Climate Change coverage in Indian News Media: Analysis of issue -attention cycle and themes in air quality news stories published in National dailies

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The Abstract Proposal

Air pollution is looked upon as an emerging concern in India, as it is becoming a serious health threat for people living in densely populated towns and cities, with children and elderly being most at risk. The World Air Quality Report stated India as the third most polluted country in the world in 2023. India's annual PM 2.5 was 54.4 μg/m3. New Delhi was declared as the most polluted capital city globally. This report says that air pollution is a global health catastrophe and highlighted that air quality is going to be the most challenging problems for urban Indian cities in coming days.

Air pollution is reported every year on national dailies with stories varying from stubble burning to closing of educational institutions, but does the reportage cover crucial aspects and factors that lead to soaring air pollution in Indian cities? Despite its implications for society at large, climate change is difficult to perceive and understand for most lay audiences (Hase et al., 2021). As a complex and unobtrusive issue, people often encounter it via news media (Newman et al., 2020).

The news media attention to climate change plays an important role in influencing public opinion by helping people to better understand the complexities of the issue to make their demand for action more vocal.

Primafacie, air quality/air pollution and climate change are observed as two independent issues but interwoven with each other on regional and global level due to non-linear and bi-directional interactions between the two. The on-going global climate change debate is making the understanding of the problem of air quality difficult to deal with, whereas the poor air quality is enhancing the magnitude and frequency of climate change implications.

With this understanding, the study aims to look into the levels of issue attention towards climate change with an emphasis on air quality news coverage in the national editions of selected newspapers over a time period. The study further aims to explore the prevalence of frames, themes, topics and dimensions (scientific, ecological and societal) in the news-media coverage of the issue. The study also intends to explore how the stories of climate change with reference to air quality coverage, perceives and reports the discussion of science and scientists in the analysed news-stories.

The study will use a cross-sectional, mix-method, descriptive research approach and will use Structured Topic Modelling (STM) to identify frames, themes, topics and dimensions in the news corpus and its mapping to overarching themes and dimensions. The structured topic modelling will help us to explore the news coverage inductively across newspapers and time. Aggregated category frames will be considered to entail more complex theoretical concepts.

The newspapers articles for this study will be coded using both open and axiomatic coding. Open coding will involve scrutinizing the contents and context of newspapers articles very closely – line by line, word by word in order to unearth distinct categories or narratives across articles. Axiomatic coding, or axial coding aims to link these categories by uncovering 'which types of phenomena, contexts,

frames, themes, topics, causal and intervening conditions and consequences are relevant for the study'. These techniques will also be used to measure the prevalence of narratives and themes, both separately and in relation to one another.

This study aims to look into the coverage of air quality news in national dailies of India to explore how it influences public concern about climate change. It intends to find out how journalists portray air pollution as a more pervasive issue through the content of news by emphasizing the socio-political dimensions of the coverage.

Using a cross-sectional, mix-method and a descriptive approach, the study will analyse the levels of media attention in terms of content and frequency of coverage in selected national dailies on a standardized framework. The study will approach content analysis as an analytical technique for identifying, analysing and reporting themes within a data set of news stories related to air pollution. The news-stories from the corpus will be coded for thematic generation. An inductive approach will be used for coding the news-stories.

For primary observations, the thematic observations and analysis will be presented to some Atmospheric Scientists to know their views on the news-coverage of air-quality stories. The scientists for interviews will be selected on a pan-Indian basis, and the selection criteria will apply to the diverse professional experience and their day-to-day engagement with the pressing issues climate change.

The study will include the national edition of six dailies - Times of India, The Indian Express, Hindustan Times, The Telegraph, Deccan Herald, The Hindu for a selected period and the stories will be evaluated on the basis of their negotiation of the issue with both public and private agencies of governance and democracy and the recurring themes which sparked interest in the community.

Key Words: Climate Change, Air Pollution, News Coverage, Air Quality, Sustainability, Media, National Dailies, India

The Proposed Study Plan

Introduction

Indian perception of Climate Change

Newspaper reporting of Air Pollution

The Global Trend

The Methodological Framework – sourcing newspaper articles, coding, thematic analysis – framing the stories; themes identification - inclusion of science, scientific organizations, scientists; government; politicisation of the issue; community leaders; intergovernmental and non-governmental organizations; climate denialists; individual experts; planning and policy; climate emergency and action

Analysis and Outcomes (based on both primary and secondary data)

Conclusion

Declarative Statements

References

News media is considered as the most accessible source of information on climate change. To understand how and how much news media cover climate change, especially the issue of air quality as a point of reference, this study analyses news stories on air pollution published in the national editions of six English dailies, to explore the variations and coverage of the issue across regions. The study uses content analysis as a technique to find-out how news media cover air quality issues with a focus on how people living in densely populated towns and cities of Indian sub-continent are aware of, affected by, take action, or cause air pollution. Overall,

the study look into how climate change stories are covered frequently, the challenges and the socio-political dimensions of the issue.

Climate change challenges regions across the country and have an impact on each and every aspect of life. Despite, this, the issue is difficult to perceive and understand at the ground level (Moser, 2010). The issue involves a lot of complexities for common people, and they mostly encounter it through news media (Newman et al. 2020). The public concern about climate change is widely influenced by its attention in news media. In last one decade, the news media all over the world has portrayed climate change as a pervasive issue through the content of the news. News about how climate change impacts ecology including human life, fostered greater public engagement to deal with it.

The coverage of climate change stories in news media varies from country to country, region to region (Grundmann and Scott, 2014; Schmidt et al., 2013; Hase, 2021). The differences in the content of coverage are mostly observed in terms of policies, research, science and communication and how they engage the people and community by and large (Wozniak et al., 2021). This study aims to look into the volume and frequency of air quality news coverage in terms of attention and themes. It further explores the views of atmospheric scientists on the selected news stories of climate change and sustainability in terms of narratives and the presence and absence of science in the stories.

The study asks:

RQ 1 – What are the levels of issue attention towards climate change in the national edition of selected Indian dailies?

RQ 2 – How air quality news-stories are covered and reported across the selected newspapers over the time-frame?

RQ 3 – What frames, themes, topics and dimensions (scientific, ecological and societal) are prevalent in coverage of air pollution stories across the selected newspapers and how they differ?

RQ 4 – How the stories of climate change perceive and present the discussion of science, refer scientific sources, use the expertise and voices of scientists and how often they credit and discredit science in the selected news-stories?

Approaching the Research Questions (RQs)

RQ1

Normalized measure of issue attention – the share of news on climate change compared to all news articles published in the selected newspapers in a given time-period.

RQ 2 –

Scientific dimension – *news coverage discussing scientific evidence or processes related to climate change;*

Ecological dimension – *impacts on the environment;*

Societal – *how much people are aware of, the affect, cause and action.*

RQ 2

The share of air quality news compared to overall climate change stories published in the selected newspapers in given time-period – volume and frequency.

RQ 3

To identify frames, themes, topics and dimensions – structural frame/theme/topic modelling – manual or computer-automated –collocations through noun phrases (climate change, air pollution, air quality……), then reducing the corpus to nouns, proper nouns, verbs, and adjectives to eliminate with little discriminate values.

The analysis will aim at identifying topics (air pollution/air quality), and then they will be mapped to overarching themes (stubble burning, crackers) and dimensions (scientific, societal, and ecological).

The topic modelling will allow us to explore coverage inductively across newspapers and time.

Frames will be considered to entail more complex theoretical concepts through aggregated category frames (Nicholls and Culpepper, 2020).

RQ – 4

The stories will be analysed in terms of whether the science of climate change was discussed, their consistency in news-stories, the presence of experts and voices of scientific organizations in the stories, the use of quotes and expertise of scientists, the expertise of inter-governmental organizations (WMO, IPCC, the Climate Commission, IUCN….), expertise of community leaders and local environmental advocates, inclusion of the opinion of climate denialists, the urgency to take prompt climate action.

Research Techniques –

The newspapers articles for this study will be coded using both open and axiomatic coding. Open coding will involve scrutinizing the contents and context of newspapers articles very closely – line by line, word by word in order to unearth distinct categories or narratives across articles. Axiomatic coding, or axial coding aims to link these categories by uncovering 'which types of phenomena, contexts, frames, themes, topics, causal and intervening conditions and consequences are

relevant for the study'. These techniques will also be used to measure the prevalence of narratives and themes, both separately and in relation to one another.