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A comparative study of degree of contact of farmers and farm women with various extension materials with respect to wave length of contact of various materials in Keonjhar District of Odisha

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Abstract

Degree of contact and wavelength of contact both are comparative terminologies in Information communication system with special reference to various extension materials. All problems may be solved by Information. Here the authors were cited the Information by degree of contact and wavelength of contact both in Agriculture and Animal Husbandry cum veterinary sector. In the Year 2013-2018, a pilot based research was made by the PhD Research Scholar under the guidance of Doctoral Research Committee with the help of OUAT, KVK and Agriculture Department to publish this research review before the researchers for further study. The study was completed in Keonjhar Dist. of Odisha. Here Expost facto design and multistage sampling was taken for study along with Structured interview schedule by personal interview, telephonic call, email method followed for collection of data. Around 120 farm women and 120 male farmers samples were taken for comprehensive study in Keonjhar Dist. Of Odisha. This Research Paper has been published for partial fulfillment of award of PhD Degree by OUAT, Bhubaneswar in NAAS-5 Rated journal. This is in accordance with UGC Rule for completion of PhD with best quality.

Keywords: Degree of contact, wave length of contact, Information Communication system, Farmers, Farm women, SECC, Livelihoods

Introduction

Information communication technology is an umbrella like system under which all solutions may be possible as per problem/challenges. ICT is also an useful weapon that can be applied in every development sectors for achieving maximum effectiveness in every assigned task. As Agriculture is the fuel of country plays a very dynamic role in the society and also as backbone of country's economy. As per the Research findings around 70 Percent of Population in India earns its Livelihoods from Agriculture. (Kurukshetra, June 2015)

Agriculture needs continuous diffusion of new technology to meet global food security, poverty reduction and environment sustainability. According SECC data (2011), released on 2015, in India total households is 24.39 crore, out of 17.91 crore lived in rural area, among them 10.69 crore called deprived households (Kurukshetra, September 2015). The SECC data indicates that 31.26 percent of rural households are belonging under poverty. The life of main earner is highly insecure and uncertain income. Due to globalization, urbanization and demand of high value product global scenario has been change in the context of agriculture. Farming is very difficult for people though are lives under poverty line. To mitigate the global needs and reforms agriculture production, Green Revolution took placed during the mid of 1960s. The major objectives of green revolution were expansion in area under cultivation, usage of chemical fertilizers, pesticides and new technologies to increase the output. In India conducted under the eminent scientist M.S. Swaminathan and team of Scientist of ICAR (Indian Council for Agriculture Research). Green revolution, which increased the output of cereals- mainly rice and wheat and other core cereals like maize to a certain extent, mainly in Punjab, Haryana, and western Uttar Pradesh. At the initial stage, green revolution was initiated with the spread of new technology to better endowed and irrigated area. Later many revolutions occurred in India to increased various other types of production such as white revolution (milk production), blue revolution (fish production), yellow revolution (oil seeds), round revolution (potato production) evergreen (productivity without loss), silver fibre (cotton production), silver revolution (poultry production), red revolution (meat and buffalo), golden (overall horticulture) etc. instead of these types of revolution many farmers in India following traditional way of cultivation.

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Every year plenty of farmers are facing huge loss during cultivation. Agriculture production continuously decline during the last few decades. Hence agriculture development need through provide innovative knowledge and information to door step of farmers.

Development education, it combines various methodologies of education to promoting knowledge, so that agriculture sector needs development education to revive productivity through agriculture. ICT (Information communication technology) help to provide knowledge to the door step of farmers. It provides information related to weather/climate information, fertilizers consumption, online land registration, pest management and price output in the markets etc. Every level of government offices are connected with a network, to provide information to the farmers. Agriculture expert, VAW (Village Agriculture Workers), KrisakSathi, development officers and stake holder are teaching farmers, to adapt new methods of agriculture. In India teledensity has rapidly increased, in rural area teledensity is increased twice as per 2015 government report (Kurukshetra, February 2016). Rural farmers access information regarding agriculture through Short Message Service (SMS), Voice over call on their mobile phone. The Central government collaborating with the state government has been introduced in various ICT Centres equipped with PCs, telephone, internet, broadband connection and with development officer e.g. e-choupal, cyber dhaba, IFFCO-ISRO GIS project, Gyandoot project, Amarket, Vistanetetc. Knowledge based information provided through various web and mobile based web portal, farmer's web portal (www.farmer.gov.in), mkisan portal (www.mkisan.gov.in), Kisan Call Centres. These portal are facilitating knowledge based information and advisory through subject experts. Department of Agriculture & Cooperation has developed more than 80 portals, websites and mobile based applications, with the collaboration with National Informatics Centre. The important portals are, SEEDNET, DACNET, RKVY, ATMA, NHM (National Horticulture Mission), INTRADAC, NFSM (National Food Security Mission) and APY (Acreage, Productivity and Yields).

Maximum percentage of inhabitant make livelihood through agriculture. This research has given importance to know about the various projects of ICTs in agriculture development. Special ICTs projects in Odisha and how the government and private organization design programmers to reach the rural farmers.

Review of literatures

Surabhi Mittal *et al.* (2010) conducted a study to look at the impact of mobile phones on the crop sector in India with a focus on small farmers. The result was based on information collected through group discussions and interviews with farmers of Uttar Pradesh, Rajasthan, Maharashtra and New Delhi and with fishermen in Pondicherry. According to authors the rapid growth of mobile telephony and introduction of mobile-enabled information services provide solution to overcome existing information issues in agriculture which limit the agricultural productivity such as physical infrastructure, problems with availability of agricultural inputs and poor access to agriculture-related information, etc and also bridging the gap between the availability and delivery of agricultural inputs and agriculture infrastructure. The study found evidence that mobiles are being used by the farmers to increase productivity in agriculture.

Leisa Armstrong and N. Gandhi, (2012) made a study to

investigate the factors influencing the use of Information and Communication Technology (ICT) Tools by the farmers of rural villages of Ratnagiri district of Maharashtra state, India. Authors were selected 100 respondents from one Tehsil Ratnagiri district and key stakeholders government officials and agricultural industry workers. Two different questionnaires were provided to farmers and key stakeholders. The study was revealed that, rural farmers of Ratnagiri district still not been adopted ICT fully and there is a massive opportunity to enhance the broadcasting of agricultural related information that farmers receives from government officers, fellow farmers and relatives. Most of the farmers were used TV and mobile phone to collect agricultural related information and also noted that number of factors constraining the dissemination of ICT in Ratnagiri District such as the gap between the currently used technology and the technology preference as well as the factors such as gender and land ownership did not significantly affect the use of ICT tools and also effective use of technology is a necessary prerequisite for the successful use of ICT by the farmers. Strengthening and motivating farmer groupstouse the technologies such as internet, home phone is important to facilitate access for ICT facilities. More over the authors opined that establishing IT based information centres in rural areas could boost access to market information.

Balwant Singh Mehta, (2013) conducted a study by using field Survey method to explores the socioeconomic impact of mobile phone usage in rural areas of the two Indian States such as Punjab and Bihar and the survey revealed that, mobile phones have reduced the cost of accessing information and helped users to make communication with their relatives and migrant family members and to gather timely information related with agricultural and non-agricultural purposes and also Mobile users get benefit by obtaining timely information on a variety of subjects, including on employment opportunities and higher education for their children, funds transfer, etc. The author also noted that in Punjab state, peoples were early adopted new technologies and hence there is high usage of mobile value-added services (MVAS) and innovative uses like transfer of funds and agricultural related information. Finally the author made conclusion, With the spread of mobile use, it is very likely that it could be an arena of innovative activity, reducing costs and thus increasing incomes at the 'bottom of the pyramid'.

Jayade, K. G *et al.* (2014) published an article entitled as "Study of Information Communication Technology in Agriculture in Vidarbha Region of Maharashtra State of India." and concluded that ICT has improved the economical condition of the farmers in Vidarbha Region of Maharashtra state; ICT is advanced tools to disseminate the modern agricultural knowledge to the farmers and it plays an important role for the development of economy by enhancing the effectiveness of agricultural market, productivity and competitiveness in Vidarbha region of Maharashtra state. ICT and Mobile technology not only improved the package of practices but also improved the agriculture through knowledge dissemination by e-agriculture but also reduced the gap among agricultural scientists, extension worker and farmers.

Specific objectives

The specific objectives of the study are

- To illustrate and analyze about the comparative analysis between degree of contact on various extension materials vs wave length of materials.

- To find out comparison between modern extension materials and traditional extension materials.
- To assess the farmer and farm women's awareness towards various sources of information by using various types of extension materials in Keonjhar District.

Hypothesis Setting

Hypothesis of the study are

- H₁:** Degree of Contact is the basic accessible area for Farmer and Farm women
- H₂:** Visual and Modern Extension Materials applications are still unreachable in rural areas among farm women and farmers in Veterinary and Agriculture sector.
- H₃:** Wave length of contact enhanced the momentum in the information communication system sector.

Research methodology materials methods

The present study has been completed with collecting both primary as well as secondary data.

Secondary data collection

The secondary data has been collected through different source of materials, portals, websites and other exiting records

- National and state government agriculture portal.
- Policy and act of Orissa Government.
- Different Schemes and Projects on ICT under Government of Orissa.
- Block agriculture and veterinary reports.

The other relevant data has been collected from various books, magazines, official records, research paper, internet, journals, news articles and other exiting sources of data.

Sample Design

To study the role of information communication system in an area like Patna, Champua, jhumpura, Saharpada, Sadar block in Keonjhar district, the sample has been designed as per the feasibility of the research conducted in the stipulated time.

Population of the Study

The population of the study is 29,755 comprised of farmers agriculture labours (private agencies) though are directly linked with the agriculture.

Sample area: Patna block play significant role in maize production, in Orissa's agriculture. About 80% of people are directly connected with agriculture and agro based industries which provide livelihood to the inhabitants of the block. Two Grampanchayats have been selected out of 24 panchayats for data collection as per agricultural activities, one highest agriculture activities another one lowest activities. The selected area of sample from Patna block comprises 16 different villages 8 villages from each two panchayat and sample is persons, who are big and small farmers. Hence ICT implementation is required where it's feel the lack of information. The research conducted is a descriptive research.

Sample size: The size of the sample is 240 consists of: Male Farmers 120, and Farm women 120 Nos.

Sample selection: The sample was drawn through simple random sampling methods. Through stratified random sampling methods 10 farmers have been selected from each village, there have eight revenue villages in each panchayat. Two types of methods are selected to collect the data to conduct the research. The data has been collected in different phase as per needs from different villages of Patna Block.

Primary data collection: The primary data has been collected through two methods survey and observation. Through schedule, data has been collected from the farmers of selected villages. From each village ten farmers has been taken. Selection has been made through the register of stake holders. Schedule has been prepared with both close ended and open ended questionnaire. While collecting primary data non-participatory observation a method has been followed.

Tools and Techniques: Schedule has been used as a tool of survey method.

Data analysis and interpretation: Data are analyzed in qualitative and quantitative methods. Data collected from both panchayat are averagely analyzed. To know the difference a comparative analysis has also been done. To test the quantity of data SPSS software has been used.

Result and Discussion

Table 1: Degree of Contact of Farmers and Farmwomen with Extension Materials for learning and communications (Visual materials)
The instructional devices which help to visualize the message are known as visual aids.

Extension Materials	Mean Score(Farmer)	Score Gap %	Mean Score(Farmwomen)	Score Gap %	C.R.
Visual Materials					
Poster	1.6	46.66	1.4	53.33	1.03(NS)
Model	1.7	43.33	1.5	50	1.03(NS)
Banner	2.65	11.66	2.5	16.66	1.11(NS)
Flip chart	1.8	40	1.45	51.66	1.81(NS)
Picture and photograph	2.3	23.33	2.1	30	1.16(NS)
Flash card	1.45	51.66	1.3	56.66	0.77(NS)
Bulletin Board	1.4	53.33	1.2	60	0.98(NS)
Chalk/White Board	1.8	40	1.5	50	1.55(NS)

The Table No-1. reflected that out of 9 Visual materials farmer respondents were getting information and knowledge from mainly Banner (MS=2.65), Picture and photograph (MS=2.3) Chalk/White Board (MS=1.8) and From Flip chart (MS=1.8) respectively.

The Scenario with respect to farm women depicted that the farm women respondents were mostly in contact with Banner

(MS=2.5), Picture and photograph (MS=2.1) Chalk/White Board (MS=1.5) and from model (MS=1.5) respectively.

A communication gap of 53.33 percent was observed with the farmers respondents with respect to Bulletin Board followed by 51.66 percent with Flash card, 43.33 percent with model and 40 percent with Chalk/White Board, revealed that the farmers were having less degree of contact with extension materials.

Similarly, in case of farm women a score gap of 60 percent was observed with respect to degree of contact with Bulletin Board followed by 56.66 percent gap in case of Flash card. Again the farm women were having high gap percentage of 53.33 percent with Poster and 51.66 percent with Flip chart followed by 50 percent in Model and Chalk/White Board jointly. The data concluded that farmers were getting

information from various visual materials such as Banner, Picture and photograph, Flip chart and Chalk/White Board whereas farm women were getting information from Banner, Picture and photograph, Model and Chalk/White Board.

It also revealed that there was no significant difference of degree of contact among farmers and farm women with respect to all visual materials presented in the above table.

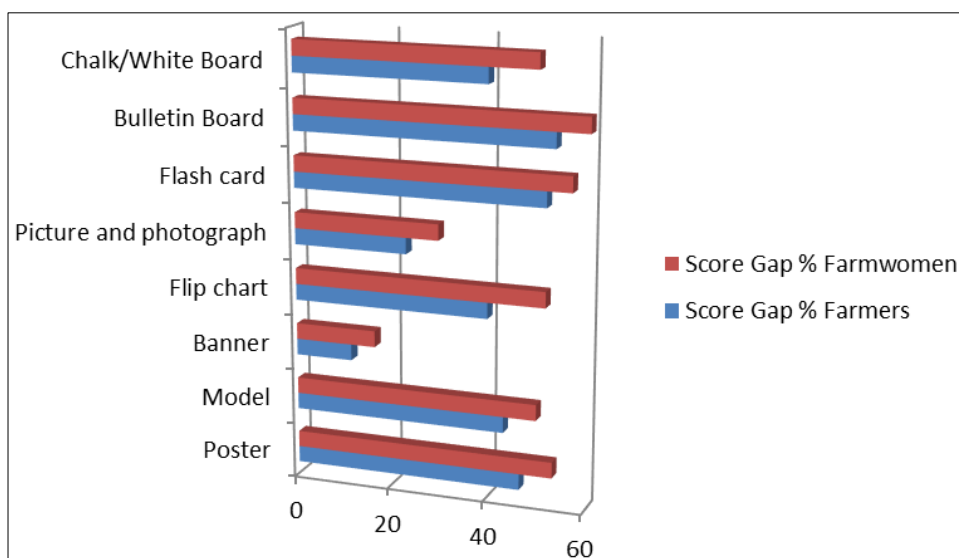


Fig 1: Bar graph of Farmers and Farm Women with reference to gap percentage in comparative study on various extension materials (visuals)

Table 2: Wavelength of Contact with visual materials

Respondents	Extensive Contact	Moderate Contact	Negligible Contact
Farmers	Banner	Flip chart	Flash card
	Picture and photograph	Chalk/White Board	Bulletin Board
		Model	
		Poster	

Respondents	Extensive Contact	Moderate Contact	Negligible Contact
Farm women	Banner	Model	Flash card
	Picture and photograph	Chalk/White Board	Bulletin Board
		Flip chart	
		Poster	

From the table no-2 it revealed that farmers and farm women were having extensive contact with Banner and Picture and photograph. Similarly moderate contact, in case of farmers were with Flip chart, Chalk/White Board, Model and

Poster where as in case of farm women were Model, Chalk/White Board, Flip chart and Poster.

The negligible contact found in case of farmer and farm women were Flashcard and Bulletin Board.

Table 3: Degree of Contact of Farmers and Farmwomen with Extension Materials for learning and communications (Written materials)
The materials which are in written form are said to be written materials.

Extension Materials	Mean Score(Farmer)	Score Gap %	Mean Score(Farmwomen)	Score Gap %	C.R.
Written Materials					
Folder	1.7	43.33	1.25	58.33	2.32(*)
Leaflet	1.2	60	1.1	63.33	0.53(NS)
Booklet	1.5	50	1.2	60	1.55(NS)
Farm journal	1.3	56.66	1.2	60	0.529(NS)
News letter	1.3	56.66	1.1	63.33	1.05(NS)
Bulletin	1.4	53.33	1.1	63.33	1.57(NS)

The Table No-3. reflected that out of 6 written materials farmer respondents were getting information and knowledge from mainly Folder (MS=1.7), Booklet (MS=1.5) and Bulletin (MS=1.4).

The Scenario with respect to farm women depicted that the farm women respondents were mostly in contact with folder (MS=1.25), Booklet (MS=1.2) and farm journal (MS=1.2).

A communication gap of 60 percent was observed with the farmers respondents with respect to Leaflet followed by 56.66 percent with Farm journal as well as with News letter and 53.33 percent with Bulletin and 50 percent with Booklet, revealed that the farmers were having less degree of contact with written materials.

Similarly, in case of farm women a score gap of 63.33 percent was observed with respect to degree of contact with leaflet, News letter and bulletin followed by 60 percent gap in case of farm journal and Booklet. Again the farm women were having high gap percentage of 58.33 percent with Folder.

The data concluded that farmers were getting information

from various written materials such as Folder, Booklet, and Bulletin where as farm women were getting information from Folder, Booklet and Farm journal.

It also revealed that there was significant difference of degree of contact among farmers and farm women with respect to written materials was Folder.

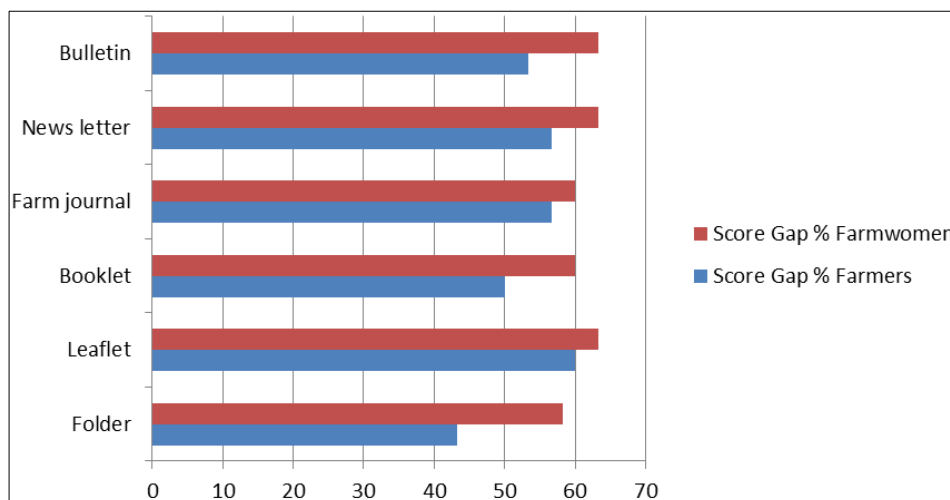


Fig 2: Bar graph of Farmers and Farm Women with reference to gap percentage in comparative study on various extension materials (Printed Reading materials)

Table 4: Wavelength of Contact with written materials

Respondents	Extensive Contact	Moderate Contact	Negligible Contact
Farmers	Folder	Farm journal	Leaflet
	Booklet	News letter	
	Bulletin		

Respondents	Extensive Contact	Moderate Contact	Negligible Contact
Farm women	Folder	Booklet	News letter
		Farm journal	Bulletin
		Flip chart	Leaflet

From the table no-4. it revealed that farmers were having extensive contact with folder, booklet and bulletin where as in case of farm women were folder.

Similarly moderate contact, in case of farmers were farm journal and news letter where as in case of farmwomen with booklet, farm journal and flip chart.

The negligible contact found in case of farmer was leaflet and farm women were newsletter, bulletin and leaflet.

Table No-5. Degree of Contact of Farmers and Farmwomen with Extension Materials for learning and communications

(Traditional/Folk Media)

Wang and Dissanayake (1984), defined FOLK MEDIA as a communication system embedded in the culture which existed before the arrival of mass media, and still exists as a vital mode of communication in many parts of the world, presenting a certain degree of continuity, despite changes. The folk media consists of forms-folk theatre, puppetry, storytelling, folk painting (tribal house based painting/tatoos), folk music, ballad and mime.

Table 5: Degree of Contact of Farmers and Farmwomen with Extension Materials for learning and communications (Traditional/Folk Media)

Extension Materials	Mean Score(Farmer)	Score Gap %	Mean Score(Farmwomen)	Score Gap %	C.R.
Traditional Media/Folk media					
Puppet Show	2.75	8.33	2.6	13.33	1.24(NS)
Folk Dance	2.9	3.33	2.8	6.66	1.184(NS)
Village Drama	2.9	3.33	2.65	11.66	2.45(*)
Information giving by using drum by Dakua	2.8	6.66	2.7	10	0.93(NS)
Wall Paintings	1.8	40	1.3	56.66	2.58(*)

The Table No 6. reflected that out of 5 Traditional Media farmer respondents were getting information and knowledge from mainly Folk Dance and Village Drama (MS=2.9), Information giving by using drum by Dakua (MS=2.8) and Puppet Show (MS=2.75)

The Scenario with respect to farm women depicted that the farm women respondents were mostly in contact with Folk

Dance (MS=2.8), Information giving by using drum by Dakua (MS=2.7) and from Village Drama.

A communication gap of 40 percent was observed with the farmers respondents with respect to Wall Paintings followed by 8.33 percent in puppet show, revealed that the farmers were having high degree of contact with Traditional Media.

Similarly, in case of farm women a score gap of 56.66 percent was observed with respect to degree of contact with Wall Paintings followed by 13.33 percent gap in case of Puppet Show and 11.66 percent with Village Drama revealed that the farm women were having high degree of contact with Traditional Media.

The data concluded that farmers were getting information from various Traditional Media such as Folk Dance, Village

Drama, Information giving by using drum by Dakua, Puppet Show where as farm women were getting information from Folk Dance, Information giving by using drum by Dakua, Village Drama, Puppet Show. Here both farmers and farm women getting information from same traditional media.

It also revealed that there was significant difference of degree of contact among farmers and farm women with respect to Traditional Media were Wall Paintings, and Village Drama.

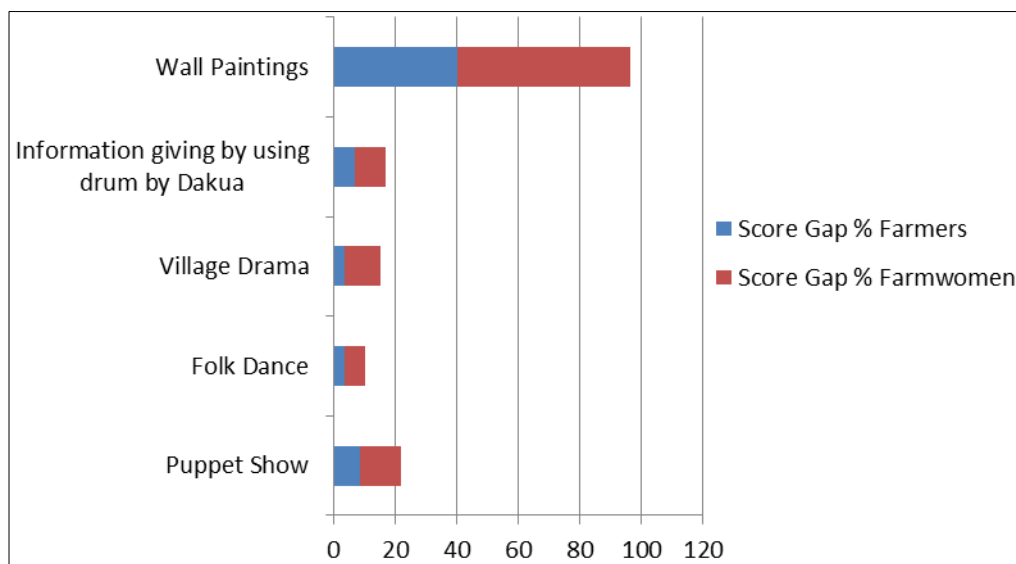


Fig 3: Bar graph of Farmers and Farm Women with reference to gap percentage in comparative study on various extension methods (Local Folkways)

Table 6: Wavelength of Contact with traditional media

Respondents	Extensive Contact	Moderate Contact	Negligible Contact
Farmers	Folk Dance	Puppet Show	Wall Paintings
	Village Drama		
	Information giving by using drum by Dakua		

Respondents	Extensive Contact	Moderate Contact	Negligible Contact
Farm women	Folk Dance	Information giving by using drum by Dakua	Wall Paintings
		Village Drama	
		Puppet Show	

From the table no-6 it revealed that farmers were having extensive contact with folk dance, village drama and information giving by dakua where as in case of farm women were folk dance. Similarly moderate contact, in case of farmers were puppet show where as in case of farmwomen with Information giving by using drum by Dakua, Village Drama and Puppet Show. The negligible contact found in case of farmer and farm women was wall paintings.

Conclusion

By Comparative analysis of all six tables the following conclusions were appended below;

From Modern extension materials both stakeholders male farmer and farm women with respect to Degree of contact and wavelength of contact will be elaborated here with the data concluded that farmers were getting information from various visual materials such as Banner, Picture and photograph, Flip chart and Chalk/White Board whereas farm women were getting information from Banner, Picture and photograph, Model and Chalk/White Board. It revealed that farmers and farm women were having extensive contact with Banner and Picture and photograph. The negligible contact found in case

of farmer and farm women were Flash card and Bulletin Board.

From Traditional Extension Materials materials both stakeholders male farmer and farm women with respect to Degree of contact and wavelength of contact will be elaborated here with.

The data concluded that farmers were getting information from various Traditional Media such as Folk Dance, Village Drama, Information giving by using drum by Dakua, Puppet Show where as farm women were getting information from Folk Dance, Information giving by using drum by Dakua, Village Drama, Puppet Show. Here both farmers and farm women getting information from same traditional media. It also revealed that there was significant difference of degree of contact among farmers and farm women with respect to Traditional Media were Wall Paintings, and Village Drama. The negligible contact found in case of farmer and farm women was wall paintings.

Hence, author is suggested here to keep up both the extension materials and use where it may be applicable in day to day life is clearly justified.

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Foot notes

This is an Original article From PhD Research work and thesis which is conducted by Bibhu Santosh Behera under the guidance of Dr. Bibhuti Prasad Mohapatra of Dept. of Extension Education, College of Agriculture, OUAT, Bhubaneswar as Chairman and Chief guide of Research Committee. Dr. B. Parasara, Prof and HOD, Dr. R.K. Mishra and Dr. A.K. Parida are the Members of the Research Committee for guidance and help in every aspects.

Endnotes

This is a Student's research work for partial fulfillment of Doctoral degree as per UGC/ICAR and SAU rules.

References

1. Asheeta Bhavnani, Rowena Won-Wai Chiu, Subramaniam Janakiram Peter Silarszky. The Role of Mobile Phones in Sustainable Rural Poverty Reduction, 2008. Available at http://siteresources.worldbank.org/extensionandcommunicationandtechnologies/Resources/The_Role_of_Mobile_Phones_in_Sustainable_Rural_Poverty_Reduction_June_2008.pdf accessed on 11 March 2017.
2. Balwant Singh Mehta. Capabilities, costs, networks and innovations: impact of mobile phones in rural India, 2004. Working Paper available at <http://www.capturingthegains.org/pdf/ctg-wp-2013-29.pdf> accessed on 15 March 2017.
3. Cecchini Simone, Christopher Scott. Can information and communications technology applications contribute to poverty reduction? Lessons from rural India, Information Technology for Development. 2003; 10(2):73-84.
4. David Grimshaw J, Shalini Kala. Strengthening Rural Livelihoods: The impact of information and communication technologies in Asia - Practical Action Publishing Ltd., UK and the International Development Research Centre, Canada, 2011.
5. Gulati Archana. Dialing in rural prosperity through universal cellular connectivity - Kurukshetra – A Journal of Rural Development, Ministry of Rural Development, Government of India. 2008; 57:1. ISSN-0021-5660.