33 (20.63)	110 (68.75)	17 (10.63)	30 (18.75)	113 (70.63)
5.	Others	4 (1.25)	36 (24.38)	120 (74.37)	5 (3.13)	48 (30.0)	107 (66.88)

F = Frequency

However, 34.37 percent, 30.63 percent, 15.62 percent, 11.88 percent, 9.38 percent, and 6.25 percent of the respondents sometimes obtained information from visit to exhibition, discussion, participation in training, visit to kisan mela, visit to field demonstration and bulletin, respectively. While, 87.50 percent, 86.87 percent, 79.38 percent, 63.75 percent and 59.38 percent of the respondents never obtained information through visit to field demonstration, visit to kisan mela, Farmers tour and participation in training, discussion and visit to exhibition, respectively.

As regards to mass media information sources utilization opted by the respondents having no irrigation facilities, the data narrated that 38.12 percent, 37.50 percent, 18.75 percent, 10.62 percent and 1.25 percent of the respondents were always obtained information through radio, television, newspapers, farm publications and others, respectively. However, 41.88 percent, 40 percent, 28.12 percent, 24.38 percent and 20.63 percent of the respondents were sometime obtained information from television, radio, newspapers, others and farm publications, respectively. While, 74.37 percent, 68.75 percent, 53.13 percent, 22.40 percent and 20.62 percent of the respondents never obtained information through others, farm publications, newspapers, radio and television, respectively.

Regarding face to face sources of non- irrigated respondents, revealed that majority of the respondents 51.25 percent always obtained information from friends/relatives/neighbors, followed by 37.50 percent always obtained information from progressive farmers. While 23.75 percent, 12.50 percent, 11.88 percent and 9.37 percent of the respondents always obtained information from the RAEOs, Rural leaders, Scientists and panchayat samiti, respectively. However, 61.25 percent, 55 percent, 46.88 percent, 40 percent, 38.12 percent and 36.25 percent of the respondents sometimes obtained information from the RAEOs, progressive farmers, friends/relatives/neighbors, scientists, rural leaders and panchayat samiti, respectively. While, 54.38 percent, 49.38

percent, 47.50 percent, 15 percent, 7.50 percent and 1.88 percent of the respondents never obtained information from the panchayat samiti, rural leaders, scientists, RAEOs, progressive farmers and friends/relatives/neighbors, respectively. As regards to group information sources, non-irrigated farmers, were concerned, it was noted that 17.50 percent, 5 percent, 3.12 percent, 2.50 percent and 1.25 percent of the respondents always obtained information from farmers tour, discussion and visit to exhibitions (each), visit to kisan mela, participation in training and visit to demonstration field, respectively. However, 40.63 percent, 28.12 percent, 15.63 percent, 8.75 percent and 5 percent of the respondents sometimes obtained information through visit to exhibition, discussion, training/participation and visit to kisan mela (Each), visit to demonstration and farmers tour, respectively. While, 90 percent, 81.88 percent, 81.25 percent, 77.50 percent, 66.88 percent and 54.38 percent of the respondents never obtained information through demonstration, participation in training, visit to kisan mela, farmers tour, discussion and visit to exhibition, respectively.

As regards to mass media information sources of non-irrigated respondents, the data narrated that 42.50 percent, 40.63 percent, 17.50 percent, 10.63 percent and 3.13 percent of the respondents were always obtained information through television, radio, newspapers, farm publications and others, respectively. However, 48.75 percent, 37.50 percent, 28.12 percent, 18.75 percent and 3 percent of the respondents were sometime obtained information from television, newspapers, radio, farm publications and others respectively, while 70.63 percent, 66.88 percent, 45 percent, 31.25 percent and 8.75 percent of the respondents never obtained information through farm publications, other sources, newspapers, radio and television, respectively. Patel (2008) <sup>[10]</sup> had found almost similar findings in his study

#### Exposure to mass media

**Table 3:** Distribution of the respondents according to overall exposure to mass media (n=320)

Sl. No.	Level of mass media exposure	Irrigated		Non-irrigated	
		Frequency	%	Frequency	%
1.	Low (up to 1 score)	16	10.00	20	12.50
2.	Medium (2 to 8 score)	122	76.25	112	70.00
3.	High (9 and above score)	22	13.75	28	17.50
	Total	160	100.00	160	100.00
	X= 5.0	S.D.= 3.9			

The Table (3) presented data of overall exposure to mass media of the respondents of both rice based cropping system. The data revealed that majority of the irrigated rice respondents 76.25 percent had medium level exposure to mass media, followed by 13.75 percent had high level, while 10 percent of the respondents low level exposure to mass media. Regarding the rain fed respondents, the data further revealed that majority of the respondents 70 percent had medium level exposure to mass media, followed by 17.50 percent had high level exposure, while 12.50 percent had low level exposure to mass media. The finding of Sarnaik (2003) supports the study.

#### 4. Conclusion

The data revealed that sampled farmers had irrigated land 56.38 Percent respondents used medium level of information sources for insect pest management practices on contrast slight higher 58.13 Percent farmers of rain fed situation utilized medium level of different information resources. Regarding face to face information sources of irrigated farmers, it was found that majority of the respondent 48.75 Percent always obtained information from friends/relatives/neighbours, followed by 35.63 Percent always obtained information from progressive farmers. As regards to impersonal information sources of irrigated respondents, it was noted that only 14.37 Percent and 6.25 Percent obtained information from bulletin and visit to exhibitions. As regards to mass media information sources 38.12 Percent and 37.50 Percent of the respondents always obtained information through radio and television, however 41.88 Percent and 40 Percent of the respondents sometime obtained information from television and radio.

Regarding face to face information sources of non-irrigated farmers, it has been concluded that majority of the respondent 1.25 Percent always obtained information from friends/relatives/neighbors, 61.25 Percent of the respondents sometimes obtained information from the RAEO, and 54.38 Percent respondents never obtained information from the panchayat samiti. As regards to group information sources of rain fed sampled respondents, it was noted that only 17.50 Percent of the respondents always obtained information from bulletin, 40.63 Percent sometimes obtained information through visit to exhibition and 90 Percent never obtained information through visit to demonstration field. As regards to mass media information sources of non-irrigated respondents, the data narrated that 42.50 Percent of the respondents always obtained information through television, 48.75 Percent sometime obtained information from television and 70.63 Percent never obtained information through farm publications. The extension effort must be strengthened so show that frequency of contact with the extension personnel would be increased in context to rice farmers. The data revealed that majority of the farmers having irrigation facilities (76.25 Percent) had medium level of exposure to mass media, and

slightly less than this (70.00 Percent) rainfed interviewed respondents had medium level of exposure to mass media. This can be concluded that viewing behavior of farmers of rice based cropping system were quite good.

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