Framing Climate Change : A Qualitative Thematic Analysis of Three English Dailies of Kolkata

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Abstract

Climate change is seriously affecting sensitive and vital ecosystems. India is a crucial player in the global discussion on climate change because it is third in emissions and has high climate vulnerability. We live in perilous times when it comes to media coverage of climate change. In terms of reporting frequency, media coverage of the changing environment has fluctuated and struggled for priority among other issues. Numerous challenges to providing accurate and contextualized news have continued in terms of both quality and content. The framing of climate change in the news media has the potential to significantly influence public perception and policy actions. The present study involves examining newspaper coverage through the lens of a widely utilized conceptual framework for understanding agenda setting and spiral of silence. The present study uses qualitative content analysis research design using computer assisted qualitative data analysis tool ATLAS.ti. The climate change news articles published in three English dailies of Kolkata - The Telegraph, The Statesman and The Indian Express were analyzed and 190 quotations were retrieved as a sample for the study. A coding scheme was developed around the main themes of the research project. The articles were then read and qualitatively analyzed based on the focus provided by the research questions. The time period studied was between August 25, 2023 and September 25, 2023. Major findings were drawn, based on co-occurrence analysis, document code analysis and sentiment analysis and reported in form of tables and detailed discussions.

Keywords: *Climate Change, Environment, Media, News framing, Newspapers*

I.   Introduction

National Institute of Oceanography (NIO) director Sunil Kumar Singh was stated to mention that the Indian Ocean will face disproportionate effects of a warming planet as compared to other oceans, which in turn will have a huge impact on the subcontinent (*Hindustan Times*, September 28, 2023). "Record-breaking torrential rain leaves a trail of unprecedented devastation in northern India's Himachal Pradesh state" – says a news article from *Al Jazeera* (September 25, 2023). News media outlets have repeatedly been seen sharing such information and holding discussions on them. Climate change is seriously affecting sensitive and vital ecosystems. Hot spells that are unusual and unexpected are predicted to occur significantly more frequently and span far wider areas. The west coast and southern India are expected to transition to new, high-temperature climatic regimes, with severe agricultural consequences. Metropolitan areas are quickly turning into "heat islands" and urban planners will need to implement countermeasures. An unexpected shift in the monsoon might cause an unprecedented crisis, causing more frequent droughts and flooding across broad regions of India. Lowering water tables can be predicted to go down further due to increased demand for water from a growing population, more affluent lifestyles, as well as the services sector and industry. In a nutshell, we are hustling towards disaster and the situation is serious but not hopeless. India is a crucial player in the global discussion on climate change because it is third in emissions and has high climate vulnerability.

The mass media has always been an effective instrument for influencing public opinion and altering attitudes toward major societal concerns. Several studies have found linkages between media coverage and the growth of climate change as a popular concern. The media primarily influences public concern by adding to the perceived personal experience of climate change. Although the majority of these studies are centered on the West, there are few studies that link media use with climate perceptions in the Indian context. With life-threatening calamities, significant regulatory upheavals, and the global emergence and acceptance of climate science leading to a larger and stronger wave of climate discourse. As an interface between the scientific community, the political community, and the public sphere, the mass media sits at the critical junction of this discourse. The media plays a critical role in the public perception of risk by transporting and translating scientific knowledge for common understanding (Allan and Adam, 2000). They also have an impact on public opinion and the policymaking process. It has long been recognized that the mass media and public perceptions of issues and problems are inextricably linked, providing ample momentum to investigate climate change media discourse globally.

Though it broadens the subject matter by emphasizing on the essence of the issues at hand rather than a specific topic, the framing notion is connected to the agenda-setting tradition. Framing theory is based on the idea that certain events are brought to light by the media, which subsequently contextualize them. The topic of discussion will undoubtedly be impacted by an incident that has such a significant social impact. But the real world is more nuanced. To begin with, even when an incident has a significant impact on people who are immediately impacted, society may not view it as a crisis. And even if the incident is deemed a crisis by society, what aspect(s) of the crisis will be prioritized? Additionally, there are a number of theories and models of climate change and how it is transmitted in the media

like Spiral of silence theory, which posits that because climate change is represented as a minority view, people do not want to speak out in favor of climate change; theory of constructed knowledge, and risk society theory. The present study takes framing as the theoretical framework where the media defines specific topics for the public by choosing certain parts of a narrative through the framing process, which may shape the public's decision-making on policies relating to such concerns. The subject of climate change is significant. Gaining insight into the framing of climate change, particularly in print media, helps address certain journalistic practices when conveying significant problems while enhancing comprehension of how these concerns are addressed. Understanding the framing of climate change enables us to see how newspapers categorize and classify the issue.

The framing of climate change in the news typically varies depending on the source. Climate change is often framed as a catastrophic situation that requires immediate action by liberal outlets, whilst conservative platforms sometimes deny the existence of climate change or portray it as a less important concern. Mainstream news outlets generally attempt to offer a balanced view of the problem, but their coverage may still be influenced by political and economic concerns. Overall, the framing of climate change in the news media has the potential to significantly influence public perception and policy actions. The present study involves examining newspaper coverage through the lens of a widely utilized conceptual framework for understanding agenda setting. The emphasis on regional media coverage presents a crucial part of the argument. The State of West Bengal is unique in her geographical location as the state extends from the Himalaya in the North to the Bay of Bengal in South and up land in the West. The impacts of climatic variations widely vary in different regions and at different degree and require various types of interventions.

II.   Review of Literature

The media's portrayal of an issue shapes the publics' and policymakers' perception and engagement with the same. James D. Ford and Diana King in their research paper "Coverage and framing of climate change adaptation in the media: A review of influential North American newspapers during 1993–2013" have examined the content of news coverage using the concept of 'framing,' which can be defined as the process of selecting and emphasizing broad organizing themes, emphasizing elements of a story such as scenes, their characters, and actors, and emphasizing supporting documentation (2015).

Climate change framing can highlight economic costs or advantages, exacerbate partisan or ideological strife, and emphasize or minimize scientific uncertainty, among other factors. There are likely ramifications for the public's support for climate action and willingness to act on these sentiments in a variety of ways, including voting for environmentally conscious individuals, adopting personal measures to minimize one's own carbon footprint, and even engaging in political activity. If the framing by media that citizens encounter leads them to believe that climate science is ambiguous, that mitigation is expensive, or that climate change is an ideological conflict, we may anticipate their willingness to support and engage in climate action to differ appropriately. The three broad frames: economic costs and rewards, appeals to conservative values, and uncertainty and risk in climate science, each have the potential to shape public support and engagement in climate action. Furthermore, as evidenced by the dominance of the frames Politics, Social Progress, and Economic Competitiveness, coverage during the study period was heavily focused on ways to respond to climate change, rather than the potential consequences, moral implications, or even the 'certainty' of the problem itself (Chetty, Devdas and Fleming, 2015).

The analyses offered demonstrate that the climate change story is being told, and that there is debate, criticism, and dissent. When the frames go into potentially dangerous territory, such as relating climate change to extreme weather events or decreasing/altering energy use, the tale frequency plummets. According to a *Newsweek* poll conducted in October 2007, 39% of Americans believe "there is a lot of disagreement among climate scientists." 42% answered "there is a lot of disagreement that human activities are a major cause of global warming," while 46% claimed climate change is already happening (Begley, 2007, p. 22). Not surprisingly, according to a recent *GlobeScan Inc.* poll, less than half of Americans believe that personal action is required to address climate change. If statistics like these are to change, so must the stories which are told (Good, 2008).

The study demonstrates how text and image elements work together to define diverse issue frames. In reporting the yearly UN Climate Change Conferences, newspaper writers use four distinct multimodal frames to select and highlight aspects of the problem while excluding others. In the subset of photo-illustrated articles, the correlation of verbal and visual aspects in forming identifiable frames becomes obvious. When all articles are clustered, the frame structure includes one residual frame with less identifiable visual and linguistic material. They demonstrated the importance of text-image interactions in building coherent news frames. Thus, the multimodal frame analysis model presents a more realistic picture of news media material and contributes to moving framing analysis closer to the actual production and reception conditions in newspaper journalism (Wozniak, Wessler and Lück, 2016).

Among the most significant aspects of this work have been investigations of "climate skepticism" in Western mass media. Boykoff (2004) discovered that up to 50% of climate change articles in the United States questioned either its existence or its anthropogenic origin. Climate change coverage in Australia was an

example of 'distanciation,' in which the media separated the 'cause' and 'effect' of climate change to suggest that Australian emissions were not the source of global warming-related environmental change there. The scientific consensus on climate change was presented and manipulated in both the American and Australian instances in order to depoliticize and diminish the seriousness of the subject. In this setting, both in response to these national physical challenges and in terms of international action to combat climate change, India have remained politically defensive.

Climate change is accepted as an anthropogenically induced phenomenon that is already wreaking havoc on India and posing a threat to the country's future. On the contrary, the developed 'North' bears responsibility for both causing and mitigating climate change. Climate change is categorized into two categories: the hazard that India faces and the Northern responsibility for this threat: cause outside, effect inside. The relationship between cause and effect is 'distanciated' along developmental and international North-South lines. The Indian media portrays climate change in a considerably more scientifically representative manner than many Western media outlets, thus depoliticizing the issue of climate change's presence. This depoliticization of science, however, has been replaced with a highly contested political frame that shapes attitudes towards climate policy-making (Billett, 2009).

According to the research, regional news is on the rise. In effect, it reflects India's shift in world climate policy, from external responsibilities to a greater emphasis on sector-specific concerns, notably those relating to electricity and energy demands. India's energy revolution is also extensively featured in Indian business news. Surprisingly, the concept of climate finances — a major issue in international climate politics is missing from *The Economic Times*. The analysis suggests that climate change has certainly found its way as a domestic, cross-sectoral priority for Indian firms, to the extent

that the Indian business media effectively reflects the concerns and goals of the Indian corporate sector. The importance of global cooperation as well as national sector-specific initiatives in Indian business media suggests a balanced and pragmatic approach to agenda shaping, particularly in the context of Indian business (Umamaheswaran, Dar and Thaker, 2022).

The *Hindustan Times'* coverage is balanced and fair, interweaving the climate debate around other important topics like nuclear energy. The paper's detached tone creates a sense of "distanciation," as if climate change were happening somewhere else. While its tone does not cause concern, there is an effort to explore local aspects and solutions. *The Indian Express* is forthright about the importance of the topic, and its reporting is righteous and sharp. It seemed to be geared at making readers rise, ponder, and debate. The editorial position of the daily is straightforward and presenting local remedies while keeping the global dimension of the problem in mind. Despite the fact that the problem is covered more frequently in *The Times of India*, *The Indian Express* publishes stories with better content. While former lacks the sense of duty that later has, it does have the capacity to reach out to segments such as urban youth and generate beneficial trends (Mittal, 2012).

For a variety of reasons, the visual aspect of climate change journalism is an essential area for journalism research. Visual features have grown nearly omnipresent in media reports, especially in high-quality print media, and can now be regarded an essential part of any newspaper reading experience. The "picture superiority effect", which states that concepts learnt by watching pictures are more easily and frequently recalled than those simply learned by reading text, has been studied in media psychology (Whitehouse, Maybery and Durkin, 2006). However, due to the aforementioned aspects of the subject, graphically portraying the notion of climate change is difficult. While classic imagery such as the "hockey stick"

graph showing rising temperatures or the polar bear on a floating ice floe used to be relatively common, the complexity and diversity of events associated with climate change allow for a great deal of latitude in graphically framing the subject. Thus, understanding how climate change is made socially and culturally significant to certain audiences requires analyzing the production and selection of visual representations of climate change in mediated discourse.

Social media might be utilized by the general public as a watchdog to demand greater openness and scrutiny of political activity. Since governmental initiatives are still infrequent and ineffective, individual people's actions or inactions may be what ultimately bring about change. But certain factors also to be taken into account. An individual's interests and restricted social network can filter the majority of content on the internet for them, which can have an impact on how opinions are formed and shared. Not all information connected to climate change focuses on changing policy or raising awareness of the concerns; articles and online discussion can also have negative connotations and be easily manipulated. Moreover, there are significant variations in how different demographic groups use the Internet, especially when it comes to age and socioeconomic level (Mavrodieva, Harahap and Shaw, 2019).

As a consequence of anticipating that social network sites will replicate the well-researched function of legacy media and news consumption in the development of environmental consciousness, a preliminary hypothesis shows a beneficial effect of social network site usage on climate change awareness. However, given the research that suggests social media is a haven for skepticism, one may anticipate a detrimental impact of social network site usage on climate change awareness.

III. Research Objectives

➢ To understand the most/least prominent news frames used in the coverage of climate change across the Kolkata edition of *The Telegraph*, *The Statesman* and *The Indian Express* over the period between August 25, 2023 and September 25, 2023.

➢ To compare and identify the differences in the prominence of frames between Kolkata edition of *The Telegraph, The Statesman* and *The Indian Express* over the study period.

➢ To analyze the variation in attention to climate change over the study period as evident in the news coverage by the three dailies.

IV. Research Methodology

This study has used the concept of 'framing' to examine the content of news coverage. Framing can be defined as the process by which broad organizing themes are selected and emphasized, elements of a story such as the scenes, their characters and actors are emphasized, and supporting documentation used (Bennett, 2002).

The present study uses qualitative content analysis research design using computer assisted qualitative data analysis tool ATLAS.ti which is close to the grounded theory. The PDF documents of the three newspapers chosen for the purpose of the study were uploaded in the database and are analyzed followed closely by the quotations (= selections from these document). Each search for quotations was done using keywords like – Climate change, global warming, green energy, pollution, deforestation, conservation and environment in the news articles published in three English dailies of Kolkata - *The Telegraph, The Statesman* and *The Indian Express*. A sample of articles found as a result of the database searches were then read and qualitatively analyzed based on the focus provided by the research.

The time period studied was between August 25, 2023 and September 25, 2023 (one month).

The researcher found 190 quotations on climate change from the news articles published in the three newspapers. A coding scheme was developed around the main themes of the research project. The code themes fall under five wider theme groups that can be also understood as climate change discourses: (1)The prominent climate change issues (Global warming, calamities, Air quality and others) (2) Sentimental analysis of climate news coverage (Positive, Negative and Neutral), (3) Uncertainty or risk surrounding climate change (Alarmed/Threatened, Solution possible, Uncertainty), (4) Reference to economic costs associated with climate change mitigation, and (5) Major stakeholders and the type of intervention towards taking concrete action towards climate change mitigation (Collective, Individual). Some extracts show the interplay of two or more codes while some, often because they are only a sample of a longer account, only demonstrate one code. The findings were drawn based on co-occurrence analysis, document code analysis and sentiment analysis according to the research objectives.

V. Study and Analysis

In news coverage, climate change-related issues are usually framed to have a certain attitude or slant rather than being portrayed as facts. While creating content, journalistic framing is the practice of accentuating certain components and downplaying others. Climate change news constructs its narrative around the causes and impacts of climate change. The news includes stories on natural disaster, agriculture, biodiversity, global warming, water scarcity, food scarcity, politics, wetlands, tourisms, rivers, forestry and miscellaneous issues. Rising temperatures, melting glaciers, and catastrophic weather events are unambiguous indicators of the current

predicament. Individuals, governments, and companies must take proactive steps to reduce greenhouse gas emissions, support sustainable practices, and dedicate resources to renewable energy sources.

The financial advantages and disadvantages of addressing climate change for specific people or society at large can be the subject of news coverage. One way to describe economic concerns about climate change is in terms of benefits and costs. Research has indicated that messages framed around costs can have an impact on people's attitudes and behaviors related to climate change. News framing including benefits of investing in renewable energy sources by the policymakers or increased energy costs and creation of green new jobs are grouped under this theme. Framing climate mitigation in terms of potential benefits can boost support for climate action even more than emphasizing the costs of doing nothing. The public's interpretation of scientific uncertainty is influenced by how media portrays and explains it. Experts covering climate science in the media have duly highlighted the uncertainty around a wide variety of climate consequences and long-term projections of future warming. The use of uncertainty to undermine the widely accepted tenets of the Intergovernmental Panel on Climate Change (IPCC) climate consensus—that is, that greenhouse gas emissions are primarily caused by humans, that climate change is occurring, and that it will cause grave environmental and human harm—is more problematic (Stecula and Merkley, 2019).

The study also employs sentiment analysis, sentiment or emotion present in the language used, in the news stories on climate change. The dynamic link between the processing and construction of beliefs and the emotional labeling of political and policy problems has been shown by political communication literature. It should not be assumed that those who are optimistic about climate change will also be in favor of policies that mitigate it. The tone of the coverage is a

reflection of the public's opinion, policy orientations, events, and evolving understanding of the subject. As a result, it also influences legislation, public opinion, and comprehension of the problem. Sentiment is a combination of these measurements. Beyond sentiment, it is important to consider more closely the particular feelings that are being evoked in coverage, such as surprise, anticipation, joy, wrath, fear, contempt, and trust. Furthermore, stakeholders in climate change news framing present an issue or problem in a way that places blame for its origin or resolution on the government, as well as on a person or group. This frame relates to a party's role in the issue and their ability to resolve it or their accountability for its resolution.

The Statesman contained 91 paragraphs or quotations devoted to Climate Change news over the period of last one month. We saw the driest August month, which is however considered to be the month of monsoon in India. News coverage on floods and incessant rains in states of Himachal Pradesh, Uttrakhand and Assam was reported but they are very less, only 7 out of 36 calamities covered. The rest of the calamities were reported in the International pages of the three newspapers. The editorial pages of the three newspapers also published opinion pieces on climate change, but that was only reported after the G20 Summit in India and international dialogue on climate change that happened during that period. There were almost negligible amount of news on air quality or pollution, except one report on Indore being the cleanest city in India and getting an award for the same and another only appearing in *The Statesman* talking about the poor air quality index in Kolkata and alert mechanism system installed by the state government. The news about global warming leading to melting of polar ice and rise in the sea levels were also linked with international news mainly. So, alarm and threat and risk due to climate change were mainly reported about other countries. The other news articles covered issues of environmental

degradation in form of declining forestland, erosion caused by flowing rivers, health hazards in the monsoons (Dengue) and extinction of animal species.

		Indian Expr... 31 / 44	Statesman 26 / 91	Telegraph 27 / 55	Totals
◇ Cyclone	3		1	2	3
◇ Earthquakes	2			2	2
◇ El nino	6	4		2	6
◇ Floods	12	4	5	3	12
◇ Hurricane	2	1	1		2
◇ landslides	1			1	1
◇ Typhoon	4	2	1	1	4
◇ wildfires	6	6			6
Totals		17	8	11	36

Table 1: News coverage surrounding different calamities

The above table 1 shows the news coverage surrounding different calamities as reported from different parts of the world. 36 quotations (18.9 %) out of total 190 quotations were dedicated to the reporting of calamities like cyclone, earthquakes, El Nino, floods, hurricane, landslides, Typhoon and wildfires across different pages of the three newspapers. The reports of floods followed by incessant rainfall were the most reported climatic catastrophe.

	Indian Express	Statesman	Telegraph	Totals
Neutral	17	16	11	44
Negative	17	45	20	**82**
Positive	10	30	24	**64**
Totals	**44**	**91**	**55**	**190**

Table 2: Emotional tone of the news coverage

The above table 2 shows the emotional tone of the news coverage related to climate change. Majority of the news coverage i.e. 43.15 % of total 190 quotations was done in negative tone portraying the negative impacts of climate change, devastation caused by the calamities, economic losses incurred and many calamities being man made. 33.68 % of the quotations were covered in a positive tone covering news reports on active interventions taken by the central or state governments in devising climate mitigation policies and regulations. The positive news articles also talked about individual actions taken by non - government organizations, schools, colleges engaging in disseminating awareness campaigns and providing possible solutions for conservation. International agencies like International Monetary Fund or Quad were also portrayed in positive roles engaged in climate mitigation actions. The environmental degradation news items were done in a neutral tone mentioning only facts and figures. The reasons of such phenomena or its linkages with climate change were largely not drawn. *The Telegraph* was seen as more positive than negative in its tone of climate news coverage, in the contrary both *The Statesman* and *Indian Express* reported more negative than positive news.

	Indian Express	Statesman	Telegraph	Totals
Alarm/Threat	25	37	21	83
Climate Mitigation	10	35	28	**73**
Uncertainty	09	19	06	**34**
Totals	**44**	**91**	**55**	**190**

Table 3: Attitudes as portrayed in news coverage surrounding climate change

The above table 3 shows attitudes as portrayed in news coverage of the three newspapers surrounding climate change. The news article

published in *The Statesman*, 37 quotations (19.4 %) contains almost equitable distribution of news showing climate crisis in an alarming way mentioning the causes leading to such crisis and how hugely it impacts the human population. Also, they talk about the government opinions, critical discourses related to the news and need for a collective action. 35 quotations (18.4 %) published in *The Statesman* contains news coverage which primarily talk about the climate mitigation strategies taken by central government, state government of West Bengal and local governments. The three newspapers talk about local government's initiatives in form of water cess, use of alternative energy, conservation efforts like natural farming practices towards managing the climate crisis. The business page of the three papers also featured news from individual actions taken by many private companies taking steps towards use of green energy, green hydrogen usage, green jobs etc. So, business firms are portrayed taking adequate steps in the mitigation strategies. But, in comparison to Indian firms or governments, there was a dominance of International governments and Global companies engaging in discourses related to green tax, diesel levy, energy conservation strategies including switching to renewable energy and costs associated. The occurrence of the term "green" was highly visible in the international news reports. There was also a number of news coverage where the climate crisis was mentioned. The portrayal was negative mentioning an imminent doom and no hope for any future solution. The economic loss associated with the calamities, health hazards were mentioned in *The Statesman. The Telegraph* talked about the economic gains experienced by global companies and international governments due to switching to alternative energy resources. Very few articles were covered on increase in commodity prices due to climate inconsistencies, only one or two articles talked about the rise in the price of Onion. The state and central government projects, campaigns, aid from NABARD etc. find a place in the columns of *The Statesman* and *The Telegraph*. But were just a

handful, small size news stories which can be easily ignored in the ocean of political stories covered in details with big headlines.

VI. Conclusion

Goffman's (1974) framing theory of mass media emphasizes the significance of the decisions that are made concerning the processing, interpretation, communication, and treatment of content. The framework for the study delineates the categories and themes of the news articles, closely examines the roles of the players, examines the frames and future scenario archetypes, and tracks the periods of reported transformation in the articles. It is observed that many of the frames—such as those that highlight the possible financial costs of climate mitigation policies or uncertainty— have become more prevalent. The coverage has become more event oriented whether a disaster or an inter-governmental summit on climate action. The present tense and words stressing risk and danger are more common in news items now than they were in the past.

The Indian express remained largely ignorant towards coverage of climate news stories in totality. It talked about the mental health impact of climate change among athletes of Maharashtra, news not covered by other two newspapers. But, *The Indian express* covered or talked about Climate change only when it was connected to some political event or political intervention. *The Telegraph* was seen to politicize the climate change stories publishing full page advertorials of Uttar Pradesh government's initiatives or similar stories. *The Statesman* had more balanced news coverage, the numbers of stories were on the higher side too and the climate news could be seen on the front page, city page, business page and International pages. Dedicated coverage of climate change is evident in all three newspapers through a vast network of collaborations with international news agencies, newspapers and invited contributions. Both *The Statesman* and *The Telegraph* appear to have a dedicated

team of reporters covering the environment beat, and specifically climate change. Their by-lines appear repeatedly, creating a sense of familiarity and continuity for the reader. *The Indian Express* relies more on news agencies.

Best practices for science communicators, policymakers, journalists, and interested readers across diverse settings may be suggested by a systematic understanding of how climate change is covered and how that coverage changed in different countries with different media systems. This is because the news media environment is becoming more global, especially with the increasing importance of social media in the average person's information environment. Researchers have demonstrated a consistent increase in the prevalence of cues or frames on climate change from political figures. Despite the progress achieved in increasing public understanding of the threat posed by climate change, opinions on the subject remain divided because of the blame game which is continuously being played. Since both positive and negative affiliations are essential components, a plethora of studies on the development of public opinion has demonstrated the informative and persuasive nature of these signals or news frames for citizens. To mobilize a broad consensus on climate action, it is necessary to recognize this information environment dynamic and find solutions that can get past divisive debate.

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