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Traditional Media Coverage on Climate Change and its Effects on Public Opinion in Pakistan

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ABSTRACT

Aim of the Study: The goal of the study is to determine how Pakistani conventional media influences public opinion and educates the general public. The article also discusses the negative effects of climate change that Pakistan will soon have to deal with, using the Media Dependency Theory.

Methodology: Researchers used a sample of (N=77) individuals in a quantitative investigation strategy. To choose individuals from various regions in Rawalpindi, Lahore, Islamabad, and Karachi, convenience sampling was used. Data was gathered using a self-created survey that included topic-specific questions and statistical information. For the factual analysis, SPSS was used, and unimaginable information was provided. To these respondents, an online survey questionnaire was given.

Findings: Research revealed that the majority of respondents disapproved of traditional media portrayals of measures to combat climate change, despite the fact that the issue has a substantial influence on society, the environment, the economy, and public health. Researchers and coverage in the media must coordinate in order to properly address this issue and provide the public with accurate and thorough information.

Conclusion: Pakistan's conventional media does not do a good job of covering climate change because of a number of issues, including few resources, conflicting agendas, and maybe a lack of awareness of the issue's seriousness. Still, there are a number of reasons why it merits additional attention. First of all, millions of people in Pakistan are directly impacted by severe storms and shortages in water, two effects of climate change that Pakistan is particularly sensitive to. Second, more media attention to the problem can help people comprehend it more effectively and become more aware of it, which will enhance the backing of initiatives to lessen it and adapt to it. Thirdly, media coverage has the power to motivate politicians to act decisively by drawing attention to the connections between the effects of climate change and problems like food security, poverty, and public health.

Keywords: Traditional Media, Climate Change, Media Coverage, Public Opinion.

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1. INTRODUCTION

Climate change has become one of the world's most significant and contentious topics due to its potential future impacts on the globe. However, scientists are paying greater attention to climate change, but it is not only a scientific issue. Instead, it is a multidisciplinary issue combining the sciences of society, the natural sciences, and literature that is extremely political in character. Public perceptions, laws, and practices concerning climate change are often influenced by the general population's awareness of the issue.

Scholarly research has demonstrated a direct correlation between people's views of the environment and media coverage, confirming the widely acknowledged importance of the media in influencing public opinion. Consequently, the importance of media (Shabir et al., 2015; Shabir et al., 2015a).

First, let's clarify the background behind typical media coverage of climate change and discuss how the media portrays climate change and how this influences public opinion. We will next talk about the role of the media in politics, particularly its portrayal of climate change, as well as the effect of the press from public opinion—a topic attracting scholars on both sides of the discussion. Furthermore, with the emergence of new the media, this will be examined how the changing media landscape may affect public views. Finally, the disparities of opinion and difficulties in evaluating the impact of journalism on the public's view will be explored, along with the limitations of studies asserting an immediate link between press coverage and public perceptions of climate change (Safdar and Butt, 2024).

The total greenhouse gas (GHG) emissions for the year 2018 were estimated at 489.87 Mt CO_2e, reflecting a notable increase compared to previous national inventories conducted in 1994, 2008, 2012, and 2015. This upward trend is documented in Pakistan's *First Biennial Update Report (BUR–1)*, based on the *National Greenhouse Gas Inventory (2017–18)*. Among the major sectors, Agriculture, Forestry, and Other Land Use (AFOLU) emerged as the largest contributor, accounting for 223.45 Mt CO_2e. The Energy sector followed closely with emissions totaling 218.94 Mt CO_2e, while the Industrial Processes and Waste sectors contributed 25.76 Mt CO_2e and 21.72 Mt CO_2e, respectively.

About 45% of all national emissions in 2018 came from AFOLU emissions. Of these, 109.12 Mt CO2e (48.3%) came from the livestock industry, 74.98 Mt (33.6%) from managed soils, 31.52 Mt (14.1%) from land, and 7.83 Mt (3.5%) from rice cultivation.

Fossil fuel burning is the main source of emissions in the energy industry. Pakistan's high rate of population growth has led to a rise in the country's energy consumption, which has been met by an increase in the usage of natural gas, oil, coal, and liquefied petroleum gas. Since 2015, Pakistan imported three times as much coal as it did before, with 18.7 million tons coming into service in 2020 as a result of the country's coal-fired power plants coming online. The United States produced around 5 million tons of coal and lignite in 2020, while 24 million tons of coals were used overall (Shabir et al., 2015b).

Although Pakistan makes up less than 1% of the world's greenhouse gas emissions overall, it is among the nation's most susceptible to the effects of warming temperatures and natural catastrophes. Development in regions at risk, urbanization, shifting land use structures, growing populations, and environmental degradation all contributes to increased susceptibilities to catastrophe risks.

1.1 Main Policies and Government Approach

The primary government agency in charge of Pakistan's climate change affairs is the Ministry of Environment and Climate Change. The National Climate Change Policy of Pakistan is the nation's climate change policy manual. National mitigation and adaptation plans across sectors can be developed using the principles provided by the first National Environmental Policy (NCCP 2012). The revised NCCP, which links economic growth with climate action, was introduced in 2021. It placed a major emphasis on mainstreaming and merging environmental policy with other programs. The overarching objective is to push Pakistani toward climate compatible development, or low-carbon and climate resilient development,

and to make sure that global warming is mainstreamed throughout all economically and socially sensitive sectors of our economy.

In 2021, Pakistan also provided the UN Framework Committee on the Control of Climate Change (UNFCCC) with an updated Nationally Committed Contribution (NDC). Pakistan intends to cut its estimated emissions by fifty percent by 2030 through its revised Nationally Determined Contribution (the NDC). This reduction would come from 15% of the country's own resources (unconditional) and an additional 35% of the country's own resources (conditional), depending to international financial help.

Pakistan plans to entirely prohibit the import of coal by 2030 and transition to 30% electric cars and 60% renewable energy sources in order to meet its objective. In addition, Pakistan aims to broaden the scope of Nature-based Solutions (NbS) by executing the Protected Areas Initiative, Recharge Pakistan, and the Ten Billion Tree Tornado Programme (TBTTP). Pakistan's emissions as of 2018 were 489.87 Mt CO2e; if the Million Trees Reforestation Program (BTAP) and TBTTP are completely completed, CO2 will be buried by about 500 Mt carbon dioxide by 2040.

The 2019 National Electric Vehicle Policy (NEVP) for 2020–2025, the Strategic Plan for Energy Efficiency & Conservation (2020–2023), and the 2019 Alternative Renewable Energy (ARE) Policy are just a few for the new sectoral policies that have been adopted to support Pakistan's decarbonization efforts.

1.2 Problem Statement

Pakistan is among the top 10 countries in the world most affected by climate change and natural disasters. It is well known that the nation is extremely vulnerable to temperature increases. By the end of this century, the average annual temperature will be increasing by around 3°C to 6°C depending on the emissions of carbon dioxide forecast. Rising temperatures have currently led to a rise in the severity and frequency of severe climatic events in Pakistan, including as floods, droughts, cyclones, protracted rain showers, uncommonly hot temperatures, etc. In addition, rising temperatures in Pakistan are anticipated to exacerbate the negative health consequences of water and air pollution, reduce labor productivity due to extreme heat, and alter the availability of water, which might have an impact on riverine ecology and water security.

They said that because climate news generally lacked drama, excitement, and political repercussions, it did not meet the news criterion for selection. In addition, because of their financial struggles, media outlets found it easier to cover political news that attracted larger audiences. However, several reporters called for changes to the prevailing political discourse and emphasized the need for the press to adopt a more socially aware role in highlighting the severity of the nation's climate calamity. A separate research suggests that in order to increase the public's awareness of climate change, the media should run greater advertisements and special segments.

1.3 Significance of the study

In the nation of Pakistan, the media serves as the primary information source for a large number of people. Understanding how media depictions of climate change influence public opinion can provide insight into the public's knowledge of the issue.

Public opinion may have a significant role in influencing the policies and activities of businesses, governments, and other organizations. By examining how media coverage affects public perceptions of climate change, policymakers may enhance their communication strategies and legislative proposals to win support from the public for initiatives to combat climate change.

Disinformation or incorrect understandings of climate science may occasionally be propagated by coverage in the media. Through an investigation of the effects of different media outlets on public opinion, particularly traditional media, researchers can pinpoint areas where false information is rife and devise tactics to combat it

Public opinion can have an impact on an individual's climate-related behaviors, including usage of energy, preferred modes of transportation, and support for sustainable policies and initiatives. By better understanding the relationship between public opinion and coverage in the media, climate activists and communications may create messages that promote climate actions and behavior on climate change more effectively.

There are many different ways that the environment is depicted in the media, ranging from alarmist to skeptical perspectives. Examining how different media portrayals affect public opinion might help understand why some groups of people may embrace climate science less than others and help develop targeted communication strategies intended to debunk misconceptions. As a result, the significance of how the public views climate change and how it is covered by the media may provide insightful insights into the methods used to collect and distribute information, which in turn can impact attitudes, behaviors, and laws related to minimizing and responding to the consequences of climate change.

1.4 Independent & Dependent Variables

The variables that are dependent would be public opinion and the general public's understanding of climate change, while the independent variables would be news coverage and demographic factors related to climate change coverage. These factors have independent because they may affect how people interpret and respond to media coverage of climate change.

1.5 Research Objectives

- To see how well Pakistani media is reporting about climate change
- To make people aware about the vulnerability of natural disasters and climate change
- To monitor treaties that have been done for climate change

1.6 Research Questions

Q1.To what extent is climate change being covered by Pakistani media?
Q2.How can we educate people about how vulnerable they are to climate change and natural disasters?
Q3.How can we keep an eye on how climate change-related treaties are being implemented?

1.7 Hypothesis

The relationship between exposure to alternate information sources and conventional media coverage will impact public opinion on the subject of global warming.

2. LITERATURE REVIEW

Significant effects of warming temperatures are seen in society, the environment, the economy, and the wellness of people. Research and coverage in the press must coordinate in order to effectively tackle this issue while offering the public with reliable and comprehensive data. In this research, we analyze the parallels, differences, and gaps in the treatment of the environment in scholarly and general-interest publications utilizing an assortment of text-mining, web-scraping, and topic-modeling tools.

Climate change represents the most profound threat to global environmental, social, political, and economic systems. Human activities have not only elevated surface temperatures and increased atmospheric concentrations of greenhouse gases (GHGs), but have also significantly altered key components of the Earth’s environment, including the oceans, terrestrial ecosystems, and the atmosphere itself (Wyser et al., 2020; Masson-Delmotte et al., 2021). Observable consequences of these transformations include rising global sea levels (Zemp et al., 2019; Garcia-Soto et al., 2021; Oliver et al., 2021), accelerated thawing of permafrost and retreat of glaciers (Sommer et al., 2020; Wilkenskjeld et al., 2022), reduction in snow and ice cover (Shepherd et al., 2018), and increased ocean acidification (Doney et al., 2020). In response to these escalating impacts, mitigation and adaptation have emerged as two

interdependent and essential strategies for addressing the multifaceted challenges posed by climate change (Abubakar & Dano, 2020; Diamond et al., 2020; Tosun, 2022).

While adaptation entails constructing resistance to the inevitable effects on people and ecosystems, mitigation concentrates on lowering emissions or improving GHG sinks. Deep scientific knowledge and active participation from researchers, civil society, and other actors are necessary for these initiatives to succeed (Wamsler, 2017; Tai and Robinson, 2018; Gonçalves et al., 2022).

One of the several issues confronting humanity today is climate change, which has been called an existential danger to civilization (IPCC, 2022). Unanimous scientific consensus has warned that failing to adjust and adapt to the climate crisis would have unprecedented consequences for our contemporary way of life [van der Linden, Leiserowitz, Feinberg & Maibach, 2015]. This crisis is expected to have a greater impact on the least developed countries than the developed ones (IPCC, 2022).

One such instance of the extraordinary effects of climate change is the recent "super-flood" in Pakistan, which destroyed over 1400 lives, submerged a third of the nation, and forced 32 million people to flee their homes (Bokhari & Reed, 2022). The world has already seen record-breaking heatwaves in the first half of 2022, followed by drought in Europe, storms in Japan, and a historic 500-year flood in Montana (Marwan, 2022). These events highlight the enormity of the challenge and the efforts needed to prepare people for future climate crises.

According to Reid (2019), a number of climate experts concur that global warming is a worldwide issue with a significant likelihood of having catastrophic effects on the environment, society, economy, and emotions in the century to come. Thus, it is clear that the media has been paying more attention to the issue of climate change and the possible threats it poses to humanity in many regions of the world, especially in the previous 20 years (Schmidt, Ivanova & Schäfer, 2013). It is not unexpected that the media plays such a crucial role because it continues to be the public's primary information source on a variety of topics, including climate change (Newman et al., 2020).

Because of this, the media's significance has naturally attracted a lot of scholarly attention, leading to a variety of empirical research looking at coverage of news in various circumstances. Numerous studies have attempted to examine media coverage by concentrating on or comparing a small number of countries; in this paper, we especially want to include more work to countries that are typically underrepresented in the literature. These studies mainly focus in nations located in the Global North, but some are also from the South. But mostly we have discussed climate change issues of Pakistan and Asia.

Scholarly inquiry has increasingly focused on media representations of climate change, with particular attention given to the coverage of major international climate conferences (Christensen & Wormbs, 2017; Gurwitt et al., 2017). These studies are premised on the notion that heightened media attention to climate-related events can significantly influence public perceptions regarding the severity and urgency of climate change, as well as the necessity for mitigation and adaptation strategies. A growing body of research now examines public responses to climate change media coverage (e.g., Nisbet et al., 2013; Stamm et al., 2000). Empirical evidence suggests that greater exposure to such media content is associated with increased support for climate-related policies and a stronger belief in governmental responsibility to address the issue (Feldman et al., 2014).

Individuals' perceptions of and responses to climate change communication are shaped by a complex interplay of attitudes, beliefs, and value systems. Public discourse on climate change often reflects deep-seated polarization, particularly along political lines, as evidenced by the ideological divide between Republicans and Democrats in the United States (Krosnick et al., 2000; McCright & Dunlap, 2011). These ideological orientations significantly influence how individuals perceive the risks associated with climate change and their willingness to support or engage with mitigation efforts. Research indicates that both skepticism toward and engagement with climate change are closely linked to cognitive factors and

broader value orientations, including trust in science, political ideology, and cultural worldviews (Corner et al., 2014; Poortinga et al., 2011).

Furthermore, earlier research has found that the way that climate change is portrayed in the media greatly depends on the opinions and beliefs of the individual (Wiest et al., 2015). For example, the conviction that climate change is occurring might strengthen favorable media impacts on support for policies (Feldman et al., 2014). On the other hand, it has been found that skepticism about climate change poses a significant obstacle to the adoption of mitigation policies and carbon-reducing initiatives (Engels et al., 2013).

The 2010 floods in Pakistan are a severe hydrologic and sociological occurrence. At their height, they buried around 20% of Pakistan's land area, immediately killing and wounding up to 5,000 people and up to 20 million more. The region has seen an economic effect that includes infrastructure, agriculture, livestock, and fatalities. Even though there were other contributing variables (such as snowmelt and water management techniques), an exceptionally high rainfall event was directly linked to the floods. According to the Pakistan Meteorological Department (PMD), 2010 the country-wide total for July–September 2010 was the highest since 1994 and the sixth highest in the previous 50 years.

The majority of the intense downpour took place in the months of July and August. The 2010 flash floods were caused by a meteorological pattern that started in July with many locally generated, strong rainstorms and continued into the early part of August with monsoon rains [Webster et al., 2011]. Houze et al.'s synoptic study [2011] revealed that the July rainstorms' intensity and organization were unusual for northern Pakistan. Some have questioned whether the unusual 2010 rainfall in Pakistan is part of climate variability or somehow related to global climate change, partly because of other extreme events that occurred in the course of the summer of 2010, like the Russian heat wave [Marshall, 2010].

Existing literature categorizes Pakistan’s precipitation into two primary seasonal patterns: (1) intense summer rainfall associated with monsoonal currents predominantly affecting eastern regions of the country, and (2) late winter to early spring precipitation resulting from western disturbances or upper-level shortwave systems (Kazi, 1951; Khan, 1993; Hussain & Lee, 2009). Approximately 50–75% of the nation’s total annual rainfall occurs during the monsoon season, specifically between July and September, which is closely linked to the monsoon trough (Kazi, 1951; Kureshy, 1998). Previous studies have identified multiple convective systems contributing to summer rainfall, originating from both the Arabian Sea in the southwest and the Bay of Bengal in the southeast (Kazi, 1951; Khan, 1993).

In terms of variability, it is well established that intraseasonal fluctuations in the South Asian monsoon trough—particularly those within the 30- to 60-day oscillation range—exert a substantial impact on monsoonal rainfall across the Indian subcontinent and beyond its northern boundaries (Chang & Krishnamurti, 1987; Goswami, 2005). The northern extent of the Indian monsoon is further influenced by changes in the Eurasian teleconnection, which transmits Rossby wave trains across Eurasia and East Asia, thereby affecting regional climatic patterns (Ding & Wang, 2007). Additionally, monsoon depressions originating over the Bay of Bengal and tracking northwestward into the monsoon trough have been identified as significant contributors to summer rainfall in northern Pakistan (Muhammad, 2005; Yoon & Chen, 2005). Notably, during the late July 2010 rainstorms, a series of such depressions traversed India, enhancing moisture convergence and intensifying precipitation over Pakistan (Houze et al., 2011).

Previous research suggests that climate change is likely to intensify rainfall variability and lead to an overall increase in precipitation associated with the South Asian monsoon (Meehl & Washington, 1993; Intergovernmental Panel on Climate Change [IPCC], 2007). Observational studies further indicate a positive correlation between rising temperatures and the frequency and intensity of extreme rainfall events during the monsoon season, particularly across India (e.g., Goswami et al., 2006). These findings underscore the growing concern that climate change may exacerbate hydrometeorological extremes in the region, posing significant challenges for water resource management and disaster preparedness.

According to Patwardhan and Bhalme (2001) and Singh (2001), there has been a decrease in the frequency for the rainy season depressions over the Arabian Sea and Bay of Bengal between 1890 and 1999. This finding contradicts the theory of an enhanced water cycle in India caused by warming from greenhouse gases. These contradictory findings and the unusual rainstorms in 2010 beg the issue of whether climate change is a contributing factor in the strong monsoon rains that occur in northern Pakistan.

Threats to life on Earth are coming from the planet's constantly shifting environment. With every year that goes by, the effects of changing climate conditions become more apparent. The dangers associated with the environment, such as floods, harsh weather, wildfires, etc., have increased significantly over the past few years due to these fast changes in the climate. While the effects of this environmental disaster are felt all around the world, emerging nations like Pakistan are particularly susceptible to these unforeseen changes in the climate. The media, particularly print media, is crucial in raising public knowledge of and receptivity to changing climatic trends. But there isn't enough media coverage of problems like climate change in underdeveloped countries like Pakistan.

Concerns about climate change are widespread among all living things on Earth. Because of the growth in greenhouse gases brought on by human activity, the world is warming steadily, posing serious risks to human health, the environment, and humanitarian relief. The effects of climate change are being felt by societies worldwide, whether they are part of highly developed nations or any third-world country. As time goes on, this global issue is becoming more complicated. Because of the many media portrayals of global warming that have largely focused on Western countries, newspapers from other nations additionally emphasize on reporting environmental concerns, which is why each media outlet tends to expand its coverage.

Numerous studies on media research have revealed how the third world's small geographical extent affects their perception of the climate change situation. A survey of 27 different countries revealed how highly each nation values the phenomenon of global warming and how important it is for the public or commercial media to have a part in this.

This study comprised a sample of 27 nations that, like Germany, have committed to reducing their greenhouse gas emissions under the Kyoto Protocol, as well as those who are heavily impacted by the effects of climate change, like India. This study examined how media coverage of climate change within these nations increased quickly between 1996 and 2010, and it investigated whether or not this coverage aligned with metrics gauging the importance of the issue and environmental policies for a given nation.

According to the study's findings, all nations have seen an increase in coverage of climate change. Nonetheless, there are significant national differences in the overall levels of media attention as well as the rate of increase over time. Media coverage is particularly strong in carbon-dependent nations that have signed the Kyoto Protocol. Schmidt, Andreas (2013)

2.1 Theoretical Framework

The Media Dependency Theory, created in 1976 by Sandra Ball-Rokeach and Melvin DeFleur, was used in this research investigation. Media dependency theory is the systematic investigation of the ways in which mass media impact audiences and the ways in which audiences engage with medium and social systems.

It implies that traditional media, or really any form of media, can highlight many differences in society. Taking Pakistani conventional media as an example, we discovered that conventional media was extremely effective at highlighting significant societal problems, among them being climate change. Although traditional media rarely discusses climate change, we now need to focus more on this issue because, as this study has already shown, it is having negative effects.

3. METHODOLOGY

3.1 Research Design

The analyst demonstrated that their approach was focused on quantifiable inquiry and numerical data by utilizing a quantitative investigation plan. The address's layout promotes the thoughtful examination of connections, trends, and patterns found in the data that has been acquired.

3.2 Population

There are 77 individuals in the examination's total population. Here, "the group" refers to the complete group that the researcher plans to study. The population in this particular situation speaks to the wider pool that will serve as the example. Comprehending the characteristics and diversity of the population is essential to ensure that findings may be applied to a larger context.

3.3 Sample Size

There are 77 respondents in the test estimate that has been selected for analysis. A portion of the population selected to participate in the study may be the test population. The test estimate may represent a simplistic viewpoint that affects the precision and consistency of the research findings. In this instance, the analyst appears to have advocated for a test result that reflects the overall population that is being studied.

3.4 Sampling Technique

A non-probability sampling method, namely comfort sampling, was applied to choose 77 participants from the target population. By using convenience sampling, individuals are chosen based on their accessibility rather than at random. By distributing an online survey, the professional may efficiently get information from various regions in Rawalpindi, Lahore, Islamabad, and Karachi thanks to the excellent approach that this technology presents.

3.5 Data Collection Tool

Two portions of a self-made questionnaire were employed by the researchers: one contained questions about demographics and the other asked about issues. The main instrument for gathering data is the questionnaire, which consists of 12 questions in total. The section aims to more thoroughly examine the members' foundations, while the point-related questions focus on the specifics of the assessment.

Ensuring the sufficiency and importance of the data collected relies on the survey design.Information Analysis SPSS, a quantifiable computer language widely used for quantitative information research, was used to lead the data examination for this inquiry. The results were presented in the form of tables, providing a planned and coordinated display of the findings.

The results may be understood and interpreted more easily when tables are utilized. It is easier for others to understand and assess the findings when tables are included since they improve the results' clarity and interpretability.

4. RESULTS

Table 1: *Respondents' Demographics.*

Respondents' Demographics		***f***	**%**
Age	12-17 years old	11	14.3
	18-24 years old	30	53.2
	25-34 years old	21	80.5
	35 -44 years old	15	100.0
	Total	77	100.0
city	Rawalpindi	16	20.8

	Islamabad	32	62.3
	Karachi	20	88.3
	Lahore	9	100.0
	Total	77	100.0
Education Level	BS	39	50.6
	M phil	38	100.0
	Total	77	100.0

This table shows the proportion and cumulative percentage of respondents across various age brackets, as well as the distribution of participation age groups in a research study.This table also displays the participants in the poll from the four distinct cities in the nation of Pakistan. This table shows the educational attainment of 77 participants as well as the frequency and proportion of people who fit into each educational group. A BS degree is held by 50.6 percent of the population, while an M.Phil. degree is held by 100.0 percent of the 77 respondents.

This table shows The majority of respondents disapproved or completely disagreed with the many concepts and topics that were put to them all through this research, while a smaller minority were oblivious or agreed with the idea in question. The table above illustrates the wide range of responses that have been received.

Table 2: *Traditional media coverage on climate change*

Question	**SDA**	**DA**	**N**	**A**	**SA**	**Total**	**M**	**SD**
Media outlets often shape perceptions of climate change and impact public opinion	19 (24.7)	30 (38.9)	15 (19.4)	10 (12.0)	3 (3.8)	77 (100.0)	2.32	1.106
Pakistan's government has launched campaigns on traditional media against climate change	14 (18.4)	27 (35.0)	21 (27.2)	11 (14.2)	4 (5.1)	77 (100.0)	2.53	1.107
Climate change in Pakistan brings challenges and opportunities for adaption	10 (13.0)	28 (36.3)	26 (33.7)	9 (11.6)	4 (5.1)	77 (100.0)	2.60	1.029
Education on extreme heat, water scarcity, Pakistan's impact comes from traditional media	23 (29.9)	16 (20.7)	18 (23.3)	13 (16.8)	7 (9.0)	77 (100.0)	2.55	1.323
Pakistan ranks among the most vulnerable nations to climate change and disasters	10 (13.0)	31 (40.2)	20 (25.9)	10 (12.9)	6 (7.7)	77 (100.0)	2.62	1.113
You are also contributing in causing pollution that aids in climate change	9 (11.6)	24 (31.1)	28 (36.3)	10 (12.9)	6 (7.7)	77 (100.0)	2.74	1.081
Experienced any climate change induced natural disasters like floods	13 (16.9)	24 (31.1)	18 (23.3)	16 (20.7)	6 (7.7)	77 (100.0)	2.71	1.202
Politicians in Pakistan utilize media platforms to address climate change issues	11 (14.2)	22 (28.5)	25 (32.4)	13 (16.8)	6 (7.7)	77 (100.0)	2.75	1.137

An overview of responses to various perspectives of conventional media coverage of climate change and its implications on public opinion (Pakistan) is provided in the table. About 30% of respondents disagreed that conventional media should play any part in portraying the negative effects of climate change.

The majority of respondents disapproved or strongly disagreed with this notion, with a smaller minority being neutral or in agreement. The table above illustrates the wide range of responses that were received.

The third discusses the potential and problems that climate change raises. Additionally, a conflicting response is obtained. According to the table, half of the respondents had some connection to a natural disaster brought on by climate change. The rankings represent the many viewpoints among the surveyed population, providing tidbits of information about the intricate connection between public opinion and traditional media coverage of climate change.

5. DISCUSSION

The observed and projected impacts of climate change on Pakistan underscore the country's profound vulnerability to environmental shifts. Over the past century, Pakistan has experienced a rise in mean annual temperature of approximately 0.63°C, while sea levels along the Karachi coast have increased at an average rate of 1.1 mm per year. Notably, between 2006 and 2015, the rate of sea-level rise accelerated to 3.6 mm annually (World Bank Group, 2021). Pakistan's precipitation trends have remained complex; although early 20th-century records show a declining trend (Kazi, 1951), a slight upward trend in rainfall has been noted since the 1960s. However, this national average masks considerable regional disparities. For instance, Pakistan's arid plains and coastal zones have witnessed a 10–15% decrease in average rainfall since 1960, contributing to the degradation of critical ecosystems such as wetlands and mangrove forests (Kureshy, 1998; Hussain & Lee, 2009).

Climate projections suggest that, depending on emissions trajectories, Pakistan could experience a rise in annual mean temperature ranging from 3°C to 6°C by the end of the 21st century (Intergovernmental Panel on Climate Change [IPCC], 2007). Additionally, sea levels are expected to rise by approximately 60 cm, with potentially severe implications for low-lying coastal areas south of Karachi, including Keti Bander and the Indus River Delta. This would exacerbate issues such as soil salinization, coastal erosion, and displacement of vulnerable communities (Meehl & Washington, 1993). While long-term trends in average annual precipitation remain uncertain, significant inter-annual variability is anticipated, accompanied by an increased frequency and intensity of extreme climate events (Goswami et al., 2006; IPCC, 2007).

Pakistan's heightened sensitivity to climate change is already manifesting through an increase in extreme weather occurrences—floods, droughts, cyclones, and severe heatwaves—which have serious repercussions for ecosystems, infrastructure, public health, and livelihoods (World Bank Group, 2021). According to the World Bank Group, from 1992 to 2021, climate- and weather-related disasters caused economic losses totaling US$29.3 billion (adjusted to 2021 dollars), equivalent to 11.1% of the country's GDP. Historical examples include the prolonged droughts in southern Pakistan (1998–2002 and 2014–2015), the 2015 heatwave that led to over 65,000 heatstroke-related hospitalizations, and the catastrophic 2010 floods that affected one-fifth of the country and displaced over 20 million people (Houze et al., 2011).

Projections further indicate that climate-induced flooding risks will intensify, with an estimated additional 5 million people likely to be exposed to extreme riverine floods by 2035–2044, and nearly 1 million people annually at risk of coastal flooding by 2070–2100 (World Bank Group, 2021). The 2022 floods exemplified the magnitude of Pakistan's vulnerability: between June and August, unprecedented rainfall triggered a combination of riverine, urban, and flash floods, affecting approximately 33 million people, including the displacement of nearly 8 million individuals. Over 1,700 lives were lost—one-third of whom were children—and the total estimated damages reached USD 14.9 billion, with economic losses of USD 15.2 billion and reconstruction needs estimated at USD 16.3 billion. The national GDP suffered a

projected contraction of 2.2%, with agriculture bearing the brunt at an estimated 0.9% loss (Post-Disaster Needs Assessment, 2022).

Agriculture—Pakistan's economic backbone—is especially threatened by climate change. The sector employs 45% of the national labor force, contributes 19.2% to the GDP, and supports approximately 68% of the rural population (Economic Survey of Pakistan, 2020–21). Additionally, it accounts for 60% of the country's exports. Climate impacts are expected to reduce yields of major crops, including wheat, rice, maize, cotton, and sugarcane, while negatively affecting livestock health and increasing post-harvest losses due to extreme events (Goswami et al., 2006; IPCC, 2007). These challenges will exacerbate food insecurity, rural poverty, and hunger, thus hampering efforts to achieve sustainable development and poverty reduction.

Beyond agriculture, climate change is projected to intensify the health impacts of air and water pollution, reduce labor productivity due to extreme heat, and diminish water availability. These outcomes threaten Pakistan's riverine ecology, water security, hydropower generation, and biodiversity (World Bank Group, 2021; IPCC, 2007).

5.1 Successes and Remaining Challenges

Pakistan's government has taken a very aggressive approach to combating climate change in recent years, and as a result, the nation's climate change regulations have been improved. Furthermore, the political context in Pakistan now acknowledges the critical role that young may play in addressing environmental issues. As a result, Pakistan has demonstrated a political commitment to establishing the conditions necessary for the youth of the nation to actively participate in the following programs: Ehsaas Nasho-numa Program, Green Stimulus Package, Imran Khan's Tiger Force, Kamyab Jawan scheme, and Clean Green Pakistan Champions.

Pakistan still has a number of obstacles to overcome before it can fully execute its climate change laws and initiatives. The absence of continuity and consistency in the nation's policy space is one such issue. Budgets, policies, and programs pertaining to climate change have not been implemented thus far because of shifting political currents. For instance, the creation of national adaptation and mitigation strategies across sectors was largely unaffected by the first NCCP.

One of the nation's biggest challenges is finding the money to implement the adaptation and mitigation measures included in the amended NDC. According to the NDC (2021), the entire cost of implementing the NDC will come close to $200 billion by 2030. However, Pakistani has experienced little access to climate funding and has spent little in the public and private sectors on tackling climate change thus far. Therefore, it is advised that the nation create an extensive climate financing strategy in order to: (a) maximize the use its own resources; (b) raise additional funds through creative financing methods and boost revenue measures; and (c) improve the nation's ability to access internationally climate finance and support private sector investments.

To effectively address the multifaceted challenges posed by climate change, the Government of Pakistan must demonstrate sustained political commitment and policy continuity. Ensuring access to adequate climate finance, enhancing the availability and quality of climate-related data and information, and building robust institutional capacities and technical expertise are essential for the successful implementation of climate policies and actions. However, Pakistan currently faces considerable obstacles in these areas. The country suffers from a deficit in human, technical, and institutional capacities, which undermines its ability to design, implement, and monitor effective climate mitigation and adaptation initiatives. This capacity gap, coupled with systemic governance and resource constraints, hinders progress toward achieving national climate goals and fulfilling international commitments. Overall, these structural and institutional limitations present significant barriers to Pakistan's efforts to address climate change and transition toward a more climate-resilient and sustainable future.

Create a comprehensive plan for financing climate change that will: (a) maximize the use of available domestic resources; (b) raise more money through creative financing methods and revenue-enhancement policies; and (c) improve the nation's ability to access international climate finance and support private sector investments.

- Encourage the creation of suitable financial incentives to boost investment from the public and private sectors.
- Investigate both market- and non-market-based strategies for diversifying the sources of finance for launching large-scale initiatives.
- Make investments in ecosystem-based adaption strategies and solutions rooted in nature. The two main strategies for tackling Pakistan's more severe floods and droughts due to climate change are ecosystem-based adaptation and nature-based remedies. In order to contribute to the development of resilience at the local and national levels, such strategies must be quickly expedited.
- Bring attention to the significance of adaptation measures in organizations in the public and commercial sectors.
- Offer loans, subsidies, and other forms of financial support to companies that create and use green infrastructure.
- Increase human resource capability in climate change-related sectors by implementing pertinent curricula in universities.
- Local campaigns to increase public awareness of climate change, such as those that use print, electronic, and community radio for distribution to enhance the security of women, girls, and children in particular.
- Encourage young groups to participate in and gain from Pakistan's adaptation and mitigation goals and targets, especially by establishing youth employment opportunities and supporting entrepreneurship, start-ups, and macro-enterprises.
- Work together to spread climate education curricula with the Ministry of Education, Higher Education Commission, colleges, and CSOs.

6. CONCLUSION

The confusing topic of climate change coverage in Pakistani traditional media is clarified by the study's findings. The ecology, economics, and society of Pakistan are all significantly impacted by climate change, yet the media landscape seems to provide a mixed bag of answers. Given Pakistan's susceptibility to the effects of climate change, which can include everything from extreme weather events to water scarcity and agricultural disruptions, the absence of thorough coverage is an obvious weakness.

The study investigated the causes of this insufficient coverage and found a number of relevant variables. This phenomena may be caused by a variety of factors, including a lack of awareness of the seriousness of climate change, competing news agendas, and limited resources. Furthermore, the more gradual but no less important problem of climate change may be receiving less attention as a result of the conventional media's propensity to concentrate on dramatic or breaking news.

Nevertheless, the study also showed glimmer of optimism despite these difficulties. In the event that climate change issues were presented in an interesting and approachable way, some respondents indicated that they would be open to discussing them. This implies that by using creative narrative strategies, captivating imagery, and concise information that appeals to a wide range of people, traditional media sources may be able to increase the scope of their coverage of climate change.

Furthermore, there is evidence that internet platforms and grassroots initiatives are filling the hole left by traditional media sources' possible shortcomings in coverage. Local forums for talking about climate change and exchanging information are becoming more and more reliant on social media, blogs, and community-based projects. Using these alternate media platforms might assist spread awareness of climate change and connect with those who traditional media may not have reached.

In summary, the research emphasizes the need for creativity and progress even as it draws attention to the alarming dearth of coverage of climate change in Pakistani conventional media. Media outlets may be key players in increasing public awareness, developing public knowledge, and spurring action on climate change by tackling the underlying hurdles to coverage and utilizing new platforms and storytelling strategies. In the end, creating a more resilient and sustainable future for Pakistan and its people requires closing the gap between media representation and the urgent reality of climate change.

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