

Framing of climate issues and “COP21”: U.S. newspaper coverage vs Indian newspaper coverage

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Abstract: Using content analysis method and the theory of framing, this study compares news coverage of climate issues around the Paris Climate Conference 2015, also known as “COP21”, between U.S. and Indian newspapers. The findings, based on an analysis of 278 stories published by four leading newspapers in these countries, suggest that international politics-oriented conflict and strategy frame and environmental consequences frame dominated both U.S. and Indian newspaper coverage. Another important finding of this study is the Indian newspaper coverage, compared to the U.S. newspaper coverage, included more information on social progress and innovations toward environment-friendly initiatives.

Keywords: climate change, news frames, U.S. newspapers, Indian newspapers, Paris Climate Conference, content analysis

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1. Introduction

This study compares news coverage about the Paris Climate Conference in 2015 by leading Indian and U.S. newspapers by using the analytical framework of framing. Since climate change-related or environmental news coverage in general is very episodic and is mainly covered around an event or a debate (Das, 2012; Schreiner and Bosman, 2012), a number of studies examine the news coverage of past climate conferences (Reis, 1999; Dirikx and Gelders, 2010a, 2010b).

Past studies that examine environmental news — either in the context of climate conference or coverage of climate issues in general — in different global news outlets have identified such coverage as very non-environmental and political (Dirikx and Gelders, 2010a; Boykoff and Boykoff, 2004; Dotson *et al.*, 2012;

Reis, 1999). There has been a pattern in the news coverage of climate issues that non-environmental aspects dominate over environmental aspects (Reis, 1999; Dirikx and Gelders, 2010a; Schreiner and Bosman, 2012). Since the topics of “climate change”, including alternative energy, have been issues of political contentions among political parties in countries and among countries at a global level, news media’s over-reliance on government and political sources in covering these issues can make news coverage heavy with political tones and strategic information.

Framing analysis of news coverage is important in the context of social and media psychology. Audiences often depend on news frames — prominence of certain aspects of an issue over others in news coverage — interpretative framework and news tones to understand an issue and form an opinion about that (Nisbet, 2009). Consequentially, audiences begin to assume or

form ideas/opinions about who may be responsible for a problem or an issue, and causes and solutions to that problem (Nisbet, 2009; Liang *et al.*, 2014). Therefore, we cannot separate the discussion of social psychology from media psychology since the latter is concerned with the effects of content on content perceptions in a society (Rutledge, 2000). Scope of media psychology is not only about content but also about content producer, perception around the content and user response to the content (Rutledge, 2000). In the context of environmental news, the effects of news framing can be found on two types of audiences who regularly consume environmental news — people who think they are at risk of climate change and people who are knowledgeable about climate change issues (Riffe and Hrach, 2009).

Given the importance of framing effects of media messages in the perspective of media, social and environment psychology, this study will conduct framing analysis of climate-related news stories around the Paris Climate Conference 2015. Since there have been enduring disagreements between developed countries, such as the United States and the European Union, and ‘large, developing countries,’ such as India, China and Brazil, over climate mitigation approaches and responsibilities around climate change (Walsh, 2015); this study will be conducted in a comparative context between U.S. newspaper coverage and Indian newspaper coverage. Framing of climate issues in certain ways in news coverage by a country’s newspapers can impact how citizens, policymakers, politician, and innovators of that country perceive about the issue at stake. Past studies find “regional variations” in news coverage of climate issues (Lee *et al.*, 2005; Eskjær, 2013, p.62). Therefore, this study will explore difference and similarities in the use of different news frames on climate issues by leading U.S. and Indian newspapers. It is worth mentioning here that for the flow of writing this paper, phrases such as “climate issues,” “climate issues around the Paris Conference” and “climate change issues” are used interchangeably.

2. Literature Review

2.1 The Paris Climate Conference 2015 and the Outcomes

Before getting into the discussion on findings of previous studies about climate coverage and the analytical frameworks used in those studies, it is pertinent to include some background information about the con-

text of this paper, which is the Paris Climate Conference 2015, also known as the 21st Conference of the Parties (“COP21”) to the United Nations Framework Convention on Climate Change (UNFCCC). After hectic negotiations and parleys, the countries agreed on some key action plans and issues to combat climate change (United Nations, n.d.; Davenport *et al.*, 2015). The outcome of the conference is a 32-page pact where 195 countries expressed their commitment to take concrete measures to curb carbon emissions (Davenport *et al.*, 2015).

One of the key targets of the agreement is: “Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change” (United Nations Framework Convention on Climate Change, 2015, p.22). The agreement includes incentives for the parties who will successfully be able to cut emissions by preserving forests and by managing forests sustainably. In terms of climate finance, “developed country parties” will continue to lead mobilizing funds from a wide range of sources and channel funds to “developing country parties” based on country-specific “needs” and “priorities” (United Nations Framework Convention on Climate Change, 2015, p.26). Moreover, the agreement advances a transparency framework for evaluating carbon reduction performances by both developed and developing countries. Moreover, though the agreement suggests reduction in the burning of some fossil fuels, the provision of “greenhouse gas emission neutrality” is missing from the agreement because of opposition from oil-producing countries (United Nations Framework Convention on Climate Change, 2015, p.22; Davenport *et al.*, 2015). But the agreement “legally” requires every country to come up with new carbon-reduction targets every five years (Davenport *et al.*, 2015).

As it appears, the COP21 agreement includes some important provisions to address climate disruptions. Obviously, there were negotiations and diplomacy involved to include the priorities of both developing and developed country parties. Even governments, environmental groups and nonprofit organizations had to create awareness and encounter political oppositions about some of the above provisions included in the agreement in their own countries. As mentioned earlier, this study will analyze how U.S. and Indian

newspapers have covered all the maneuverings around the Paris climate agreement, significance of different provisions, the issues of disagreements, and other related climate issues and environmental initiatives.

2.2 Patterns in the News Coverage of Climate Issues

Since this study compares the coverage of climate issues and conference in the newspapers of two countries, we look at past studies that examine the patterns in international news coverage of climate change or climate issues either regionally or globally and either between countries or in a country. We also look at the factors that shape the news coverage of environmental/climate issues in different countries.

Environmental topic, particularly climate change, is not a consistent news agenda for global media (Schreiner and Bosman, 2012; Das, 2012). In most cases, global news coverage of environmental or climate change issues are triggered by an event, such as international conferences like the Conference of Parties, or incidents such as disasters (Schreiner and Bosman, 2012). When media outlets cover climate change and climate issues, the coverage tends to be very political. The discussion on climate issues — particularly climate change — has become a topic of international politics over a period of time because of political responses from different countries to this phenomenon (Eskjær, 2013; Schreiner and Bosman, 2012). Since coverage of climate conference becomes government-focused, non-environmental issues and political aspects dominate over environmental issues (Reis, 1999; Schreiner and Bosman, 2012).

Consequentially, we see regional variations in the coverage of climate change or climate issues in general at a global level, and such variations in the coverage can affect public perceptions in different regions about the significance and immediacy of climate change's effects (Eskjær, 2013). News media tend to rely on government sources over impartial expert sources to report on environmental and climate issues (Zamith, Pinto, and Villar, 2012). Such overreliance on political and government sources by news media can sustain perceptual divides around climate change. Therefore, it is not surprising when a study finds that the stance of a country's government on climate change and carbon-emission situation in that country can shape the tone of international reporting on the same topic (Zamith, Pinto, and Villar, 2012; Lee *et al.*, 2005). News media operating in countries with significant

greenhouse gas outputs fail to challenge those responsible for carbon emissions, whereas news media functioning in countries with lower-levels of greenhouse gas outputs were more critical about carbon emissions (Zamith, Pinto, and Villar, 2012). In a comparative analysis of news coverage in three countries, Liang *et al.* (2014) report that though Chinese newspapers acknowledge China's responsibility in implementing measures for climate mitigation, they do not want to see China incur more burden than developed countries. On the contrary, U.S. newspapers blame China for creating an obstacle in climate process. Whereas U.S. newspaper coverage highlights its capability to combat the effects of climate change, they want other developed countries to take equal responsibility in the process of climate mitigation (Liang *et al.*, 2014). Like Chinese newspapers, Canadian newspapers advance the fact that though Canada has a limited ability to lead climate mitigation process at a global level, they should do more in this problem-solving process (Liang *et al.*, 2014).

Scientific uncertainty around climate change claims has been a major pattern in the news coverage a decade ago. But two recent studies find that some mainstream media in the U.S. and South America begin to reflect scientific consensus on climate (Zamith, Pinto, and Villar, 2012; Zhao *et al.*, 2011).

Journalistic norms and ideologies of news organizations can influence the coverage of climate issues such as climate change (Dirikx and Gelders, 2010a). When we refer to journalistic norms, we mean balanced reporting or balanced coverage. Since news outlets need to cover the perspectives of both sides with equal importance, they cover both parties — climate change skeptics and those who think climate change is real (Boykoff and Boykoff, 2004). Because of ideological reasoning, sometimes left-wing media take a strong position about the certainty of climate change while the right-wing media tends to portray global warming as a scientific uncertainty (Dirikx and Gelders, 2010a). Ideological culture in news media can become more influential in the countries where global warming is an issue of major political contention and where media are historically connected to political landscape, such as United States (Dirikx and Gelders, 2010a). Devin Dotson and his colleagues (2012) analyzed the portrayals of climate change based on political ideology of the Chilean media. They compared the daily coverage of climate change in Santiago, Chile, between a conservative and a liberal newspaper,

and the finding was that the liberal newspaper published more and longer articles from different angles than conservative newspaper on climate change.

2.3 News Framing of Climate Change

A number of studies have used framing theory to interpret patterns in news coverage of climate change. Framing analysis of news stories helps us to understand how news outlets present an issue (Weaver, 1997; Scheufele, 1999). The focus of framing theory is to identify the central organizing idea of media messages by recognizing what aspects of an issue are highlighted over others and what aspects of an issue are excluded (Entman, 1993; Gitlin, 1980). Nisbet (2009) summarizes the outcomes of news frames among policymakers, experts and general audiences in climate change context. News frames can shape the development of policy options for policymakers and the development of simple discourses about technical details for experts; sometimes, general audiences use news frames as shortcut to understand a complex issue (Nisbet, 2009).

The idea of framing is an outcome of seminal research by sociologist Erving Goffman (1974), who argues that we use our mental images and reference points gained through our different social experiences to understand different phenomena and issues. Similarly, journalists and writers use their mental references and ideological backgrounds to interpret an issue or a phenomenon. Therefore, journalists have the ability to shape the perceptions of some audiences to some extent (Biswas, 2011).

Dirikx and Gelders (2010b) identified the prominent use of consequence and responsibility frames in the French and Dutch newspaper coverage of UN Climate Conferences between 2001 and 2007. Consequence frame refers to possible impact of certain actions related to climate mitigation or due to climate change, and projected losses and gains as an outcome of those measures or climate disruptions (Dirikx and Gelders, 2010b). A consequence frame can refer to both economic and environmental consequences and opportunities. Therefore, Nisbet (2009, p.18) came up with the “economic development and competitiveness” frame in the context of climate change communication to recognize the risks and benefits associated with climate investment. Responsibility frames used in news stories refer to the parties that are capable of and responsible for participating in a problem-solving process (Dirikx and Gelders, 2010b). The same study

also finds the presence of conflict and human-interest frames, but in lesser extent to consequence and responsibility frames.

In climate change context, conflict frames can be organized around disagreements on responsibility for climate finance and certain level of commitment for reducing carbon emissions among other issues of contention (Nisbet, 2009). Conflict frame conveys information about winners and losers of a deal, conflicts of interests and disagreements between or among involved parties on implementation of plans and level of responsibilities in addressing the problem of climate change (Nisbet, 2009). Political conflict frame in climate change coverage highlights controversy among involved parties (Zhao *et al.*, 2011). Conflict frames also involve message strategies and maneuvering around seeking support or coalition around a position taken by a party or parties (Nisbet, 2009).

Another news frame about climate change — scientific uncertainty frame — uses opinions of contrarian scientists as evidence about the state of global warming or claims around global warming (Nisbet, 2009). Human-interest frames mainly focus on human conditions and the effects of climate change on human life (Dirikx and Gelders, 2010b).

In addition to responsibility, consequences (both economic and environmental), scientific uncertainty, conflict and strategy, and human-interest frames; Nisbet (2009, p.18) also finds the use of “morality and ethics,” “public accountability and governance” and “social progress” frames in the communication about climate change and climate mitigation. Morality and ethics frames used in climate coverage focus on whether any action against environment is right or wrong or “of respect or disrespect” (Nisbet, 2009, p.18). The scope of social progress frame includes information and ideas about the means of improving quality of life, solving problems and environment-friendly innovations. Lastly, accountability and governance frame used in climate-related stories focuses on public interests, responsiveness, transparency, participation and “debate over proper use of science and expertise in decision-making” (Nisbet, 2009, p.18).

Given the scope of different frames, we can conclude that the quality of overall coverage of climate issues depends on the prominence of environment-oriented, social progress-and innovation-related, and accountability and governance frames in the news stories on climate issues. Likewise, more use of information about economic consequences and oppor-

tunities over conflict and strategy frames can also improve the quality of news coverage on climate change or climate mitigation. Therefore, this study seeks to understand how leading Indian and U.S. newspapers have utilized different news frames to cover climate issues and the Paris Climate Conference 2015:

RQ 1: What news frames were included in Indian newspaper coverage of climate issues around the Paris Climate Conference 2015 (“COP21”)? Which frames are used dominantly over others?

RQ 2: What news frames were included in U.S. newspaper coverage of climate issues around Paris Climate Conference 2015 (“COP21”)? Which frames are used dominantly over others?

RQ 3: In terms of news framing, what were the similarities between U.S. newspaper coverage and Indian newspaper coverage of climate issues around “COP21”?

RQ 4: In terms of news framing, what were the differences between U.S. newspaper coverage and Indian newspaper coverage of climate issues around “COP21”?

3. Method

This study has utilized content analysis method to examine the news coverage of climate issues around the Paris Climate Conference 2015. Content analysis is a method of systematically analyzing media content (Krippendorff, 2004). Such analysis helps researchers to identify patterns and trends in media messages. Moreover, findings in content analysis can be replicated and used to draw valid inferences about newspaper coverage (Krippendorff, 2004; Riffe, Lacy, and Fico, 2005). Therefore, content analysis is an appropriate method for this study since this method helps to organize media messages in different framing categories and interpret overall news coverage.

Sample and Data. This study analyzed a total of 278 stories published in two leading U.S. newspapers — *The New York Times* and *The Washington Post* and two leading Indian newspapers — *Hindustan Times* and *The Times of India* during the timeframe between November 16 and December 15. Though the Paris Climate Conference took place from November 29 through December 12, this study sample includes news stories published over a period of month. Given the episodic nature of climate change coverage in the media, it is expected that U.S. and Indian newspapers have begun publishing news stories in run-up to the climate conference. Of the 278 stories, 89 stories were

published in the two U.S. newspapers (48 stories in *Washington Post* and 41 stories in *The New York Times*) and 189 (103 stories in *Hindustan Times* and 86 stories in *Times of India*) were published in the two Indian newspapers. Since this study is about a news coverage comparison between two countries’ newspapers, Indian newspaper coverage is inclusive of news stories of climate issues in *The Times of India* and *Hindustan Times* whereas U.S. newspaper coverage is inclusive of news stories of climate issues in *The New York Times* and *The Washington Post*.

Many past studies included news stories of *The New York Times* and *The Washington Post* in their sample, since these newspapers are regarded as two opinion-leading newspapers in the U.S. (Ten Eyck and Williment, 2003; Biswas, 2011, p.52). These newspapers have reach among American policymakers and citizens and can also impact the news coverage by other national media (Biswas, 2011). *The Times of India* and *Hindustan Times* are also two leading English-language newspapers in India with their reach among local elites, Indian leaders and citizens (Nair, 2014).

We used LexisNexis Academic database to collect news stories published in the four abovementioned newspapers between November 16 and December 15, 2015. Search terms used to identify relevant stories are “climate change” and “Paris Climate Conference 2015.” A past study also uses “climate change” as search words to identify relevant stories (Dotson *et al.*, 2012).

Coding Protocol and Coding Process. As with content analysis, media texts need to be coded to identify patterns in media messages (Babbie, 2004). We have used a coding protocol or a definition of coding categories for different news frames to code textual information in news stories. Analysis in this study has considered syntactical units — headlines, sentences, quotations, and paragraphs — in news stories as coding units (Krippendorff, 2004). While coding a story, this study considers each story in this sample unit of analysis. While coding the stories, the researcher/coder mainly read the headline and first five paragraphs of a story to identify the presence or use of specific frame(s). The researcher/coder had to read surrounding paragraphs in many cases to understand the context of any information or a point of view.

A coding protocol of news frames was followed to code the stories. Details about different news frames — coding categories — are included in Appendix I. This study has adopted and modified the coding definition

of news frames utilized in past studies and research articles; such news frames are responsibility frame, conflict and strategy frame, economy frame, environmental consequences and human-interest frame, morality and ethics frame, scientific and technical uncertainty frame, public accountability and governance frame, middle way/ alternative path frame, and social progress and technological innovations frame. We have added a new news frame category — achievement frame — after scanning news stories at the initial phase of this research.

Since many stories in the sample have advanced more than one news frame, a story was coded for multiple frames. For example, a story may include responsibility frame along with conflict and strategy, and environmental consequences frames. Since multiple frames were identified in a good number of news stories, the total of all the percent figures included in Tables 1 and 2 were more than 100.

Intercoder Reliability. As the sample includes 278 stories, this study ran Scott’s Pi intercoder reliability test on 28 stories, which is 10 percent of the total sample. Following the coding protocol, two coders coded randomly-selected 28 stories from four newspapers included in this study. Both coders had achieved 0.87 agreements on average in intercoder reliability score. Scott Pi’s score for different news frames was ranged from 0.81 to 1.

Analysis. This study ran three different statistical analyses to interpret the data. An independent sample t-test was used to compare the use of news frames between U.S. newspaper coverage and Indian newspaper coverage. We also ran descriptive statistical analysis to identify the patterns in the use of different news frames by Indian and U.S. newspapers. Pearson chi-square test was carried out to see whether the use of a news frame by two newspapers of a country is signif-

icantly different. Since the overall analysis treats two Indian newspapers or two U.S. newspapers as a group (e.g., U.S. newspaper coverage instead of *The Washington Post* coverage, Indian newspaper coverage instead of *The Times of India* coverage) and the analysis compares the coverage between two groups of newspaper, it is important to see whether a newspaper coverage of a country is significantly different from another newspaper coverage of that country in their use of one or certain news frames. Such chi-square analysis findings will keep us from generalizing a pattern in the news coverage by newspapers of a country.

4. Findings

4.1 News Frames in Indian Newspaper Coverage

The first research question was about the news frames included in Indian newspaper coverage of climate issues around the Paris Climate Conference 2015. As included in Table 1, environmental consequences and human-interest frame (30.3%) and conflict and strategy frame (26.2%) were dominantly used in the Indian newspaper coverage of climate issues around the Paris Climate Conference 2015.

Three other frames about climate issues included in news stories of Indian newspapers are: social progress and technological innovations (15.3%), responsibility frame (14.3%) and middle way/alternative path (13.8%). Morality and ethics frame was the least used frame (less than one percent) in Indian newspaper coverage about climate issues. Interestingly, the study did not see the presence of any scientific and technical uncertainty frame in any of the news stories published by two Indian newspapers. Some of this news coverage also includes achievement frame (11.1%) and economy frame (10.1%) (Table 1).

Table 1. Top news frames in Indian newspapers

News frames	% of Indian newspaper stories (N = 189)
Responsibility	14.3%
Economy	10.1%
Environmental Consequences and Human-Interest	30.3%
Public Accountability and Governance	4.8%
Conflict and Strategy	26.2%
Middle Way/Alternative Path	13.8%
Social Progress and Technological Innovations	15.3%
Achievement	11.1%

Note: Since multiple frames were identified in a good number of news stories, the total of all the percent figures included in this table was more than 100.

4.2 News Frames in U.S. Newspaper Coverage

The second research question sought to know the type of news frames included in the U.S. newspaper coverage of climate issues around the Paris Climate Conference 2015. Conflict and strategy frame (39.3%) and environmental consequences and human-interest frame (28.1%) were the top two news frames included in U.S. newspaper coverage (Table 2). U.S. newspaper coverage of climate issues also included other frames in varying degrees. The two U.S. newspapers used middle way/alternative path frame (18%) and responsibility frame (15.7%) to present the information about climate change issues. U.S. newspaper coverage also includes four other frames to some extent — achievement frame (12.8%), economy frame (11.2%), scientific and technical uncertainty frame (10.1%), and public accountability and governance frame (9%). Very few news frames (5.6%) focus on social progress and technological innovations aspects of climate discussion (Table 2). Interestingly, we did not find the presence of morality and ethics frame in U.S. newspaper coverage.

The goal of the third research question was to identify similar patterns in the use of news frames on climate issues by U.S. newspapers and Indian newspapers. In independent sample *t*-test analysis, this study did not find any significant difference in the use of these news frames between U.S. newspaper coverage and Indian newspaper coverage of climate change issues: responsibility frame, economy frame, environmental consequences and human-interest frame, achievement frame, public accountability and governance frame, and middle way/alternative path frame. Since U.S. newspapers did not use any morality and ethics frame and only less than one percent of Indian

newspaper stories used such a frame; the pattern for the use of morality and ethics frame is also pretty much the same in the climate news coverage by two countries’ newspapers.

If we look at Table 1 and Table 2, the use of responsibility frame in U.S. newspaper coverage and Indian newspaper coverage is almost similar. About 16 percent of U.S. newspaper stories advanced responsibility frame whereas a little over 14 percent of Indian newspaper coverage included responsibility frame. A little over 30 percent of U.S. newspaper coverage included environmental consequences and human-interest frame while a little over 28 percent of Indian newspaper coverage included such a news frame. There is only little over one percent difference in the use of economy frame between U.S. newspaper coverage and Indian newspaper coverage. Though U.S. newspaper coverage of Paris Climate Conference included more alternative path/middle way frame than Indian newspaper coverage by four percent, the difference is not statistically significant.

The goal of the fourth research question was to identify the difference between U.S. newspaper coverage and Indian newspaper coverage of climate issues in terms of news framing. The use of conflict and strategy frame in U.S. newspaper coverage of climate issues ($M = 0.3933, SD = 0.4912$) was significantly higher and different from the use of the same frame in Indian newspaper coverage ($M = 0.2620, SD = 0.4409$), when $t(274) = 2.226, p = 0.027$. The use of social progress and technological innovations frame in Indian newspaper coverage ($M = 0.1534, SD = 0.3614$) was significantly higher and different from the use of the same frame in the U.S. newspaper coverage ($M = 0.056, SD = 0.2316$), when $t(276) = 2.323, p = 0.021$. Our analysis also found that since the Indian newspaper

Table 2. News frames in U.S. newspapers

News frames	% of U.S. newspaper stories (N = 89)
Responsibility	15.7%
Economy	11.2%
Environmental Consequences and Human-Interest	28.1%
Scientific and Technical Uncertainty	10.1%
Public Accountability and Governance	9%
Conflict and Strategy	39.3%
Middle Way/Alternative Path	18%
Social Progress and Technological Innovations	5.6%
Achievement	12.8%

Note: Since multiple frames were identified in a good number of news stories, the total of all the percent figures included in this table was more than 100.

coverage of Paris Climate Conference did not include any frame on scientific and technical uncertainty and 10.1 percent of the U.S. newspaper coverage used the same frame, obviously there was a significant difference in that category, when $t(276) = 4.595$, $p = 0.000$.

Based on these findings, we can conclude that Indian newspaper coverage on climate issues included significantly higher number of social progress and technological innovations frame than the U.S. newspaper coverage. Likewise, we can draw another conclusion that the use of conflict and strategy frame and scientific and technical uncertainty frame are significantly higher in U.S. newspaper coverage than in Indian newspaper coverage.

5. Discussion

Two news frames — “conflict and strategy” and “environmental consequences and human-interest” — were prominently used in both U.S. newspaper coverage and Indian newspaper coverage of climate issues around the Paris Climate Conference 2015. This finding suggests that newspapers in both countries were largely focusing on the differences in the positions between developed and developing country parties on different action plans such as level of contribution to climate fund, reduction of carbon emission, investment for clean energy in developing countries, and distribution of varying level of responsibilities among involved parties in climate mitigation process. One of the arguments of developing country parties was developed countries should remain committed to support clean energy development and do more in reducing carbon emissions since the latter group historically polluted the air more than developing countries or new industrial countries like India. Therefore, large, developing countries demanded that they should get more time to grow economically and for that purpose they should not cut down carbon emissions at the level set for developed countries.

Though both U.S. and Indian newspapers used conflict and strategy frame prominently in their coverage of Paris Climate Conference 2015 and other climate issues, it was significantly higher in the U.S. newspaper coverage. It might be because the U.S. newspapers ran a number of stories on criticisms of the Obama administration by the Republican Party members for the Paris climate deal. Some other stories also brought up the issues of disagreement between the Democratic Party and the Republican Party on climate issues and future political challenges in implementing the Paris

climate pact.

In our analysis, we found an almost equal level of coverage in environmental consequences of climate change and their effects on human life in both Indian and U.S. newspapers. Some countries used the climate change effects as reference points for negotiation with efforts to reduce a gap on an issue of disagreement. In some stories, we found the use of multiple frames. Indian newspapers used more stories on environmental consequences of climate change since some parts of India were experiencing floods and storms right before Paris Climate Conference 2015.

India’s efforts and initiatives around clean and alternative energy sources and solar-powered systems were reflected in Indian newspaper coverage on climate issues. Therefore, the use of social progress and technological innovations frame was significantly higher in Indian newspaper coverage than in U.S. newspaper coverage.

It was interesting to note that only U.S. newspapers ran stories with scientific and technical uncertainty frames about climate issues. Scientific and technical uncertainty frame refers to the discussions that question the findings about global warming and authenticity of climate change effects. Sources of such discussion are usually known as climate change skeptics. Some of the conflict frame-oriented stories also used scientific and technical uncertainty frame. Skepticism about climate change is often intertwined with ideological differences between liberals and conservatives in U.S. politics.

Since U.S. newspaper coverage included more politics- and maneuvering-oriented conflict and strategy frame, we found more use of middle way/alternative path frame that suggests negotiation, compromised deal and alternative offer/deal/path, which is not polarized, to break standoff between two parties (Nisbet, 2009). “The Adoption of Paris Agreement” was the outcome of hectic negotiations between developed country parties and developing country parties; and it was reflected in both U.S. newspaper coverage and Indian newspaper coverage. This type of middle way/alternative path frame can be coupled with conflict and strategy news frame in a news story. A story that includes information about an issue of disagreement between two countries at a summit is also likely to advance information about their negotiation to close a gap of understanding.

Both Indian and U.S. newspapers used responsibility frame in almost similar fashion. While responsibil-

ity frame included in Indian newspaper coverage asked for continued and more committed roles by the developed countries in climate mitigation processes; U.S. newspapers also ran a number of stories where it is clear that developing countries and rising economies such as India, China and Brazil have responsibilities to comply with carbon emission rate.

Responsibility frames in news stories about the Paris Climate Conference did not just refer to the responsibilities and commitment of different governments in climate mitigation process, it also recognizes the roles of businesses and entrepreneurs in promoting environment-friendly technologies. Therefore, our research proposes to enlarge the scope of responsibility frame in framing literature since responsibility frame in climate context does not need to be just about the roles of governments.

Likewise, both U.S. and Indian newspaper coverage reflect similar pattern in presenting economic aspects of climate change issues. Newspapers in both countries covered the Paris Climate Conference discussion, such as funding for aiding the development and deployment of environment-friendly technologies in developing countries, investment in research and development for alternative energies.

The debate of scientific uncertainty about climate change claim has not fully gone down, if we consider the extent to which such frame is present in U.S. newspaper coverage. However, some recent studies suggested that scientific claims of climate change are no longer contested like the past (Zamith, Pinto and Villar, 2012; Zhao *et al.*, 2011).

Our study has introduced a new frame — achievement frame — to identify outcome-oriented stories about an event or an issue. Such frame is more appropriate in case of events where the process of negotiation and a win-win type of deal or agreement are involved. As our findings suggest, both U.S. newspaper coverage and Indian newspaper coverage include achievement frames, mostly in the stories published around December 12, when the Paris Agreement was

adopted. Some newspaper stories highlighted that one of the achievements of the Paris Agreement was to cap the increase in the global average temperature under 2°C above pre-industrial levels. Also, news stories recognize another provision of the agreement a positive outcome — making 195 countries obligated to reduce carbon emissions and come up with new emission reduction targets in every five years.

6. Conclusion

In earlier research, scholars were critical of the news coverage of climate change issues because of its political orientation. The main criticism was that non-environmental issues dominate the news coverage of climate issues. In our research, we also found that conflict frame was one of the top frames in both U.S. newspaper coverage and Indian newspaper coverage of the Paris Climate Conference. But in our research we also noticed that other news frames such as social progress and technological innovations frame, economy frame, and responsibility frame includes ideas and information related to climate mitigation.

The quality of news frames shapes public perceptions and understanding of an important issue like climate change or global warming. Since the discussion of climate change is multi-dimensional, good newspaper coverage can include environmental aspects in different types of news frames, such as the economy frame, innovations frame, and responsibility frame. The discussion of climate change is no longer restricted to environmental consequences we experienced or will experience. The discussion of climate change is now evolved into a discussion of climate justice, climate finance, and climate city. Not only politicians and policymakers, businesses have begun to see economic opportunities with alternative and clean energy solutions.

Conflict of Interest and Funding

The authors declare no conflict of interest.

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Appendix I. Coding protocol

Frames	Definition	Examples
<i>Responsibility</i>	When a story suggests some level of government has the ability to alleviate the problem/is responsible for the issue or a problem (Astrid Dirikx and Dave Gelders, 2010b, p.736; Semetko and Valkenburg, 2000).	"Prime Minister Narendra Modi said on Monday India did not create the climate change menace but was suffering its consequences while he delivered a stern message to affluent nations, saying "those with luxury of choices" should sharply reduce emissions."
<i>Economy</i>	This type of news frame includes information about the economic aspects of both climate change and climate mitigation plan and efforts—economic opportunities, new investment, funding for climate mitigation funds for developing and poor countries, or investment for clean-energy development (Astrid Dirikx and Dave Gelders, 2010b, p.736; Semetko and Valkenburg, 2000).	"Just in time for the Paris talks, the U.S. solar industry is having its biggest year ever." "Turn India-China into climate finance donors: Developed nations."
<i>Morality and Ethics</i>	Does the story suggest the issue at stake a matter of right? (Nisbet, 2009) Does the story contain any moral message with a reference to morality, God, and other religious tenets? (Astrid Dirikx and Dave Gelders, 2010b, p.736; Semetko and Valkenburg, 2000)	"This agreement adopts a more ambitious target for limiting global warming than in the past by mentioning 1.5 degrees Celsius as part of the concrete goal to stay well below 2 degrees."
<i>Scientific and Technical Uncertainty</i>	"A matter of expert understanding or consensus;" contrary scientific ideas/interpretations; "a debate over what is known versus unknown by scientists or scientific inquiries; or peer-reviewed, confirmed knowledge versus hype or alarmism about global warming, climate change and the such" (Nisbet, 2009, p.18).	"Global warming claim is exaggerated and overrated. Scientists manipulated the data so that the government justify their actions." "Top lawmaker rebutted on climate study accusation "
<i>Environmental Consequences and Human-Interest</i>	Story suggesting impacts on environment and geography and a need for precaution or action in face of possible catastrophe and out-of-control consequences; or suggesting there is no way to avoid the consequences or chosen path (Nisbet, 2009). Such frame also refers to a changing ecological or environmental pattern. Environmental consequences cannot be separated from human interest angles since personal lives and human properties are affected by natural disasters (Astrid Dirikx and Dave Gelders, 2010b, p.736; Semetko and Valkenburg, 2000).	"A successful climate treaty in Paris may not be enough to keep global temperatures from crossing the danger zone."
<i>Public Accountability and Governance</i>	Stories referring to "research or policy either in the public interest or serving special interests" in the context of a country. Such reports focus on the issues of "control, transparency, participation, responsiveness, or ownership or debate over proper use of science and expertise in decision-making" on the issues related to climate change and environment (Nisbet, 2009, p.18).	"The focus of activism will shift, he added, to ensuring that the stated goal of allowing temperatures to rise no more than 2 degrees Celsius, or even 1.5, is taken seriously by governments... The group will continue to focus on government policies and practices with a goal to "keep it in the ground," the motto about fossil fuels that 350.org popularized."
<i>Conflict and Strategy</i>	"A game among different stakeholders (NGOs, advocacy groups, political parties, governments), such as who is winning or losing the debate; or a battle of groups (usually a journalist-driven interpretation)" (Nisbet, 2009, p.18). Also, this type of frame refers to information about one party's attempt to mobilize support around their stance on an issue (Astrid Dirikx and Dave Gelders, 2010b, p.736; Semetko and Valkenburg, 2000).	"US wants to divide developing world before Paris talks: India"
<i>Middle Way/Alternative Path</i>	A third way approach other than polarized viewpoints; such frame suggests consensus, agreement or a win-win or a mutually understanding actions and agreement, which is an opposite of conflict and strategy frames (Nisbet, 2009, p.18).	"India must negotiate for a fair and equitable climate deal."
<i>Social Progress and Technological Innovations</i>	Stories sharing information and ideas about means and initiatives/efforts around "improving quality of life or solving problems" and mechanisms/technological innovations to adapting with the nature instead of training or mastering the nature (Nisbet, 2009, p.18).	"Clean-energy powered New Delhi's Metro removes more carbon than it adds" "Solar-powered Cochin International Airport"
<i>Achievement</i>	Positive outcomes of an agreement and/or initiatives; environmentally-friendly initiatives.	"This agreement adopts a more ambitious target for limiting global warming than in the past by mentioning 1.5 degrees Celsius as part of the concrete goal to stay well below 2 degrees." "World enters low-carbon age. Leaders react on Paris agreement."