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New Media: A new trend setter for Indian News Industry
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Traditional Media in Uttarakhand
— *Vikram Singh Bartwal, Dinesh Chandra*

Pragyaan : Journal of Mass Communication

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From the Chief Editor

Mass Communication is one of the most dynamic and thereby, challenging disciplines of our times. *Pragyaan: Journal of Mass Communication* aims to be at the forefront of this dynamism by publishing insightful research on new trends in the field. The Journal envisions being a marker of new trends and future prospects in the communication landscape. This edition of *Pragyaan: Journal of Mass Communication* combines two issues and presents eight research articles covering diverse areas of Mass Communication.

The endeavor of development communication is to facilitate social transformation. The first article, "Leveraging ICTs for better dissemination of agricultural information: ANDS project of BAU, Sabour" explores the role of ICT in the development of agriculture, by educating and training farmers on farming and allied techniques in the state of Bihar. The second article in the issue, "Youths' Perception Towards use of Health-related Information from SNS" focuses on the debate surrounding the use of Social Networking Sites (SNS) and the potential of SNS in health promotion. The third article "Popular Science Communication: A Historical Background" provides a good perspective and analysis of efforts in popularizing science communication. The role of technological innovations in digital media and its impact on journalism is well explored in the paper, "Impact of Media Convergence on Journalism: A Theoretical Perspective". The impact of Gyan Vani – the educational FM radio station in several cities of India is discussed in the fifth article, "A study on Science Programmes Covered by Gyan Vani". The articles "Role of Media in Democracy" and "New Media: A trend-setter for Indian News Industry" assess critical contextual issues and provide suggestions for objective and unbiased dissemination of information. The final article, "Traditional Media in Uttarakhand" discusses the practice and impact of the folk media in the Himalayan regions of Uttarakhand.

The Editorial Board welcomes submissions emphasizing both qualitative and quantitative approaches, *challenging* the boundaries of research in communication, thereby provoking readers to ask new questions, seek new evidence, and come to new conclusions. In this way the journal continues in its efforts to provide academicians and professionals an avenue to disseminate empirical research and introduce new concepts to its readership.

Prof. Vijayan Immanuel
Pro Vice Chancellor
IMS Unison University, Dehradun

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Leveraging ICTs for better dissemination of agricultural information: ANDS project of BAU, Sabour

Aditya*
R.K Sohane**
S.R Singh***

ABSTRACT

The Agriculture Knowledge Dissemination System (ANDS) project was launched on July 22nd, 2010 at Bihar Agricultural University (BAU), Sabour to develop a knowledge network and dissemination system for increasing access and capacity building through education and training on farming and allied techniques to the farmers in the state of Bihar for enhanced food production, vegetable/ fruit yield, livestock production and allied farming activities. Better reach through Information and Communication Technologies (ICTs) is an integral part of the project.

Within a short time, the project has to a great extent enabled to bridge the gap between the farmers of less developed districts and developed districts by providing latest information from the university headquarters through various means. It is also serving to the needs of the scientific community through various means such as video/audio production, publication of weekly newsletter etc. The need for a coordinated, holistic approach to harness the potentials of the technology for enhanced food production in the state is largely catered to with the project. This paper outlines the specific activities and progress of the project.

Key Words: ANDS, ICTs, Network, Technology, Project

Introduction

'ICT' is a catch-all term for an increasing number of technologies, each offering corresponding opportunities for innovation and reach. When considering the value of ICTs to enable improved dissemination of information among the farming community, it is worth bearing in mind that in remote rural areas of many developing countries, particularly in India, these have the potential to make an enabling ground.

In order to leverage the benefits offered by ICTs, Agriculture Knowledge Dissemination System popularly known as ANDS project was launched on July 22nd, 2010 at Bihar Agricultural University, Sabour. The project aims to develop a knowledge network and dissemination system for increasing access and capacity building through education and training on farming and allied techniques to the farmers in the state of Bihar for enhanced food production, vegetable/ fruit yield, livestock production and allied farming activities. Through the project, a state-of-art electronic media and production centre (EMPC) at

Sabour is established which is providing facilities for audio, video and multimedia development/production for promotion and dissemination of technical information concerning agriculture and allied areas. The EMPC has audio and video studios, PCR rooms, recording room/edition room, digital archives, library and auxiliary facilities. The EMPC is also serving needs of the students in educating them on the basics of video and multimedia production for the farming community. A dissemination system consisting of web-casting using for agriculture-related services is also set up in the university headquarters at Sabour, Bhagalpur. The strengthening of four Krishi Vigyan Kendras (KVKs) at Saharsa, Nalanda, Katihar and Aurangabad in Bihar is completed to enable high-speed connectivity through video-conferencing facility educating the farmers on agricultural practices by experts from the university headquarters. In the near future, all the twenty KVKs in the jurisdiction of the university would be connected through video-conferencing facility. Farmers are also provided crop-specific information by both voice and text messaging services. The provision of information

*Aditya, Assistant Professor-cum-Junior Scientist, Department of Extension Education, Bihar Agricultural College, Sabour, Bihar.

**Dr. R K Sohane, Director, Extension Education, Bihar Agricultural University, Sabour, Bihar

***Dr. S R Singh, Associate Professor-cum-Chairman, Department of Extension Education, Bihar Agricultural College, Sabour, Bihar

through voice messaging like a general call has enabled even the illiterate farmer to know on the interested cropping practices. Farmer-friendly video production on agricultural practices is being regularly done and is displayed to the farmers on different training programmes and on-farm programmes to create better understanding on improved agricultural technologies by the strategy of 'seeing is believing'. The weekly newsletter from the university in the form of "Happenings Weekly" is an important initiative to update the interested on the latest achievements and activities of the university on a weekly basis.

The project is implemented with the overall objective to bridge the gap between the farmers of less developed districts and developed districts by providing latest information from the university headquarters. This is also fulfilling the need for a coordinated, holistic approach to harness the potentials of the technology for enhanced food production in the state. The project is catering largely to the needs of the farming community in the districts within the jurisdiction of the university and have shown path to other organizations for effectively harnessing the potential of ICTs for the prosperity of farmers.

Specific objectives

The specific objectives of the project are outlined below:

1. Creation of a state-of-art modern electronic media and production center (EMPC) with audio/ video production, post-production facilities with necessary equipment
2. Developing a dissemination system consisting of web-casting using web portal for agriculture related services, voice and text messaging services facilities for selected farmers on mobile with high speed connectivity between BAU and selected KVKs
3. Developing farmer-friendly video and audio content for the farming community
4. Creation of connectivity between BAU and selected KVKs for direct communication through video-conferencing for educating farmers and extension professionals
5. Publication of regular weekly e-newsletter showcasing progress and highlights of the university

Unique features used in reaching the farmers

The project is adopting new features in order to reach the farmers effectively. Some of the features being adopted currently are described below:

Creation of state-of-art modern electronic media and production centre (EMPC)

Kizilaslan (2006) has strengthened that proper dissemination of information for agricultural and rural communities is a crucial tool in the fight against poverty and deprivation. Information helps the poor to avail of the opportunities and also reduce their vulnerability. The state-of-art modern electronic media and production system is catering the needs of the farming community and is based on the concept that 'a picture is worth thousand words'. The sophisticated equipment used for capturing, processing and disseminating relevant information through videos is an enabling factor to meet the immediate farming needs. The archive of information also enables the scientists to understand the problems and researchable issues in great depth over the years.

Mobile based agro-advisory services through 'Kisaan SMS Portal'

Specific advisory over mobile phone through 'Kisaan SMS Portal' is acting as an instant and non-intrusive medium of communication. It is helping farmers to take informed decisions relating to different aspects of farming including crop production and marketing, animal husbandry, dairying and fisheries. The farmers are also opting to receive SMS messages customized to their specific requirements. Weather forecast and alerts is enabling farmers in planning, farming operations effectively and taking the best suited action to deal with adverse weather conditions. Advisories on disease/pest outbreak are helping the farmers to take immediate actions to secure their crops and animals. Advisories on best practices, such as selection of better suited crop variety/ animal breed, is further leading to better farm productivity and higher income to the farmers. Timely market information is provided through SMS which is enabling the farmer better bargaining power and be in a position to take better decisions about sale of his produce. SMS advisories is also including soil test results, selection of fertilizer and its dosage, and also information on various programmes so that farmers can make the best use of assistance and know-how being made available by the Government.

Farmers from respective KVKs, colleges and research institutes under the jurisdiction of Bihar Agricultural University are being registered for this free service on a regular basis. Officers of various departments, experts and scientists in research institution and in the field are using this portal for disseminating information, giving topical and seasonal advisories and providing services through

SMSs to farmers in their local languages. Officers are sending SMS to farmers belonging to the entire area of their jurisdiction or a part of it. Grouping of farmers based on their location and their preferred crop/activity is helping send relevant messages to the farmers.

Mobile Text and Voice Messaging services through KVK platform

KVK is a platform connecting KVKs with farmers through internet and mobile technology with an objective to bridge the gap between the farmers and the KVK expert. KVK is developed by IIT-Kanpur in a consortium mode as part of ICAR-NAIP supported project entitled "Engaging Farmers, Enriching Knowledge-Agropedia Phase II".

This service was launched by Bihar Agricultural University, Sabour on 26th January, 2013. It is a unique web and cell phone based multimodal agricultural advisory system. It allows the scientists of the university to send SMSs and voice based agro-advisories in local dialect to the farmers' mobile phone. In a regular KVK, agricultural experts convey agri-information to their constituent farmers through physical contact when they meet each other during field visits, demonstrations, farmers' fairs etc. Through this service, the inherited weaknesses of one to one communication are eliminated. This service allows the agriculture expert to record and send messages to a set of registered farmers using a web based interface (Web to mobile) or a mobile phone (mobile to mobile). The farmer can call up and speak to the expert of the KVKs (mobile to mobile). Similar to voice, the agricultural expert can also send short messages (SMS) to the designated farmers of the concerned KVKs. With the advent of this system, the extension officer and farmer are not constrained with illiteracy problem. The advent of mobile telephony has to a great extent helped in bridging the gap that existed between the rural communities and extension agencies in transfer of information.

Development of farmer-friendly video and audio content

The Media centre is engaged in the production of farmer-friendly video and audio content of various farmers' best practices and researches of the university. The farmers are encouraged to face the camera and showcase their practices themselves. Such participatory videos of the farmers demonstrating their agricultural practices have proved to have an added advantage over the scientist recommendations presented in the videos.

The scientific fraternity of the university have found it as an important step to have full and complete view of the

activities on the land. It is enabling them to observe and record the farm activities, disease symptoms, management practices etc. in a holistic way.

The production of over 150 hours of video content on important cropping practices and farmers participatory videos on a range of cereal, fruit, flowers and plantation crops is already complete. The remunerative and enterprise formation in agriculture is strengthened by videos in commercial farming practices to increase the per capita income and prosperity of the farmers. The audio content ranging on specific topics of interest of farmers for broadcasting over community radio is also being developed on a continuous basis.

Creation of connectivity between BAU and selected KVKs for direct communication through video-conferencing for educating farmers and extension professionals

The online video-conferencing facility is providing emerging opportunities for two-way interaction among the scientists, extension workers and farming community of the state. The scientists of the KVK are also updated with new research and technology from the university headquarters through this facility. Initially, four KVKs located at Harnaut, Saharsa, Katihar and Aurangabad is connected to the video-conferencing facility with strong band-width. The connectivity with all the Krishi Vigyan Kendras is to be established very soon to generate better reach to the farmers. The farmers and scientists are regularly trained on important agricultural enterprises, cultivation practices and recommendations related to crop production, animal husbandry, milk production, fisheries, honey-bee production, mushroom production and other important remunerative avenues to increase the per capita income and progressiveness of the farmers.

The benefits attributed to the video-conferencing facility provided by the university are briefly described below:

- Increases productivity
The use of video conferencing is the next driver for productivity because it is quite easier for the scientists to keep in closer contact with the farmers. This closeness has led to new ideas on how to speed up the development of new products and services in the agricultural sector.
- Improves communication and reinforces relationships
During a video conference, one can see the facial expressions and body language of conference

participants. These are both important aspects of communication that are lost with a basic telephone call. The video conferencing facility enables better interaction and the possibility to be reflected on the screen connects better with the advices suggested

- Reduces travel expenses

In today's scenario cutting down the travel expenses and time of the scientists is of utmost importance. Video-conferencing provides a suitable medium for the university scientists to stay connected with the farmers without having to visit them personally.

- Improves Effectiveness

We all know that "a picture is worth a thousand words." Video conferencing is the perfect example of how true this statement is. A live video call is much more effective than a phone call in many situations. The benefit attributed to the video-conferencing by the KVKs has improved the effectiveness of not only the farmers but also the scientists associated with the university.

- Saves Time

The video conferencing facility has enabled saving of time of all the people engaged in the process.

The video conferencing facility has not only facilitated better interaction between the scientists and the farmers but also helped the policy makers have a better know-how of the farmers.

Publication of regular weekly e-newsletter "Happenings" showcasing progress and highlights of the university

A weekly e-newsletter "Happenings" showcasing progress in the field of teaching, research, extension and training activities of the university is being sent every Saturday of the week to the selected group of subscribed persons which includes persons from the scientific and administrative divisions as well as the students to create awareness on the progress and highlights of the university. It is also acting as a medium to circulate important notices and weather related advisory from the university. The main advantages are described hereunder:

- Reach to the targeted audiences

Individuals who register for the newsletter through email agree to receive future communications and get the knowhow of the university on a regular basis with increased interest.

- Cost minimisation

Perhaps the biggest advantage of the e-newsletter is

cost. While a traditional newsletter requires an investment for printing and mailing, and in some cases, design, advertising is also expensive. Thus, the e-newsletter has proved to be less expensive than traditional means of generating a newsletter.

- Added Value

Providing useful and engaging e-newsletter content keeps people interested, and helps build better view and opinion for future course of action. The tips, instructions or ideas are important components to engage the scientific community with a new focal point.

Conclusion

The effectiveness of the ICT based initiative is largely dependent on the target users need to find it useful and easy to access for exploring the benefits. Computers and Internet do not make little sense to the farmers unless they generate substantial benefits for them. Even if an application is extremely innovative from implementers' perspective, it will not be adopted if the target users find it hard to use and the benefits generated are outweighed by the difficulties of access. It is not the technology alone that is going to change the relationships between farmers and the university but also the interface and familiarity which creates a difference. With this aim put into action, the ANDS project is committed to the agricultural development of the region through the use of ICTs.

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Youths' Perception Towards use of Health-related Information from SNS

Manoj Dayal*
Sunaina Narang**

ABSTRACT

Using Social Networking Sites (SNS) has become a powerful tool all over the world. It is the most common activity of today's Youths. They spend most of the time on these sites and gain lot of information. To gain an understanding of the potential of Social Networking Sites in health promotion, it is necessary to know how users currently use Social Networking Sites for health-related information. So this study aims to focus on 1. How do users' operate Social Networking Sites for health related information? 2. What are their perceptions towards the use of SNS for health related information? Data were obtained from One-fifty graduate & post graduate students (a group of heavy users of social networking sites) from Hisar city, chosen through the Random Sampling Method.

The results indicated that the youths are fully attached with social networking sites. They agree on that, the information providing on SNS related to the health is most important for us and they are reliable. But they also stated that, health related information are not much visible on social networking sites.

Our findings highlight the understanding of social networking sites as a source for health information and inform the design of social networking sites intended to support health information seeking and health promotion.

Key Words: Social Networking Sites, Health-related Information, Youth's behavior, Youths' Perception.

Social Networking Sites (SNS) are emerging as a potential source of online health information (Pew Internet & American Life Project; 2011 May). Social Networking refers to "activities, practices and behaviour among communities of people who gather online to share information, knowledge and opinions using conversational sites" (Safko J, Brake DK; *The Social Media Bible; Tactics, tools and strategies for business success*, 2009). These social networks are broadly categorized as forums and message boards, reviews and opinion sites, social networks, i.e. Facebook, Blogging and Micro Blogging, i.e., Twitter, Bookmarking and Media Sharing, i.e. You Tube, individual use of Social Networking Sites steadily increasing. Social networking continues to dominate screen time of internet users in India, 86 per cent of web user access Social Networking Sites. Internet & Mobile Association of India (IAMAI) and Indian Market Research Bureau (IMRB) reported that 74 per cent of all active internet users in urban India use Social Networking Sites. As per the finding of the 80 million active internet users in urban India, 72 per cent (58 million individuals) have accessed some form of social networking. Social Networking Sites have been one of the active daily

prospects of people as it meets the need of various interests. Providing better exposure and experience of internet where they can share photos, videos, have discussions and an entertaining ways of interacting with people around the world.

In contrast to going online to seek health information, social media technologies allow online social media users to create, distribute and share information independent of an organization. The level of use and involvement with social media technologies varies from individual to individual. Hoffman and Novak (2010) identify four goals for social media use; create, connect, consume and control.

To gain an understanding of the potential of Social Networking Sites in health promotion, it is necessary to know how users currently use Social Networking Sites for health-related informations. The users' perception of Social Networking Sites in relation to health-related information to understand why users utilize or do not utilize, Social Networking Sites for health-related information. Due to lack of the studies in this area, this study is exploratory in nature. Two research questions were proposed:

*Dr. Manoj Dayal, Professor, Faculty of Media Studies, Guru Jambheshwar University of Science & Technology, Hisar, Haryana.

**Dr. Sunaina Narang, Teaching Associate, Dept. of Advertising Management and Public Relations, Guru Jambheshwar University of Science & Technology, Hisar, Haryana.

- 1) How do users' operate Social Networking Sites for health related information?
- 2) What are the perceptionstowards the use of SNS forhealth related information?

The participants of this study were a group of Graduate & Post Graduate students. The young & the well-educated are especially likely to embrace all of these technologies. People under age 30 and college graduates tend to use their cell phone for more purposes than those in older age groups. They were also chosen because they were major users of social networking sites, with more than 80 percent having an account with a social networking sites(Madden and Zickuhr 2011). Members of this group are also heavy users (85 percent of the group) of the web for health-related information (Zickuhr, 2010).

Related Literature

Social Networking Sites are gaining popularity with a record number of users in various age groups (Madden and Zickuhr, 2011). Social Networking Sites are web based services that allow individuals to post profile information, construct a list of friends and communicate with others using both synchronous and asynchronous messaging tools (Boyd and Ellison, 2007). Different from more traditional online support groups, social networking sites are built upon a person's existing social ties (e.g., friends, family and acquaintances) and people come to the sites with many different purposes. Popular social networking sites include Facebook, Twitter, LinkedIn and My Space. With their increasing popularity, social networking sites have influenced various aspects of the society and have been integrated into the daily lives of web users (Lampe, Ellison and Steinfield 2008). The impact of Social Networking Sites is also reaching the Health domain. People have begun using Social Networking sites for various Health purposes. The recent Pew study, the Social Life of Health Information, 2011, reported that as of September 2010, about 20 per cent of Social Networking Site users had used the sites to follow friends' personal health experiences or updates; remember or memorialize other who suffered from a particular health condition; get health information; raise money for or draw attention to a health related issue; post comments, queries, or information about health or medical matters; or start or join a health related group (Fox 2011). At the same time many researchers and organizations suggest that online Social networking Sites especially when the network includes people who knew each other personally, could be a compelling venue for health promotion and patient support (Fox 2010; Morris et al. 2011, Skeels et. al. 2010)

In this study researchers attempt to explore college & university students (a group of heavy users of social networking sites) health related information seeking behavior, on social networking sites, as well as their

perception of this usage. The results could improve the understanding of social networking sites as a source for health information and inform the design of social networking sites intended to support health information seeking and health promotion.

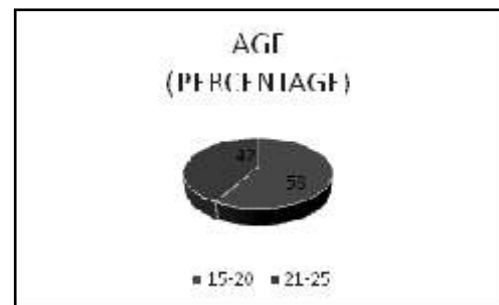
Research Methodology

One-fifty graduate & post graduate students from Hisar city were chosen through the Random Sampling Method to know about their current use of social networking sites for health related information and their perception of this use. At the beginning of the study, all respondents completed a demographic questionnaire reporting their age, status, experience with the web, experience with the social networking sites and purpose to use the social networking sites. The respondents were asked to draw their perceptions of social networking sites for health-related information. The respondents were asked a few questions about their current use of social networking sites for health-related information and their perceptions of this usage.

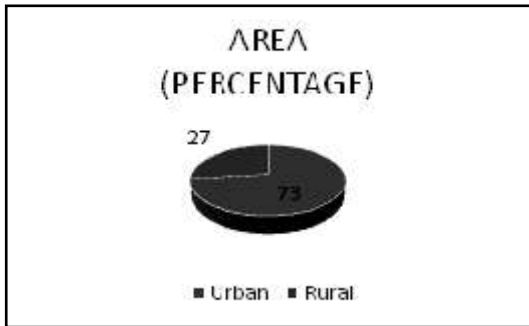
Data Interpretation

According to the Graph No. 1, 69 per cent of the respondents are male and 31 percent female. In Graph No. 2, their age ranges from fifteen to twenty i.e. 58 per cent and twenty to twenty-five is 42 per cent. Respondents are mostly 73 per cent from urban, rest 27 per cent belong to the rural area (Graph No. 3). (Graph No. 4) Majority of the respondents(67 per cent) are graduates followed by around 33 per cent post graduate. All the respondents are well educated.

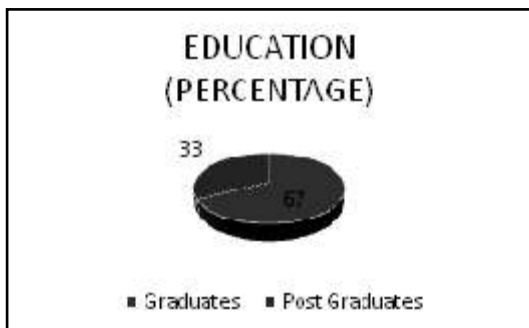
Graph No. 1



Graph No. 3

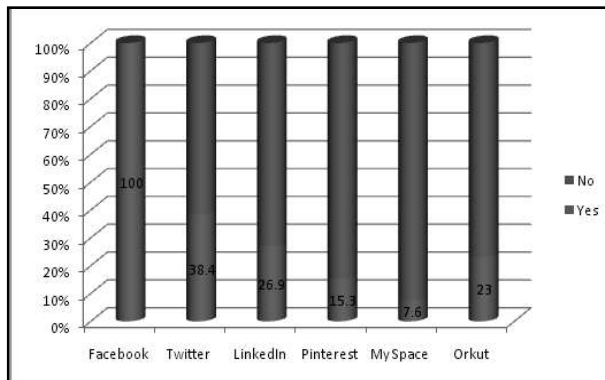


Graph No. 4



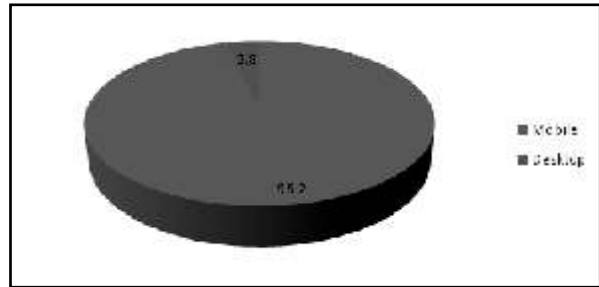
All (100 per cent) the respondents know & use the web. It means respondents are now more aware of the web.

Graph No. 5 The use of social networking sites



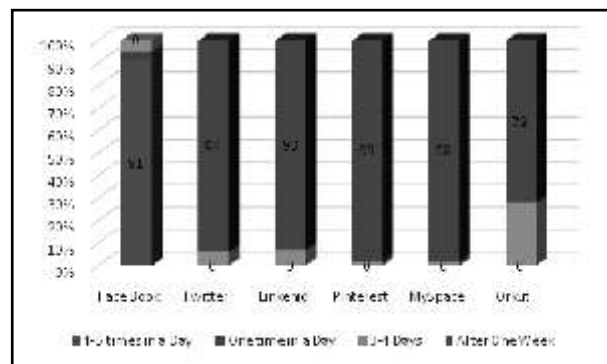
According to the Graph No. 5, all respondents (100 per cent) use the Social Networking Sites. They prefer to use Facebook on a daily basis. The second most used social networking site is Twitter. 38 per cent respondents have an account on Twitter, 27. On LinkedIn, 23 per cent on Orkut, 15 per cent on Pinterest & only 7 per cent respondents have an account on My Space.

Graph No. 6 The use of SNS on



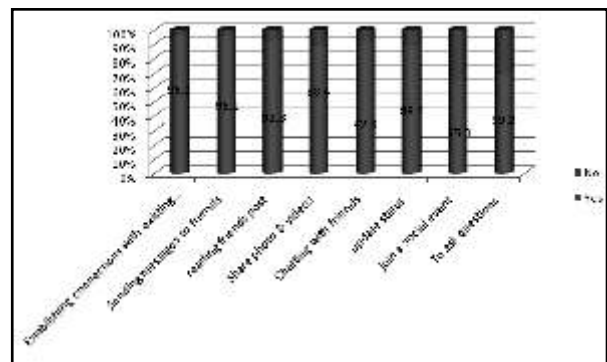
Graph No. 6 Shows 96 per cent respondents use SNS on their mobile phone only 4 per cent respondents use SNS on desktop.

Graph No. 7 The use SNS



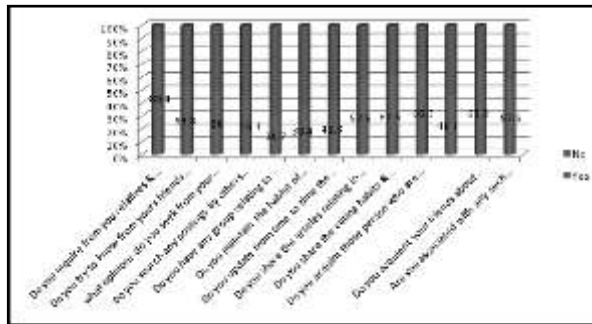
According to the Graph No. 7, those respondents who use Facebook, reports that they go to their Facebook site, four to five times in a day (91%). Only 4 per cent respondents are there who use Facebook one time in a day. 5 per cent respondents opine that they go for Facebook site after three to four days. Those respondents who use Twitter, LinkedIn, Pinterest, Myspace & Orkut do not go frequently to SNS in a day or few days. Mostly they go to SNS after one week or so. Majority of the respondents use Facebook very frequently.

Graph No. 8 Activities performed by respondents on Social Networking Sites



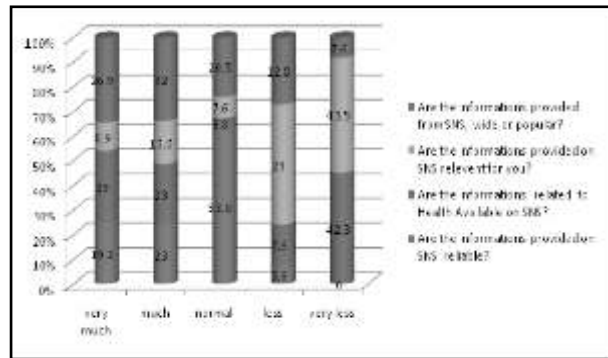
When the researchers wanted to know from them the most common activities that they perform on Social Networking Sites, (Graph No. 8) 96 per cent respondents are of the opinion that they establish connections with existing friends, 96 per cent respondents say that they use it for sending messages to friends, 92 per cent reading friends post, 88 per cent share photos & videos, 92 per cent chatting with friends, 88 per cent update status, 65 per cent join a social event & 69 per cent respondents say they ask questions.

Graph No. 9 Respondents' behaviour using SNS for health-related information



Graph No.9 summarizes the respondents' purpose using social networking sites for health-related information. The 88 per cent respondents inquire their relatives and friends about health & well-being of other relatives and friends. 54 per cent respondents try to know from their friends about their health problem. Fifty per cent respondents opine that they seek from their friends about their own fitness. 46 per cent says they do not search any posting by others about their health-related problems. 69 per cent views that they neither have or nor search any kind of health-related group but 31 per cent respondents says that they search and also join that kind of health related group. 62 per cent respondents don't maintain the habit of do's & don't about eating as suggested by their friends. On the other hand 38 per cent respondents maintain it seriously. 58 per cent respondents don't update time to time their friends about the health-related information but 42 per cent did it. 58 per cent respondents share the article related to nutritious food to their friends but 42 per cent deny it. 62 percent share the eating habits & exercises relating to their life style. 65 per cent respondents says that they acquaint those person who are not aware or totally new about the health-related information. Only 46 per cent respondents post their friends the health-related websites links. 65 per cent respondents acquaint their friends about the health conditions of their near & dear ones. 58 per cent respondents are associated with health related group to know more about health science.

Graph No. 10 Respondents Perceptions towards health-related information on SNS



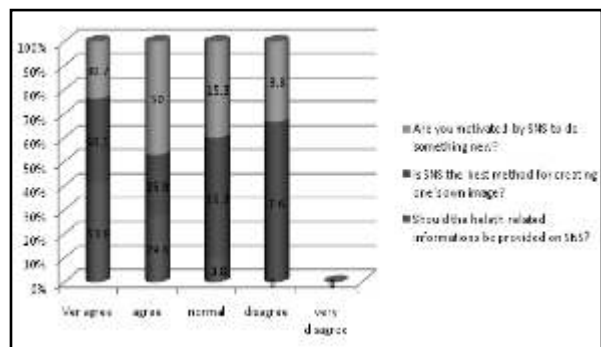
Respondents' use of Social Networking Sites for health-related information is mediated by their perception of such sites in relation to this particular type of information. Thus researchers examine their perceptions of this use. The respondents perceive and appraise the existing information on SNS in relation to reliability, availability, relevance and popularity of information as shown in Graph No. 10.

Reliability of the information is the aspect that concerns most of the respondents. Specifically they are concerned about whether the information is reliable, credible, trustworthy, accurate & objective. As shown in Graph 10 the respondents express a positive view of the reliability of information on SNS with 96 per cent explicitly stating that the information is reliable and they also mention that they get good advice from them.

Availability of the information is another aspect of major concern. Half of the (50 per cent) respondents mention that health related information are not very visible on Social Networking Sites. They also mention that they don't see others using it, don't know where to look, or though that there are no health-related information on SNS.

In terms of relevance, 66 per cent respondents mention that health-related information are not relevant with us. 79 per cent respondents claim that the information provided from social networking sites are wide or popular.

Graph No. 11 SNS & subjective norms



At last researchers ask respondents about their views regarding social networking sites and their subjective norms. According to the Graph NO. 11 all the respondents (100 per cent) agree to say that the health related information should be provided on SNS. 92 per cent respondents opine that the SNS is the best method for creating their own image. When researchers ask them are you motivated by SNS to do something new? Then majority of the 96 per cent respondents mention that they are motivated by SNS to do something new.

Findings

1. 100 per cent respondents use the social networking sites and Face book is their most preferred site.
2. 96 per cent respondents use SNS on their smart phone.
3. 91 per cent respondents go to their Facebook site four to five times in a day.
4. The second most used social networking site is Twitter.
5. 96 per cent respondents use SNS for establishing connections with existing friends.
6. 96 per cent respondents use SNS for sending message to friends.
7. 88 per cent respondents share photos and videos through SNS. They also go to Youtube site to see videos.
8. 92 per cent respondents use SNS for chatting with friends.
9. 88 per cent respondents inquire their relatives and friends about health & well-being of other relatives and friends.
10. 54 per cent respondents try to know from their friends about their health problem.
11. 50 per cent of the respondents opine that they seek from their friends about their own fitness.
12. 31 per cent respondents search and join the health related group.
13. 38 per cent respondents maintain the habit of do's & don't about eating as suggested by their friends.
14. 58 per cent of the respondents share the article related to nutritious food to their friends
15. 62 percent respondents share the eating habits and exercises relating to their life style.
16. 65 per cent respondents acquaint those people who are not aware or totally new about the health-related information.
17. 65 per cent respondents acquaint their friends about the health conditions of their near and dear ones.

18. 58 per cent respondents are associated with health related group to know more about health science.
19. 96 per cent respondents explicitly states that the information providing on SNS related to the health is reliable.
20. 50 per cent respondents mention that health related information is not very visible on social networking sites. They also mention that they don't see others using it, don't know where to look, or though that there are no health related information on social networking sites.
21. 66 per cent respondents mention that health-related information are not relevant with us.
22. 79 per cent respondents claim that the information provided from social networking sites is wide or popular.
23. 100 per cent respondents agree to say that the health-related information should be provided on SNS.
24. 92 per cent respondents opine that the SNS is the best method for creating their own image.
25. 96 per cent respondents mention that they are motivated by SNS to do something new.

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Popular Science Communication: A Historical Background

Manoj Kumar*
A.R. Dangwal**

ABSTRACT

The science popularization is an attempt to reduce the distance standing between science specialists and the public. Science popularization is interpretation of scientific information (science) intended for a general audience, rather than for other experts or students. It means if we want people to be aware about their way of living, health and hygiene, environmental awareness etc, we have to communicate the science in simple and understandable way. Though in technological advancement India is not far behind in world over, but the human sufferings are still enormous here. Superstitions and unscientific thinking are still prevalent in our societies. Early man's days were exhausted in satisfying just the primary needs of life and that too in a crude way. The benefits that are derived from science extended far beyond the obvious ones, such as improved medical care, labour-saving machinery and our rapidly increasing ability to store and access knowledge and to communicate to each other. Modern science has also provided us with such a deep understanding of the natural world that we can often predict what is likely to happen in the future. That's why it becomes important to study the nature and growth of science popularization. In this research paper, historical aspect of the popular science communication has been highlighted from the starting of human civilization to the modern times.

Key Words: Science Popularisation, Civilization, Technological advancement, Modern Science.

Popular Science

As per the definition of science: "Science is a body of empirical, theoretical and practical knowledge about the natural world, produced by researchers making use of scientific methods, which emphasis the observation, explanation, and prediction of real world phenomena by experiment."¹

According to Cambridge Advanced learner's dictionary- "Science is the systematic study of the structure and behavior of the physical world, especially by watching, measuring and doing experiments, and the development of theories to describe the results of these activities."²

With the above definitions it is clear that when any natural phenomena is observed or experimented systematically it comes under the category of science. Science developed from the observation of regularity in the natural world. It shows that all the phenomena in the real world have been associated with the very beginning of civilization, though they were not recorded or observed systematically that time because of the lack of scientific methods.

On the other hand popular science called the literature of science which is interpreted for the sake of general public.

Popular science may be written by professionals' science journalists or by scientists themselves. It is presented in many forms including books, film and television documentaries, magazine articles and web pages³. Historically, popular science can be defined as- it presents science through the mass media in which science is translated into a new and simpler form⁴. Practitioners claims that popular science consists entirely of technical information recast into words and images accessible to people who do not have the specialized training and vocabulary of working scientists.

Science and Civilization

The term civilization basically means the level of development at which people live together peacefully in communities. Ancient civilization refers specifically to the first settled and stable communities that became the basis for later states, nations, and empires. The first ancient societies arose in Mesopotamia and Egypt in the Middle East, in the Indus Valley region of modern Pakistan, in the Huang He (Yellow River) valley of China, on the island of Crete in the Aegean Sea, and in Central America. Mesopotamia was located in the Middle East. The Sumerians 4000-3000 BC, built the first cities of the world

*Manoj Kumar, Assistant Professor, CJMC, HNBGU, Srinagar Garhwal, Uttarakhand.

**Prof. A R Dangwal, Director of CJMC, HNBGU, Srinagar Garhwal, Uttarakhand.

on the Tigris and Euphrates rivers. Its present location is Iraq. The cities were enclosed by large walls and had temples on top of ziggurats which were huge stepped pyramids that had flat tops. The Sumerians were the first to develop a form of writing called pictographs on clay tablets. Egypt was bounded by deserts but depended on the flooding of the Nile River for fertile land. By 5000 BC people lived all along the river. They produced large quantities of grain.

All of these civilizations had certain features in common. They built cities, invented forms of writing, learned to make pottery and use metals, domesticated animals, and created fairly complex social structures with class systems. People in early human age had to spend much of their time procuring food and shelter and could not afford to put much effort into non-essential activities. The single, decisive factor that made it possible for mankind to settle in permanent communities was agriculture. Farming was a revolutionary discovery. It not only made settlements possible--and ultimately the building of cities--but it also made available a reliable food supply. With more food available, more people could be fed. Populations therefore increased. The growing number of people available for more kinds of work led to the development of more complex social structures. With a food surplus, a community could support a variety of workers who were not farmers. Farming the world over has always relied upon a dependable water supply.

For the earliest societies this meant rivers and streams or regular rainfall. The first great civilizations grew up along rivers. Later communities were able to develop by taking advantage of the rainy seasons. All of the ancient civilizations probably developed in much the same way, in spite of regional and climatic differences. It is easy to understand that as villages grew the accumulation of numerous and substantial goods became possible⁵.

The oldest civilizations are believed to have emerged some time before 3000 BC, but excavation shows that the people in today's Turkey had developed advanced skills in measurement and accurate mapping as early as 6200 BC. But, these scientific activities do not show that science was given special status that time. Actually the term 'scientist' as a description of profession was first used in 19th century. In early societies science was undertaken by priest and monks, and scientific knowledge was taught in temples and monasteries. As civilizations developed, the link between science and religion weakened and science became the domain of philosophy. A clear distinction between science and religion did not develop until well into the 18th century. Religion, like science, attempts to establish a system of knowledge about nature.

People began to found permanent communities in fertile river valleys and learned to use the water supply to irrigate the land. Being settled in one place it made possible to domesticate animals in order to provide other sources of food and clothing. Farming was a revolutionary discovery. It not only made settlements possible and ultimately the building of cities but it also made available a reliable food supply. With more food available, more people could be

fed. Populations therefore increased. The growing number of people available for more kinds of work led to the development of more complex social structures. With a food surplus, a community could support a variety of workers who were not farmers.

Farming the world over has always relied upon a dependable water supply. For the earliest societies this meant rivers and streams or regular rainfall. The first great civilizations grew up along rivers. Later communities were able to develop by taking advantage of the rainy seasons. All of the ancient civilizations probably developed in much the same way, in spite of regional and climatic differences. As villages grew, the accumulation of more and substantial goods became possible. Cloth could be woven from wool and flax. Permanent structures made of wood, brick, and stone could be erected. The science of mathematics was an early outgrowth of agriculture. People studied the movements of the moon, sun, and planets to calculate seasons. In so doing they created the first calendars. With a calendar it was possible to calculate the arrival of each growing season. Measurement of land areas was necessary if property was to be divided accurately while measurement of seeds or grains was also a factor in farming and housekeeping. Later on measurement of value as commodity and money exchange became common that time.

The use of various ways of measuring led naturally to record keeping, and for this some form of writing was necessary. The earliest civilizations all seem to have used picture-writing-pictures representing both sounds and objects to the reader. The best known of the ancient writing systems is probably Egyptian hieroglyphics, a term meaning "sacred carvings," since many of the earliest writings were inscribed on stone. All of the major ancient civilizations in Mesopotamia, Egypt, the Indus Valley, and China emerged in the 4th millennium BC. Historians still debate over which one emerged first. It may well have been the Middle East, in an area called the Fertile Crescent. This region stretches from the Nile River in Egypt northward along the coast of former Palestine, then eastward into Asia to include Mesopotamia. In this area people settled along the riverbanks and practiced field agriculture. This kind of farming depended on the reproduction of seed, normally from grain crops.⁶

Beginning of Science Journalism

All the ancient civilizations grew in the same way but the first indicators of science communication are found in the periods of Babylon civilization some 4000 BC. The Babylonians made distinct contributions to the growth of civilization. They added to the knowledge of astronomy, advanced the knowledge of mathematics, and built the first great capital city, Babylon. The pictography of that time is full of arithmetic. The similar indications of mathematical series wrote on the clay are found in 1700 BC. The first book of medical science was written in Greek by Democritus in 5th AD. After the death of Alexander, a library was built in Alexandria and lots of books were written that time.

A famous Greek mathematician Euclid wrote 'Elementary of Geometry' in 13 parts some 330 – 260 BC. He was active in Alexandria during the reign of Ptolemy I (323–283 BC). His 'Elements' is one of the most influential works in the history of mathematics, serving as the main textbook for teaching mathematics (especially geometry) from the time of its publication until the late 19th or early 20th century. In 287-212 BC, Archimedes wrote books on methods of scientific research. Archimedes of Syracuse was a Greek mathematician, physicist, engineer, inventor, and astronomer. Although few details of his life are known, he is regarded as one of the leading scientists in classical antiquity. Among his advances in physics are the foundations of hydrostatics, statics and an explanation of the principle of the lever. He is credited with designing innovative machines, including Siege Engines (These were constructed largely of wood and tended to use mechanical advantage to fling stones and similar missiles) and the screw pump that bears his name. Modern experiments have tested claims that Archimedes designed machines capable of lifting attacking ships out of the water and setting ships on fire using an array of mirror⁷. The roman author, naturalist and natural philosopher wrote 'Naturalis Historia' in 77- 79 AD. It is one of the largest single works to have survived from the Roman Empire to the modern day and purports to cover the entire field of ancient knowledge, based on the best authorities available to Pliny.

After Greece, science literature developed fast in Arab. Starting around 750 AD, science flourished under the Abbasid Caliphs of Baghdad, gradually spreading its influence as far west as Spain and eastwards into Central Asia, over a period of more than 600 years. By drawing on a variety of texts - Greek, Indian and Persian - and translating them into Arabic, the early scholars accumulated the greatest body of scientific knowledge in the world and built on it through their own discoveries. As soon as Islamic state had been established, the Arabs began to encourage learning of all kinds. Schools, colleges, libraries, observatories and hospitals were built throughout the whole Islamic state, and were adequately staffed and endowed. In the same time, scholars were invited to Damascus and Baghdad without distinction of nationality or creed. Greek manuscripts were acquired in large numbers and were studied, translated and provided with scholarly and illuminating commentaries⁸. The Persian scientist Al-Biruni (973- 1048 AD) wrote a number of books on science and philosophy. He was a versatile scholar and scientist who had equal facility in physics, metaphysics, mathematics, geography and history. During his visit to India with Mahmood Ghaznavi, he learnt hindu philosophy, mathematics, geography and religion from the Pandits to whom he taught Greek and Arabic science and philosophy. On his return from India, al-Biruni wrote his famous book 'Qanun-i Masoodi', which he dedicated to Sultan Masood. The book discusses several theorems of astronomy, trigonometry, solar, lunar, and planetary motions and relative topics⁹.

After translating Greece science literature, it reached to Europe where foundation of modern science was laid down. In the ancient world, Greek had been the primary

language of science. The science of the middle ages was significant in establishing a base for modern science. By this time the European society was having deep rooted value about religion, fear and superstitions. To replace all these values a scientific revolution started there in 17th century. Most of the Greek literature was translated into Latin during this period. The Marxist historian and scientist J. D. Bernal asserted that "the renaissance enabled a scientific revolution which let scholars look at the world in a different light. Due to this revolution religion, superstition, and fear were replaced by reason and knowledge".

With the starting of printing press in 1440, important scientific literature was started printing at a large scale. By 15th century the Western had become the centre point of modern science and science literature. In 1546 a German scholar and scientist Georgius Agricola wrote a comprehensive account of the discovery and occurrence of minerals which is also more commonly known as *De Natura Fossilium*. The first of its kind, Andreas Vesalius inaugurated the modern study of anatomy by publishing a book 'On the Fabric of the Human Body' in 1546¹⁰. The history of electricity begins with William Gilbert, a physician who served Queen Elizabeth the first of England. He wrote a book on principle of magnetism. Printed in scholarly Latin, the book explained Gilbert's research and experiments on electricity and magnetism. It was the first scientific book of England written in Latin.

In March 1610, Galileo published the results of his observations under the title *The Starry Messenger*. Hundreds of copies were soon printed. This is known as the best work in science literature which got a lot of appreciation as a popular short book of that time. The concept of modern scientific method was established by Francis Bacon (1561- 1626) who wrote a lot of books. Bacon has been called the father of empiricism. His works established and popularized inductive methodologies for scientific inquiry, often called the Baconian method, or simply the scientific method. English philosopher, statesman and essayist Francis Bacon is best known for leading the scientific revolution. Royal Society of London which was founded in 1660 worked a lot for the science popularization. Though the *Journal des Savants* is claimed to be the first science journal but it contained a wide variety of non-scientific material as well¹¹. The *Philosophical Transactions of the Royal Society* was a scientific journal published by the Royal Society. It was established in 1665 making it the first journal in the world exclusively devoted to science, and it has remained in continuous publication ever since, making it the world's longest-running scientific journal. The use of the word "philosophical" in the title derives from the phrase "natural philosophy", which was the equivalent of what should now be generically called "science". Since then other nations of the world published science work through various science news magazines¹².

India is one of the ancient civilization of the world, with evidence going back to the Indus valley period, famously known for its established cities- Mohenjodaro and Harappa (both now in Pakistan), and major Harappan sites in India, which include Kalibangan and the port city of

Lothal. This period goes back to about 5000- 4500 before present¹³. India has a rich tradition of communication. In ancient time folk media like dance, folk songs, nautanki, puppet shows, Ramlila etc were in common to inform the masses. That time all the knowledge or information passed on from one generation to another by these modes of communication. During Vedic and post Vedic period, though the scientific literature was created, but the information was not available to the public and was limited to most privileged class only. The medieval period has been important for the preparation of a large number of commentaries on earlier scientific works. The information about most of the ancient work mainly reached us through these commentaries only. As far as the scientific temper is concerned, it cannot be denied that India has always been rich in reasoning, logics and methods of acquiring knowledge. Its great heritage is full of logics and systematic knowledge.

But the science in its real term came with the publication of scientific journal, published by Asiatic Society, Calcutta in 1788. This Asiatic Society was founded in 1784 at Calcutta, the then capital of British India. The main concept behind its formation was to promote the art, science and literature along with the idea of preserving the cultural and scientific heritage of the ancient world originated in America, Indonesia and India under colonialism¹⁴. The first work of science communication was published as a journal 'Asiatick Research' in 1788. Great success of this journal inspired inquisitive minds to undertake the publication of research journals in the science and humanities. This led to creation of a number of journals, which offered space to short but important communications and reported the progress of science and diverse branches of learning in America, Europe and India. The Asiatic Society became one of the few institutions that were essentially academics of the science, arts and philosophy. It was essentially a place where any branch of knowledge could be discussed along broad lines. It was definitely the first organization in India for the cultivation of science¹⁵. Thereafter, the science communication in India has evolved in many facets. There has been a continuing development in the formation of science popularization movements, scientific institutions, research journals, and publication of science literature.

The beginning of science journalism in Indian language could be traced back to the articles published in the monthly 'Digdarshan' from Srirampur (Hooghly), West Bengal in April 1818 in Hindi, Bengali and English¹⁶. 'Digdarshan' may rightly be called a periodical for the youth. It contained articles on geography, agriculture, zoology, physics, history, geographical discoveries like that of Columbus. The similar effort was done by Sambad Komudi in 1820, when it published science article in local language that was translated from English to Bengali. After

the establishment of Sirmour Mission Press in Bengal, many science books were published in English, Bangla and Hindi language. In 1817, the School Book Society printed a lot of books on science. In 1817 Bengal's intellectual leadership took the initiative to establish the first institution of Western higher education in the country, the Hindu College of Calcutta, with the stated purpose of imparting knowledge of European literature and European science. That was followed in 1823 by Raja Rammohan Roy's appeal to Governor-General Lord Amherst, urging upon him the necessity of giving young Indians a thorough knowledge of the Western science through the medium of English.

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Impact of Media Convergence on Journalism: A Theoretical Perspective

Jayanta K. Panda*

ABSTRACT

Changes in technology are driving media towards convergence. They are helping the new world of multi-media journalism. This is possible because of fast developing digital technology. Gathering and processing of information, changing its format to suit the needs various platform and speedy delivery of content is now possible. This is also erasing the borders between content creators and consumers. Media organizations all over the world are fast embracing media convergence and experimenting with multi-media journalism. Indian media also witness the impact of convergence. Newspapers in India may still be a thriving industry; but to remain relevant they are adopting new technologies. Newspapers have made their websites more vibrant and they have moved beyond the e-papers. Use of social network sites both for promotion and as a resource is ever increasing. Creation of special apps for mobile users is becomes new trends. Radio and TV channels also integrating with social media to create a wider audience and participant base. In such an environment, one must study subsequent impact of convergence on journalism. This research paper explores the technologies of media convergence which are shaping new kind of journalism all over the world and India in particular.

Key Words: convergence, multi-media journalism, digital technology, new media

Introduction

'Medium is the message', the argument by Marshall McLuhan in 1960s could be one of the central premise in the theory of technological determinism. McLuhan considered media or any new technology as extension of us. All through the human history we have witnessed how technology induces changes in media and society. We are again witnessing the profound changes in media landscape. One significant trend in the new information ecosystem is of media convergence. Its impact is seen not simply on journalism, but also on various aspects of civil life.

McLuhan also imagined interplay among media in terms of hybridization. He wrote, 'The crossings or hybridizations of the media release great new force and energy as by fission or fusion. ...The hybrid or meeting of the two media is a moment of truth and revelation from which new form is born.' (McLuhan, 1960, 1994 reprint)

At that time digital technology was not much developed. Still McLuhan could foresee coming together of different media platforms and immense possibilities associated with it. Changes in technology are driving media towards convergence. They are shaping the new world of multi-media journalism.

India witnessed the power of social media in 2014

Parliamentary elections. Such use is not restricted to politics. Online commerce sites like Amazon, eBay, Flipcart, Snapdeal are making business inroads in India. Government is trying to engage citizens via online platforms. e-Governance is order of the day.

Besides computer, laptops and tablets use of smart phone is becoming common. Telecom services based on 2G, 3G spectrum are revolutionizing the way people communicate. Smart TV has also arrived in Indian market. FM radio channels are mushrooming. Digital cinema is changing the face of entertainment. Such coming together of different media is indeed the moment of truth and revelation for the audience. Their media consumption habits have changed.

To survive in this competitive environment media must change. Media organizations all over the world are fast embracing convergence, and experimenting with multi-media journalism. These developments affect the organization of newsrooms and the working practices of journalists in profound ways. Multiskilling, for instance, is a trend with increasing acceptance in news media, as journalists have to cope with a widening range of responsibilities in order to get their jobs done. But what exactly does multiskilling mean in large-scale, national news organizations and how are the working practices of journalists changing? Are journalists being overloaded? Are job definitions changing too?

* Dr. Jayanta K. Panda, Assistant Professor, School of Mass Communication, IMS Unision University, Dehradun

This article explores the impact on journalism inside traditional news organizations responding to the challenges of convergence. The term traditional here refers to analogue media, i.e., broadcasting and print media, and is used to distinguish them from digital media. By focusing on traditional media we can examine whether and to what extent the process of convergence is eroding the boundaries between them, whether traditional concepts and ideals of news production are being challenged, and how these developments are affecting journalists and the work they do.

In the new age of converging media, journalists are expected to follow that trend and become more versatile while their jobs become "rationalised and re-designated" (Cottle, 1999). The new and more flexible journalistic practices that emerge in television and newspaper production, in combination with online journalism, are having a profound effect on the role of journalists. The increasing importance of multiskilling means that a journalist with interchangeable skills is more valuable than one without. However, this does not entail a cataclysmic change in journalism.

Newspapers in India may still be a thriving industry; but to remain relevant they are adopting new technologies. Newspapers have made the Web sites more vibrant and have moved beyond e-Papers. Regular use of photos, videos, interactive graphics are visible. Use of social network sites both for promotion and as a resource is ever increasing. Some have created special apps and websites for mobile users. Features like 'Alive Apps' in Times of India and ABP News are providing multi-media experience to their readers. Radio and TV channels are integrating with social media handles and providing a chance to wider audience in participating debates and discussions. All this is possible because of fast developing digital technology. Gathering and processing of information, changing its format to suit the needs of digital platforms and speedy delivery of content is now possible. This may happen under a big umbrella organization, or various media houses may collaborate for the common purpose. Small media players are also now in a position to compete with the established players, thanks to the advancement of digital technology. It is also erasing borders between content creators and consumers.

Indian media landscape is changing. Digital asset management and regular training of media persons to help them adopt new technologies, is need of the hour. In such an environment, one must study subsequent changes in technologies and associated changes in journalism.

This research paper also explores the technologies of media convergence which are in shaping new kind of journalism all over the world and India in particular. It studies adoption and use of these technologies by media organizations in journalistic practice. It also explores possibilities of multimedia journalism with the help of these technologies. I have mostly used secondary literary sources for this research. My approach here is to map the theoretical contours of the subject.

Towards Media Convergence

Similar to McLuhan, Denis McQuail explains the changes in communication field as a hybrid process. He says, 'New hybrid (both public and private) means of communication allow communication networks to form more easily without the usual 'cement' of shared space or personal acquaintance.' (2010, p 17). Analyzing the transformation he suggests coming together of traditional and new media. He argues, 'Mass communication, in the sense of a large-scale, one-way flow of public content, continues unabated, but it is no longer carried only by the traditional mass media. These have been supplemented by new media (especially the Internet and mobile technology) and new types of content and flow are carried at the same time.' (McQuail, 2010, p4). This is nothing but the media convergence.

In Britannica online encyclopedia Terry Flew defined media convergence as 'a phenomenon involving interconnection of information and communications technologies, computer networks, and media content. It brings together three C's—computing, communication, and content—and is a direct consequence of the digitization of media content and the popularization of the Internet.' (Flew, Britannica)

Media Convergence: Coming Together' is a group blog on the 'WordPress'. This blog itself can be viewed as a collaborative effort. In the main entry 'What is Media Convergence', the blog cites Henry Jenkins' opinion that 'media convergence is an ongoing process that should not be viewed as a displacement of the old media, but rather as interaction between different media forms and platforms'. (Jenkins, 2006; mconvergence blog),

Jenkins explaining 'The Cultural Logic of Media Convergence' argues, 'Media convergence is more than simply a technological shift. Convergence alters the relationship between existing technologies, industries, markets, genres and audiences. Convergence refers to a process, but not an endpoint. Thanks to the proliferation of channels and the portability of new computing and telecommunication technologies, we are entering an era where media will be everywhere and we will use all kinds of media in relation to each other.' (Jenkins, 2004).

Stephen Quinn defines convergence in the context of journalism. He says, 'Convergence is a revolutionary and evolutionary form of journalism that is emerging in many parts of the world.' (Quinn and Filak, 2005). In simpler words convergence is coming together of various media. From journalistic perspective I found a definition by Larry Pryor, professor from University of South California, most comprehensive. He states, 'Convergence is what takes place in the newsroom as editorial staff members work together to produce multiple products for multiple platforms to reach a mass audience with interactive content, often on 24/7 scale.' (Quinn and Filak, 2005).

Role of Technology

Media convergence is happening due to advancement in technology. We can say that technology is the driving force behind it. Scholasticus K. defined convergence as 'the

confluence of different media through the use of technology.' He explains the process from technological perspective. He says, 'Three media channels are currently the focal point of the media convergence journey: the print media that has started laying a certain emphasis on Internet-based outlets, the slowly depleting difference between the television and the computer, and the blurring line between the computers and the cell phones.' His main argument is that 'technology is acting as a super-catalyst in the convergence race.' (Scholasticus, 2010).

Wikipedia, the free encyclopedia has defined 'Technological Convergence' as the tendency for different technological systems to evolve toward performing similar tasks. Highlighting the role of digital technology in the process, it states that— 'Digital convergence refers to the convergence of four industries into one conglomerate, ITCE (Information Technologies, Telecommunication, Consumer Electronics, and Entertainment). Previously separate technologies such as voice (and telephony features), data (and productivity applications), and video can now share resources and interact with each other synergistically.' (Wikipedia).

Rise of the 'New media'

With the spread of computers, digital technology and the Internet new media emerged and slowly became central component of the society-wide communication process. McQuail comments, 'New media arrived as a result of technological innovation. ...They are multidirectional, not one-directional. They encourage, even require response. They have no audience, therefore no mass public. They are highly diverse in form and content, and of their essence multi-medial and multimodal. They observe no clear line between private and public. They allow access to all and they seem to evade structures of control. They evade institutionalization but, as this implies, they offer no coherent model of a system of public communication, only endless possibilities.' (2010, pp 544-545).

McQuail underlines its importance in the following words: 'The new media help to reamed the individual after the 'disembedding' effects of modernization.' (2010, p 142). This was necessarily the process of convergence. McQuail mentioned salient reasons for this trend as:

- ? Digitalization and convergence of all aspects of media
- ? Increased interactivity and network connectivity
- ? Adaptation of publication and audience roles
- ? Appearance of diverse new forms of media 'gateway'-
- ? Fragmentation and blurring of the media institution (McQuail, 2010, p 141)

McQuail lists five main categories of 'new media' as Interpersonal communication media (Telephone-increasingly mobile and e-mail), Interactive play media (computer based and video games, virtual reality devices- interactivity), Information search media (a library and data source of unprecedented size, actuality and accessibility), Collective participatory media (Sharing and exchanging information, ideas and experience and developing active

personal relationships. - Social networking sites) and Substitution of broadcast media (Uses of media to receive and download content-watching films, TV, listening to radio and music). (2010, p 143-144).

India's Journey

Most significant development in terms of convergence is beginning of the Internet and mobile telephony in India. India's Internet story is well narrated in 'netch@kra: 15 years of Internet in India', the book written by Madanmohan Rao and Osama Manzar. In Prologue, former Joint Secretary, Department of Information Technology, Govt. of India, N. Ravi Shankar says, 'The Internet has transformed India.' (2011, p xxxi).

Rao has chronicled Internet's journey in India. He says, 'Internet access in India has its roots in the Bulletin Board System (BBS) movement of the 1980s, and the government networks and services of ERNET, NIC, VSNL and SPTI. On August 15, 1995, VSNL brought the Internet to consumers and citizens in India.' (Rao & Manzar, 2011, p 1).

T. H. Chowdary in his article 'Birth and Growth of Internet in India' had given additional information making the Internet story more interesting. Videsh Sanchar Nigam Limited (VSNL) commissioned Gateway Packet Switching System (GPSS) in Aug 1989. PADs - Packet Assembler-Disassembler were provided in four gateway cities of Mumbai, Delhi, Chennai and Kolkata for online data search services. Electronic mail service was launched at first bureau in Mumbai in September 1989.

Madan Dalai provides additional inputs. He says, 'In 1995 users could dial into the Internet through VSNL's dial up service, which was initially made available in six cities across the country. It was the beginning of a technological revolution.' (Rao & Manzar, 2011, p21). In 1998 government allowed private players to become Internet Service Providers (ISPs). Satyam Infoway (Sify) was the first private ISP in the country. Eventually process to get an internet connection became simpler and the wait shorter. These pluralities of the Internets, much like the pluralities within India, constitute its strength; their shaping from the past has meaningful bearings on the future unfolding of these technologies. As we move from BB to BB (Bulletin Boards to Broad Band) we are in a sense coming full circle.' (Rao & Manzar, a0ii, p 96)

Government of India announced national IPv6 (Internet Protocol version 6) roadmap in July, 2010. 1Pv4 allows just four billion unique addresses; while IPv6 provides some 340 trillion usable addresses, enough for much of the

foreseeable future.

As per the research on 'Internet in India 2014' jointly conducted by the Internet and Mobile Association of India (IAMAI) and IMRB International the Internet usage in India gone up by 32% from October 2013 to October 2014. As of October 2014, there were 278 million claimed Internet users in India and were expected to reach 302 million by end of the year. (IAMAI, Oct 2014). As per a report by the Internet Live Stats, India ranked third in the number of Internet users in the world. China and the USA are in the first and second position respectively. (Internet Live Stats, 2014).

Being Convergent in India

In an article 'News Media: Yesterday, Today Tomorrow', Sunil Saxena provides broad overview of how the Indian media embraced convergence. After the access to Internet and the Web service-The Hindu, Times of India, Indian Express set up their Websites in 1996. Few language newspapers like Dinmanji also started the Web sites. Saxena observed that overseas Indians were the main users of these. In the beginning most media companies outsourced all Web site work, from designing to programming to hosting. In 1999-2000 three major media houses—the Times of India, the Indian Express and Hindustan Times set up independent companies to look after Internet business. (Saxena in Rao & Manzar, 2011, p226).

For the regional language dailies in Indian language fonts were the major issue. Later Web fonts were stored on the servers for users to download. In between 'On-the-fly-fonts' were also developed. Now Unicode system is much developed and is in use by most regional language Web sites.

In October 2009, ICANN (Internet Corporation for Assigned Names and Numbers) announced the launch of Internationalized Domain Names (IDN5) that can be written entirely in the local language. In September 2010 validation process for seven Indian languages was declared as successful. These include Hindi, Urdu, Bengali, Gujrati, Punjabi, Tamil and Telugu.

The e-papers- exact replica of the printed newspaper were launched around 2000-01. They had several functionalities like search, better archiving and easy navigation; but were a static product and no timely updates were possible. First e-paper was launched by the Times of India. Transition from HTML pages to Active Server Pages (ASP) happened around 2000. News Web sites became more dynamic and database driven.

Saxena notes the spread of broadband network as major landmark in these developments. He says, 'Broadband gave new lease of life to television websites. They could now post video files and even consider launching streaming video. Two television channels that made full use of better connectivity were those of NDTV and CNN-IBN. They began posting more and more video files on the net. NDTV also launched a new arm- NDTV convergence to harness the new technologies (Rao & Manzar, 2011, p 228).

With development of mobile telephony Indian news media started using this new medium. 'The Times of India was the first newspaper house to acquire a short code (58888) and launch mobile content services.' This was followed by many others. Saxena caricatured this development as: 'Most of the short codes are being used to move a range of pull and push-based news services for mobile phones. These include SMS-services like news alerts, forecasts, cricket scores, stock rates, etc. The television channels have also been experimenting with moving videos on mobiles. The media interest in mobile content was driven by two reasons. One, unlike web content, the mobile content could be monetized. The telecom companies shared 20 to 30 percent of all revenue arising out of mobile offerings. The second was easy conversion. Media houses found it easy to leverage their strengths in news management to develop content for mobile industry. The auction of 3G in 2010, and the continued growth of mobile phone connections will continue to power media interest in mobile content.' (Rao & Manzar, 2011, p 229).

Saxena also noticed use of social media by the mainstream news organizations. He states, 'The new traffic nodes on the net today are the social media sites. They are being used by millions of Indians to create, publish and share content. News entities will migrate to social media sites to disseminate information. Even today, we are witnessing the phenomenon of media sites launching fan pages on Twitter and Facebook. It is an acceptance of the fact that the world is moving into the many-to-many mode.' (Rao & Manzar, 2011, p 232).

With widespread use of smart phones, tablets, iPads and other portable devices like Kindle and advanced 2G/3G mobile internet services wireless delivery of content is on the rise. Highlighting significance of this trend, Saxena comments, 'The next logical step will be integration of content devices like laptops, Kindle or iPads with communication devices like mobile phones. Such integration will move all human communication - both one-to-one and many-to-many-on a single device. These devices will take away two major limitations of mobile phones. One, they will make content creation easier; and two, they will make content display better. The traditional and web-based media will have to rethink its strategy to meet the news and information needs of this market. This audience will need content in real time, and in formats that are interactive and can be shared.' (Rao & Manzar, 2011, p 232).

Impact on Journalism

Quinn and Filak have highlighted the impact of these technologies on journalism. They say, 'The news industries of the 21 century are also products of the dominant technologies of the era-the Web, e-mail, broadband, smart software and third-generation cell phones. The technology is linked by ones and zeros, which serve the language of the digital world. ...On top of this, we have convergence.' (2005, p 206).

The American Press Institute undertook a project called 'News paper Next: Blueprint for Transformation'. The 2006

report takes note of upheaval in media landscape due to changes in technologies. It says, 'The change is advancing quickly toward a new reality in which people can get any information, any time and any place, and publish their own content at will. ...The trigger is technological, but the impact is behavioral. As Individuals respond to the infinite range of choices available to them, this will reshape the media landscape and over time society itself.' (Newspaper Next, 2006).

Jennifer Sizemore, Vice President and Editor-in-Chief of MSNBC.com in her forward to 'Journalism Next' narrates the experience of up-to-the-minute breaking coverage of Hurricane Katrina using a blog template as a common platform and reporting with text, pictures and videos. She says, 'Newspapers now share the stage with radio, cable television and an unruly array of digital products from traditional news Web sites to blogs, feeds, and social networking sites. And that doesn't even take into account the explosion in mobile products that continues to transform the way, and the speed at which information is delivered.' (Briggs, 2009, pp xvi-xvii).

One major impact the Internet had on journalism is changes in deadline. Newspapers handover the baton of breaking news first to radio and TV; from them it has passed to the Internet based media. The deadline is now. Saxena proclaims, 'The Internet has no clear browsing time. It varies from audience to audience, and differs across different age groups. ...There will be no news cycle as the world moves towards a converged device where all content is being moved wirelessly. This content will be in real time, and constantly updated. The end consumer will browse this product on his or her convenience.' (Rao & Manzar, 2011, p 234).

This thirst for information is now 24 × 7. So media have to be changed. To survive and excel in new media environment Sizemore suggests the 'Sixth W' of journalism. She writes, 'If journalism has always been 5 W's - who, what, why, where and when - then now there is sixth W, and that 'W' stands for 'We'. (Briggs, 2009, p xviii). This is nothing but the 'Community reporting', where visceral community surrounding an issue, a story, an area having far more inside information is leveraged for better reporting. (p xix).

Briggs professes in the preface of 'Journalism Next' that-'what is coming 'next' in journalism? No one knows for sure, but we can all agree that it will be digital.' (2009, p xix). He appeals to young journalists to know how digital content works and how to use various online tools like Blogging to add value to journalism. He says, 'Blogging can help you cover a beat and build a loyal community of readers whose interactions contribute to your coverage.' (2009, p 41).

Briggs looks towards 'journalism as a conversation.' He advocates methods like 'Crowd-sourcing' (New term coined by Jeff Howe in a 2005 article for Wired News), 'Open-source reporting', 'Pro-am journalism' (Professionals +Amateurs) to enhance the power of journalism. For that he gives examples like 'neighborsgo',

'Assignment Zero', 'Talking Points Memo blog', 'beat-blogging', CNN's i-Report, Now Public (A participatory news site) and other experiments. He also narrates the power of Twitter - a micro-blogging platform as 'Write small, Think Big'. He looks at Friend Feed, Tumblr and Twitter as the emergence of 'Real-Time Web'. (2009, pp 94-97).

Now availability of social networks on mobile and with the use of short URL5 (Uniform Resource Locator or Web address) one can use the device more effectively. Briggs explains, 'Reporters are using mobile phones to post Twitter updates from breaking news events, press conferences, high school sports events and more. The 140 character limit makes it an especially comfortable medium.'(2009, p117).

'Mobile as 7th of the Mass Media' is title of a book written by Tomi Ahonen. Mobile phones, especially smart phones are changing the face of journalism. Briggs says, 'Mobile devices are like electronic Swiss Army knives - all in one media tool.' (2009, p 123). It can be used for news gathering, processing and also as breaking news platform. Speedy delivery of the content is the key here. Mobile applications like 'Whatsapp' are adding a new flavor to journalism.

Idea of the 'Backpack journalist' has not remained a dream. With Laptop, Internet connection, Camera, Video Camera, Tripod, Audio recorder, Headphones, microphone, Cell-phone one can do reporting on the go from anywhere in the world. Even if someone misses all the above equipment and gadgets, he or she still report with the help of a smart phone—the multimedia tool.

Karin Høgh, a podcasting expert from Denmark says, 'Somehow audio has been considered the 'invisible' medium. However, if done right, audio can be as powerful in journalism as written articles or even TV and video', (Briggs, 2009, p177). FM broadcasting, Web radio and mobile internet have revived the audio journalism. Podcasting- distribution of audio files over the Internet is on the rise. Recently an audio trailer of Amitabh Bachchan's film 'Shamitabh' was released over the social networks for promotion. Prime Minister Narendra Modi's 'Man ki Bat' on All India Radio has renewed people's interest in the medium.

Digital photography, video-graphy and cameras on mobile phones have similar impact on visual journalism. Availability of free video-editing software has made video journalism easy. It paved the way for 'Citizen Journalists'. YouTube has provided the world platform for these amateurs. Raw video footage of 'Kolavari D' song going viral is an excellent example of it. During recent news coverage of the terrorist attack on 'Charlie Hebdo' office in Paris on Jan 7, 2015 'France 24' broadcast included 'iTele' videos of witnesses. NDTV Citizen Journalists show is popular in India; but it is not an exception. Many national and regional news channels have such shows. Streaming online videos on smart phones, thanks to the new generation mobile telephony, is giving boost to not only news channels, but also the sports channels.

Quinn and Filak provide information about BBC's 'Video Journalists' program. It consists of a single person in the field who reports, shoots, writes, edits and transmits stories. The program, known as PDP or Personal Digital Production began in September 2001. (2005, p151). 'NBC Nightly News' in US is also experimenting with one-man-band assignments sending 'digital journalists' to shoot, to edit and present a story by themselves, is an established example of it.

Data Journalism is another significant trend to be watched. Briggs describes it as 'Telling stories with data'. He looks at every story as a field of data. A news organization can create a simple data base of e-mail addresses called a 'reader network' and use it for collaborative reporting. You can pull information for 'alternate story forms', Use stories as charticles. (2009, p 251). For example, Dainik Jagaran in Delhi has created a post designated as 'Editor, Content Management and Planning. The newspaper has collected various types of information from the reporters across the state and is using it as a database for topical reporting. Even election data starting from Gram Panchayat to the Parliament can be used like the database. One can also have a database of sugar cooperatives and use it for regular reporting on recurrent issues before the industry.

GPS-enabled smart phones are a new thing in the market. They can be combined with the API (Application Program Interface) technology in interesting ways. Picking up a new trend of place-based - news and information as 'Locative journalism' (nomenclature by Hilary Powell), Briggs says, 'GPS will also change the way people contribute information. Displaying information, or even interacting with an audience, based on geography is a powerful new frontier for many local news organizations. Think about the basic structure of data for a news story: headline, byline, body, photograph, and caption. Add latitude and longitude to the mix.' (2009, p 274).

Social media is being used in variety of ways. Many news channels invite viewers to participate in panel debates via social media platforms. They declare the 'hash tags' related to major news and run the comments during the broadcast. Twitter is becoming a handy tool for this. Journalists are using these platforms for collaboration among them. Use of groups on 'WhatsApp' they can share tips and information about the latest happenings. There are such groups among Dehradun-based journalists. Dainik Jagaran and Amar Ujjala, is now incorporating readers' comments from Facebook, Twitter and recently WhatsApp.

On Web it is easy to know what your reader is consuming. There are many analytics tools available not simply for media houses, but also to the individuals. Techniques like 'search engine optimization' can be and is being used for increasing visibility of news stories. 'Google juice' is an important phrase related to it. So to remain on top of the search power of keywords and links is leveraged consciously.

"The Times of India" Story

In India with rapid development in media technology, convergence is also taking its roots. Obviously the English media is having the edge. The Times group (Bennett, Coleman & Company) is leading this change. Times of India, the largest circulation English daily in the world is the flagship product of the company. Owning regional language press like Maharashtra Times, Navbharat Times, Sandhya Time (Hindi daily evening tabloid in Delhi), Indiatimes and other websites, The Times Now news channel, Movies Now and other entertainment channels, 'Radio Mirchi' FM radio and large scale events management division, 360 Degrees are showcasing the media convergence at ownership level. But this trend is not restricted to The Times group or the English media, regional media are also fast embracing convergence.

Conclusion

It will be wise to quote here Manuel Castells' perspective about changing communication technology and its relation to the society. It is an enlightened reflection on the today's convergent world.

He says, 'The growing interest of corporate media for the internet-based forms of communication is in fact the reflection of the rise of a new form of socialized communication: mass self-communication. It is mass communication because it reaches potentially a global audience through the p2p (person to person) networks and internet connection. It is multimodal, as the digitalization of content and advanced social software, often based on open source that can be downloaded free, allows the reformatting of almost any content in almost any form, increasingly distributed via wireless networks. And it is self-generated in content, self-directed in emission, and self-selected in reception by many that communicate with many. We are indeed in a new communication realm, and ultimately in a new medium, whose backbone is made of computer networks, whose language is digital, and whose senders are globally distributed and globally interactive.' (Castells, 2007:248; McQuail, 2010, p 543)

Mark Briggs in 'Journalism 2.0' forcefully argues that 'the future is now.' He appeals, 'There's never been a better time to be a journalist. There has never been a time that offered so many powerful ways to tell stories and serve readers with information. If you love journalism, you have to love having more tools at your disposal, more interaction with your audience, and the near disappearance of traditional constraints of time and space'. (Briggs, 2007, p8)

In this changed environment media have to reinvent itself and find new ways of connecting to the people. If journalism is an eternal storytelling, it will evolve eternally. Here is the end quote by Quinn and Filak to reassure ourselves:

'In each incarnation of news, change occurred and yet news continued to be disseminated. It's often easier to fear change that it is to embrace it.Convergence will wait for no one, so you'd best be ready to go with it.' (2005, pp 206-207).

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A Study on Science Programmes Covered by Gyan Vani

Jayaprakash D*

ABSTRACT

In developing as well as developed countries, science plays a great role for social welfare and empowerment. Of all the media, radio is an effective medium to reach the masses. This is because even illiterates can use this medium, especially in a developing country like India. Gyan Vani make efforts in imparting scientific temper. The present study assesses the perceptions of the radio listeners about the potentiality of the radio to provide science programmes in an effective way in the urban areas. The study explores the broadcasting intensity of the science programmes across radio stations operating in Chennai. In the same line, effectiveness and use of the programme is examined. The study also examines the prospective use of radio in communicating the science programmes and the extent that radio has made effective contribution to the public understanding of science in the study area.

Key Words: Nature of Science, Society, Public Engagement, Public Understanding of Science, Indian Women

Introduction

Science Communication (SciCom) helps incorporate the knowledge of science into the common culture. Generally, most of the people do not understand the basics of experimentation or scientific inquiry, and the overwhelming majority cannot even explain what a development is in science arena. The research community in science discipline genuinely wants to lower the barriers separating the public from science and help increase enthusiasm for an understanding of science. Public Understanding of Science (PUS) focuses on public engagement with science and is unique in its grassroots approach to disseminating science and generating enthusiasm for the topic.

PUS is a grassroots effort that coordinates a network of organizations into a sustained, national campaign to celebrate science. Its primary goals are to inspire broad appreciation of science and its contributions to quality of life, inform the public about the process and nature of science, as well as science itself and make science more accessible to everyone. Radio has is one of the fastest growing media in India because of its low cost in availability, maintenance and use. Although radio is one of the oldest media, it is regarded as most persuasive, affordable and the most accessible medium ever. The present study tries to ascertain the role of radio in disseminating science information in Chennai and the effectiveness of radio in transmitting the information to the intended inhabitants and its use. To introspect the effectiveness of radio in communicating science programme, Gyan Vani - Chennai was taken up for the study.

Conceptual Background

Several studies illustrate the various dimensions of the science communication process which enable to conceive the conceptualization of the study. Indian society has reached a complex socio-economic and cultural stage and has very limited space for science communication for public understanding. The media speaks very little about the public understanding of science but believes that it will automatically grow over the years due to the public interest in science (Singh, 2007). The professional science communication strategy evolved in mass media communication to address the issues in a more systematic way. Cribbs and Hartomo (2002) describe the methodology of science communication through the mass media and the method to communicate the science stories through newspaper, website or magazine with more clarity; in the same line it is essential to draw the outline for every science news article (Vilanilam, 2003). The role of radio to promote science communication has been well documented especially the role of community radio stations as a potential tool use to provide information and resources to ensure the effective delivery of science information to ensure PUS at the grassroots levels (Gutierrez and Cristina, 2002).

Elements of science communication include (a) scientific contents, (b) simple language, (c) how & why, and (d) newsworthiness. According to a survey on science communication in India undertaken by Manoj Patariya (2007), the status of science coverage in various media is as follows:

* Dr. Jayaprakash D, Assistant Professor, School of Journalism and Film Production, Lovely Professional University, Punjab.

Table 1: Science Coverage in Various Media

Science coverage in print	3.4%
Science coverage on radio	5.84%
Science coverage on TV	1.8%
Science-based research papers	2.1%
Science-based books	0.2%

Thus the empirical representation connotes that the media's contribution in transmitting the science information to the normal people is squat.

Objectives of the Study

The objectives of this study are:

- (1) To find the reach of science communication through radio among the listeners in Tamil Nadu
- (2) To find the perception of listeners about science communication through Gyan Vani
- (3) To assess the utility of science communication through Gyan Vani by the listeners

Hypotheses of the Study

The following hypothetical statements are to be tested to identify the listeners' perceptions on the science programme reach, utility and the level of application which holistically represents the effectiveness of the science communication in the study area.

- H1: There is no significant influence of utility and appropriateness on effectiveness of science communication
- H2: There is no significant influence of formats of the science programmes on the effectiveness of the programme
- H3: There is no relationship between age and use of radio concerning science information dissemination.

Review of Literature

Raza (2011) found significant regional disparity in awareness levels within India which should be factored into designing national campaigns to improve science awareness. The fact that some states with low literacy rates, scored high on public understanding of science shows that literacy and education are not the only influencing factors. "It indicates that in these places awareness about certain scientific facts has become part of the cultural background and is nurtured irrespective of the level of education," Raza explained.

Chandrappa and Ravi (2009) explain the rapidly growing population and economic development are leading to the environmental degradation in India through the uncontrolled growth of urbanization and industrialization, expansion and massive intensification of agriculture and the destruction of forests. Major environmental issues are

forest and agricultural land degradation, resource depletion (water, mineral, forest, sand, rocks, etc.), environmental degradation, public health, loss of biodiversity, loss of resilience in ecosystems, livelihood security for the poor.

According to a survey on science communication in India cited in Patairiya (2007), the status of science coverage is as follows: 5.84% on radio; 1.8% on TV; 3.4% in print; science-based research papers constitute 2.10%; and science-based books is 0.20%.

Chandramouli (1990) reported that majority of the radio listeners wanted information to be presented by a specialist in the form of a straight talk.

Maraty and Reddy (1998) concluded that majority of the respondents quoted reasons for listening of programme as broadcasts were need based and pronunciations of words was normal. The reason quoted for listening programme was easy to understand and attractive.

Chandrakandan and Knight (1987) in their study on 'factors affecting farm broadcasting' suggested selecting the speaker who would be knowledgeable with good pronunciation and voice would be able deliver the message more clearly. The topic should be related to felt need, timeliness and completeness.

Research Methodology

The study area is confined to Chennai. The researcher preferred to choose Tamil Nadu particularly Chennai since large portion of the people reside in the radio's broadcasting territory, a radius of about 20 km. Two steps of analysis is taken up: firstly purposive sampling was done at Gyan Vani in Chennai and programmes of station is subjected to analysis. The bulk of this report draws on a qualitative textual analysis of these stations' output in one month from February 1 to 30, 2014. Discussions about the coverage of science often proceed from anecdote, citing examples that are not necessarily representative. Qualitative textual analysis can offer a more systematic view of output. But in examining broad patterns of coverage, quantitative analysis can do little to probe the more subtle features of individual items which would be helpful to assess proportion and quality of the science programme broadcast and data collected from the structured questionnaire from 600 samples have been used to understand the perceptions of the radio listeners in Chennai.

Results of textual analysis

Following are the interpretations and inferences from the methodologies conducted for the study. The major providers of the science programmes classified into four sections called Gyan Vani. The information accumulated has been stemmed below viz., reach, utility and level of application of the science programmes in the study area.

It is an educational FM radio network providing programmes covering different aspects and levels of

education with about 60% of the programmes highlighting science. Of the two hours of broadcasting time, science programmes cover 1 hour and 30 minutes, whereas the other science programmes is for about 30 minutes, on an average. The non-news science programming is broadcast for about one hour throughout the week.

Though science covered the major part, there were other programmes that dealt with topics like health: about 45%, environmental issues: about 21%, about 14% discussed about the technological development and ICTs, 11% with agricultural science, and about 9% with life sciences. Moreover, 37% of the programmes dealt with pollution-related problems, 22% concerned with global warming, 22% concerned bio-diversity conservation in Chennai. Pollution and the health problems have a nebulous relationship. On the outset, most of the programmes were restricted in scope for listeners' interaction and the information provided is one-sided without considering the requirement and the response of the listeners.

Majority of the science programmes dealt with health issues concerned with women's health and children's health. Though 35% of the programmes were devoted for the analysis of the causes and consequences of the health problems, it also dealt with the preventive measures to protect them from the diseases, especially epidemic diseases.

In Ariviyal Neram (Science Time), majority of the time is allotted to pollution and its impact on people. Of the many programmes designed and broadcast during the reference period, 37% of the programmes dealt with pollution-related problems; 22% concerned with global warming and 22% bio-diversity conservation in Chennai. Pollution and the health problems have got a nebulous relationship. Apart from this, there are many issues that have been addressed by Gyan Vani through many programmes such as Nalamaai Vazha (To Live Well), Ariviyal Neram (Science Time) and Window on the World Health Report.

Most of the Gyan Vani programmes about energy were typically positioned in the comfortable preference level, though about half were also headlined at the start of the programmes. Half of the science items on broadcast news dealt with energy production and the scope of conventional energy, 37% conservation of energy, around 13% the challenges for the energy production and distribution.

Highly profound scientists and the faculty from IITs and the all the research institutions participated in the programmes; around 89% of the people from IITs and other reputed research institutions and 11% from the independent research community people.

Test of hypotheses

The existing reviewed literatures and research analysis focus only on specific issues but hardly few studies which concentrated the holistic dimension of science communication embedding all the nuances of science and most of the studies concentrated on rural areas and the remote areas. The literature gap of the reviewed studies was full filled by created hypotheses of the present study. The present content of the study exemplifies the hypotheses to understand the important aspects influencing on science programmes / information through radio in urban area.

This study is subjected to three hypotheses and empirical test. The results of the tests are presented below using appropriate statistical measures.

Hypothesis I

Multiple linear regression is a method of analysis for assessing the strength of the relationship between each of a set of *explanatory variables* (sometimes known as *independent variables*, The multiple regression model for a response variable, *y*, with observed values, y_1, y_2, \dots, y_n (where *n* is the sample size) and *q* explanatory variables, x_1, x_2, \dots, x_q with observed values, $x_{1i}, x_{2i}, \dots, x_{qi}$ for $i = 1, \dots, n$, is:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + \epsilon_i$$

The term ϵ_i is the *residual* or *error* for individual *i* and represents the deviation of the observed value of the response for this individual from that expected by the model. These error terms are assumed to have a normal distribution with variance σ^2 .

Regression Analysis 1

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n \tag{6.1}$$

Where,

Y - Dependent Variable

X - Predictors.

Ho: There is no significant influence of utility and appropriateness on effectiveness of the science communication.

Table 6.1 To Test Significance of Predictors in the Model

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	T	Std. Error
Effectiveness of science communication	2.102	4.50		1.618	0.002
Leisure time	1.6	1.12	0.41	0.12	0.001
Broadcasting time	1.106	2.63	0.51	0.038	0.002
Formats	1.058	1.26	0.64	0.02	0.001
Interest	2.12	3.02	0.72	-1.08	0.003
Usage	0.543	2.88	0.42	0.011	0.011
Appropriateness	1.123	3.12	0.41	0.024	0.007

- A. Predictors: (Constant) Leisure time, Broadcasting time, Formats, Interest, Usage and Appropriateness.
- B. Dependent Variable: Effectiveness of science communication.

All the predictors are significant at =5% and =1%levels.

$$Y = \beta_0 + \beta_1(\text{Leisure time}) + \beta_2(\text{Broadcasting time}) + \beta_3(\text{Formats}) + \beta_4(\text{Interest}) + \beta_5(\text{Usage}) + \beta_6(\text{Appropriateness})$$

Effectiveness of Science communication = 1.102 + (-1.412 - leisure time) + (-1.101 - Occupation) + (0.312 - Broadcasting time) + (.0.64. Formats) + (-0.216 - Interest) (-0.123 - Usage) + (.0.041 - Appropriateness)

The multivariate regression was applied to find whether there is significant influence of utility and appropriateness on effectiveness of the science

communication through radio in the study area. Effectiveness of science communication depends on the leisure time, broadcasting time, formats, interest, usage and appropriateness. The study shows that usage has less influence whereas interest has a maximum influence among the other predictors.

Hypotheses II

Regression Analysis 2

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_nx_n \tag{6.2}$$

Where,

Y - Dependent Variable

X - Predictors.

Ho: There is no significant influence of formats of the science programmes on the effectiveness of the programme.

Table 6.2 To Test the Significance of Predictors in the Model

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	T	Std. Error
Effectiveness of the science Programme	1.526	56.78		1.126	0.001
Interview	0.231	9.021	0.49	0.32	0.002
Talk show	1.3	12.561	0.52	0.28	0.001
Quiz	0.897	7.235	0.51	0.37	0.004
Panel discussion	1.89	22.8	0.46	0.23	0.003
Skit	2.98	18.9	0.39	0.34	0.001

- B. Dependent Variable: Effectiveness of the science programme.

t- test shows that predictors are highly significant at =5% and =1% levels. Skit has the maximum effect whereas interview is very less effective. All other predictors are influencing.

$$Y = \beta_0 + \beta_1(\text{Interview}) + \beta_2(\text{Talk show}) + \beta_3(\text{Quiz}) + \beta_4(\text{Panel discussion}) + \beta_5(\text{Skit})$$

Effectiveness of the programme = 1.526+ (0.49 - Interview) + (0.52 - talk show) + (0.51 - Quiz) + (0.46 - Panel discussion) + (0.39 - Skit)

Effectiveness of science communication is found in interview, talk show, quiz, panel discussion and skit. Interview, talk show, quiz, panel discussion and skit influence the effectiveness of science communication. The study shows that interview has a less influence whereas skit has a very high influence among the other predictors.

HYPOTHESES III

Chi-square is a non-parametric test used to see the association between two qualitative variables. It can be analysed with the help of following formula:

$$\chi^2 = \frac{\sum_{i=1}^n (O_i - E_i)^2}{E_i} \tag{6.3}$$

Where,

O_i - Observed frequency

E_i - Expected frequency

i - any definite value (i = 0, 1, 2, 3,.....n)

Degrees of Freedom df = (r - 1) (c - 1).

If chi-square calculated value is less than the chi-square table value or theoretical value, then we conclude that test not significant and vice versa.

Ho: There is no relationship between age and the use of radio.

Table 6.3 Chi-Square Test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	629.314 ^a	42	0.001
Likelihood Ratio	479.23	42	0.001
Linear-by-Linear Association	45.013	1	0.001
N of Valid Cases	600		

- A. 26 cells (46.4%) have expected count less than 5. The minimum expected count is .24.

The chi-square test is applied to find the association between age and the usage of radio in the study area, the results revealed that there is significant difference exists between observed and expected outcome among the age group of 0-20 and 21-30 as the youngsters used to listen to more radio programmes during the travel and the leisure time. Hence, this test significant 5% and 1% levels. So there is an association between age and use radio.

Discussion

The survey helped to come to a better understanding of the effectiveness of the science programmes in terms of the utility, usefulness, perceptions of radio programmes in radio station to the respondents.

Respondents opined on the usefulness of science-related programmes on day-to-day activities. As much as 46.7% of the respondents revealed that science information provided by the radio is useful in the day-to-day activities of the respondents whereas 53.3% of the respondents opined it did not have any influence on their day-to-day activities.

The means of utility of the science programmes on various criteria are as follows: 20.7% of the respondents opined that it enhanced the scientific knowledge, 30.8% of the respondents revealed that it gave clarity to health problems and reduced the apprehension on healthcare, 18.7% opined information provided by the radio reduced the mental stress on health issues, 14.8% revealed it was helpful to preserve the family through various preventive methods to protect the family members from health hazards. As much as 15% of the respondents opined that it is helpful to understand the innovation. It could be inferred from the empirical verification that people were benefited more from the health-related issues.

The perception of the respondents on the statement that listening to radio can improve knowledge is of much interest. As much as 5.7 % of the respondents strongly agreed, 20.3% agreed, 22.3% neither agreed nor disagreed, 45% of the respondents disagreed and 6.7% of the respondents strongly disagreed. It could be inferred from the data that a significant portion of the respondents opined that the programmes broadcast by the radio did not enhance their knowledge. But some portion of the people agreed with the statement which implied positive impact of the science programmes broadcast by the respondents in the study area.

Though the quantity is less, from the survey it is learnt that it has reached the audience and most of the respondents remember the programmes which were broadcast on health. From the findings it is interpreted that science is less effectively communicated through radio stations though the quantity is less.

Thus, the analysis of the science programmes exemplified that very limited portion of the time is allocated for science programmes. But the information provided by the radio stations was very much useful for the radio listeners. The following analysis would reveal the perceptions of the people on the use of the science programmes broadcast.

The extent of use of radio information is measured as maximum extent, somewhat extent and never. Change in knowledge, attitude and adoption levels among radio listeners is a clear identification of successful communication. The overall analysis revealed that science programmes broadcast by the radio have significant influence on the knowledge of the listeners but not to the adequate level. Along with the quantitative inferences it also found that some of the elements were of significance such as radio programmes related to health, weather, community and entertainment. These gave varieties of information and they brought out the awareness of different new technologies. These programmes were in simple language. So they were very useful for illiterate people too.

The role and responsibility of the radio in communicating the science issues among the listeners in Chennai appeared clumsy as the major players in radio communication viz., Gyan Vani allocate very meagre time for the science programmes. In the same line, the formats used for programmes were also inappropriate in the study area. Thus, the quantum of the time and the quality of the programmes were inadequate. But, electronic media and new media had minimized the scope of radio in transmitting the science information to the inhabitants in the study area.

The survey clearly indicated that a major chunk of the respondents had used the radio for the purpose of entertainment. It could be inferred from the analysis that radio stations allocate limited time for science programmes as the listeners are not interested in science programmes. But at the same time as majority of the listeners hail from young and middle age groups, it is essential to formulate an interesting way to communicate science programmes in interesting formats to the listeners since it is essential to understand the changing dynamics.

In the same line, it could be seen from the opinion of the respondents that they were aware of new solutions to their health problems and got awareness on health to the maximum extent as they listened to radio programmes regularly. But some of the respondents expressed that their knowledge had increased to some extent. Listening to science programmes was helpful for creating awareness and increasing information about new programmes, technologies and policies.

Some of the respondents expressed that radio was not useful for adoption of technologies. Because this medium was only audio i.e. one way communication, they could not clarify their doubts whenever they wanted. Lack of detailed knowledge and too much information given in a short time confused the audience. This might be the reason for non-adoption. Most of the youngsters did not want to listen to the lengthy science information so it would be good if the pieces of information were broadcast between songs and talk show so that the people could get the required science information.

The process of science communication needed to be enhanced in a more sophisticated way encompassing the multilateral dimensions which would facilitate the PUS as the informal observation. The survey indicated that most of the people were engaged with science programmes without having the sense that they had been associating with science programmes. For example, people were interested in the PSA, so it was imperative to formulate science programmes in a more transparent way thereby enabling the listeners to understand the issue more comfortably.

Findings

This section deals with findings on an analysis of science programmes broadcast in Gyan Vani. Most of the listeners were moderately satisfied towards the different components of the science programmes broadcast by the radio stations in Chennai. This finding clearly indicates that there still remains more scope to improve the content of the science programmes with respect to various quality dimensions and effectiveness considering the trust the listeners have on the authenticity of such programmes.

Major findings of the study are as follows

The profile characteristics like economic motivation, extension contact, radio utilization, progressiveness, risk orientation, etc., exerted significant association with listening habits, leisure time, duration of the science programme, format and content towards its effectiveness. It gives some clues that they are very receptive to new ideas / new inventions in the field of science which would improve their standard of living especially for the young people who have been using this medium more. Hence, according to their personal traits and profit-making behaviour, more efforts have to be made to motivate them to become listeners of the science programmes which not only is of benefit to the listeners alone but also to the society at large.

According to the various interest levels of the listeners, the

radio programme producers emphasize on wider reception in socially and economically weaker sections of inhabitants of the city, since a larger segment of the people in Chennai reside in slum areas and prone to health degradation through epidemic diseases. Further, the Government also can encourage radio by extending a subsidy facility.

The information provided by the scientists, contributors and experts does not reach the masses correctly. Hence, it is essential to formulate the programmes in a way that the common people can understand and provide scope to incorporate the aspirations of the common people.

The information on the health issues was useful while the rest of the information, inadequate and the formats used to communicate science information were inappropriate. Also, the influence of other medium in communicating science information diminished the scope of radio to operate more effectively. But the role of radio in communicating science programme is significant as it enables people to obtain the information even when they are into some work. Further, the programmes pertained in the areas of food and nutrition, home management, family resource management were somewhat useful, whereas the programmes in the areas such as advertisements, rural development and environmental issues were rated as useful but not viable.

Science programmes broadcast by Gyan Vani could not capture the interest of the listeners to a large extent. This is true even in the case of distance education learners, who are its primary listeners, as the programmes are generally drab.

Gyan Vani women listeners seem to like health programmes on women especially on nutrition and balanced diet given by experts. The best example is 'Nalamaai Vazha' (To Live Well) energy issues in general and saving electricity in particular seem to have wide listening. The best example is 'Arivial Neram' (Science Time) that gave tips on how to save electricity by Gyan Vani.

Science has still not succeeded in attracting the media to the extent that it could appear on the top list of the audience or become a lead story, like the politics, films or sports. If science were to be presented in the form of poems, stories, folk songs, PSA etc., the common people would be able to understand, appreciate and know science. Explaining science in the form of poetry is not as it may seem. Science dramas and skits are also underutilized. Though science drama and skit did appear during the period of study, it still is not sufficient in number and frequency.

Misleading science information, a continuous decay of creativity in programme formats, distortion, inconsistency organizing of contents, linguistic lapses in terms of slangs and colloquializations and many more deviations can be seen frequently in the programmes.

The contemporary scriptwriters' attraction to science communication resulted from the challenge they meet

each time in breaking down complicated science into a simpler form people can understand.

While the skills and techniques of science communication are similar to other areas, these mostly had to do with science and dealing with complex material, working with a scientist and operating within the scientific industry.

There was sometimes a difference in the definition, in what is considered 'accurate' by scientists and must be accommodated in by the science communicator, thus challenging the need for science communication.

Medium level of awareness was found in listeners on science programmes. This calls for the strengthening of content of science programmes. This can be achieved by increasing awareness programmes and establishing more listeners' clubs in the study area.

Most of the urban people especially students, workers, officials and dealers listen to radio only for entertainment. This indicates that radio is still a medium solely for entertainment calling for strengthening the educative and informative functions of electronic media.

With the only barrier being broadcast timings, people suggest that better formats of science programmes would motivate them to listen to science programmes.

Listeners suggest that using common language, clarifying technical content and making an entertainment designed science programme will enable people to get information with an entertaining format. Formats such as tid-bits, skit, and expert interviews along with the songs and entertainment programmes would enhance the reception more, which would eventually increase the knowledge of science of the listeners in the study area.

The delivery style is important for communicating science. The survey proved that most of the listeners remembered the content of the health-related programmes broadcast which indirectly proves that the content had reached its target audience.

Radio's role in reaching out through science communication programmes in the area of study is very limited though they accelerate science temper among the listeners. It does have a listenership which should be used to extend this knowledge exchange.

Since most of the science programmes avert the consideration of interests of the audience and lack authenticity, they fail to be effective. Science communication through radio in Chennai leaves a lot to be desired. In short, it is ineffective because of a lack of reach, utility and level of perception.

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ABSTRACT

Media as a tool of communication plays a crucial role in information dissemination and bridging information gap. With new innovations and better technological developments media has developed a lot and has gone powerful. Media and society both are dependent on each other. It is expected that media as a social institution should play a larger role for the betterment of a democratic society and it should play the challenging role of the fourth estate in a democratic state, but these days the realities of media have also changed. Media has become a commercial institution and as a result of that many unwanted things have also grown which are not good for the health of a democracy. The commercialization and monopolization of the media has started affecting the society badly and as a result of that not only the society is getting badly affected but also the future of media business is also at stake and the fourth pillar is losing its credibility which is not a good sign towards the future of a healthy democracy.

Key Words: Media, Democracy, Society, Commercialization

Rousseau's famous book 'Social Contract' starts with the statement that "Man is born free but every where he is in chains". The statement ultimately indicates that man as a social animal can't be given absolute freedom in a social structure of a society, for its smooth functioning. So the concept of freedom with justified controls gave birth to the concept of governance and among different forms of governance democracy is called to be the most effective form of Governance.

Being witnessed by the human society from the time of Greek civilization democracy has justified itself to be one among the best form of governance where wise people participate actively in the formation and functioning of the governance. This form of governance stands with the basic principle of "Democracy is of the people, by the people and for the people."

Talking about the democracy prevailing in India, it can be well said that democracy in India has already witnessed many positive and negative sides but still it has tried to adhere to the basic principle of democracy. The Indian constitution which is the supreme law of the land and which is to be obeyed in both letter and spirit in its very preamble clearly declares it that:

'We the people of India having solemnly resolved to constitute India to a sovereign, socialist, secular, democratic republic...

Thus in its very preamble Indian constitution talks about the social economic and political justice. UNO in its Geneva conference of 1948 also has declared about the protection of human rights. Therefore it can be well understood that for establishing a happy and healthy

democratic society there is the need of active participation of the people in the functioning of democratic system and at the same time the state should ensure them the social, economic, political justice and should protect their human rights. For this purpose since the time of Magna-Carta many efforts are already made. In context of Indian constitution it has been found that the constitution of India rests on three pillars like executive, legislative and judiciary. But even after 67 years of democratic governance system the Indians have not succeeded to achieve these goals in reality, and the realities of Indian society indicates towards something different.

Realities of Indian society

Political Discrimination: Political power plays a major role in social change. Since ages the deprived communities and weaker section people are suffering from the low political status. Discussing about their weak political status if we look towards the realities we will find it that

1. At the Panchayat level even if they are elected but they have not that much of decision making power because as they are the weak people that is why the gram Sewak and Panchayat sewak even exploits them.
2. From the very beginning deprived communities and weaker section people in India have been treated nothing other than the vote banks that is why the MLA's and MP's have considered them as tools of exploitation for votes rather the MLA's and MP's have not seriously thought about the plea of the deprived communities and weaker section people.

* Dr. Ambika Shankar Mishra, Assistant Professor, St. Joseph's Degree & PG College, Hyderabad.

3. They are also not given chance in community activities to take the leadership.

Educational Discrimination towards deprived communities and weaker section people: The Indian society has not achieved a very interesting educational status. Because even till today a large section of its population is still struggling for two meals a day. Even after implementation of Sarva Shikhya Abhiyan and Midday meals for school children the results are not still very encouraging. The rate of dropouts is still very high and in case of higher education the rate of presence of weaker section people is very low.

Legal Discrimination: Due to high rate of illiteracy and weak economic status most of the laws have turned to paper tigers in India. The poor and weaker section people are discriminated in the legal sector. In modern India due to lack of finance they are not able to fight for their rights in the delayed system of Judiciary. Their representation in this sector is also very low.

Health: Though government of India has many health schemes but still the health condition of the weaker section people gives a clear picture about that. Due to low wage and weak economic status the weaker section people are always subjected to lack of quality food. They too suffer from many diseases like cholera and others due to lack of sanitation and clean drinking water. Consciousness among them relating to health education is very low.

So at such a crucial point of time when people in the biggest democracy are suffering like this and when discussions are going on in intellectual forums relating to social media people need a savior who will protect their rights and will fight for them and will play an active role to grant a better status to them by fueling the process of development. But when the question comes that who will shoulder this responsibility? Ultimately the people expect media to come forward to shoulder on this responsibility because

1. Being well equipped with technological innovations media has gone powerful than before and has started to rule over the world.
2. It can play the role of voice for voiceless.
3. Being a tool of information dissemination it can play a major role to highlight the pleas of people in the main stream.
4. It can play an active role in policy formulation and its execution.
5. It can play the role of a watch dog in a democracy.

The media as we know already from above can play a bigger role to safeguard the interests of people in a democratic system. In a democratic country like India if people expect such things from the media then it is also very genuine because the Indian media of today is the successor of that great Indian press system which during freedom struggle created a new wave among people to bring independence to the country and at the same time fought breathlessly during the proclamation of emergency

to safeguard the right to freedom of speech of the Indian citizens.

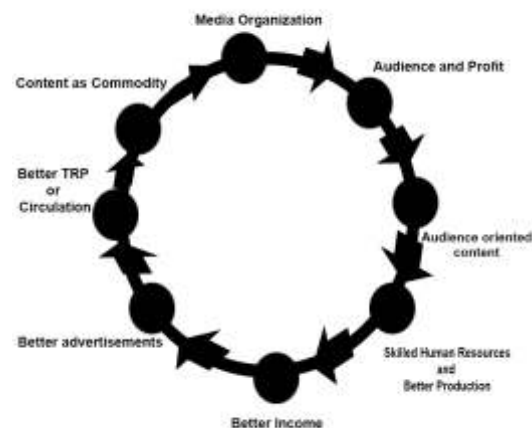
The realities of today

Though we have already discussed about the realities of Indian democracy and the expectations of Indian citizens from media but at the same time we should not forget it that media is not only a social institution but also it is a commercial institution and as an industry it has its own commercial compulsions also.

Realities of News Room

News room plays the role of central nervous system by the process of gate keeping. News editor or the channel head plays the role of a gate keeper to filter and process news items to feed the content hungry medium. With the radical development in technology, media has turned to an industry and the market realities and market compulsions have thrown the media houses to join in the cut-throat competitions for financial benefits. The role of the ad-manager has gone more crucial than the role of the news editor. So opportunities at news editors hand have gone minimized to control the contents of media. The advertising revenue, which is the life line of any media organization to survive, has started influencing the media content through direct advertisements or advertorial stories also have started creating obstacle for the news editor to regulate the flow of contents in a mass media institution. Similarly the appointment of the business development executives in the media institution has also given a new dimension to the media business. In the cut throat competition of today's media the realities of price war has also started influencing the Indian media. With the emergence of breaking news and editorialization and addition of color, designs or pages the media business has gone tough. The process of commercialization runs in such a manner that it has turned to a vicious circle.

Vicious Circle of Media Commercialization



From the very figure it can be well understood that media organization as a part of the mass media industry and as a part of the total commercialization process wants profit and better audience for its survival.

To fetch better profit and good audience there is a need of preparing audience oriented contents which can attract a better audience .

To prepare audience oriented content the media organization needs skilled and better human resources.

To get skilled human resources there is a need of paying them in a better manner which adds to the expenditure of the media organization.

For making more expenditure there is a need of generating more revenues for the media organization.

For generating more revenues media organization requires more and more revenues by reaching to more advertisers and by safeguarding the interest of the advertisers.

For fetching better advertisements there is a need that media organization should fetch a better TRP/Circulation rate. Otherwise the advertisers will not become interested to provide better advertisements.

For a higher TRP or circulation figure media has to treat content like a commodity and has to make it attractive so that it can be sold at a high price in the market.

The content that is prepared like a commodity can only be sold by a media organization and for that it is dependent on media.

If we are following Noam Chomsky and Edward Herman we will be able to understand it that it is not only the commercialization of media rather there are many other factors also which influence the role of media in a democratic society.

Size, Ownership, and Profit Orientation: The dominant mass-media outlets are large firms which are run for profit. Therefore they must cater to the financial interest of their owners - often corporations or particular controlling investors. The size of the firms is a necessary consequence of the capital requirements for the technology to reach a mass audience.

The Advertising License to Do Business: Since the majority of the revenue of media outlets come from advertising (not from sales or subscriptions), advertisers have acquired an influential position in the media business.

Sourcing Mass Media News: Herman and Chomsky argue that "the large bureaucracies of the powerful *subsidize* the mass media, and gain special access to the news by their contribution to reducing the media's costs of production. The large entities that provide this subsidy become 'routine' news sources and have privileged access to the gates.

Non-routine sources must struggle for access, and may be ignored by the arbitrary decision of the gatekeepers.

Flak and the Enforcers: "Flak" refers to negative responses to a media statement or program (e.g. letters, complaints, lawsuits, or legislative actions). Flak can prove expensive to the media, either due to loss of advertising revenue, or due to the costs of legal defense or defense of the media outlet's public image. Flak can be organized by powerful, influential private groups.

Anti-Communism or fear: In the days of cold war anticommunism was considered as a filter in the selection of media content but latter in post cold war days fear has replaced the concept of anticommunism. The fear may be the fear from the rules of a dictator.

Thus in the rat race of the media industry for seeking financial benefit the newsroom has gone compelled to provide contents which should satisfy the financial interests of the media organization. But media is a powerful tool of information dissemination and there is a need that media should participate in an active manner for the smooth running of the governance system. So certain suggestions can be discussed here to make media to play an active role in a democratic system.

1. Media should remain concerned about the interests of its audience.
2. The watch dog should not run for bones forgetting its own duties.
3. It should come forward for protecting and safeguarding the democracy.

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New Media: A new trend setter for Indian News Industry

Nitin Kumar*
Gopal Singh**

ABSTRACT

Murdoch and Berlusconi Type of Media are also being used in Indian scenario which are using the same technology to sometimes distort reality or to create the reality which could be saleable. Most of the information people receive through media is governed by owners as gatekeepers. But new media has become a rival for traditional media owners, as there is no filter on communication. People are getting information of information vendors with the help of different blogs like Mediakhabar or Bhadas4 media etc.

Facebook and Twitter have become means to get breaking news to media houses, recently Shashi Tharoor and Sunanda case is an example. All newspapers and television channels now have reporters who continuously monitor such news stories. The way traditional and social media connect and converge with each other, has a profound impact on modern communication order.

Newspapers and news channels are now under the fear of losing their credibility in comparison to the new media. It is now difficult for traditional news media to hide or dumb down a story from the public domain because of the fear that such stories might get published in a blog or get circulated on social networks.

New media is also giving platform for creative persons lacking resources to run big media houses but having enthusiasm for a great work or something important to share with the people. There are so many channels on Youtube doing entertainment with very localized and inclusive contents which big media houses would never broadcast due to non-profitable contents.

New Media, no doubt, is more democratic because anyone can access it or any person can raise any issue in the public arena. Yet, it would not be possible for it alone to reach beyond their core audience and influence wider range of society if it doesn't collaborate with traditional media.

Similarly, if traditional media want to reach out to a transnational audience, they need to take the help of social media. The Anna Hazare movement, which began through social media, got accelerated after news channels started providing exclusive coverage.

It is important that if both traditional and new media work complementarily, it will be beneficial for audience and they will get more objective and unbiased information. That would be certainly a trend setter for Indian news media in particular and world communication order in general.

Key Words-New Media, Traditional Media, Communication Order

Murdoch and Berlusconi Type of Media are also being used in Indian scenario which are using the same technology to sometimes distort reality or to create the reality which could be sellable in news industry. Most of the information people get by media is governed by owners as a gatekeeper.

Ownership pattern of media across the globe and in India is a cause for concern. There are big corporate houses

who own newspapers and television networks. A higher concentration of ownership increases the risk of captured media (Corneo, 2005).

In India there are big players like the Times Group and ABP who rule the roost in the media arena. In a bid to open up the Indian market 26% foreign direct investment has been allowed in news publication and 74% has been allowed in non news segments by the Government.

* Nitin Kumar, Assistant Professor, School of Communication, Doon University, Dehradun.

**Dr Gopal Singh, Associate Professor, Department of Mass Communication and Journalism, BB Ambedkar University, Lucknow.

As Dutta Soumya (2011) quoted in her research article 'Research undertaken by *Price water house Coopers* has shown the FDI investment trend across mass media in India. Virgin Media Asia has a holding in HT media's foray into FM radio. Financial Times (Pearson Group) has an arrangement with Business Standard; Americorp Ventures, Mauritius has a stake in Nimbus Communications which deal in television and films and Reuters UK has equity sharing with Times Global Broadcasting, the Indian entity'.

Therefore, a cross mass media options have opened up for availability of transnational homogeneous content. The growth of media conglomerates and their powerful presence has raised fears of manipulation of ideas by a powerful few detrimental to the democratic fabric. The corporate giants have also engaged in severe competition among themselves dishing out news and content which is primarily dominated by sensationalization, sleaze and glitz to capture wider markets.

But new social media have become a pressure cooker on media owners because it has no filter on communication. People are getting information of information makers with the help of different blogs like mediakhabar or bhadas4 media etc.

Another big change that has occurred because of new media is that there is now no filter on your communication. In the past unless you spoke to people directly you had no way to get your message out that wasn't controlled by somebody else.^[1]

In the past, media provided a filter. If something was on the front page or the evening news, it was considered important. If not, it wasn't. Yet today, anyone can broadcast—whether it be a distraught mother or a crusading journalist. Nobody needs to ask for permission, even in a corrupt, authoritarian country. And that's why social media is playing an increasing role in shaping events. A small group of passionate people can influence others that are slightly more reticent, still others take notice and also join in.^[2]

Sometime these kind of events can also take the negative shape, but I want to quote how powerful social media is to shaping an event. Recently Bangalore exodus of North East people is an example. New media added grist to the rumor mills that have triggered the exodus of workers from north-eastern states living in Bangalore and other cities in India. Threatening text messages sent in bulk were the main vehicle of the insidious rumors. The federal government has panicked and banned bulk text messages for a fortnight to stop rumors.^[7]

The second wave of rumor-mongering possibly happened through Facebook and Twitter (India has 50m of the 955m Facebook users in the world).

"The exodus is being sparked off by rumours... and those using Twitter/smses [text messages] to spread hate and falsehoods, time all right-thinking Indians isolate them... enough to spew bile on sms/Twitter," tweeted Rajdeep Sardesai of CNN-IBN news channel.^[7]

Sudipto Mondal says in an article for news paper The

Hindu 'The combined power of the mobile phone, the Internet and the social media was on display in the crisis that led to thousands of people from the northeast fleeing Bangalore.^[8]

In another way a person could only write a letter to Editor or could buy a time slot on television or radio to communicate his views but these were still controlled by their owners or policy makers. And if they didn't like what a person had to say they could prevent him/her from saying it. Nowadays with the help of social media anybody can get message out to millions of people uncensored.

Nnamdi T. Ekeanyanwu, Covenant University, Ota, Nigeria says, 'The online or virtual community created by the social networking sites is one of a kind. It is an active community and well informed about issues around them. It thrives on interactivity, open conversations and mass participation. Before their emergence, traditional or formal media channels seemed to have been weighed down by economic, political and other non professional considerations in the coverage of world news. The social networks thrive on citizens' or civic journalism whereby news democratization has made more and more information available to more persons at a marginal cost.'

Till recently television networks had been the largest players in Indian news coverage. Social media haven't changed that, but have instead provided new avenues for newsgathering and story distribution. Here we see the emergence of new storytelling beats. Many journalists and activists discussed how they used Twitter to stay informed about the locations of the protests. In this sense, social media has allowed for a new type of beat as well as a new element in storytelling.^[3]

Facebook and Twitter have become means to get breaking news to media houses, recently Shashi Tharoor and Sunanda case is an example. All newspapers and television news channels now have reporters who continuously monitor these kind of news. The way traditional and social media connect and converge with each other has a profound impact on modern communication order.

Valérie Bélair-Gagnon, Smeeta Mishra, and Colin Agur say in an article for Nieman Journalism Lab (April 8, 2013), 'Here we see the emergence of new storytelling beats. Many journalists and activists discussed how they used Twitter to stay informed about the locations of the protests. In this sense, social media has allowed for a new type of beat as well as a new element in storytelling'.^[3]

Social media is also providing a platform for open discussion and check reality for journalist.

Many of their posts are being shared thousands of times and being read and discussed widely. As journalists, they have been providing objective analysis. Control of the media, once a mainstay of autocratic regimes, has become a pipedream.

New emerged Social media has allowed a small but growing part of the Indian public to join in discussions of soft and hard news. To date, online storytelling has catered

to certain demographic groups: the middle and upper classes, the intellectuals, activists, and journalists. Middle class discontent found a place on social media, but marginalized and subaltern groups had minimal representation or participation in social media discussions.^[3]

Newspapers and news channels are now under the fear of losing their credibility to the social media. It is now difficult for traditional news media to hide a story from the public domain because of the fear that such stories might get published in a blog or get circulated on social networks.

In a conversation on website www.ted.com on topic 'Can Social Media alone improve Truth in the News? Or is Policy Action needed to stop the Media System of Murdoch or Berlusconi?' Paul Lewis explained the benefits of citizen reporters providing independent reality bytes to his newspaper. He could create, puzzling, a new picture of reality which was closer to truth than the police stories. Technical opportunities of Social Media became moral benefits for him and for us as a society - because his newspaper had an interest to publish the social-media-reality.^[4]

Kevin Bakhurst, former Deputy Head of BBC news room said during a talk at the International Broadcasting Convention in Amsterdam (2011), "All big news organizations are plunging into the world of social media, looking at its extraordinary newsgathering potential; its potential as a new tool to engage the audience; and as a way of distributing news".^[6]

New media is also giving platform for creative persons having not a huge amount to run big media houses but having enthusiasm for a great work. There are so many channels in Youtube doing entertainment with very localized and inclusive contents which big media houses will never broadcast due to non-profitable contents.

Even there is difference between journalists and witnesses. The formers are professional, the later not. In social media most of the persons are witness not having the journalistic approach. This makes a big difference as journalist should work out the truth beyond just one person can witness.

Kaul, Vineet (2013) Says, "More separate news organizations will appear, each a good deal smaller and more specialized than those we see today. From these smaller and more efficient news operations, a far greater volume and variety of news will emerge, aimed at much smaller audiences than today's news departments."

The material these newspersons produce will be simultaneously created and distributed in a wide variety of formats. To survive in this more demanding and competitive environment, news producers will have to find new ways to profit from smaller shares of the total audience.

Taberez Ahmed Neyazi says in an article for The Indian Medialogue, 'Social media has emerged as a vital tool of communication and has created new ways of mobilizing public opinion and encouraging participation in political and civic activities – ranging from joining online petition and social groups, posting short messages on Twitter,

expressing supports through blogs and uploading videos on YouTube. The recent Wiki Leaks disclosure online of US foreign policy clearly demonstrates the disruption caused by social media, which is now forcing the mainstream news media to turn to political blogs and citizen-users for materials'.^[5]

No doubt, Social media, is more democratic because anyone can access it or any person can raise any issue in the public arena. Yet, it would not be possible for it alone to reach beyond their core audience and influence wider range of society if it doesn't collaborate with traditional media.

According to a report by the Internet and Mobile Association of India of June 2012 shows that there were 137 millions Internet users in India, out of them 99 millions were in urban cities and 38 million in rural villages. Only 111 million (80 million in urban cities and 31 million in rural villages) are active Internet users, i.e., they use the Internet at least once a month. In terms of percentage, only about 11.4% of India's population uses internet, which might not be considered significant.

In their recent report entitled "Social Media in India – 2012", estimates the number of social media users in Urban India at 62 million as of December 2012. The report also reveals that the internet users are spreading fast in areas beyond the top eight Indian metros as one third of the social media users are residents of smaller towns with population of under 5 Lac, while a quarter of them are residents of towns with a population of less than 2 Lac.^[5]

Similarly, if traditional media want to reach out to a transnational audience, they need to take the help of social media. The Anna Hazare movement, which began through social media, got accelerated after news channels started providing exclusive coverage.

The way traditional and social media connect and converge with each other has a profound impact on modern day communication. This connectivity and convergence between traditional and new media becomes imperative in the case of India and other developing countries where the reach of the internet is still limited.

New media, no doubt, is more democratic since anyone with access to the Internet can raise an issue in the public arena. Yet, it would not be possible for new media alone to reach beyond their core audience and influence wider sections of society unless they collaborate with traditional media.^[5]

It is true that new media can not replace the traditional news media, but it can improve the truth there as long as it can be a counter-power, by witnessing issues/facts that media did not mention or which contradict any forged news.

Most people prefer to get their daily share of news by looking at stories and updates posted by friends on Facebook or from people they follow on Twitter, instead of reading news websites. As we get news from the social media, we know the person recommending it, which makes news social too.

New media hasn't played anything near the role in Indian journalism that it does in, say, the United States. Supporters of new media often point to their inclusive and democratizing aspects — but in India, new media usage remains confined to a small percentage of the population. Nearly 80 percent of Indians now have a mobile phone, but only 11 percent have Internet access, and fewer than 5 percent use social media. In rural areas, these percentages are significantly lower. Information gathered from social media tends to come from a rarified segment of the population: the affluent, educated, English speaking youth of India's major cities.^[3]

The coming of new media has certainly had a democratizing effect on the functioning of newspapers and news channels. The earlier monopoly of newspapers and news channels over providing news and breaking stories has been dismantled with the coming and spread of new media.

Despite the low level of the internet penetration in India, new media has been able to reach beyond its core audience. This is because of the new space created on account of the interface between print, television and the internet.^[5]

Many times, readers may forget or simply be unaware of the history of a story, some of the names or terms that are mentioned. Reporters in traditional media don't always have space or time to explain all this background in every story, but through links, they can point to the relevant material.

It is important that if both traditional and new media work complimentary, it will be beneficial for audience and they will get more objective and unbiased information. That might be a drastic change in futuristic Indian media society due to intervention of new media.

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ABSTRACT

Man's need for communication is as strong and as basic as his need to eat, sleep and love. Everybody in society cannot survive in seclusion, as he needs to share his thoughts and ideas. In ancient time people used to convey their thoughts and idea through some specific style of communication. In this style of communication people used to express their ideas in a specific rhythm. This form of communication is called folk or traditional art. The purpose of this communication form is to communicate intended message with the blend of entertainment. Besides this, it convey developmental and educational messages through entertainment, color, costume, dance and music. Though the folk or traditional art was popular mainly in the ancient time, yet the value of this art form is still needed by the society. This is the reason that these are also adaptable to modern mass media. In this research paper, the study has been focused on the folk art mainly prevailing in the Himalayan region, Uttarakhand. Because of its rich cultural heritage, these folk arts are still performed by the local people on special occasions in every nook and cranny of the state.

Key Words: Communication, Tradition, Folk, Dance, Himalaya, Uttarakhand, Culture

"Traditional Folk media" is a term used to denote "Peoples Performances". It describes folk dance, rural drama, folk song and musical variety of the Village People. This terms speaks of those performing arts which are cultural symbols of people.¹

The folk or traditional arts of India have from ancient times been used for moral, religious and Socio-Political purpose. The folk media are close to the hearts and minds of the people, so their appeal is at a personal and intimate level. Further, their familiar format and content, as also the local and colloquial dialects used, make for clarity in communication. Cross-culture communication hurdles are not encountered here. The numerous groups and different forms available for specific homogenous groups and for specific purposes can be exploited to cater to people of different regions, on home ground as it were. Relation is immediate and direct, the barriers to communication is almost non existent.²

Folk media convey developmental and educational messages through entertainment, color, costume, dance and music. The initial aim of folk theatre is to give the first impact with sound and sight and then slowly open the audiences mental eye for the message on morality. Thus, on one hand it gives expression to the life style and values of the people in spoken world and song, rhythm and spontaneous choreography, on the other hand it acts as a most persuasive communicator and an effective corrective force.

The flexibility of the folk media is mainly responsible for their immense potentiality as message carriers. They are also adaptable to modern mass media. Thus they remain nearer to masses then classical forms. Folk forms are larger than life and melodramatic. Gestures, movements and speech are more simple and down to earth then the rigidity of classical theatre and the abstractions of modern theater.

Folk media have simplified realism and suggestively to rural symbols which mass audiences can easily relate for example, dress, dialects, folk songs, are taken from the existing culture of the region only. Comments by Sutradhar, Vidushak or Jester provide from comments on the contemporary issues in a satire form which is most liked by the public. Because the main plot of the folk drams is well known. Even today, clumsily enacted Ramlila touches the hearts of many despite the production of religious films and serials.

In short, folk media are the tools of communication having special characteristics. They remain alive through oral and functional sources. They can work as the most effective channels for expressing socio-cultural, religious, moral and emotional needs of the people of the society to which they belong.³

In reference to Uttarakhand Himalaya (India) it has its rich folk culture and traditions which are witnessed of its early communication system as a folk media. Before kingdom, during king rule, British period and after freedom of country the prevalence of the folk media all

* Dr. Vikram Singh Bartwal, Assistant Professor, CJMC, HNBGU, Srinagar Garhwal, Uttarkhand.

** Dr. Dinesh Chandra, Assistant Professor, CJMC, HNBGU, Srinagar Garhwal, Uttarkhand.

over the area maintain. Different parts of the state (Uttarakhand) has born many traditions which works as traditional media themselves and has its deep impact on the people. Some of them are as following :

Dances : The dance in India can be classified in to three groups. The tribal, the folk and the classical. In Uttarakhand, it is said, that the peoples beliefs and traditions recognized through the beat of the drum and the rhythm of the dance, which shows deep roots of folk dances in the area.

Pandava Dance : Pandava Dance is prevalent all over the Uttarakhand, but the dance is more popular in the Mandakani Valley of district Rudrapur. The dance is performed to honor and appease the wandering souls of Pandavas, for whom the saying goes as per the local inhabitants. After the great battle of Mahabharata the Pandavas came to Himalaya to pay penance and attain salvation. But before perishing they turned around to have a last look at the lush and rich Himalaya, which was their abode. Far so long ever since their wandering souls, although in their heavenly abode descends on earth each year to visit the land, the souls of Pandavas are invited and they are revered, worshipped and appeased by the means of rituals dances and offering made by the villagers. The dance falls under two categories ritual and theatrical which both are more popular for entertainment and convey the messages.

Some other most popular group and couples dances are Langvir, Bhotiya, Chhapeli, Chancheri, Chaufala, Thariya, Jhumailo, Bagdwal etc. which is performed by the people of the area. Certainly folk dances are rich tradition of the Uttarakhand.

Folk Song : It is very common practice of villages of Uttarakhand. An occasion of festival ritual functions and however they find time they use to sing folk songs. During a wedding, elderly women sing mangal geet and vivah geet which coincide with ceremony. In fact these ceremonious song adds the charms of wedding and time.

Jagar, Paware, Chaunphula, Khuder Geet, Kulachar, Basanti Geet, Holy Geet, Chhopati are most popular song of Uttarakhand. All song speaks about various festival, religious traditions, folk stories, narration of the nature and simple life of the people of Uttarakhand. Besides these songs Bajuband and Laman are very much old traditional love song of Garhwal and Kumaon region.

Fairs (Mela) : The fairs are organized in different season at different places whole of the state, which can conduct maximum gathering of the people at the venue of the fair. In the fair people joint together to exchange of idea, cultural things and social values. Some of the most popular fairs of Uttarakhand's are Nandadevi Mela, Tapkeshwar Mela, Jagashwar Mela, Uttarayani Mela, Sri Poornagiri Mela, Bagwal Mela, Baikunth Chaturdashi Mela, Bissu Mela, Gindi Mela, Chaitee Mela, Nunaie Mela, Kumbh Mela, Jhanda Mela, Baishakhi Mela, Gauchar Mela etc. In fact Uttarakhand is land of fairs. So

that melas are also strong medium of traditional communication.

Festivals : Holy, Diwali, Dussehara, Ghughutiya, Harela, Fooldeie, Gangadashara, Maha Shiv Ratri, Ghee Sankranti etc. these festivals are popular in Uttarakhand. Traditionally message of brother hood, light, prosperity, excitement, cheerfulness and happiness is communicated by these festival in society.

Religious Place : Badrinath, Kedarnath, Gangotri, Yomnotri, Hemkunth Shaheb, Peeran Kaliyar, Nanak Matta, Rishikesh and Haridwar are most popular religious place of the Uttarakhand. Various devotee of different parts of country and abroad comes and visit to these places. During their journey period they interact so many people of the area. This is really good practice of traditional communication which is a natural gift of Uttarakhand.

Religious Journey : Doli Yatra of deities / deota (God and Goddess) is most popular and unique functions of Uttarakhand Hills. Villagers carry away decorated Doli of god and goddess. From the temple and visit the villages, temples, holly confluences of the river. Beside these type of religious journey Nandadevi Raj Jat Yatra, Kailash Mansarovar Yatra, Hill Jatra (Specially ceremonies by farmers and grazers) are most popular traditional religious journey of Uttarakhand. These special types of religious journey not only give the chance to interact the hues mass but also promote cultural, social and religious communication.

In fact traditional media of Uttarakhand have its wide scope with special characteristics. They remain alive through oral and functional sources. They can work as the most effective channels for expressing socio-cultural, religious, environmental, moral and emotional needs of the people of the society to which they belong.

The flexibility of folk media simply concern with appealing to emotions. It functions within the cultural frame work of the society to enhance the specialty of folk media and acquire credibility among masses. In Uttarakhand folk form of media has all above strong quality. Here folk form of media not only disseminates the messages but also protects culture and its form of communication. Really traditional media has its deep root in Uttarakhand which need to be protected for culture and colorful communication.

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Our Contributors

Aditya

Assistant Professor-cum-Junior Scientist, Department of Extension Education, Bihar Agricultural College, Sabour-813 210, Bihar

Dr. R.K Sohane

Director, Extension Education, Bihar Agricultural University, Sabour-813210, Bihar

Dr. S.R Singh

Associate Professor-cum-Chairman, Department of Extension Education, Bihar Agricultural College, Sabour-813 210, Bihar

Dr. Manoj Dayal

Professor, Faculty of Media Studies, Guru Jambheshwar University of Science & Technology, Hisar (Haryana)

Dr. Sunaina Narang

Teaching Associate, Dept. of Advertising Management and Public Relations, Guru Jambheshwar University Of Science & Technology, Hisar (Haryana)

Manoj Kumar

Assistant Professor, CJMC, HNBGU, Srinagar Garhwal, Uttarakhand.

Prof. A.R. Dangwal

Director of CJMC, HNBGU, Srinagar Garhwal, Uttarakhand.

Dr. Jayanta K. Panda

Assistant Professor, School of Mass Communication
IMS Unision University, Dehradun

Dr. Jayaprakash D

Assistant Professor, School of Journalism and Film Production
Lovely Professional University, Punjab

Dr. Ambika Sankar Mishra

Assistant Professor
St. Joseph's Degree and PG College, Kingkoti main road, Hyderabad-500029

Nitin Kumar

Assistant Professor
School of Communication, Doon University, Dehradun

Dr Gopal Singh

Associate Professor,
Department of Mass Communication and Journalism, BB Ambedkar University, Lucknow

Dr. Vikram Singh Bartwal

Assistant Professor, CJMC, HNBGU, Srinagar Garhwal, Uttarkhand.

Dr. Dinesh Chandra

Assistant Professor, CJMC, HNBGU, Srinagar Garhwal, Uttarkhand.

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Makkawala Greens, Mussoorie Diversion Road
Dehradun - 248009 Uttarakhand (India)
Phone: 0135-3000600, 3000803
E-mail: pragyaan.masscomm@iuu.ac

The Editor
Pragyaan : Journal of Mass Communication,
IMS Unison University, Dehradun
Makkawala Greens, Mussoorie- Diversion Road,
Dehradun, Pin- 248001, Uttarakhand
Phone: 0135-3000600, 9927000210
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