

# Global News Coverage of Climate Change: A Comparative Analysis of South Asian Press

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## ABSTRACT

**Aim of the Study:** This research investigates how the South Asian media covers climate-related issues. Countries in this region are highly vulnerable to climate risks, many are ranked among the top ten most climate-vulnerable nations, the study focuses on three South Asian countries—Pakistan, India, and Bangladesh—by analyzing the climate change coverage in leading English-language newspaper. It explores media coverage patterns, climate framing, and the influence of international reports publication on climate reporting.

**Methodology:** Researchers by using the content analysis technique examined climate coverage and climate framing in the three South Asian countries i.e. Pakistan, India, and Bangladesh were selected in the current study with one leading English newspaper, i.e. Dawn, Time of India, and The Daily Star. Over a two-year period (April 4, 2021 – April 3, 2023), all news stories and editorials from three leading South Asian English-language newspapers—*Dawn* (Pakistan), *The Times of India* (India), and *The Daily Star* (Bangladesh)—were collected and analyzed, with a total sample size of N = 1238.

**Findings:** The content analysis results of three newspapers revealed significant variations in climate reporting across South Asia. During the two-year period from April 2021 to March 2023, *The Times of India* had the highest number of climate-related publications (52.2%), and overall news articles (76.98%) significantly outnumbering editorials (23.02%). Notably, after the release of the IPCC's Sixth Assessment Report, 709 news items and editorials were published (57.27%), compared to 529 (42.73%) before its release. Among the different frames used, the "Attribution of Responsibility" frame was the most prominent, appearing in 452 stories (36.51%).

**Conclusion:** Study indicates that there are significant variations in climate reporting in South Asian Press. Results provide compelling evidence that the IPCC's AR6 has significantly influenced climate-related coverage in South Asian newspapers.

**Keywords:** Climate Change, IPCC Report, Climate Coverage in South Asia, Climate Framing in South Asia, Pakistan, India, Bangladesh.

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## Introduction

By the beginning of the 21<sup>st</sup> century, climate change emerged as a fatal threat to human civilization. Different variables are major sources of greenhouse gas emissions, ranging from refrigeration to transportation, and from industrialization to deforestation work as fuel to the changing climate patterns. According to the United Nations, a long shift in weather patterns in any specific region is called climate change including global warming, glacier melting, drought, and heavy rains followed by devastating floods in different parts of the world (United Nations, 2022).

Human actions are one of the serious reasons behind the temperature increase of 1.1°C since 1850 on the global level (IPCC, 2022). It is predicted that the intensity and frequency of life-threatening weather incidents will have distressing outcomes for different people around the globe (Nakley, 2024).

The same will be observed in South Asia on an immense scale, where a distinctive mixture of geographical, political, and socio-economic circumstances make the region vulnerable to climate change. Except for India, all other South Asian nations contribute a low amount of greenhouse gases, but still, these are the most climate-hit countries of the world including extreme heatwaves, flooding, healthcare, and biodiversity (Baniya & Aryal, 2022; Byravan & Rajan, 2011).

To assess the harmful impacts of climate change, the United Nations formed the Inter-Governmental Panel on Climate Change (IPCC) in 1988. This panel serves as a foundation for climate change research. The IPCC's primary goal is to evaluate and share current findings about climate change, its potential consequences, and policy-relevant responses. The IPCC's Assessment Reports (ARs) are considered important documents in this area. Six ARs have been published so far, in 1990, 1995, 2001, 2007, 2014, and 2021/22. The most recent AR-6 was released in three parts from August 2021 to April 2022. More than 270 climate scientists from 67 countries reviewed 34,000 publications and 62,400 comments to create this report (IPCC, 2022).

It is generally believed that the media has many functions including shaping public opinion on various issues, including climate change. This study attempts to find how media (newspapers) in South Asian countries (Pakistan, India, and Bangladesh) showcase climate-related stories, what are the commonly used climate frames, and whether South Asian media highlights extreme catastrophic events more frequently compared to sociopolitical climate events.

## *Statement of the Problem*

Climate change is an urgent global issue with profound regional implications, particularly for South Asia, a region highly vulnerable to the impacts of global warming. The Intergovernmental Panel on Climate Change (IPCC) in its Assessment Report 6 (AR6) emphasized that temperature rise, driven by human activities such as GHG emissions, is causing unprecedented shifts in global climate patterns. While contributing relatively less to global GHG emissions, South Asia faces disproportionate consequences of climate change. Despite the growing threat, the media's role in highlighting climate change is crucial, as consistent coverage can influence public discourse and shape policymaking. Although various research studies have explored climate coverage at the national level, there remains a gap in the comparative analysis of how climate-related stories are reported across South Asia. This research will address a critical gap by analysing how media in South Asian countries cover climate change.

## *Objectives*

1. To assess the extent of climate change coverage in prominent South Asian newspapers.
2. To analyze the variation in climate change reporting across South Asian newspapers before and after one year of the IPCC's Sixth Assessment Report (AR6).
3. To investigate how climate change is framed within the context of South Asian newspaper coverage.

## ***Significance of Study***

This research helps to understand;

- How media (newspapers) cover the climate issue in South Asian countries (Pakistan, India, Bangladesh)
- How the release of international reports, especially IPCC's AR6 influenced the media coverage in the region.
- Whether climate catastrophes or climate-related social-political events capture a place in newspapers.

Due to the significant and extended outreach of media, it is important to examine the media coverage of South Asian newspapers on scientific topics including climate change.

## ***Hypotheses***

**H1:** The coverage of climate change varies across different newspapers in South Asia.

**H2:** There is a likelihood that climate coverage in South Asian newspapers has increased after the release of the IPCC Sixth Assessment Report.

**H3:** The framing of climate change in South Asian news coverage will likely differ significantly across countries.

**H4:** It is likely that extreme weather news items are fewer in numbers as compared to socio-political events of climate change

## ***Literature Review***

As cited by Carvalho (2010), throughout the world including in South Asia, people rely on mass media to get information about climate change. Studies show that mass media is more vital to providing information about climate change than seminars, webinars, educational classes, workshops, and interpersonal communication with family, fellows, folks, and friends; this is the reason mass media components are dynamic arenas and are major proxies in production, reproduction, and indeed makeover of connotations of climate vulnerabilities.

Schäfer & Schlichting (2014), pointed out that although there is development and diversification in research studies associated with climate change still it is frequently centered on some specific countries in Europe and North America. The consequences of climate change often disproportionately affect Latin America, Africa, and Asia, particularly South Asia, due to their vulnerability. However, these regions are frequently overlooked in research and analysis.

## ***Climate Change, Media, and Pakistan***

According to the Global Climate Risk Index Pakistan is among those countries that contribute less than one percent of the total carbon emissions still, Pakistan is graded as one the Top 10 globally most vulnerable nations badly affected by the adverse results of climate change. Heatwaves, followed by rainstorms and floods in 2022 are recent examples of climate change's negative results due to unusual weather patterns (Ejaz et al., 2023). The term "Super Floods" was used in different studies to highlight the intensity of floods of 2010 and 2022, because of these floods one-third of the country was underwater, and more than 32 million people were affected in this tragic chapter (L Otto et al., 2022).

As cited by Ejaz et al., (2023), most of the research in Pakistan was mounted around a few concepts including how climate journalists are influenced by the different segments of society or the major obstacles they face in their lives while covering climate events. In Pakistan, practicing climate journalists usually face many glitches including a lack of knowledge about climate, political instability, less resource allocation, and fewer incentives among other factors, which shape the climate change stories significantly

(Akram, 2023). Unfortunately, fewer research studies are available on climate framing in local news media. It seems that climate change is not one of the priorities of mainstream news media in Pakistan. Print and electronic news coverage usually centers around politics, social issues, or crime stories. However, gradually a visible shift is being noticed that somehow the media has started talking about climatic events and issues related to climate change including international social and political events (Javed et al., 2020; Sharif & Medvecky, 2018).

### ***Climate Change, Media, and India***

India is suffering from climate change in two different ways. On the one hand, climate-related issues, e.g. extreme weather events, have a severe impact on the country and are expected to worsen in the future (DARA, 2012). On the other hand, climate change could block India's economic and fiscal growth by adversely affecting energy-related issues (Hijioka, Y., E. Lin, J.J. Pereira, R.T. Corlett, X. Cui, G.E. Insarov, R.D. Lasco, E. Lindgren, 2014; Keller et al., 2020). Scientists concur that sooner or later, the dangerous impacts of climate change on the environment, ecosystem, and socio-politics will worsen the situation globally, especially in poor and unfolding nations such as India (DARA, 2012; Lawrence et al., 2021).

According to Keller et al., (2020), limited research studies were conducted on the climate coverage in developing countries (third world) including India which contributes suggestively to climate change policies globally. A couple of studies were conducted under the banner of media coverage of climate change in India, but their size and scale were marginalized only for some specific events, moreover, the duration and space of coverage for said events were for a short period, however, climate coverage increased noticeably in last 20 years (1997-2016). In the Indian context, most research work was concentrated on limited news samples, over a small period, on the coverage of particular incidents, for instance, the IPCC report released (2007), the Copenhagen climate change conference (2009), or events of a similar nature (Lück et al., 2018; Mittal, 2012; Painter & Ashe, 2012). Additionally, some of the research studies in India were conducted on a pre-established set of topics like risk management, responsibility issues, or scientific-centered subjects like climate justice, or simply the volume of media coverage, without classifying primary themes, were among the center of gravity (Billett, 2010; Jogesh, 2012; Mittal, 2012; Painter & Ashe, 2012).

### ***Climate Change, Media, and Bangladesh***

Although Bangladesh emits only 0.35 percent of the total carbon of the world, still climate change and natural disasters are one of the massive threats to Bangladesh, predominantly, expected climate change effects include a rise in temperature, extended monsoon spells, sea-level escalation, projected reductions in dry season rains, high-intensity cyclones in the coastal area of the country. These climatic threats would bring tough situations for the socio-economic growth of Bangladesh. In Bangladesh displacement of Indigenous people is a major climate-induced disaster; people have lost their fertile lands and houses, and they are forced to be displaced for ultimate survival. Currently, Bangladesh is denoted as "Ground Zero" of climate change. This term is used for Bangladesh due to the fatal and direct influence of climate change (Barua et al., 2022; Sikder et al., 2021).

Climate coverage in Bangladesh has increased in recent years due to the growing understanding of the commitment to addressing climatical issues and the manifestation of their effects on the country. Additionally, media coverage in Bangladesh often emphasizes the impact and upgrading of climate change, the attribution of blame/responsibility, and compensation from the West (Carvalho, 2010). Furthermore, climate coverage in Bangladesh also indicates the local perceptions and experiences of communities affected by it. This has led to an expanding perception of the importance of incorporating local wisdom and perspectives in understanding the impact of climate change on the country (Das & Bandyopadhyay, 2015). Al-Zaman & Khan, (2022), collected news items linked to the environment and climate change from April 2013 to April 2021. They argued that during their study, in said period,

selected Bangladeshi newspapers published 1119 news items regarding the environment and climate change. The study suggests that after 2016, a gradual increase was observed in climate coverage.

## **Theoretical Framework**

The current study revolves around the following theoretical framework.

In the current study, to investigate the comparative analysis of South Asian newspaper coverage of climate change, the researcher used the agenda-setting theory on the first level while framing theory on the second level to compare climate frames utilized in the editorials and news stories. This study aims to compare only the media agenda of South Asian countries about climate change. Numerous global research studies were conducted to find how much-devoted concentration is given to climate change by the local and international media. These studies suggest that climate change is an alarming issue in many countries across the continents, and its coverage is more frequent than other science topics such as genome or stem cell research. These studies also establish that climate change is grabbing more attention with time continuously and considerably, especially after the mid-2000s (Schäfer, 2015).

## **Climate Framing**

The present study was limited only to six news/climate frames as suggested by (N. Li & Su, 2018; Semetko & Valkenburg, 2000).

**Attribution of Responsibility Frames:** These frames present the problems or issues in a way as to blame or attribute the responsibility, who was responsible for this problem, and who will solve the issue.

**Economic Consequences Frames:** These frames report an issue or event in terms of repercussions on the economy of an individual, group of people, organization, institution, country, or region of the world.

**Public Health Frames:** These frames define public health issues and risks connected with climate change, this includes the illness and death rate due to various climate threats such as rise in temperature and severe heat waves.

**Human Interest Frames:** These frames are associated with human emotion or the human aspect of any problem, incident, or issue.

**Morality Frames:** These frames are linked with the moral, ethical, or religious context of an issue, event, or problem.

**Environmental and Biodiversity Frames:** These frames talk about the consequences of climate change on flora and fauna (wildlife, plants) and other characteristics of different species and mother nature.

## **Methodology**

Krippendorff (2004), claimed that content analysis is a research method for establishing reliable and repeatable links between data and context, while Kerlinger & Lee (2000), explained that content analysis is used to study and analyze communication in a quantitative, systematic, and objective way to measure the variables of recorded data.

In the current study, the researcher by using the content analysis technique examined climate coverage and climate framing in the South Asian press by comparing similarities and differences in the framing process of selected media (newspapers).

## **Sampling**

Three South Asian countries i.e. Pakistan, India, and Bangladesh were selected in the current study with one leading English newspaper, i.e. Dawn, Time of India, and The Daily Star.

## ***Timeline***

As far as the significant event is concerned, for the current study, the most recent and alarming report, published by the IPCC, released in 2021-2022, warns that global warming due to unrestrained GHG emissions could press planet Earth's climate ahead of the tipping point, possibly heading towards irreversible damage. The present study is limited to one year before and one year after the release of Assessment Report 6 (AR6). Its final portion was released on April 4, 2022, and the period for the current study is from April 4, 2021, to April 3, 2023.

## ***Sample Size***

Over a two-year period (April 4, 2021 – April 3, 2023), all news stories and editorials from three leading South Asian English-language newspapers—*Dawn* (Pakistan), *The Times of India* (India), and *The Daily Star* (Bangladesh)—were collected and analyzed, with a total sample size of  $N = 1238$ .

## ***Categorization Scheme***

Newspapers: 1= Dawn, 2= Times of India, 3= The Daily Star

Timespan: 1 = Before AR-6, 2 = After AR-6

Type of Story: 1= News, 2 = Editorials

Length of Story: 1= Below 500 Words, 2= 501 to 1000 Word, 3= Above 100 Words

Frames: 1= Attribution of Responsibility, 2= Economic, 3= Human Interest, 4= Public Health, 5 = Morality, 6= Biodiversity

Climate Categories: 1= Extreme Weather, 2 = Socio-Political Events

In the present study, three South Asian newspapers were selected for content analysis. The sole access to these international newspapers was LexisNexis, which was reached through the US embassy in Islamabad. The selection criteria for the data pool LexisNexis contains all news items and editorials containing the term/ word “climate change” from the three selected South Asian newspapers for a two-year time 2021-2023 (before and after one year of publishing of AR 6 (April 4, 2021 – April 3, 2023) and the keyword was “Climate Change”.

Data was analyzed using Statistical Package for Social Sciences (SPSS). With the help of SPSS, collected data was analyzed, explained, and interpreted. Different tests were used including frequencies, percentages, crosstabulation, and Chi-Square.

## ***Unit of Analysis***

In content analysis, a unit of analysis consists of substantial importance but varies from case to case and often depends on the nature of the study. It can be a word, a theme, a phrase, an article, a plot, or a character (Neuman, 2013). In the current study, the unit of analysis is the whole newspaper, the sampling unit is a complete story (news items and editorials) while the coding unit is words (natural disasters / socio-political events).

## ***Conceptual Definition of Climate Change***

“Climate change refers to long-term shifts in temperatures and weather patterns” (United Nations, 2023). The term ‘climate’ refers to a period spreading over at least 3 decades (WMO, 2021).

Operational Definition of Climate Change Weather Event

(United Nations, 2023), defined the following catastrophic events as climate change natural disasters.

- Heatwaves
- Drought

- Glacier Melting/ Sea Level
- Rains / Floods
- Hurricanes/ Tornados/ Cyclones/ Storms
- Global Warming
- Human-Induced/ CO2 Emission / Fossil Fuel

According to Schmidt et al., (2014), and United Nations (2023), the following are Socio-Political Events associated with Climate Change

- CoPs/ Conferences / Accords/ Webinars
- Local/ International Protests
- UN/ IPCC Reports
- INGOs Data/ Research Studies
- Others

### ***Data Analysis***

The prime objective of the study is to investigate the extent of press coverage of climate change on a South Asian scale. In the current study, the researcher selected three South Asian newspapers to examine frequencies and frames used in the regional press, and how the different South Asian countries (Pakistan, India, Bangladesh) highlight climate-related issues, whether their focus was on extreme weather or social-political events.

**Table 1:** *Climate Change News/Editorial Frequencies in South Asian Newspapers*

	<b>News</b>	<b>Editorials</b>	<b>Total</b>
Dawn	247	154	401 (32.4%)
Times of India	556	90	646 (54.2%)
The Daily Star	150	41	191 (15.4%)
Total	953	285	1238

Table 1 shows that the Times of India gave the highest number of news and editorial coverage to climate issues (52.2%), followed by Dawn (32.4%), while The Daily Star was in third position (15.4%). Same time in all three South Asian newspapers 953 (76.98%) content was news-based while only 285 (23.02%) content was editorial-based. Based on the data distribution H1 is accepted that the coverage of climate change varies across different newspapers in South Asia.

**Table 2:** *Climate News Coverage and Length of News Stories in South Asian Press*

	<b>Frequency</b>	<b>Percent</b>
Below 500 Words	665	53.7
501 to 1000 Words	464	37.5
Above 1000 Words	109	8.8
Total	1238	100.0

Table 2 indicates that the majority of news/ editorials fall below 500 words (53.7%) category, followed by 37.5 % in the “501 to 1000 words” and the lowest number of news and editorials are in the above 1000 words category.

**Table 3:** *Climate News Coverage Before and After One Year of AR-6*

	Timespan		Total
	Before AR-6	After AR-6	
Dawn	145	256	401
Times of India	290	356	646
The Daily Star	94	97	191
Total	529	709	1238

	Value	Df	Asymp. Sig. (2-sided)
Chi-Square	11.590 <sup>a</sup>	2	.003

Data in Table 3 shows that three selected newspapers (Dawn, Times of India, and The Daily Star) published more stories on climate issues after the release of IPCC's Sixth Assessment Report 709 (57.27%) and before the release of this report, 529 (42.73%) news and editorials were published in south Asia press, moreover, chi-square value 11.590 while  $p = 0.003$  which shows the influence of IPCC's report on climate coverage, H2 is accepted that IPCC's AR-6 increased the number of news and editorials in selected countries and media.

The data in Table 3 indicates that the three selected newspapers—Dawn, The Times of India, and The Daily Star—published a greater number of stories on climate issues after the release of the IPCC's Sixth Assessment Report. Specifically, 709 stories (57.27%) were published post-release, compared to 529 stories (42.73%) published before the report's release in the South Asian press. Furthermore, the chi-square value of 11.590 with a p-value of 0.003 demonstrates a statistically significant influence of the IPCC report on climate coverage. This confirms H2, indicating that the release of the IPCC's AR-6 led to an increase in the number of climate-related news stories and editorials in the selected countries and media outlets.

**Table 4:** *Cross-tabulation of Climate Frames with Newspapers*

	Dawn	Times of India	The Daily Star	Total
Attribution of Responsibility	167	219	66	452
Economic	81	86	38	205
Public Health	39	54	24	117
Human Interest	58	160	38	256
Morality	31	41	13	85
Biodiversity/ Species	25	86	12	123
Total	401	646	191	1238

	Value	Df	Asymp. Sig. (2-sided)
Chi-Square	44.685 <sup>a</sup>	10	.000

The results in Table 4 show that the attribution of responsibility frame was the most frequently used across all three selected newspapers: Dawn published 167 stories (41.64%), The Times of India published 219 stories (33.90%), and The Daily Star published 66 stories (34.55%). Overall, 452 stories (36.51%) contained the attribution of responsibility frame. In contrast, morality frames were the least used, appearing in only 85 stories (6.87%) overall, with some variation at the individual newspaper level. Additionally, Dawn and The Daily Star used biodiversity frames less frequently. The chi-square value of 44.685 with a p-value of 0.000 indicates that the framing of climate change differs significantly across South Asian newspapers. Therefore, H3 is accepted, confirming that the framing of climate change in South Asian news coverage varies significantly across countries.



**Table 5:** *Climate Categories and South Asian Newspapers Crosstabulation*

	Climate Categories		Total
	Natural Disaster	Socio-Political Events	
Dawn	183	218	401
Times of India	352	294	646
The Daily Star	73	118	191
Total	608	630	1238

	Value	Df	Asymp. Sig. (2-sided)
Chi-Square	18.479 <sup>a</sup>	2	.000

Table 5 presents mixed results: The Times of India provided more coverage of extreme weather events, while Dawn and The Daily Star focused more on socio-political events, such as Conferences of the Parties (COP), IPCC reports, international climate protests, and webinars. Collectively, the three South Asian newspapers published 630 stories (50.89%) on socio-political issues and 608 stories (49.11%) on extreme weather events. With a slight margin, H4 is accepted, indicating that news on extreme weather events is slightly less prevalent than coverage of socio-political events related to climate change. The chi-square value of 18.479 with a p-value of 0.000 further supports the acceptance of H4.

## Discussion

The increase in media coverage in South Asian Press in post-IPCC AR6 aligns with existing literature that underscores the role of scientific reports in shaping public discourse on climate change. Research indicates that significant publications from authoritative bodies like the IPCC often prompt media attention and public awareness regarding environmental issues. The findings from the study corroborate this trend, demonstrating that major assessments can effectively mobilize journalistic resources toward climate reporting (IPCC, 2023; O'Neill et al., 2015; Sharma & Hossain, 2021).

The attribution of responsibility frame being the most prevalent is consistent with previous studies. For instance, Billett (2010), noted that Indian print media often frames climate change in terms of risk and responsibility, reflecting a sentiment where developing countries feel vulnerable yet place the onus for action on wealthier nations. Conversely, the morality frame was the least utilized, appearing in only 85 stories (6.87%). This underutilization may reflect a broader trend in media coverage where moral imperatives are overshadowed by political and economic narratives (Moser, 2010). Additionally, the limited use of biodiversity frames by Dawn and The Daily Star raises questions about the comprehensive nature of climate change reporting in South Asia. The neglected biodiversity frames may hinder a holistic understanding of climate change impacts, as biodiversity loss is intrinsically linked to broader environmental and social issues.

The predominance of socio-political coverage over extreme weather events in South Asian media reflects broader trends identified in the literature regarding climate change communication. Sharma & Hossain (2021), emphasize that climate change reporting often intertwines with socio-political narratives, particularly in regions like South Asia where governance and policy responses are critical to addressing climate challenges. These findings are aligned with former studies as cited by Jogesh (2012), that media narratives often shift towards international frameworks and agreements during significant climate events.

As highlighted by the World Bank (2023), South Asia faces significant vulnerabilities to climate shocks, yet media representation may not fully convey the immediacy of these threats. This disconnect could hinder effective public engagement and policy response to climate-related disasters.

## Conclusion

Findings indicate that there are significant variations in climate reporting in South Asian Press. Results provide compelling evidence that the IPCC's AR6 has significantly influenced climate-related coverage in South Asian newspapers.

Results underscore the necessity for South Asian media to diversify their framing strategies regarding climate change. By incorporating morality and biodiversity frames more prominently, these outlets could contribute to a more nuanced dialogue that encourages comprehensive action against climate change. The findings suggest that while there is a robust discourse around responsibility, there remains a critical gap in addressing moral and biodiversity dimensions within climate change narratives. This imbalance could lead to a fragmented understanding of climate challenges among the public and policymakers alike.

Findings reveal significant insights into how South Asian newspapers frame climate change issues. By fostering a more integrated approach to reporting—one that encompasses both socio-political dynamics and immediate environmental concerns, media can play a crucial role in shaping effective public discourse and policy responses to the pressing challenges posed by climate change.

Some mixed results from the study underscore the need for a balanced approach in climate change journalism in South Asia that integrates both socio-political contexts and the realities of extreme weather impacts. Sustained media attention on climate issues can drive public pressure for more robust policies; therefore, enhancing coverage of extreme weather alongside socio-political narratives could foster a more informed citizenry capable of advocating for necessary changes. Furthermore, media narratives often reflect elite interests and may lack comprehensive reporting on climate issues that affect marginalized communities disproportionately. Addressing this bias through inclusive reporting practices could enhance public awareness and support for equitable climate action across South Asia.

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## Conflict of Interest


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