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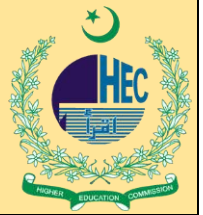
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Climate Change Communication and Transboundary Water Politics: A Comparative Media Framing Analysis of the Indus Water Treaty in Pakistan and India

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ABSTRACT

This paper examines the manner in which Pakistani and Indian media represent the Indus Water Treaty (IWT) in the bigger picture of climate change and transboundary water politics. The study will analyze the tone, thematic emphasis and narrative approaches of top newspapers in the two countries on times of increased levels of water-related tensions and extreme climate phenomena using comparative framing analysis. This research aims to reveal whether the media discourse serves to support cooperation or trigger the conflict discourse, and how the narrative of climate change is placed in such frames. The study will present the availability of perspectives contributing to the overall understanding of the impacts of media in shaping the public deliberation and perception of common natural resources in South Asia and it will do so through the integration of the vision of environmental communication, international relations studies and media studies.

Keywords: Climate Change Communication, Transboundary Water Politics, Indus Water Treaty, Media Framing, Pakistan, India.

1. Introduction

The Indus Water Treaty (IWT), agreed upon by Pakistan and India in 1960 with the support of the World Bank government, has frequently been referred to as one of the longest-standing instances of water diplomacy in the global environment. It assigns the three western rivers (Indus, Jhelum, Chenab) to Pakistan and the three east rivers (Ravi, Beas, Sutlej) to India, and strictly allows each water to be used, to an extent, by both nations. The treaty has withstood wars, border wars, and changing regional geopolitics, despite political tensions on several occasions. But the future of the 21st century, the climate change, population explosion,

industrialization and environmental degradation are now putting cloths around the neck of the treaty and the hydrological system which it controls.

Climate change is magnifying glacier melting in the Himalayas, changing the pattern of rain water, and increasing floods and droughts in the Indus Basin (Immerzeel, van Beek, & Bierkens, 2010). The stakes are existential to Pakistan, with an agrarian economy completely reliant on the Indus River system, and to a lesser but significant degree in India, where needs of agriculture, urbanization, and industry will intensify the issue of water insecurity. As a result the IWT has increasingly come not only into the spotlight of bilateral diplomatic tensions but also into the thematic dimensions of environmental security in South Asia. Media as the source of information that determines the narratives of the policymakers and the population critically influences the narratives of the IWT and climate change. By framing- the choice, focus and omission of elements of an issue- media outlets have a choice of whether to encourage cooperation, convey competition or stimulate conflict (Entman, 1993). Within the Indo-Pak relations, the issues of the media narratives and nationalist and security discourses are normally intertwined, likely to intensify tensions (Siraj, 2008). Simultaneously, events of environmental emergency, such as the 2022 Pakistan floods or the 2019 Indian monsoon floods, may provide some frames highlighting interconnectedness in vulnerability, providing an opportunity about collaborative dialogue.

In South Asia, little has been written about the role of climate change communication in transboundary water politics. Although research on hydropolitics (Wolf, 1999; Mustafa et al., 2013) or coverage of climate change at the national level (Shah & Dulal, 2020) has burgeoned in recent years, very little empirical work has been done to date on the relationship between the two areas of study in a situation combining adversarial states and a shared vital water resource. The way the IWT in relation to climate change is constructed in Pakistani and Indian media is critical to unraveling channels to a more fruitful dialogue.

This paper will fill this gap by conducting a comparative, qualitative frame analysis of the leading English-language newspapers in the two countries. It addresses the ways in which climate change penetrates into water-related reporting, whether or not frames promote cooperative problem-solving or further divide the political divide, and how thematic accents vary in the two media surroundings. Placing the analysis in the context of environmental communication, international relations, and media studies, the research would advance the academic knowledge of, and contributes to policy-discussions regarding, shared environmental governance in conflict-prone areas.

2. Literature Review

Climate change communication is the act of spreading the knowledge and perceived hazard of climate change to the general population, and the chief aims to develop awareness and foster the accompanying action (Moser, 2010). Good communication needs to entail effective scientific data, but it is also required to deploy linguistic tactics that can appeal to the audiences in their political, cultural, and emotional situation (Cox & Depoe, 2015). Climate change can be defined in terms of science, politics, economy or morality where each concept

invokes different reactions among the population (Nisbet, 2009). The selected framing fundamentally influences the ways by which audiences perceive and react to climate change; the presentation of the latter as an urgent situation can foster worry, but said urgency threatens to create a sense of hopelessness where agencies-related messages are absent (O'Neill & Nicholson-Cole, 2009). In South Asia, unswerving media coverage on climate change is limited by the urgency of socio-political issues such as poverty, governance, and security that stand higher than climate issues (Shah & Dulal, 2020). As a result, the coverage is usually sporadic and politicized, which places climate issues in a cycle of report on a disaster on a continuous basis instead of focusing on the issue as an issue of thematic concern (Billett, 2010). One of the globally politically sensitive transboundary river systems is the Indus Basin which cuts across Pakistan, India, Afghanistan, and China. It holds significant agricultural and hydropower potential as well as livelihoods in Pakistan and India (Mustafa, Akhter, & Nasrallah, 2013). The Indus Water Treaty (IWT), mediated by the World Bank in 1960, stands out, as one of the historical instances of sustainable transboundary water agreements, notwithstanding the enduring political animosities (Salman & Uprety, 2002). However, climate change portends new stresses, such as recession of glaciers, changes in water precipitation, and increased rates of floods and drought, that are applied on the fixed allocation scheme of the IWT (Immerzeel et al., 2010). Recent conflicts relating to dam construction, water storage, and flow control have led to the reopening of arguments on whether the IWT is sufficient in the face of changing climatic conditions (Garrick et al., 2014). Case studies into the transboundary relations of water practice show that geopolitical tensions are likely to exacerbate with climate variability when adaptable and collaborative systems have not been developed (Wolf, 1999; Zeitoun & Warner, 2006). The Framing Theory, which is expressed by Entman (1993), is a theory which holds that the responsibility attribution, interpretations, and policy determination occurs as a result of communicative presentations. Framing, in a bilateral conflict, tends to recreate nationalist discourses of blaming the other side, victimizing the in-group, or the side that at best is superior and at worst, the out-group is inferior thus entrenching stereotypes and mistrust (Siraj, 2008). According to the research on Indo-Pak media relationships, collaborative stories have been relegated, and aggressive coverage dominates the reporting when a crisis happens (Khan & Khan, 2019). Environmental and water problems that are complicated by political tensions like in the case of water-sharing conflicts are often perceived in a geopolitical context, with environmental problems becoming securitized since they are seen as a threat of the adversary to be dealt with as an enemy instead of a partner (Allan, 2001). Though Pakistani and Indian climate vulnerabilities are high, the differences in media rhetoric about climate change swing wide in terms of priorities and tone. The widespread portrayal in Pakistani outlets depicts climate change as both a humanitarian and a development issue, emphasizing the vulnerability of the community, response, and adaptive ability of the community to crisis (Raza, 2021). Technological innovations, renewable-energy breakthroughs, and climate diplomacy are observed to be the common themes in Indian media (Chaturvedi & Doyle, 2015). However, during times of increasing political acrimony, when IWT-related climate-water issues tend to

result in the blame-focused/nationalistic framing, climate change becomes a tool in a policy advocacy discourse reduced to a secondary issue. The unsupportive strategy of post-event reporting of flooding, drought, or dam construction uses climate change to support policy positions rather than collaborative solutions to the environment, but the same tendency extends generally to the world (Bisht, 2013). Environmental reporting comparative analysis explains how national contexts condition the media coverage of common ecological threats. Carvalho (2007) argues that the media shapes the narratives based on cultural values, political organizations, and elite interests. The media may be a source of a joint understanding in transboundary water disputes or a damper to the cooperation. Experience with other basins, namely Mekong and Nile, reveals that common climate risks can be reframed in order to foster collaborative responses when constructive frames are prominent (Hirsch, 2016; Cascão, 2009). Such reframing, however, is unusual in South Asia and few comparative media analyses have been conducted on the nexus between climate change and climate diplomacy (Zeitoun & Mirumachi, 2008). This statistical inadequacy indicates the relevance of the current work in which the use of AI-assisted content analytics is used to examine the interconnection between the climate narratives and the geopolitical tension in the Indo-Pakistan media discourse.

3. Methodology

In this paper, a qualitative comparative framing analysis will be used to analyse the manner in which Pakistan and Indian major newspapers frame the Indus Water Treaty (IWT) in tandem with climate change. The style leaves the possibility of a sophisticated interpretation of the tone, themes, and the discourse strategies within the news.

3.1 Sampling

Four major English-language newspapers were identified using a purposive sample of the following newspapers: Dawn and *The News International* (Pakistan) and The Hindu and The Times of India (India). The publishedArticles, 2015-2024, were identified based on three searches as following (1) referring to IWT, (2) touching climate change or environmental effects, and (3) commenting on cross-border water relations.

3.2 Framework of analysis

Articles were coded in NVivo in three broad domains: (a) the tone (cooperative, neutral, confrontational), (b) the thematic emphasis (the impact of climate change, the blame on politicians, the effectiveness of the treaties, technical solutions, and diplomat efforts), and (c) the narrative approach (the voices of experts, the history, sensationalism and advocating a policy).

Comparison: three approaches are considered, and three points are drawn.

The two national contexts were compared in terms of the frames to identify differences and similarities. Tests were done on intercoder reliability with the agreement levels at over 85 percent, which established coding consistency.

Table 1 below provides examples of frame categories:

Frame Type	Example from Pakistan Media	Example from India Media
<i>Cooperative</i>	Joint hydrological monitoring needed	Shared climate threats demand joint action
<i>Neutral</i>	IWT provisions remain unchanged	Experts debate treaty resilience
<i>Confrontational</i>	India's dam construction violates spirit	Pakistan politicizes water-sharing issues

4. Theoretical Framework

The study is based on the framing theory, as outlined by Entman (1993), who states that framing the media involves choosing some of the elements of perceived reality in a bid to make them more prominent in a message text. Frames identify problems, target reasons, render moral choices and propose solutions. Frames can influence a discourse to foster cooperation or contribute to a conflict itself, in the case of climate change and transboundary water politics. Also, the research builds on environmental communication theory (Moser & Dilling, 2011), which highlights the usefulness of communication in heightening awareness and strengthening action on environmental issues. Having combined the framing theory and the environmental communication approach, the study encompasses both political and environmental aspects of Indus Water Treaty discourse.

5. Findings

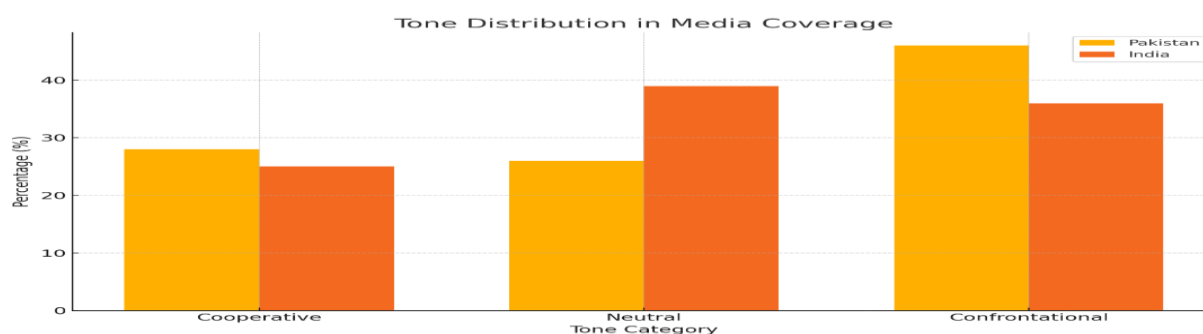
5.1 Dominant Frames

The Pakistani media reported mostly in a confrontational pattern (46%), while 28% were cooperative and 26% were neutral. The media in India revealed distribution of frames: 36% confrontational, 25 percent cooperative, and 39 percent as neutral.

5.2 Patterns of Themes

Pakistani media emphasised even more frequently the effects of climate change (62%), than the Indian media (48%), however, Indian sources emphasized results more to technical solutions (35% vs. 28% in Pakistan). Political blame frames appeared in most of the coverage (more than 50 percent) in both countries.

5.3 Strategies of the narrative



Pakistani commentaries on climate change vulnerability drew upon expert opinion more than Indian media did, which balanced opinion with official government pronouncements. Historical citations were variedly employed Pakistan bringing into focus times of error, India times of treaty firmness.

6. Discussion

The results show that although Pakistani and Indian media appreciate the importance of rising climate change as a factor in the context of the Indus Water Treaty, there is the existence of recalcitrant political discourse that influences the framing of the problem. Pakistani reporting presents climate change as a matter of life and death, inseparable with Indian behaviour, but Indian reporting presents it as a technical and policy issue, which is frequently divorced of any political accountability.

Episodes of cooperative and especially post-natural-disaster framing provide indications that collective vulnerabilities can, at least temporarily, supersede political differences. But these frames are temporary and tend to give way to the confrontational narratives in a case of diplomatic or military crisis. This is consistent with Siraj (2008) and Khan & Khan (2019) who established that the Indo-Pak media discourse is massively impacted by political events.

Such inaction is characterized by inadequate use of climate change as a rallying point of solving common problems. This study recommends that reframing climate change as a common security threat would foster a long-term cooperation agenda.

7. Conclusion

This paper shows that in Pakistan and India, the media framing of the Indus water treaty is very different and related to the political agenda of each country and their domestic discourse. Although climate change provides the potential platform that countries can work together, the nationalistic rhetoric dominates over common environmental issues.

Policymakers, journalists, and regional institutions should promote cross-border collaborations on climate change communication to get closer to constructive dialogue. Collaborative reporting, local regional environmental journalism conferences and professional exchanges are a means of exploring effective middle-ground framing of transboundary water problems. This study helps to bolster the much larger discussion on environmental diplomacy and conflict resolution in South Asia by illuminating these framing patterns.

8. Recommendations

1. Empower Climate Change-Water Diplomacy Nexus

Develop a specific joint Pakistan-India Climate-Water Dialogue Forum under the Indus Water Treaty (IWT) to involve climatic change projections in implementing water sharing processes. Involve both the side's technical experts, hydrologists, and climate scientists to make decisions driven by data.

2. Increase the level of AI-mediated climate and water tracking.

Implement early warning systems against floods, drought and glaciers melt in Indus Basin based on artificial intelligence.

Relay satellite images and hydrographical information via collaborative AI-driven dashboard to curb falsehoods and instill confidence.

3. Advance Responsible Media Framing

Stimulate Pakistani and Indian media to change conflict sensitivity in journalism by re-conceptualization the issue of water sharing on the problem of common solutions instead of a zero-sum game.

Create media guidelines on how to report transboundary water issues relating to climate change without an alarmistic/nationalistic approach.

4. Capacity Building/Training

Train journalists, policy-makers and diplomats in climate-related skills of communicating about climate change, especially science-based reporting and innovative negotiation techniques.

When teaching the topic of climate change in schools of public policy and journalism, it should include special modules on climate change and transboundary water management.

5. Education and Awareness to the general Population

Introduce cross-border publicity alerting on the implications of climate change on common water resources and corresponding livelihoods in the two nations.

Apply documentaries, digital stories, and school activities to change the stories in the context of cooperation.

6. Introduce Climate Adaptation into the IWT Model

Amend the IWT with provisions relating to glaciers melting, altered watercourses and intense weather patterns as a result of climate change.

Put water allocation frameworks in place that are elastic to the changes in climate.

7. Promote Third Party Intervention and Technical Feeding

Request the assistance of impartial global bodies (e.g., UNEP, World Bank, ICIMOD) in conducting scientific Review, and resolving disputes.

8. Combine the Fight against Disinformation by forming Fact-Checking Alliances

Establish Pakistan and India media fact-checking network that would help correct climate and water-related news by checking the background of such news before it is published to minimize the tension created by the incorrect news and with only one side of the story available.

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