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Communication behaviour of tribal vegetable growers in Ranchi district of Jharkhand state

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Abstract
The study was conducted with tribal vegetable growers in Ranchi district of Jharkhand state, selected purposively. Two blocks namely Kanke and Mandar were selected randomly. Five villages were selected randomly from each block. 180 respondents were selected through proportionate random sampling technique. For collection of data, a structured schedule was developed. The respondents were contacted personally for data collection. Frequency, percentage, mean, standard deviation and Pearson correlation were used for analysis of data and inferences were drawn. The majority of tribal vegetable growers were found having medium level of communication behavior (52.80%).communication behavior of tribal farmers was greatly influenced by information sources with respect to vegetable growing and marketing. They need to be empowered to utilize their potential with proper mass media and training support; regular technical advice or training on improved technique can help to enhance their production thereby enhancing their income.

Keywords: communication behaviour, tribal vegetable growers

Introduction
According to the 2011 Census, the population of Scheduled Tribes in the country is 10.43 crore, which is 8.6% of the total population of the country. The population of Scheduled Tribes has been on the increase since 1961. The tribes of Jharkhand consist of 32 tribes inhabiting the Jharkhand state in India. Tribal are known to be the autochthonous people of the land. Tribal are often referred to 'adivasi', 'vanvasi', 'pahari', 'adimjati', 'anusuchit jannati' etc., the last one being the constitutional name. India has second largest tribal population in the world, after the Africa. A list of 427 tribes; including 75 primitive tribes, has been identified in the country (Mandal *et al.,* 2002) [9]. Communication behaviour refers to information input, information processing and information output. Information input may be studied in terms of sources of information, information processing may be studied in terms of evaluation, storage and transformation of information and information output may be studied in terms of dissemination of information. Mishra (1978) [10] reported that out of eighteen sources of agricultural information radio (50%) was the most utilized source after village level extension workers (54%). A Study on "Communication behaviour of extension personnel in progressive and non- progressive district of Assam" was done by Bordoloi *et al.* (2003) [3] and the study revealed that about 50 per cent of the respondents in both progressive and non progressive districts had 'medium' level of communication behaviour followed by 'high' (36.73%) and 'low' (10.20%). Comparatively more respondents (37.50%) in progressive district showed 'high' level of communication behaviour than non-progressive district (28.00%). A study on communication behaviour of extension personnel which was conducted in North Karnataka namely Dharwad, Belgaum, Gadag and Haveri by Jahagirdar and Balasubramanya (2010) [6] found that majority (69%) of the government extension personnel were found in 'medium communication behaviour' category and very less percentage of government extension personnel (14%) were found in 'high communication behaviour' category and is need to increase the communication behavior level from 'medium' to 'high' by imparting suitable training programmes in the field of "Latest communication technologies, communication skills and computer training". Research gap exists to find out the communication behaviour of farmers, Phukan *et al.* (2013) [14] reported that majority of farmers (70%) had medium level of communication behaiour. particularly in terms of market related information in order to provide effective extension service. Therefore, the present study was conducted to see the communication behavior of tribal farmers with respect to vegetable farming.

Research methodology
The study was conducted on tribal vegetable growers in Ranchi district of Jharkhand state, selected purposively. Two blocks namely Kanke and Mandar were selected randomly.

Five villages were selected randomly from each block. 180 respondents were selected through proportionate random sampling. For collection of data, a structured schedule was developed. The respondents were contacted personally for data collection. Frequency, percentage, mean, standard deviation and Pearson correlation were used for analysis of data and inferences were drawn. Communication behavior has been operationalised as information input, information processing and information output behavior of the tribal vegetable growers in the study.

Findings and Discussion

Communication behaviour of tribal vegetable growers

(I) Information input behaviour

Information input behaviour refers to all the activities performed by an individual for acquiring scientific and technical information from various sources for performing his / her role effectively. The respondents were asked to indicate the sources by which they did update themselves with the scientific information.

Table 1: Distribution of respondents on the basis of information Input Behaviour

S. No.	Items	Frequency and percentage of use			Ranks	
A.	**Personalized sources**	**Regular**	**Occasionally**	**Never**	**Regular**	**Never**
1.	Relatives	75 (41.66%)	95 (52.77%)	10 (05.55%)	II	VI
2.	Neighbours	80 (44.45%)	87 (48.33%)	13 (07.22%)	I	IV
3.	Progressive farmer	20 (11.10%)	112 (62.2%)	48 (26.7%)	IV	III
4.	Local leaders	29 (16.1%)	101 (56.1%)	50 (27.8%)	III	II
5.	Salesman	13 (7.2%)	160 (88.88%)	7 (3.88%)	V	V
6.	NGO worker	17 (9.44%)	103 (57.22%)	60 (33.33%)	VI	I
B.	**Professional sources**					
1.	Village level extension officer	35 (13.3%)	125 (69.55%)	20 (11.20%)	I	V
2.	Block level extension officer	25 (13.90%)	49 (27.2%)	106 (58.89%)	II	IV
3.	District level extension officer	10 (05.56%)	21 (11.66%)	149 (82.78%)	III	II
4.	Co- operatives officers	00 (00%)	00 (00%)	180 (100%)	V	I
5.	Agricultural University scientists	05 (2.77%)	37 (20.55%)	138 (76.66%)	IV	III
C.	**Mass contact sources**					
1.	News papers	31 (17.2%)	44 (24.4%)	105 (58.3%)	II	VII
2.	Information board	14 (7.77%)	30 (16.66%)	136 (75.55%)	VI	IV
3.	Circular later	07 (3.88%)	22 (12.22%)	151 (83.88%)	IX	I
3.	Leaflets / folder / poster	27 (15%)	47 (26.1%)	106 (58.9%)	IV	VI
4.	Agriculture film show	00 (00%)	31 (17.2%)	149 (82.8%)	X	II
5.	Agricultural Meetings / Training	08 (4.4%)	63 (35%)	109 (60.6%)	VIII	V
7.	Farmer fairs / Exhibition	25 (13.88%)	80 (44.44%)	75 (41.66%)	V	VIII
8.	Farm magazine	10 (5.55%)	27 (15%)	143 (79.44%)	VII	III
9.	Radio	90 (50.00%)	50 (27.77%)	40 (22.22%)	I	X
10.	Television	30 (16.66%)	80 (44.44%)	70 (38.88%)	III	IX

*****Figure in parentheses indicate percentages

It is observed from table 1 that respondents regular get information in personalized sources from Neighbours (44.45%), Relatives (41.66%), Local leaders (16.10%), Progressive farmer (11.10%), Salesman (07.20%) and NGO worker (09.44%), respectively. In case of professional sources from Village level extension officer (11.10%), Block level extension officer (13.90%), District level extension officer (05.56%), Agricultural University scientists (02.77%) and Co-operatives officers (00%), respectively. In case of mass contact sources from Radio(50.00%), News papers (17.20%), Television(16.66%), Leaflets / folder / poster(15.00%), Farmer fairs / Exhibition (13.88%) Information board (07.77%), Farm magazine (05.55%), Agricultural Meetings / Training (04.40%), Circular later (3.88%) and Agriculture film show (00%), respectively.

The respondents occasionally get information in personalized sources from Salesman (88.880%), NGO worker (57.22%), Local leaders (56.10%), Progressive farmer (62.20%), Relatives (52.77%) and Neighbours (48.33%), respectively. In case of professional sources from Village level extension officer (69.55%), Block level extension officer (27.20%), District level extension officer (11.66%), Agricultural University scientists (20.55%) and Co- operatives officers (00%), respectively. In case of mass contact sources from Farmer fairs / Exhibition (44.44%), Television(44.44%), Agricultural Meetings / Training (35.00%), Radio (27.77%), Leaflets / folder / poster(26.10%), News papers (24.40%), Agriculture film show (17.20%), Information board (16.66%), Farm magazine (15.00%) and Circular later (12.22%), respectively.

The respondents never get information in personalized sources from NGO worker (33.33%), Local leaders (27.80%), Progressive farmer (26.70%), Neighbours (07.22%), Relatives (05.55%) and Salesman (03.88%), respectively. In case of professional sources from Co- operative's officers (100%), District level extension officer (82.78%), Agricultural University scientists (76.66%), Block level extension officer (58.89%) and Village level extension officer (11.20%), respectively. In case of mass contact sources from Circular later (83.88%), Agriculture film show (82.80%), Farm magazine (79.44%), Information board (75.55%), Agricultural Meetings/ Training (60.60%), Leaflets / folder / poster (58.90%), News papers (58.30%), Farmer fairs / Exhibition (41.66%), Television(38.88%) and Radio(22.22%), respectively.

It case of regular seeking information sources in case of personalized sources from Neighbours was rank. It might be due to the fact that they are also worked as their family members in the villages. Relatives were ranked second in regular seeking information. It might be due to the fact that farmers were farmers were so near to their relative and friends that they make maximum suggestions from them in personal relations. Local leader was third ranked. It might be due to the fact that the farmers were constantly having contact with the

local leader for getting the information. Apart from these sources, the other sources like progressive farmers (IV), Salesman (V) and NGOs worker (V) were regular preferred by the farmer. In case of professional sources from Village level extension worker were ranked first B. D. O. was second rank and D.E.O. was ranked third. This could be due to the fact extension officials were efficientint in technology dissemination. In case of mass contact sources from Radio was rank first. It might be due to the fact that radio was used regular for educational as well as entertainment purpose. News papers were ranked second mass contact sources. Its means news papers very cheapest mass contact sources. T.V. stands second position in ranking of regular seeking information. Apart from these sources, the other sources like Leaflets / folder / poster (IV), Farmer fairs / Exhibition (V), Information board (VI), Farm magazine (VII), Agricultural Meetings / Training (VIII), Circular later(IX), Agriculture film show(X) were regular preferred mass contact sources by the farmer.

In case of never getting information sources in case of personalized sources from NGOs worker, local leader, progressive farmers, neighbours and relative were ranked first, second, third and fourth, respectively. In case of professional sources Co- operatives' officers, District level extension officer, Agricultural University scientists, Block level extension officer and Village level extension officer were ranked first, second, third and fourth, respectively. In case of mass contact sources Circular later, Agriculture film show, Farm magazine, Information board, Agricultural Meetings / Training, Leaflets / folder / poster, News papers, Farmer fairs / Exhibition, Television and Radio were ranked first, second, third fourth, fifth, sixth, seventh, eighth, ninth and tenth, respectively. It might be due to fact that farmers were not very much interested to get the information from above mention sources.

The findings of lal and De (2012) [8], Sinha and Prasad (1966), Ambastha (1974), Bhangoo and Kaur (1994), Singh and Singh (1997) are also in accordance with the findings of present investigation.

(II) Information processing behaviour

Information processing behaviour defined by Thayer (1968) conceptualized information processing as a composite of information evaluation, information storage and information transformation.

Table 2: Distribution of respondents on the basis of information processing behaviour

S. No.	Statements	Frequency and percentage of use			Ranks	
A.	**Information evaluation**	**Regular**	**Occasionally**	**Never**	**Regular**	**Never**
1.	Discussed with extension officer	44 (24.4%)	109 (60.4%)	27 (15%)	V	V
2.	Discussed with agri. Scientist	03 (1.7%)	40 (22.22%)	137 (76.11%)	VII	I
3.	Discussed with neighbours	85 (47.22%)	54 (30.00%)	41 (22.77%)	I	III
4.	Discussed with relatives	80 (44.44%)	90 (50.00%)	10 (5.55%)	II	VII
5.	Discussed with Agri-leaders	46 (25.55%)	80 (44.44%)	54 (30%)	IV	II
6.	Judge in the light of climate condition	33 (18.3%)	112 (62.2%)	35 (19.4%)	VI	IV
7.	Weight in the light of past experience	67 (37.20%)	99 (55.00%)	14 (07.80%)	III	VI
B.	**Information storage**					
1.	Taking notes	18 (10.00%)	46 (25.60%)	116 (64.40%)	IV	II
2.	Preserve the printed literature like leaflets, bulletins, booklets, news paper cutting etc	26 (14.44%)	60 (33.33%)	94 (52.2%)	III	III
3.	By memorization	105 (75%)	30 (16.66%)	45 (25%)	I	IV
4.	By conveying to family members and asking them to remembers	41 (22.8%)	131 (72.8%)	08 (4.4%)	II	V
5.	Recommending to information to peers	00 (00%)	26 (14.4%)	154 (85.6%)	V	I
C.	**Information transformation**					
1.	By normal conservation	95 (52.77%)	60 (33.3%)	25 (13.88%)	I	VI
2.	By presenting hints notes	22 (12.22%)	68 (37.77%)	90 (50.00%)	IV	III
3.	By distributing preserve leaflets	38 (21.1%)	120 (71.1%)	22 (7.8%)	II	VII
4.	By demonstrating	5 (2.8%)	92 (55.6%)	75 (41.7%)	VII	IV
5.	Discussing in local meeting	30 (16.66%)	120 (66.64%)	30 (16.7%)	III	V
6.	Giving lecture	15 (8.33%)	40 ((22.20%)	125 (69.44%)	V	II
7.	Writing in news paper	11 (6.1%)	32 (17.8%)	137 (76.1%)	VI	I

*****Figure in parentheses indicate percentages

(A) Information evaluation

It is clear from table 2 that respondents had evaluated the information regular by discussion with Discussed with neighbours (47.22%), Discussed with relatives (44.44%), Weight in the light of past experience (37.20%), Discussed with Agri-leaders (25.55%), Discussed with extension officer (24.40%), Judge in the light of climate condition (18.30%) and Discussed with agri. Scientist (1.70%), respectively.

The respondents had evaluated the information occasionally by Judge in the light of climate condition (62.20%), Discussed with extension officer (60.40%), Weight in the light of past experience (55.00%), Discussed with relatives (50.00%), Discussed with Agri-leaders (44.44%), Discussed with neighbours (30.00%) and Discussed with agri. Scientist (22.22%), respectively.

The respondents were never evaluated the information by Discussed with agri. Scientist (76.11%), Discussed with Agri-leaders (30.00%), Discussed with neighbours (22.77%), Judge in the light of climate condition (19.40%), Discussed with extension officer (15.00%), Weight in the light of past experience (07.80%), Discussed with relatives (05.55%), and respectively.

In case of regular information evaluation, discussion with Discussed with neighbours was ranked at first. It could be due to the fact that due to proximity and authenticity farmers liked to discuss with him. Discussed with relatives were at second place. It might be due to the fact that farmers were having faith on him and liked to discuss with them. Weight in the light of past experience (III), Discussed with Agri-leaders (IV), Discussed with extension officer (V), Judge in the light

of climate condition (VI) and Discussed with agri. Scientist (VII) were also used regular by the farmers for evaluation of information.

In never evaluation case, Discussed with agri. Scientist was first rank. It could be due to show farmers have not time to meet the agricultural scientist. Discussed with Agri-leaders was at second place. It might be due to fact that the farmers were not serious to discuss in their Agri-leader. While Discussed with neighbours (III), Judge in the light of climate condition (IV), Discussed with extension officer (V), Weight in the light of past experience (VI) and Discussed with relatives (VII) were in ranking for never information evaluation.

(B) Information storage

Table 2 shows that respondents regular stored the information by memorization (75.00%), By conveying to family members and asking them to remembers (22.80%), Preserve the printed literature like leaflets, bulletins, booklets, news paper cutting etc (14.44%), Taking notes(10.00%) and Recommending to information to peers(00%), respectively.

Table No.4.2.2 also shows that respondents occasionally stored the information by conveying to family members and asking them to remember (72.80%), Preserve the printed literature like leaflets, bulletins, booklets, news paper cutting etc (33.33%), Taking notes (25.60%), memorization (16.60%), and Recommending to information to peers (14.40%), respectively.

The percentage of farmers who never used information storage by Recommending to information to peers (85.60%), Taking notes (64.40%),%), Preserve the printed literature like leaflets, bulletins, booklets, news paper cutting etc (52.20%), memorization (25.00%) and conveying to family members and asking them to remembers (04.40%), respectively.

In case of regular storage of information by memorization was first rank. It could be due to fact that the farmers perceived the information properly and retained in their minds very easily. By conveying to family members and asking them to remember was at second place. It could be due to fact that the farmers were very much interested in storing the information. Apart from these, preserve the printed literature like leaflets, bulletins, booklets, news paper cutting (III), Taking notes (IV) and Recommending to information to peers (V), respectively. In never used information storage case by Recommending to information to peers were ranked first. Taking notes were second place. It might be due to fact that farmers were not very much used to and it's difficult to understand the storage. Preserve the printed literature like leaflets, bulletins, booklets, news paper cutting etc (III), memorization (IV) and conveying to family members and asking them to remembers (V), respectively

(C) Information transformation

It is clear from the table that respondents regular transferred the information by normal conservation (52.77%), By distributing preserve leaflets (21.10%), Discussing in local meeting(16.66%), By presenting hints notes (12.22%), Giving lecture (08.33%), Writing in news paper (06.10%) and By demonstrating(2.80%), respectively.

In case of occasionally information transformation, by distributing preserve leaflets (71.10%), by demonstrating (55.60%), by presenting hints notes (37.77%), by normal conservation (33.30%), Giving lecture (22.20%) and Writing in news paper (17.80), respectively.

In case of never transformation case, Writing in news paper (76.10%), Giving lecture (69.44%), by presenting hints notes (50.00%), by demonstrating (41.70%), Discussing in local meeting (16.70%), by normal conservation (13.88%) and by distributing preserve leaflets (07.80%), respectively.

In case of regular information transformation, by normal conservation was at first place. It might be due to fact that information should be converted into easy languages through systematic conversations. By distributing preserve leaflets (II), Discussing in local meeting (III), by presenting hints notes (IV), Giving lecture (V) Writing in news paper (VI) and by demonstrating (VII), respectively. In case of never information transformation, Writing in news paper ranked first. It could be due to fact that the non availability of news paper. Giving lecture (II), by presenting hints notes (III), by demonstrating (IV), Discussing in local meeting (V), by normal conservation (VI) and by distributing preserve leaflets (VII), respectively.

The findings are in accordance with the findings of Akhoury (1973) [2], Ambastha (1974) and Lal and De (2012) [8].

(III) Information output behaiour

Table 3: Distribution of respondents on the basis of Information Output Behaviour

S. N.	Statements	Frequency and percentage of use			Ranks	
		Regular	Occasionally	Never	Regular	Never
1.	To my family	160 (88.88%)	12 (6.66%)	8 (4.44%)	I	X
2.	To my relatives	35 (19.44%)	135 (75.00%)	10 (5.55%)	V	VIII
3.	To my neighbors	96 (61.1%)	50 (38.9%)	34 (18.88%)	II	III
4.	To my friends	36 (20%)	120 (66.66%)	24 (13.33%)	IV	VI
5.	To the person conducted me	33 (18.3%)	138 (76.66%)	09 (5%)	VI	IX
6.	To all the person who know me	13 (7.2%)	140 (77.8%)	27 (15%)	VIII	IV
7.	To farmers of my street	71 (39%)	84 (85.6%)	25 (13.9%)	III	V
8.	To those who are cultivating in my land	3 (1.7%)	43 (23.9%)	134 (74.4%)	IX	II
9.	To the farmers of neighboring village	19 (10.6%)	150 (83.3%)	11 (6.1%)	VII	VII
10.	No body	00 (00%)	00 (00%)	180 (180%)	X	I

*****Figure in parentheses indicate percentages

It is clear from the table 3 that the farmers disseminated the information regularly to their family members (88.88%), neighbors (61.10%), farmers of my street (39.00%), friends (20.00%), Relatives (19.44%), the person conducted me (18.33%), the farmers of neighboring village(10.60%), all the person who know me (07.20%), those who are cultivating in my land(01.70%) and Nobody(00%), respectively.

The percentages of farmers who disseminate the information occasionally to others were the farmers of neighboring village (83.30%), the person conducted me (76.66%), all the person

who know me (77.80%), relatives (75.00%), friends (66.66%), farmers of my street (85.60%), neighbors (38.90%), those who are cultivating in my land (23.90%), family (06.66%) and Nobody(00%), respectively.

In case of never No body (100%), those who are cultivating in my land (74.40%), neighbors (18.88%), all the person who know me (15.00%), farmers of my street (13.90%), friends(13.33%), the farmers of neighboring village(06.10%), relatives(05.55%), the person conducted me(5.00%) and family(4.44%), respectively.

In case of regular information output behaviour, family members were first rank. It could be proximity of the farmers to their family members. Neighbors were second place. It could be the proximity and nearness of the farmers. Farmers of my street were third place. It could be due to the fact that farmers were constantly dissemination the new technologies to the others. Friends (IV), Relatives (V), The person conducted me (VI), The farmers of neighboring village(VII), All the person who know me (VIII), Those who are cultivating in my land(IX) and Nobody(X), respectively used regular for dissemination of the information.

In never case, nobody was first rank. Its means farmers interested for sharing the information to others farmers. Those who are cultivating in my land were second rank. it could be fact that farmers were not in constant with the farmers of the other villages. Neighbors (III), All the person who know me (IV), farmers of my street (V), friends(VI), the farmers of neighboring village(VII), relatives(VIII), the person conducted me(IX) and family(X), were never able to get the information.

The findings are in line with Sunderswami (1971), Singh and Singh (1997), Pandey (1979) [12] and Lal and De (2012) [8].

Communication behaviour

Communication behaviour refers to information input, information processing and information output. Information input may be studied in terms of sources of information, information processing may be studied in terms of evaluation, storage and transformation of information and information output may be studied in terms of dissemination of information.

A) Information input behaviour

Table 4: Distribution of respondents according to their Input behaviour

S. No.	Categories	Frequency	Percentage
1.	Low (Up to 8)	27	15.00
2.	Medium(9 to 18)	122	67.80
3.	High(19 & above)	31	17.20
	Total	180	100.00

Mean =13.37, S.D.= 5.278

According to Table 4.2.4 it was observed that about 67.80 per cent of respondents had medium information input followed by 17.20 per cent and 15.00 per cent i.e. high and low information input.

B) Information Processing Behaviours

Table 5: Distribution of respondents according to their Information Processing Behaviour

S. No.	Categories	Frequency	Percentage
1.	Low (Up to 14)	47	26.10
2.	Medium(15 to 22)	96	53.30
3.	High(23 & above)	37	20.60
	Total	180	100.00

Mean = 18.47, S.D.= 4.545

The table No. 5 revealed that the majority of respondents (53.30%) were found medium information processing behaviors followed by low (26.10%) and high (20.60) information processing behaviors, respectively.

C) Information Output behaviour

Table 6: Distribution of respondents according to their Output behaviour

S. No.	Categories	Frequency	Percentage
1.	Low (Up to 9)	40	22.20
2.	Medium(10 to 12)	124	68.90
3.	High(13 & above)	16	08.90
	Total	180	100.00

Mean =10.43, S.D. = 1.974

The table No. 6 shows that the majority of farmers (68.90%) were found medium output behaviour followed by low (22.20%) and high (08.90%) information output behavior, respectively.

Table 7: Distribution of respondents according to their Communication Behaviour

S. No.	Categories	Frequency	Percentage
1.	Low (Up to 38)	48	26.70
2.	Medium(39 to 56)	95	52.80
3.	High(57 & above)	37	20.60
	Total	180	100.00

Mean= 45.57, S.D. = 9.954

The table No. 7 shows that majority of the respondents i.e. more than 52.80 per cent had medium level of communication behavior, followed by low level of communication behaviour i.e. 26.70 per cent. Only 20.60 per cent respondents had high communication behaviour. The findings of the study highlighted that majority of farmer had medium and medium communication behaviour. This could be due to the fact that farmers knew the utility of new information and they realized that these new information received from different sources were of great help to them in increasing the food production. The finding is in line with the findings of Phukan *et al.* (2013) [14], Lal and De (2012) [8] and Bordoloi, *et al.* (2003) [3].

Conclusion

On the basis of finding of the present study it can be said that communication behavior of tribal farmers was greatly influenced by information sources with respect to vegetable growing and marketing. They need to be empowered to utilize their potential with proper mass media and training support; regular technical advice or training on improved technique

can help to enhance their production thereby enhancing their income. It is important to promote market led extension support so that more vegetable growers can improve their communication behaviour to be commercially engaged and be economically benefitted in gaining higher profits.

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