



## Effective role of Newspapers in Health and Environment Communication in Himalayan Terrain: A case study of six newspapers published from Uttarakhand

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### ABSTRACT

*Environment and Health being the key factors for the survival of all living beings, it becomes imperative to study the role of mass media in this respect. It is well known fact that man's need for communication is as strong and as basic as his need to eat, sleep and love. Communication involves interaction with our environments as physical, biological and social. Deprived of this interaction we would not be aware of whether we are safe or in danger. Actually science communication is the key to the real treasure of the scientific knowledge, by virtue of which scientific knowledge and concepts could be carried to the common man. Thus the common man is benefited with the new advancements in science and technology is able to fight against hunger, drought, diseases, and social evils, like superstitions, etc., with self-confidence, courage and faith. So the communicating environment and health issues through mass media have greater impact on its user because it provides us with valuable information regarding our well beings. Keeping these objectives in mind a study was conducted on the role of print media in environment and health communication. For this purpose six most circulated newspapers published from Uttarakhand were selected for the study. Amar Ujala, Dainik Jagran, Hindustan and*

*Rashtriya Sahara were selected in Hindi newspapers category while The Pioneer and Garhwal Post were selected in English newspaper's category. For the content analysis, all the newspapers viz Amar Ujala, Dainik Jagran, Hindustan and Rashtriya Sahara, The Pioneer and Garhwal Post were measured in square centimeter (sqcm). First of all total print area of the newspaper was measured from which total advertisement area was subtracted in order to find out actual news printed area. This way, the total News Coverage Area (Total Print Area- Total Advertisement Area) was separated. In the next step from the total news coverage area, Environment, Health and other science related coverage items were again measured in sqcm. And finally the percentage area of Environment and Health coverage was calculated from each newspaper.*

### Key Words:

Environment Communication; Health Communication; Newspapers; Biological Social

### Introduction:

With the total area of 53,483 sq km, Uttarakhand is the well versed in natural recourses. The salubrious climate, pollution

free environment and the availability of a wide range of flora and fauna in the mountainous terrain, make Uttarakhand an ideal location in the Himalayan Region. A significant portion of Uttarakhand is under forest cover which is almost 62.3 percent<sup>1</sup>. The people of Himalayan valleys are most environment friendly and strong believer of traditional medicine systems too. That is the reason that most of the environmental movements have their roots here.

Chipko Andolan( hugging of trees, 1973), Maiti Andolan( plantation by new married couple, 1995), Beej Bachao(Save the seeds movement, 1980), Save Ganga, Say no to Polythene, Struggles Against Mines etc many such movements have contributed to save the environment up to some extent. Caring nature of the Himalayan peoples for this environment is the only cause which has protected its flora and fauna and most of the life saving drugs here in the form of medicinal plants. With this rich environmental heritage, Uttarakhand state is well off in the field of Ayurveda, Yoga, Medicine, Wild Life and others too which are the subjects of core science. There are approximately 1355 newspapers and magazines published from Uttarakhand to cater information need of the people<sup>2</sup>.

Uttarakhand being rich in forest, great in natural resources, better literacy rate, and better sex ratio in comparison to other states, has better position in science news coverage through newspapers here. There is 4.85% of science news coverage through newspapers in Uttarakhand while as per the survey conducted by Indian Science Writers' Association (ISWA) it is only 3%<sup>3</sup>. But the surprising fact is that within this science news coverage health and environment have a lion share of more than 56.60%. Health alone is at 33.39% while environment is at around 23.20%.

The reason behind this growth is due to Environment and Health awareness activities that are sprout here time and again for the sake of nature and natural existence of human

beings. While studying about the trend of science news coverage through news papers, it is found that most of the newspapers give valuable space to environment and health related issues. Even on the eve of environment day newspapers get their own color changed in the fervor of the occasion. Newspapers were also painted green to support the environmental zeal of the people.

During the study it was found that as far as coverage of other science news is concerned, most of the science related news is of national and international context. Coverage of the local scientific issues is confined to environment and health related issues only. Besides this, most circulated newspapers of the state have less concerned for the other science news issues. All these trends show that Environment and health related news coverage are on priority of the newspapers. Due to this effective role of newspapers in raising health and environment issues, people of the Himalayan region are too eager to protect their environmental heritage.

### Objectives:

This study will assess the present status of environment and health related issues in newspapers and will also find out the respondents attitude towards these news items. The following objectives are developed to conduct the study.

1. To study the present status of Environment and Health coverage along with total science news/articles coverage in newspapers published from Uttarakhand.
2. To assess the role of Environment and Health coverage in newspapers among other science Categories.
3. To find out the respondents' attitude towards Environment and Health coverage in newspapers.

## Area of Study: Uttarakhand

Along with 13 districts viz. Pauri, Chamoli, Rudraprayag, Tehari, Uttarkashi, Dehradun, Almora, Bageshwar, Pithoragarh, Nainital, Champawat, Udham Singh Nagar, Haridwar Uttarakhand became separate from the Uttar Pradesh as a 27<sup>th</sup> state of the Indian Union. Bounded by UP on the south, Nepal on the east, Himachal on the west and the China on the northeast, Dehradun was declared its interim capital. Dehradun, the Capital of Uttarakhand, is well-known educational hub world over.

As far as literacy rate is count according to census 2011 we are at the figure of 78.80%.<sup>4</sup> District- wise literacy shows that district Nainital is the most literate with 80% literacy rate while Haridwar is the least at 65% literacy rate. Even in comparison to others, this newly state has well treasurers of natural resources like water and forest. Keeping all these favorable conditions in mind this becomes important to know the role of media, to be the part of development of Uttarakhand, in this region<sup>5</sup>.

## Methodology:

Uttarakhand comprises of 13 districts namely Almora, Bageshwar, Chamoli, Champawat, Dehradun, Haridwar, Nainital, Pauri Garhwal, Pithoragarh, Rudraprayag, Tehri Garhwal, Udham Singh Nagar and Uttarkashi<sup>6</sup>. Because of time constraints and geographical position of the state, it was not possible to collect the data from all the districts. So the method of random sampling was adopted here to select any five districts for the study point of view. That's why out of all the 13 districts five districts viz Dehradun, Nainital, Pauri Garhwal, Chamoli and Pithoragarh were finally selected for the study.

Again, with the help of purposive sampling method two major towns from each district (One headquarters of the district and the other at a distance of 30 to 40 km around) were selected for the study. And by this way

total ten towns viz Dehradun, Rishikes, Srinagar, Pauri, Haldwani, Nainital, Pithoragarh, Didihat, Gopeshwar and Karnprayag were selected as a sampling units from all the five districts.

Primary and secondary data were collected for the present study. For the collection of primary data field visits were made while for the secondary data research work, newspapers, magazines and experts were consulted. Primary data were collected from all the five districts through questionnaires. The researcher has distributed about 350 questionnaires to the respondents. The questionnaires after filling and returned were 325. Out of these, there were some questionnaires which were not proper filled or answered. Therefore, such questionnaires were rejected. Hence 300 questionnaires which were properly responded and most of the questions of whom were answered were selected for the study purpose.

## Selection of Newspapers for Content Analysis:

The researcher applied purposive sampling methods in selection of newspapers published from Uttarakhand for content analysis. The newspapers selected are from Hindi and English language as Hindi language newspapers are highest in number of publication as well as in circulation followed by the newspapers published in English language. According to RNI's data, there are total 1355 newspapers published from Uttarakhand in different languages. Out of these total newspapers there are maximum 1139 Hindi language newspapers while 82 newspapers of English language are published from the state<sup>7</sup>. Newspapers published in other languages are not such popular as compare to Hindi and English language newspapers. In the category of Hindi language 'Amar Ujala (1,89,746)<sup>8</sup>', 'Dainik Jagran (1,17,360)<sup>9</sup>', 'Hindustan (65000)<sup>10</sup>' and 'Rashtriya Sahara (67000)<sup>11</sup>' while in the category of English

‘The Pioneer (24,163)<sup>12</sup>’ and ‘Garhwal Post (21,650)<sup>13</sup>’ were selected for the content analysis.

## Selection of Contents:

Every page of each newspaper was included in the study. Maintaining the objectivity of the study, science news items were divided into 8 categories viz Environment, Health, Information Technology, Science and Society, Space Science, Wild Life, Science and Technology and Miscellaneous. Every science news/article was measured in centimeters and the total science news coverage area was then subtracted from total printed area. In order to have impartiality in content analysis, first of all a cluster of two months was made, starting from June 2010 to April 2011.

By this way total six clusters were made for one year period. Again from each cluster, one composite week was made. It means from a cluster, out of all Mondays, one newspaper was selected by randomization. This process was applied to all other days viz Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. It means from all the six clusters, six composite weeks (42 days) were made for the content analysis of newspapers. By this way each newspaper was analyzed for 42 days (from June 2010 to May 2011).

## Results and Analysis:

### 1.1 Science Coverage by Newspapers:

After calculating news coverage area from each newspaper, science coverage area was separated to find out the percentage share of science coverage in newspapers. From each newspaper, numbers of science items were selected first. This way the area covered by each science item was measured in sqcm. The detail of the science coverage by all six newspapers in Uttarakhand has been given below as:

## Science Coverage by Hindi Newspapers:

Table: 1.1

Science Coverage by Hindi Newspapers				
Newspaper	No. of Science Items	Area of Science Coverage (sqcm)	Ares of Total News Coverage (sqcm)	% of Science Coverage
Amar Ujala	148	22242	816065.75	2.73
Dainik Jagran	171	33786.75	927802.75	3.64
Hindustan	212	48511	899947.5	5.39
Rashtriya Sahara	267	56100	1058221	5.30
	<b>798</b>	<b>160639.75</b>	<b>3702037</b>	<b>4.34</b>

Above table shows that the science items published in Rashtriya Sahara during the analysis period were highest in number. Amar Ujala was at the bottom as far as the number of science items is concerned. There were total 798 popular science items covered by all the four Hindi newspapers. Thus the average percentage of science news/articles coverage is 4.34%.

It is clear from the above table that Hindustan gave maximum space to popular science coverage which was 5.39%. On the other hand Amar Ujala gave the lowest coverage (2.73%) to popular science items/articles. Rashtriya Sahara was at the second position with giving 5.30% space to science items while Dainik Jagran was at third place with 3.64% popular science coverage.

## Science Coverage by English Newspapers:

Table: 1.2

Science Coverage by English Newspapers				
Newspaper	No. of Science Items	Area Covered by Science Items (sqcm)	Ares of Total News Coverage (sqcm)	%
The Pioneer	131	39909.5	1049892.5	3.80
Garhwal Post	122	44093.75	516449.75	8.54
	<b>253</b>	<b>84003.25</b>	<b>1566342.25</b>	<b>5.36</b>

It is evident from the above table that both the English newspapers published 253 science items including news, articles, stories etc. There were 131 science items in The Pioneer while Garwal Post published 122 science items. As far as their coverage in percentage is concerned, Garhwal Post gave 8.54% space to science items while The Pioneer gave only 3.80% during the analysis period.

The above table shows that the average percentage of science coverage by both the newspapers was 5.36%. By comparing both the language newspapers, it is clear that more space (5.36%) was given to popular science coverage by English newspapers as compare to Hindi newspapers (4.34%).

### 1.3 Category-Wise Science Coverage:

Science news/articles/items coverage through newspapers was categories into eight different categories. These categories are Environment, Health, Information Technology, Science and Society, Space Science, Wild Life, Science and Technology and Miscellaneous.

### Science Coverage by Hindi Newspapers:

Table 1.3

Details of Science Coverage (Hindi Newspapers)					
S . N o .	Science Category	Science Items	Area Covered Area (sqcm)	Total Science Coverage (sqcm)	%
1	Environment	134	30231.00	160639.75	18.82
2	Health	291	59960.25		37.33
3	Information Technology	33	9999.50		6.22
4	Science & Society	62	10407.25		6.48
5	Space Science	19	3386.00		2.11
6	Wild Life	50	5206.50		3.24
7	Science & Technology	70	19066.25		11.87
8	Miscellaneous	139	22383.00		13.93
	<b>Total</b>	<b>798</b>	<b>160639.75</b>	<b>160639.75</b>	<b>100.00</b>

Above table shows that the out of total 798 science items published by all the four selected Hindi newspapers, the highest number 291 (37.33%) was on health followed by Environment with 18.82%.



## Science Coverage by English Newspapers:

Table: 1.4

Details of Science Coverage (English Newspapers)					
S. No.	Science Category	Science Items	Area of Science Coverage (sqcm)	Total Science Coverage Area (sqcm)	%
1	Environment	98	26531.00	84003.25	31.58
2	Health	67	21747.00		25.89
3	Information Technology	4	673.75		0.80
4	Science & Society	8	2410.25		2.87
5	Space Science	12	3204.50		3.81
6	Wild Life	28	12851.50		15.30
7	Science & Technology	8	2508.25		2.99
8	Miscellaneous	28	14077.00		16.76
	<b>Total</b>	<b>253</b>	<b>84003.25</b>	<b>84003.25</b>	<b>100.00</b>

Above table shows that out of total 253 science items published by both the English newspapers. The highest numbers of popular science items were on Environment (98) followed by Health (67). As far as the percentage of popular science coverage is concerned, the maximum space was given to Environment (31.58%) followed by Health (25.89%) by English newspapers also.

## 2.1 Health and Environment Coverage by Newspapers:

Table 2.1

Scientific Treatment of a General News	Coverage of Health News
	

Popularization of Science does not mean just to cover science events only. Sometime covering a story in a different angle makes it important. On 5<sup>th</sup> December 2010 when former chief minister, N.D. Tiwari

(Uttarakhand) was admitted to hospital due to some illness, each newspaper covered this news due to his news value as former Chief Minister. As most of the newspapers presented it as an informative way like 'Tiwari falls sick admitted to hospital', Rashtriya Sahara on the other hand gave it an excellent scientific touch. Instead of giving simple information about the health of former CM of the state, Rashtriya Sahara took it with basic cause of illness and warned its readers also about the use of Anti Termite Treatment in its headline.

Generally all the newspapers take science news from the agencies. It means most of them are of national or international interest. So it becomes difficult for the common man to correlate this information with his own environment or surroundings. If these news items have any relevancy to them, then only readers do read those otherwise most of the science news goes down the drain. Whenever local science issues are covered by these newspapers, people read them carefully, whether they are health based, environmental or any other type.

Table: 2.2

Science News Coverage by Hindustan	Science News Coverage by Rashtriya Sahara
	

From the above news covered by various newspapers, it is clear that public were given all the related information to make them aware about all the facts. Newspapers did not only disseminate the information about these diseases but other developments or its cause and effects were also given space which made the readers well equipped in this regard. Besides this way of presentation of these news items make them more catchy and valuable.

Using crossers, inset box, graphics and color photographs shows that newspapers better know how to convey the message to its readers.

Table 2.3

Science News Coverage by Amar Ujala	Science News Coverage by Dainik Jagran
<p>Local News Coverage <b>अमर उजाला</b></p> 	<p>Local News Coverage <b>दैनिक जागरण</b></p> 

Giving news in different angles makes it more live so that the reader can easily understand the situation better. 'Short news and more news' has now become the concept of newspapers. Using this approach news automatically gets variety which makes the possibility of high penetration, because reader has not to think more while reading a newspaper.

Villagers of Uttarakhand now are well aware, though not in depth, about the climate change, global warming, Cancun conference and many more. Localization of the newspapers got developed the scene of development among the common man. People have now become much alert for the relevant information, how to expose their work and what the precautions be taken in agriculture, environment and in health related issues. Newspapers now give value to the local developmental issues too whether they are environmental, agricultural, new findings and any other technological advancement.

## Analysis of Public Opinions:

### 3.1 Gender wise division of the respondents:

Table: 3.1

Gender	No. of Respondents	Percentage
Male	159	53
Female	141	47
<b>Total</b>	<b>300</b>	<b>100</b>

For the study point of view total 300 respondents were administered questionnaire. It is clear from the above table that out of total 300 respondents 159 (53%) male and 141(47%) females were included in the study.

### 3.2 Category wise division of Education:

Table: 3.2

Education	No. of Respondents	Percentage
High School	17	5.7
Intermediate	52	17.3
Graduate	102	34
P.G.	129	43
<b>Total</b>	<b>300</b>	<b>100</b>

It is clear that out of total 300 respondents only 17 i.e. 5.7% are High School passed while 129 (43%) respondents are Post Graduates. 52 (17.3%) respondents are of Intermediate level while 102 i.e. 34% are Graduates.

### 3.3 Priority for Popular Science Items:

In order to know the preference of the respondents for the category of science, a question was asked as: 'Which category of popular science do you prefer to read in newspapers?'

The responses obtained as:

**Table: 3.3**

Category of Science	No. of Respondents	Percentage
Environment	42	14
Health	79	26.3
Space Science	9	3
Science & Technology	24	8
IT	18	6
Science & Society	43	14.4
All	79	26.3
None	6	2
<b>Total</b>	<b>300</b>	<b>100</b>

In response to above question 14% respondents prefer to read 'environment' related news or articles while 26.3% respondents read 'health' based issues in the newspapers. On the other hand 3% respondents read 'space science', 8% prefer to read 'science and technology', 6% read 'information technology', 14.4% prefer to read 'science and society' based news items while 26.3% respondents say that they read 'all' the science category in newspapers. Only 2% respondents say that they do not prefer to read any science category in newspapers. Health and Environmental news/items presented in local flavor and effective presentation through newspapers may be one of the big reasons of priority among the readers.

### 3.4 Information Regarding the Outbreak of Disease:

In order to know if newspapers inform the readers about the outbreak of diseases, a question was asked as: 'Do the newspapers inform you in time about the outbreak of any disease in your area?'

**Table: 3.4**

Responses	No. of Respondents	Percentage
Yes	186	62
No	5	1.7
Seldom	109	36.3
<b>Total</b>	<b>300</b>	<b>100</b>

In response to above question 62% respondents say 'yes' their newspaper gives

information about the outbreak of any disease in time while 1.7% say that newspaper do not inform in time. On the other hand 36.3% respondents say that newspapers 'seldom' inform them about the outbreak of any disease.

### 3.5 Information about taking precautionary measures:

In order to know if the newspapers provide information about taking precautionary measures also, a question was asked as: 'Do the newspapers give information for taking precautionary measures during the outbreak of disease?'

**Table: 3.5**

Responses	No. of Respondents	Percentage
Yes	179	59.7
No	10	3.3
Seldom	111	37
<b>Total</b>	<b>300</b>	<b>100</b>

In response to above question 59.7% respondents say that newspapers provide information regarding taking precautionary measures during the outbreak of disease while 3.3% respondents say that newspapers do not provide any kind of information in this respect. On the other hand 37% respondents say that newspapers 'seldom' provide information regarding taking precautionary measures. It means newspapers do inform its readers in time and provide them with valuable suggestion too.

### Conclusion and Suggestions:

Content analysis of the newspapers shows that Health and Environment issues are covered on priority basis by the newspapers. Either Hindi or English, both the newspapers cannot go beyond this trend as most of the scientific happenings solely depend upon health and environment. Though Amar Ujala and Dainik Jagran have the highest circulation figure in the state but even maximum science coverage is done by Hindustan and Rashtriya Sahara with 5.39% and 5.30% respectively.



Health related issues were covered by Hindi newspapers on priority basis with 37.33% while English newspapers gave priority to Environment issues with 31.58%.

In totality the health and environmental issues are the most influential factor in science coverage by newspapers in Uttarakhand. There is 33.39% coverage to health issues while environment is at 23.20%. Though the most science coverage is global in nature but environment and health issues are often raised in local context. This is the reason that most of the readers rely on newspapers whenever outbreak of any disease and other similar news items are covered by newspapers.

As far as the public attitude about the coverage of these issues is concerned, they also have priority for health and environment first. The reason behind this may be due to either close proximity or necessity for the issues. Effective presentation of such news items is also one of the main reasons. Though there is limited access of newspapers in rural areas but the actual readers do arrange it anyway and try to adjust him with the global happenings and feel better to be the part of main stream of the society. This credit goes to the media alone who made the people curious about their environment and other problems too.

Though, newspapers have their own limitations but even they somehow manage to give valuable space to health and environment issues. But during the study it was found that scientific terminologies were not elaborated as most of the readers could not understanding them easily. Besides this many other issues like traditional way of treatment, medicine and conservation of valuable plants and their uses are still to come in limelight. So it is suggested that scientific terminologies must be cleared. Besides this other science issues should be raised in the same way as Health and Environment issues are covered by these newspapers.

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