

## 213. Science Coverage in Regional Newspaper: A Case Study of Two Newspapers from North East India

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**Abstract.** This case study is an attempt to examine and understand science coverage in newspaper from the geographically isolated North Eastern region of India. The study analyzed science stories published in one major English and one major Hindi language daily published from Assam during the month of May 2009. Dainik Purbodoy focused mainly on health (79%) whereas The Assam Tribune focused on health (39%) and environment (32%) related issues. Almost all the stories of Indian origin from both the newspapers were from Assam only, highlighting that the location of publication may influence the quality of coverage.

**Keywords:** India, Regional newspapers, Science coverage

### Introduction

The spread of knowledge of science and technology is important as it not only creates awareness among common people about the latest developments but also may serve the purpose of solving some of the regional and local problems through proper dissemination of scientific information. Advancement in science & technology is reflected not only in the media itself but also in its functioning. Science needs different media for maximizing its reach. Public exposure to information is the first step in public understating of science. Media here can play an important role in dissemination of information and different time preference for various media consumption (Table 1) signifies that although the advent of advanced audio-visual media technology has affected but not diminished the preference for print media. A growth of 12.8% has been observed in the print of dailies from 2005 to 2008 in India<sup>1</sup> and till March

2008 there were 88,763 no of registered newspapers in India with highest number registered in Uttar Pradesh followed by Delhi and Maharashtra<sup>2</sup>. None of the states from the North East India featured in the top ten, although, North East India has 8 states comprising only 7.9% (2.62 lakh sq km) of the total geographical area of India. The region is characterized by poor infrastructure, difficult terrain, geographical isolation, poor socio-economic conditions and a low rate of growth but is one of the major biodiversity hotspots of the world. Assam and Sikkim are the only two states which bring out dailies in Hindi language<sup>3</sup>.

**Table 1. Time of media consumption (in %)**

	TV Internet	Newspaper	Magazine	Radio
Early morning to breakfast	5	33		7
18	2			
Breakfast to lunch		6	38	21
18	21			
After lunch		21	23	
21	51			
Evening until dinner		37	6	21
31	24			
After dinner		32	1	7
12	3			

Source. www.mruc.net

### Global science coverage

This Scarcity of studies, which have tried to analyze science coverage particularly with respect to the newspaper being printed from North East India is the reason behind the present investigation. Few studies have tried to analyze



the extent and behavior of science coverage in Indian newspaper<sup>4,5,6</sup> and they have concentrated mainly on English language dailies only. On average, Indian newspapers devote far less than one percent of the total printed space to articles and stories related to science and technology<sup>4</sup> though India ranks 12th in science and technology, with its global research publications share of 2.04%. Assam is Low Productivity State in S&T publication and ranked

19 of the 37 states & Union Territories of India. Top was Tamil Nadu followed closely by Maharashtra and Delhi. Globally US top the list with publication share of 25.32% followed by UK, Japan, Germany, China and France (their global publication share ranging from 4% to 7.13%)<sup>7</sup>. Earlier studies have suggested very little science coverage in newspapers worldwide. Newspaper from UK, Greece, US and Australia devoted about 5%, 2%, 2% and 2.9% of the total space<sup>8</sup>.

## Methodology

English language dailies readership (18.59%) is second only to Hindi (27.54%)<sup>9</sup>. In some states like Chandigarh, Delhi, Maharashtra and West Bengal, the circulation of English-dailies exceeds that of Hindi-dailies. Based on the readership status, The Times of India (all editions) tops the list in English with 133 lakh readers and Dainik Jagran (all editions) in Hindi with 557 lakh readers<sup>10</sup>. The present study aims to study the Science coverage in regional newspaper from North East India. Two newspapers were selected for one month long study, The Assam Tribune in English and Dainik Purbodoy in Hindi -. Both the newspapers are published from Assam, The Assam Tribune from Dibrugarh and Dainik Purbodoy from Jorhat. These newspapers were selected because they are one of the major dailies of Assam in their respective language of publication<sup>11</sup>. The Assam Tribune completed 70 years in 2009 while Dainik Purbodoy though recently started has attained popularity in short span of its existence. The study was carried out for the whole of May 2009. The stories retrieved formed the subject matter for the present study. The stories were subjected to both the qualitative and quantitative analysis. The subjects of the news stories were identified from both the title and the contents. Each story was also categorized on the basis of its type of work it represented like research, reporting of events, general article etc. The data was analyzed in terms of space covered, geographical origin of stories, illustrations prominence of news etc.

## Result and Discussion

The total number of items collected from both the newspaper was 88 with 42 in Dainik Purvodoy, an average of 1.35 articles/day and 46 in The Assam Tribune, an average of 1.48 articles/day. A different publication pattern is visible when the number of stories was plotted against date (Fig. 1) during the study period. The Assam Tribune published more number of science items on lesser number of days ranging from 0 to 8 stories/day. On the other hand Dainik Purvodoy published regularly with maximum frequency between 1 to 3 stories/day. Arya, 2007 observed an average of 1.2 stories/day/newspaper published in five English dailies from India which is comparable to the present investigation<sup>6</sup>. In another study Luisa Massarani et al, 2005 who studied electronically published science content of seven newspapers from Latin America (Argentina, Brazil, Chile, Ecuador and Mexico) found average stories published/day in the range of 0.8-3.6<sup>12</sup>.

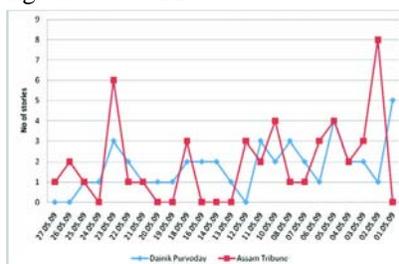


Figure 1. Datewise publication of stories

## Knowledge Area

The topics covered were identified from both the title and the contents. A total of 12 different subject/areas were identified under stories during the study period (Table 2). The 46 stories of The Assam Tribune were covered in 8 areas whereas 42 stories of Dainik Purvodoy were covered in 9 of the areas. The dominance of different areas covered in both the newspaper is clearly visible from the table 1. The Hindi newspaper focused mainly on stories related to health (79%) whereas English newspaper covered both the health (39%) and environment (32%) related issues almost equally. About 13% (6) of the news story during the study period in The Assam Tribune dealt with biodiversity conservation and 4% (2) were related to animal behavior and science awareness. When compared 7% (3) of the news story in Dainik Purvodoy were related to Biodiversity conservation and all the three news were related to observing

of some rare or extinct species.

**Table 2. Topics covered in number (%)**

Topics		The Assam
Tribune	Dainik Purvoday	Animal behavior
2(4.35)		1(2.38) Biodiversity
conservation	6(13.04)	
3(7.14) Biotechnology		1(2.17)
-		
Botany		1(2.17)
-		
CSIR Technology		-
1(2.38) Energy		-
1(2.38) Engineering Sciences		1(2.17)
1(2.38) Environment		
15(32.61)		1(2.38) Food &
Agriculture		-
1(2.38) Genetics		-
1(2.38) Health		
18(39.13)		32(76.19) Science
Awareness		2(4.35)
-		

As far as the research publication is concerned Medicine, chemistry, physics, agricultural & biological sciences, engineering, biochemistry, genetics & molecular biology, and the materials science are the seven high productivity subject areas of research in India during 1996–20067. This is reflected in a recent study of 31 English dailies where Dutt et al, 2008 observed that maximum number of items published were in the area of health, followed by environment, astronomy, biological sciences and space science and technology. These five subjects together accounted for 72% of the items. In another study Arya 2007 also found that content of five English newspapers was dominated by medical sciences related research news items6. Similar trend was also observed among Italian newspapers which was found dominated by biology and medicine accounting for more than half of all articles (52.7%) followed by engineering related items (14.7%)13. Massarani and Buys (2007) also found that medicine and health related stories dominated Latin American newspapers14. Similarly UK newspapers also seem to be dominated by health/medical. Other subjects which finding favour in UK newspaper are related to Environmental, biology and Technology8. At times phenomenal increase in an area of knowledge at particular time has been observed that may be attributed to the occurrence of certain incidences which lead to hyped coverage12.

### Experts/journalists

Misreporting of the science news at times by journalists emphasizes on the need for science graduates to take up journalism as career and increased contribution by the subject specialist. In the present investigation if we exclude the stories where no name or only the name of the writer without any affiliation is mentioned then overall only 3% (3) of the science based stories were written by subject experts. ‘Natural disaster preparedness’ by Former head of Geography, Gauhati University and ‘Living with earthquakes’ by consultant Engineer & Secretary, Indian Society of Earthquake Technology were the only two stories during the study period which were written by subject specialist. In contrast only one health related article in Dainik Purvoday was written by a subject specialist i.e., Brig (Dr) Ved Chaturvedi, Director & Arthritis Specialist, Sena Hospital, Guwahati. The data suggests that though the contribution by subject specialists like scientists, professors/faculty, health and engineering professionals etc is still negligent in regional newspaper and needs to be increased exponentially. In contrast, 17.1% of articles in Italian newspaper are written by scientists or doctors13.

One of the main objectives of the present investigation was to highlight the contribution of science journalists and subject matter specialist to the science stories in the newspaper. It was observed that in the case of The Assam Tribune, 19% (9) were written by staff reporter or correspondent and in addition further 26% (12) carried the name of the writer taking the total contribution to 45%. In the case of Dainik Purvoday only 7% (3) of the stories had the name of the writer mentioned whereas further 5% (2) were written by staff reporter or correspondent. There was writer’s name/source of stories mentioned in 88% of the stories in the Dainik Purvoday. It is not possible to draw conclusion based on the name alone whether the writer is journalist or specialized science writer. To get a clear data further investigation involving communication with the newspaper/writer is required which is the limitation of the

present study.

### Presentation Style & Illustrations

Both the newspaper showed marked difference in the presentation style of stories covered. The presentation styles were categorized into research based news, general article, interview, reporting of an event (seminar/conference/workshop etc), new product/technology developed etc (Table 3). The Dainik Purvodoy predominantly covered research based news (73%) followed by 14% of stories written in the form of informative article whereas in The Assam Tribune 43% stories were written in informative article manner followed closely by 32% research based stories. A clear difference can be seen that about 17% of stories in The Assam Tribune reported the occurrence of events like conference/seminar/workshop related to health or S&T which is clearly absent in Dainik Purvodoy. Less than 5% of the stories in both the newspaper were interview related to new product/technology. Easy availability and reliability of journal publication to highlight the recent scientific discoveries may be the reason behind very high percentage of research based stories 73% in the Dainik Purvodoy and 43% in The Assam Tribune.

**Table 3. Presentation style in No (%)**

Type of story	The Assam Tribune	Dainik Purvodoy
Article		
20(43.48)	6(14.29) Event reporting	
8(17.39)	- Interview	
2(4.35)	1(2.38) New	
product/technology	1(2.17)	
2(4.76) Photo		
-	1(2.38) Press Meet	
-	1(2.38) Research	
based	15(32.61)	
31(73.81)		

To appeal to the readers catchy headlines and illustrations are often used. This was proved true in the case of Dainik Purvodoy where 78% (33) of the stories had some illustration. Of these 72% had photographs and 24% had cartoon. The remaining 3% had combination of both the photograph and cartoon. On the other hand The Assam Tribune science stories lacked illustrations with only 9% (4) having any visual. Overall more than a third of the stories carried some illustrations. On average more than fifty percent of the Indian English dailies used some form of illustration whereas in the present study about 42% of the stories from the regional newspapers used illustrations. Rooyen also observed that the daily newspapers in south Africa used maximum amount of infographics while none of the science stories in the regional newspapers used infographics<sup>15</sup>.

### Geographic origin

The information regarding the country of origin of the event or activity of a story could be traced in respect of only 82 stories (Table 4). The origin was identified from the content of the stories. These 82 stories had their geographic origin from seventeen different countries, of which 61% from The Assam Tribune and only 17% from Dainik purvodoy had their origin in India. All the news from India had their origin from Assam only, not even single news was from other North Eastern states or from the rest of India. As far as science for outside India is concerned Dainik purvodoy covered 33% of news originating from USA followed by Australia (12%).

**Table 4. Geographical origin of the stories**

Country	The Assam Tribune	Dainik Purvodoy	Australia
Tribune			
-	5(11.90) Bangladesh		
1(2.17)		-	
Belgium		-	
1(2.38) China			-
1(2.38) Denmark			
1(2.17)		- England	
2(4.35)		4(9.52) France	
1(2.17)		- Germany	
-	1(2.38) India		
28(60.87)		7(16.67)	



Kenya		1(2.17)
- Netherland		1(2.17)
2(4.76) Norway		
1(2.17)	- Russia	
2(4.35)	- Scotland	
-	1(2.38) Spain	
1(2.17)	-	
More than two countries	-	
2(4.76) USA		
5(10.87)	14(33.33) Not given	
2(4.35)	4(9.52)	

Italian newspaper published almost identical equal number of science news with content referring to United States and Italy<sup>13</sup>. National science in the Latin American newspapers found lesser space than scientific results from developed countries<sup>14</sup>.

### Prominence of news

The placement of a news story in a newspaper indicates the importance accorded to the story. News are categorized and placed in specific sections like national, international, science and technology, sports, entertainment, etc. The study revealed a set pattern of placing of the S&T and health related stories in the Hindi newspaper. Over 85% of the stories were printed on the 12th page which is also the last page of the newspaper. Of the remaining, 7% were printed on the 3rd page. The placing shows that the newspaper has a clear preference of placing the S&T and Health related news stories together on a fixed page. Occasionally the stories were placed on the other pages. In case of The Assam Tribune almost equal percentage about 20% of stories were placed on page 6 and 12 followed by 10% on page 5 and 8. Not a single S&T or health related story found space on the first page of Dainik Purvoday. On the other hand The Assam Tribune published 2 stories on the first page both written by Sivasish Thakur and both involved present day issues. One was on encroachment in the forest and the other on urbanization. To become front page news science stories have to compete against political news.

### News Sources and quotation

Overall 63% of the stories had quoted someone. The individuals being quoted included scientists, university faculties, subject matter experts, high level institutional officials etc. Remaining 3% quoted either 2 or 3 people. When compared overall The Assam Tribune had quoted someone in 59% of stories as against 69% of Dainik Purvoday. On further analysis it was observed that majority of them (97%) had quoted a single source (70% in The Assam Tribune and 90% in Dainik Purvoday). The remaining 3% had quoted either two or three sources. In order to confer credence and an air of authority to their stories the newspapers tend to quote eminent people and organizations to authenticate the news<sup>5</sup>. While sources used determine the way issue is framed, often it is in the hands of the journalist to choose the sources<sup>16</sup>.

Use of news agencies has become a common practice to obtain mostly the news from outside the country on regular basis. Overall only 16 science stories had been sourced from different news agencies/services (Fig. 2) and all of them were from The Assam Tribune. Of the 16 stories Press Trust of India (PTI) contributed maximum (56%). Other sources included Agence France-Presse (AFP), IANS, etc. None of the stories in the Dainik Purvoday under the study period mentioned any news agency or service provider's name.

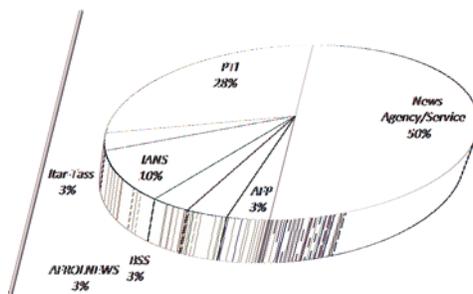


Figure 2. News agency for stories published in The Assam Tribune

## Conclusion

Though science is there in every aspect of our life yet the continuous lack of not only front page science news but also occupying very little space in the newspaper highlights the fact that science has yet to find favour by the editors as well as journalists and writers if we are to create awareness among the common man. The study highlighted that contribution of subject experts is negligible in regional newspapers. An indepth, comprehensive and long term study is required to analyze the reason behind this.

Allotment of the space for coverage of science news in dailies, be it national, regional or local, depends largely on the mindset of the individual publishing group of such dailies. In such a situation, in the greater interest of the well-being of the society, the government may also think of imposing statutory obligations on the publication groups for increased science coverage. Instead of relying too much on foreign news agencies for domestic science coverage, we have to create our own science news agencies in order to make it more need based and also with a view to avoid hyped coverage. Since there is dearth of studies which focused on the science coverage in Indian print media especially with reference to the regional influences the authors sincerely hope that the study will incite other researchers to take up in depth studies for better understanding of the lacuna in the science dissemination and public understanding.

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## References

1. www.mruc.net
2. www.indiastat.com
3. www.rni.nic.in
4. Dutt B and Garg KC. An overview of science and technology coverage in Indian English-language dailies. *Public Understanding of Science*, Vol. 9(2), pp 123-40 (2000).
5. Dutt B and Garg KC and Kumari P. "Media Coverage of Climate Change: A Case Study of Indian English Language Dailies". International Conference on Biodiversity, Environment and Sustainability: Challenges for Future, Swami Shraddhanand College, University of Delhi, Alipur, New Delhi, 4-6 September, 2008.
6. Arya UK. Coverage of research news in Indian Newspapers. *Mass Communicator Year: 2007*, Vol. 1(2).
7. Gupta BM and Dhawan SM. Status of India in science and technology as reflected in its publication output in the Scopus international database, 1996–2006. *Scientometrics*, Vol. 80(2), pp 475–92 (2009).
8. Hyden F and King C. What the papers say: science coverage by UK national newspapers *School Science Review*, Vol. 88(322) pp 81-4 (2006).
9. INS Press Handbook, 2005-2006, Allied Publishers Pvt Ltd, New Delhi.
10. Indian Readership Survey. IRS 2008 Round 2. Topline Readership Data. (Total Readership Figures). Media Research Users Council, Mumbai and HANSA Research, Mumbai.
11. Kaisii A. Mapping of Media (print) industry in North East. Working paper 03/2008. Centre for Culture, Media and Governance. Jamia Milia Islamia, New Delhi.
12. Massarani L, Buys B, Amorim LH, Veneu F. Science journalism in Latin America : A case study of seven newspapers in the region. *Journal of Science Communication*, Vol 4 (3), 2005
13. Bucchi M and Mazzolini RG. Big science, little news: science coverage in the Italian daily press, 1946–1997. *Public Understanding of Science*. Vol. 12 pp 7–24 (2003).
14. Massarani L and Buys B. Science in the press in nine latin american countries. *Brazilian Journalism Research*, Vol. 3(2), 2007.
15. Rooyen CV. A report on science and technology coverage in the SA print media, Department of Journalism, University of Stellenbosch, South Africa. This project was sponsored by the South African Foundation for Education, Science and Technology.
16. Sivakumar G. Agricultural Biotechnology and Indian Newspapers, Master of Science Thesis, Submitted to