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DOI: <https://doi.org/10.63067/fay9ab50>Journal Homepage: <https://jpolas.com>**Print Media Coverage of Climate Change Crisis in Pakistan: A Comparative Study of Two Newspapers Dawn and Daily Times****Muhammad Sayyam Afzal¹**¹Ph.D Scholar, School of Communication, Dublin City University, Ireland.Email: muhammadsayyam.afzal@dcu.ie**Abstract**

The coverage of the climate change in the two elite Pakistani English print media outlets, Dawn and Daily Times, is examined in this study. Considering the importance of climate change as a worldwide concern, understanding how it is depicted in the media is critical for raising awareness and affecting public opinion. The study looks at the frequency, themes, and framing of climate change-related articles in these newspapers using content analysis. The study compares the two newspapers to shed light on the variations and similarities in their reporting as well as to analyse the degree of coverage of this critical issue. Political and economic stories received prominent coverage, signifying the media's acknowledgement of the role played by policymaking, politics, and the economic implications associated with climate change. Moreover, in terms of geographical focus, both newspapers demonstrated a prioritization of reporting on national climate change issues. The implementation of the NDCs long-term plan has exerted a discernible influence on the coverage of climate change-related stories in both newspapers. Notably, after the adoption of the NDCs plan, both Dawn and Daily Times have increased their coverage of climate change issues, thereby indicating the plan's substantial impact on media attention and reporting.

Keywords: print media, climate change, political will, policy making, NDS plans

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1. Introduction and Background

Long-term changes in weather patterns, such as those in temperature, precipitation, and the condition of natural features such as oceans, ice sheets, and impervious surfaces, are referred to as climate change. It is affected by several natural phenomena, including variations in solar radiation and internal climate system changes. The effects of climate change are extensive, with rising temperatures causing health concerns such as heatstroke, cardiovascular disorders, and stress from heat. These illnesses not only deteriorate with time but also cause a sizable number of fatalities. The World Health Organization estimates that between 2030 and 2050, climate change will be responsible for approximately 250,000 fatalities (World Health Organization, 2021). There are several causes of climate change, both natural and caused by humans. The annual release of billions of tonnes of carbon dioxide into the atmosphere from the burning of fossil fuels, which causes a rise in greenhouse gases, is the main cause of climate change. With a 30% rise since the start of the industrial revolution approximately 1750, the concentration of CO₂ is currently higher than it has ever been measured in the last 800,000 years. While natural processes such as photosynthesis aid in absorbing atmospheric greenhouse gases, these natural carbon sinks are under pressure from growing pollution levels. It is noteworthy that since 1880, the Earth's temperature has increased by approximately 0.14°F every decade. According to data from 2021, the surface temperature was 1.87°F warmer than it was before the Industrial Revolution and 1.51°F warmer than the norm for the 20th century (Lindsey & Dahlman, 2023). Despite the warnings and concerning statistics, the threat that

climate change poses to Pakistan is not given prominence in the local media. Newspaper coverage of this important topic is noticeably lacking. Research has found that weather events that have been made worse by climate change have affected 85% of the world's population. The study's primary author, Max Callaghan, stressed that climate change is visible and noticeable almost everywhere in the world" (Callaghan, 2021). Although the media has made significant attempts in recent years to cover climate change issues, there is still more that can be done to enhance reporting, particularly concerning the difficulties that climate change presents.

1.1 UN Sustainability Goal 13 and Climate Act

The United Nations (UN) has been at the forefront of promoting global peace, security, and prosperity for more than seven decades. In September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, which included 17 Sustainable Development Goals (SDGs) and 169 targets to address the world's most pressing economic, social, and environmental concerns. The SDGs provide a comprehensive framework for ending poverty, reducing inequality, and advancing environmental sustainability on a global scale.

Climate change is one of the most pressing global challenges of our day, with negative consequences for both humans and the environment. Goal 13 of the SDGs seeks to take urgent action to combat climate change and its consequences, with the United Nations Framework Convention on Climate Change (UNFCCC) recognised as the key international platform for dealing with climate change (United Nations, 2017).

Goal 13 aims are ambitious and comprehensive, with an emphasis on lowering greenhouse gas emissions, increasing resilience and adaptive ability, and mobilising financial resources for climate action.

These targets include:

1. Strengthening resilience and adaptive capacity to climate-related hazards and natural disasters.
2. Incorporating climate change measures into national policies, strategies, and planning.
3. Enhancing education, awareness, and institutional capacity to mitigate, adapt to, and reduce the impacts of climate change while also providing early warning systems.

Promoting strategies to increase the capacity for efficient planning and management of climate change-related issues in the least developed nations and Small Island developing states, with a focus on women, young people, and local and marginalized populations. Meeting developed-country parties' pledges under the United Nations Framework Convention on Climate Change to raise \$100 billion annually by 2020 from all sources to meet developing-nation needs while also pursuing significant mitigation measures and openness in their implementation. The Green Climate Fund must be immediately operationalized and properly financed. According to scientific data, human activities such as the burning of fossil fuels, deforestation, and intensive farming considerably contribute to the build-up of greenhouse gases (GHGs) in the atmosphere and therefore to climate change (Mullar & Gattinger, 2011). The latter causes greater sea levels, more frequent extreme weather, and an increase in ocean acidity in addition to rising temperatures. Climate change has serious and widespread consequences, according to the 2015 United Nations Framework Convention on Climate Change. These impacts have significant social and economic consequences, including lower food security, increased water scarcity, and negative effects on human health. Climate change exacerbates social inequities by disproportionately hurting vulnerable groups such as women, children, and marginalised communities.

Addressing the problems caused by climate change necessitates a worldwide effort. The UN Framework Convention on Climate Change (UNFCCC) is the major worldwide platform for addressing climate change, and the Paris Agreement, agreed in 2015, provides a comprehensive framework for international action. Governments have agreed to work under the Paris Agreement to keep global warming well below 2 degrees Celsius in the long run, with a long-term goal of reducing global

warming to 1.5 degrees Celsius over industrial levels. The agreement also includes provisions for frequent reporting and review of progress towards these goals, as well as funding to assist developing countries in combating climate change (World Health Organisation, 2018).

1.2 Pak Climate Change Act 1997

The Climate Change Act of 1997 was one of Pakistan's first pieces of legislation addressing the effects of climate change. This statute recognised the need to reduce greenhouse gas (GHG) emissions, which fuel climate change, and to foster sustainable development. The Act established the Pakistan Environmental Protection Council (PEPC) to monitor environmental protection initiatives, particularly those related to climate change. The PEPC was tasked with developing and implementing national plans and policies to combat climate change (Government of Pakistan, 1997). It did not allocate a significant amount of money or offer financial incentives to help with climate change adaptation and mitigation. As a result, many projects to combat climate change lacked sufficient financing and resources, making it difficult for them to succeed (Government of Pakistan, 2017).

1.3 Pakistan's Climate Situation

Because they are so vulnerable and have so few coping mechanisms, impoverished countries experience the worst effects of climate change disasters (Eckstein, 2021). Pakistan falls short in regard to water consumption efficiency. All industries are impacted by climate change, but agriculture is particularly vulnerable. According to the Finance Division of the Government of Pakistan, agriculture accounts for 37.40% of total employment and provides 22.7% of Pakistan's GDP. As a major issue, water shortages are made worse by a growing population and disputes with India over water flow. Climate change catastrophe makes these problems much worse (Shahid, 2012). The effects of climate change are not new to Pakistan; they include rising sea levels, food shortages brought on by rising temperatures, decreased rainfall, and regular droughts in various regions of the nation. A heatwave lasting 41 days (11th March – 19th April) resulted in temperatures 5°C to 11.5°C higher than normal, leading to the deaths of numerous local livestock (Pakistan Meteorological Department, 2021). Currently, Pakistan emits approximately 217 million tons of CO₂. If this rate continues, Pakistan is projected to reach 400 million tons by 2030, which will accelerate glacier thawing, leading to increased flood risks and harm to the country's economy (WORLD DATA ATLAS, 2020; Khan & Siddiqui, 2017; Chaudhry, 2012). Pakistan amended its Climate Action Plan for the following five years in 2021 to combat climate change. Pakistan's National Determined Contributions (NDCs) intend to further lower temperature and emissions by 1.5 to 2 degrees after achieving its first objective of cutting emissions by 1%. Pakistan wants to reduce harmful emissions by 50% by 2030, with 15% of the reduction being unconditional and 35% requiring foreign assistance. By 2030, the Pakistani government also wants to have 30% of its vehicles be electric and obtain 60% of its energy from sustainable sources. Pakistan plans to plant ten billion trees under the tsunami programme as part of natural solutions, which will help to eliminate 148.76 metric tonnes of carbon dioxide over ten years. However, as a developing country, a significant portion of the population still relies on wood for warmth during winter, and Pakistan's deforestation rates continue to rise (Government of Pakistan, 2021).

Every developing nation has serious concerns about adaptation, particularly in light of the catastrophe caused by climate change. With a focus on the woods of Balochistan, the coastal regions of Sindh, and the creation of urban forests utilizing the Miyawaki approach, Pakistan wants to increase protected areas by 12 to 15%. By 2030, the nation also wants to increase its forest cover by 6.5%.

1.4 Effects of Waste Dumped in Pakistan by Different Countries

With several nations being accused of indulging in garbage dumping practices, the disposal of waste has become an urgent worldwide environmental concern. Unfortunately, Pakistan has fallen prey to these actions, where trash from different nations is dumped within its boundaries. This essay tries to

examine the problem of rubbish dumping in Pakistan and its ensuing effects on the ecosystem. The article will also present pertinent information and shed light on Pakistan's use of polythene.

The United States, Canada, and the United Kingdom have all seen an increase in the amount of rubbish entering Pakistan. Pakistan took action in 2019 by returning 69 waste containers to their countries of origin. Twenty of these containers were returned to the United States, while the remaining 49 were returned to Canada (Government of Pakistan & Ministry of Climate Change, 2018). It was determined that these bins included incorrectly labelled garbage, such as plastic, paper, and technological waste labelled as "recyclable material." Waste disposal in Pakistan has had far-reaching consequences, causing significant environmental and health risks to the affected areas. Soil contamination, water and air pollution, and health issues for neighbouring communities are among the concerns (BBC News, 2019).

1.5 The Role of Plastic Bags in Causing Climate Change

One of the biggest causes of garbage pollution in Pakistan is the widespread use of polythene bags. The Pakistan Environmental Protection Agency said that the nation generates over 55 million tonnes of rubbish each year, with plastic waste making up 33 per cent of the total. With an estimated 350,000 tonnes of plastic trash produced annually, Pakistan is also one of the top 10 producing nations globally. Surprisingly, only 10% of the nation's plastic garbage is recycled; the remainder is disposed of in landfills or burned, posing serious risks to the environment and human health (Pakistan Environmental Protection Agency, 2018).

1.6 Pakistani Media

The 21st century has seen a major increase in worldwide awareness of climate change (Hiles&Hinnant, 2014; Ward, 2008). Media coverage of climate change increased after the 1992 Rio de Janeiro Earth Summit of the United Nations Framework Convention on Climate Change (UNFCCC). In contrast, climate change is a slow-moving process that eventually results in natural disasters such as floods, food shortages, and more CO₂ emissions. These elements interfere with agricultural cycles and make it difficult for all living things to survive. Although climate change is a long-term issue, media coverage varies, with periods of heavy reporting followed by periods of light coverage or even full disappearance from the media landscape (Anderson, 2009). Climate change is frequently viewed in underdeveloped nations as a "soft issue," garnering little to no attention (Kakonge, 2013; Shanahan, 2009; Takahashi &Meisner, 2012). The media is essential in influencing and structuring many social systems since it shapes people's norms, beliefs, and objectives through mass communication (Chambers' lexicon). Even while people may be able to spot media bias, it can be difficult to pinpoint the precise frames the media uses. To further their own agendas, media outlets frequently use multiple frameworks that include several societal players. News reporting and political event coverage employ these frames, as media organizations have become part of the political economy, aiming to generate maximum revenue. Transforming from mere mirrors of society, media houses have turned into profit-driven businesses. In Pakistan, influential media organizations include Jang Group, HUM TV, ARY, Dunya TV, Express, and the Dawn group, controlling a significant portion of the audience and advertising revenue. Pakistan has 124 TV channels, 67 broadcasting units, and approximately 707 newspapers as of 2019. Like many media houses worldwide, the Pakistani media has also become complicit in this trend (Demorest, 2009), transitioning from being informative to becoming agenda setters and influencing public opinions and debates by selectively highlighting certain stories.

The limited airtime dedicated to the climate change crisis must compete with more immediate news stories, as media producers face the challenge of satisfying both viewers and media house investors by prioritizing segments. Some studies indicate that media outlets show little concern in regard to covering climate change, resulting in the general public having an inadequate understanding of the

real concerns surrounding this issue (Corbett & Durfee, 2004). Each developing country has its own set of stories to report, often focused on event-oriented narratives, and Pakistani media is no exception (Azmi et al., 2015). Compared to European and Asian media outlets, including Nepal, Sri Lanka, India, and Bangladesh, Pakistani media lags behind in its coverage of climate change ((Kim, 2011).

The media has a responsibility not only to raise awareness about the ongoing climate change crisis but also to educate the public about climate change plans, solutions, and policies (Tengbers, 1995). In Pakistan, a developing country, the climate change crisis poses a significant threat to both the environment and the survival of its citizens. The Asian Development Bank (2000) emphasizes the importance of media, policymakers, and print media in educating the country's citizens about the current and impending crisis.

Figuroa (2020) asserts that if the power of the media is misused, it can lead to negative movements within society. When news media in Pakistan align with a particular narrative, often favouring a specific political party, citizens are exposed to only one side of the story and tend to believe it unquestioningly (Jamil, 2020). Urdu print media caters to the middle class, while English print media targets liberals, the upper class, professionals, policymakers, politicians, and the military bureaucracy.

In terms of climate change reporting, Pakistan has a limited number of climate journalists, and those who do exist often lack adequate representation within journalistic bodies and formal organizational structures. Therefore, print media plays a vital role in raising awareness and promoting sustainable waste management practices. Pakistani print media should cover a wide range of waste-related issues, including littering, illegal dumping, and the impacts of waste on public health and the environment. Unfortunately, the media often lacks focus in regard to reporting on non-political issues, making it challenging for climate journalists to cover climate change crisis topics (Sharif & Medvecky, 2018). Politicians in Pakistan have also voiced their concerns about climate change and called for action. In 2020, Prime Minister Imran Khan launched the "Clean Green Pakistan" campaign, aimed at addressing the country's environmental challenges, including climate change (Ahmad, 2020). During his speech at the United Nations General Assembly in 2019, Imran Khan emphasized the urgent need for action to mitigate the impacts of climate change, referring to it as "the defining issue of our time".

1.7 NDCs Long-term Plan for Climate Change and the Paris Act

The Paris Agreement was established in 2015 by the United Nations Framework Convention on Climate Change (UNFCCC) with the goal of limiting global warming to far below 2 degrees Celsius above pre-industrial levels while aiming for a temperature increase of no more than 1.5 degrees Celsius. To do so, countries must publish their Nationally Determined Contributions (NDCs), which define their policies for reducing greenhouse gas emissions and adapting to the effects of climate change (UNFCCC, 2015). This study focuses on the significance of NDCs as comprehensive climate change policies and their role in achieving the Paris Agreement's objectives.

The Paris Agreement is built on NDCs, which indicate each country's commitment to combating climate change. They are expected to be ambitious, realistic, and progressive, considering each country's specific circumstances, capacities, and national priorities. The long-term nature of NDCs is crucial for achieving the objectives of the Paris Agreement. Countries needed to update their NDCs every five years, allowing for increased ambition over time and ensuring progress toward the agreement's goals. Additionally, NDCs provide a framework for long-term planning and investment, enabling countries to transition towards a low-carbon, resilient, and sustainable future. Furthermore, NDCs have played a vital role in mobilizing private sector investment and fostering innovation in low-carbon technologies. NDCs have established a favourable environment for private sector investments in clean energy and other low-carbon technologies by giving a clear framework for long-term planning

and investment. Finally, NDCs reflect a long-term strategy for combating climate change and meeting the Paris Agreement's goals.

1.8 Statement of Problem

Climate change is an urgent global issue with enormous ramifications for populations all over the world, making it critical to address and reduce its effects. Despite producing less than 1% of global carbon emissions, Pakistan is one of the top ten countries most affected by climate change. Floods have killed over 1,700 people and killed 1.2 million cattle, displacing over 7.9 million people (British Red Cross, 2022).

This study aims to examine the media coverage of the climate change crisis in Pakistan, specifically focusing on the National Determined Contributions (NDCs) and their long-term plan to reduce harmful emissions by 50% by 2030, with 35% of support from the international community.

1.9 Research question

RQ1: Which newspaper gives more coverage of climate change?

RQ2: Which frames are relevant in Pakistani print media regarding the climate change crisis?

RQ3: What were the news sourcing patterns before the NDCs' long-term plans and after 2021?

Given Pakistan's vulnerability to climate change, it is imperative to examine how the issue is portrayed in the country's print media. This study aims to analyse the representation of climate change in Pakistani print advertising and its potential impact on public opinion and environmental engagement through a qualitative analysis of prominent newspapers Dawn and The Daily Times.

2. Literature Review

With the increasing frequency of extreme weather events and energy shortages, climate change has emerged as a formidable threat in the 21st century. The scientific consensus overwhelmingly attributes this phenomenon to human activities (Anderegg et al., 2010; Cook et al., 2016). The United Nations Framework Convention on Climate Change (UNFCCC) emphasizes the need for adaptation to climate change, as billions of people, particularly in developing countries, grapple with water scarcity and health issues resulting from climate change (UNFCCC, 2009). Climate change disrupts global temperatures, precipitation patterns, and sea levels, affecting regions worldwide. The media tends to amplify coverage of an issue when it directly threatens a particular region (Schmidt et al., 2013). According to Boykoff and Roberts (2007), the general public's primary source of climate change knowledge is the media. Furthermore, climate change is receiving increased attention in nations that are particularly exposed to climate-related problems (Schmidt et al., 2013). According to McCommas and Shanahan (1999), the media is a significant tool for raising environmental awareness and influencing public opinion and behaviour. Similarly, Boykoff and Boykoff (2004) argue that media coverage of climate change might impact public perceptions of the subject, but that coverage is not necessarily balanced or truthful. Studies in the United States have indicated a bias in media reporting, which frequently minimises the severity of the problem (Nisbet&Scheufele, 2009; Boykoff, 2007).As a result, there may be a lack of public concern and action about climate change.

Entman (1993) asserts that the media has a substantial impact on public comprehension and perception of an issue. Media coverage not only influences public opinion but also plays an important role in policymaking (Nelkin, 1987, as cited in Carvalho and Burgess, 2005, p.1457). When reporting on climate change and other issues, media professionals face significant challenges because they must navigate institutional ideologies, economic considerations, and political pressures that can shape the narratives produced from available sources (Wilkins & Patterson, 1990; Hansen, 1993; Bell, 1994; Anderson, 1997; Smith, 2000). According to research, the media has a significant impact on helping

people understand complicated scientific subjects such as climate change (Anderson, 2009). Information and Communication Technologies have considerably increased the influence and power of conventional media, including print and broadcast media, acting as a catalyst for modernity in a variety of ways. For starters, it allows for the spread of carefully selected knowledge in social, scientific, and technological realms, generating narratives that affect our thinking. Second, it tries to achieve societal consensus by constantly redefining reality through repetitive messaging. Third, it provides pathways for continuing debates and battles for legitimacy among varied groups (Hall, 1977, 1980; Fairclough, 1995; Curran & Gurevitch, 2000). Studies undertaken in other places, on the other hand, have found a more positive trend in media coverage. For example, research undertaken in India and Bangladesh shows that the media has played a critical role in boosting climate change awareness (Islam, 2012; Adam et al., 2013). According to scholars, the media has a greater influence than personal experiences or education in "translating scientific knowledge" (Nelkin, 1987, as cited in Dirikx and Gelders, 2010). Concerns about climate change have been especially strong during periods of increased media coverage (Sampei and Aoyagi-Usui, 2008). Scholars such as Beck (1992) have emphasised the importance of media communication on cultural politics in the period of "global mega-hazards" such as climate change.

2.1 Media frames around the world

As the importance of the media in climate-related concerns has grown, a new type of journalism known as climate journalism has evolved (Ali et al., 2020). Climate change references in American media can be traced back to 1930. The significance of human activity in climate change began to get widespread attention in the 1950s (Boykoff & Roberts, 2007). Climate change coverage in the United States and Canada is mostly focused on its consequences and scientific debates (Brossard et al., 2004). Climate change narratives in both Canadian and American media have increasingly positioned it within the framework of the economics and politics, rather than focusing on its environmental repercussions. According to Brossard et al. (2004), French media is opinion-based and rarely employs dramatic or sensationalistic frames due to its reliance on limited sources such as interest and commercial groups. When discussing the looming repercussions of climate change, media narratives in the UK frequently exhibit high levels of sensationalism, depicting less powerful nations as powerless in the face of this calamity (Doulton & Brown, 2009). According to Lyytimaki and Tapio (2009), the Finnish media has undergone various changes, including a political shift and a greater emphasis on the societal and economic implications of climate change. The Spanish press prioritises coverage of global and policy frameworks related to climate change (Fernández-Reyes et al., 2015). When reporting climate change, the German media takes an event-oriented strategy, focusing on international conferences and natural disasters such as floods (Schäfer et al., 2013). Climate change is covered less extensively in other European countries' media than in the aforementioned countries. The impacts of climate change are frequently portrayed in Dutch media as grim and unpredictable (Van Oene, 2010). The Norwegian media expresses opposing perspectives on proven climate science, with both positive and negative criticism (Ryghaug et al., 2011). Frames of doubt predominate in conservative Italian media, whilst liberal media takes the opposite approach (Pasquaré & Oppizzi, 2012). In Russia, where much of the media is controlled by the government, coverage of the climate change crisis is often ignored if the government chooses to ignore it. When the government, for example, refuses to take action to cut carbon emissions, the media ignores the problem (Poberezhskaya, 2014). Turning to Asia, Talon claims that the Chinese media frequently depends on Western media stories on themes such as the Arctic and regional effects such as the melting of Tibet's glaciers. The Chinese media is tightly controlled by the government, and journalists have little access to information about climate change beyond what the government gives (Shanahan, 2009). The media in Japan uses dramatic framing and focuses on event-oriented reporting. Climate change is portrayed in South Korean media as a man-made phenomenon that threatens the globe, with information mostly coming from official sources (Yun et al., 2012). The Indian media focuses on the implications of climate change and, like many developing countries,

criticises international policy, emphasises the country's economic impact, and discusses the absence of effective climate change mitigation initiatives (, 2010; Boykoff, 2010). Climate change is framed in Bangladeshi media in terms of natural disasters and their impact on agriculture and public health (Miah et al., 2011). Sri Lankan media often lacks a comprehensive understanding of the climate change crisis and relies on international news agencies, nongovernmental organizations, and science magazines as sources of information (Shanahan, 2009).

The primary sources of information for climate change reporting in Middle Eastern media are scientists, with government officials being the second most common source (Freeman, 2016). In many Latin American countries, media coverage of climate change is either absent or minimal (Molar et al., 2017). Brazilian media is known to emphasize the costs and inconveniences associated with addressing the climate change crisis (Zamith et al., 2013). Chilean media not only highlights the country's vulnerability to climate change but also focuses on how different businesses benefit from green technologies (Hasbun, 2014). Jamaican news reporting on the climate change crisis primarily occurs through international newswires or in response to extreme weather events or natural disasters within the country (Shanahan, 2009). Australian media framing is largely political, driven by audience interest in policy changes and international conferences, with less emphasis on scientific probability and a lack of dramatic frames (Schäfer et al., 2013).

In Pakistan, print, electronic, and online media platforms provide diverse information to the audience (Sharif & Medvecky, 2018). The most widely circulated print media in Pakistan is published in Urdu and English languages, with 252 daily, 139 weekly, and 279 monthly publications (Ricciardi, 2012). The electronic media landscape in Pakistan is dominated by six major groups: Dawn, Jang, Dunya, ARY, HUM TV, and Express. The most circulated newspapers are Dawn, Express, Jang, and Nawa-i-Waqt (Ibid). In the past decade, with advancements in technology, both electronic and print media have experienced digitalization, resulting in substantial growth in news websites (Jamil & Appiah-Adjei, 2019). Pakistan is a democratic state where freedom of speech and the press are protected by law, although the ground reality is more complex (Gul et al., 2017). Media ownership in Pakistan is concentrated in the hands of a few, with more than half of media companies controlled by a small number of entities. Cross-media ownership ensures that only eight media companies reach 86% of the audience in Pakistan (Reporters Without Borders, 2019), and there is increasing pressure on journalists in the country (European Centre for Press and Media Freedom, 2020). This concentration of ownership, along with political factors and competition, exerts influence on journalistic practices, compromising ethical values (Adnan et al., 2019). Pakistani journalism is facing pressures from political, religious, and military interference, and self-censorship has become increasingly common (Ahmed et al., 2019). The focus of Pakistani media tends to be on urban issues, often overlooking rural concerns (Riaz, 2019). While journalists utilize their scientific background knowledge when reporting on climate change issues, journalists in underdeveloped countries not only lack academic qualifications but also struggle to understand scientific information (Comfort et al., 2020).

2.2 Framing Theory

In 1972, Gregory Bateson introduced the concept of framing, which refers to the presentation of messages to the receiver. Bateson defined framing as any message that provides the receiver with instructions or aids in understanding the messages within the frame, whether explicitly or implicitly (Bateson, 1977/1972: 188). To illustrate this concept, Bateson used the analogy of a picture frame and Venn diagrams. He described the picture frame as a way to organize people's perception by directing their attention to what is inside the frame and causing them to ignore what is outside of it. This framing mechanism can be observed in various contexts, including media coverage, where framing is used to focus on a specific event and position it within a significant context.

Goffman (1974) expanded on framing theory by suggesting that it plays a crucial role in establishing a secondary agenda. Within this agenda, the media emphasize certain elements of reality while downplaying others. As a result, framing can influence how the audience perceives and interprets messages, as well as what they consider important or relevant (Goffman, 1974).

2.3 Media Framing

In communication studies, framing refers to the process of selecting specific aspects of a perceived reality and making them more relevant, prominent, and memorable (Entman et al., 1993). News frames can be seen as the result of the social construction of reality, where journalists use framing to effectively process and convey information to viewers in a systematic manner. The intentions of journalists are reflected in media framing, although these motivations may not always be apparent (Gamson et al., 1989). Journalists are influenced by various factors such as social expectations and values, organizational demands and restrictions, interest group pressures, journalistic routines, and ideological or political orientations (Scheufele, 1999). News stories have a significant impact on how society perceives and understands various issues (Shehata et al., 2012). Moreover, news frames are often used by individuals to form their stance on legislation, as frames promote specific issue descriptions, causal analyses, moral assessments, or treatment referrals (Entman et al., 1993). Frames are present in all forms of human knowledge, and each term is described about the frames it evokes. Additionally, frames are used in processes, meaning that a single term can trigger not only its specific frame but also a larger system in which it is situated (Lakoff, 2010). The knowledge environment, particularly the mass media, plays a critical role in this process, as it serves as a conduit for specific messages from insiders to the general public (Clarke et al., 2015). Selection and salience are the key components of the framing process, where certain main facets of the assumed truth are highlighted to shape the communication process (Entman et al., 1993).

2.4 Framing Climate Change

The framing of climate change varies across nations and is influenced by socio-political backgrounds. Studies must adopt a reflective approach to understanding the broader implications of climate change frames. Recent research demonstrates how climate change media frames are shaped by larger social and political processes. As the media significantly influences social reality, the information conveyed through media channels is crucial for understanding societal perspectives on major issues such as climate change. People often rely on news frames to form their support or opposition to policy decisions. As news organizations often rely on government sources, climate change becomes politicized (Appiah et al., 2015). The news content, according to Tuchman (1980), provides a window through which individuals learn about themselves, others, organizations, leadership, ways of life, and the world at large. Research indicates substantial variations in climate change coverage among different media platforms. Boykoff and Boykoff (2007) note that the US media tends to focus on two-sided debates regarding environmental issues due to its reliance on national politics and its history of neutrality.

Conversely, the French media, particularly the press, places greater emphasis on foreign issues and adopts a political perspective over scientific reasoning. Similarly, German scholars Wacker et al. (2016) found that the German news media often portrays environmental degradation in alarming frames, driven by a tendency for drama and sensationalism. The general public relies on the media as a primary source of information on climate change (Boykoff, 2011), and media coverage has the power to transform real-world events into full-fledged concerns (Ungar, 1992). However, Bell (1994) discovered that approximately one out of every six stories exhibited significant misrepresentations of scientific facts related to climate change, despite reporters often accurately depicting the actual narrative. Scholars such as Burns et al. and Lowe (2016) have suggested that traditional media often convey alarming messages regarding the climate crisis. They argue that the news media's inclination towards a "doom scenario" is driven by commercial pressures to attract a large viewership by creating more sensational and dramatic content.

However, an excessive dose of fear may hinder constructive attitude adjustment, and an overemphasis on catastrophe may result in a sense of helplessness (Cottle & Nolan, 2007). Research

indicates that the media primarily focuses on the global aspects of climate change while often neglecting its local impacts (Cottle, 2007; Smith, 2000). One potential explanation for this trend is that when officials from multiple countries convene and sign treaties or protocols, it garners greater relevance and influence, subsequently attracting more media attention, as argued by Shen et al. (2014).

In summary, the reporting of climate change is influenced by various factors, including newsgathering methodologies, institutional culture, public expectations, ideological context, economic structures, and industrial interests. This study employs the framing concept as the theoretical framework, examining climate change news frames in various countries, including the United States, France, Sweden, and Australia. Research indicates that media in developing countries tend to focus on environmental impacts and mitigation measures (Boykoff, 2007). News frames can be understood as contested collective constructions of truth, and the success of a particular frame reflects the power dynamics among different interest groups involved in climate change discussions (Goffman, 1974).

3. Methodology

This study utilizes a comparative research design to analyse the data from two Pakistani newspapers. The research is carried out by developing a comparative study of Pakistani newspaper data, daily time and the nation regarding climate change and its effects on countries with different media coverage stories and facts. The focus is on analysing media coverage of climate change and evaluating any potential behavioural changes following significant incidents. Content analysis, as defined by Kerlinger, is a systematic, objective, and quantitative approach employed to study and analyse communication to measure variables. With the advent of digital media, particularly social media and mobile devices, content analysis has become increasingly valuable in uncovering vast amounts of textual data (Siyao et al., 2021).

The researchers employed a qualitative content analysis approach to examine the content of two Pakistani English newspapers, Dawn and Daily Times. For this study, data were collected from the archives of two major English newspapers (Daily Times and The Nation) as well as two Urdu newspapers in Pakistan. The data for this study were collected from two major newspapers: The Nation and the Daily Times. The selected timeframe for data collection is two years, from September 2020 to September 2022. This duration allows for a comprehensive analysis of climate change coverage during a significant period. Quantitative content analysis will be employed as the research approach for this study. This approach involves analysing the content of the selected newspapers in a systematic and quantitative manner.

3.1 Variables and Attributes

The frames of attribution of responsibility, conflict, collaboration, leadership, environmental and human impact and human interest are applied in this study. These are borrowed from the study of (Han et al., 2017).

Table 1. Variables with their Attributes

Variable	Attributes
Conflict Frame	1. Is it a reflection of individual/group/party/country disagreements? 2. Does one person, organization, political party, or country hold grudges against another?

Collaboration Frame	<p>3. Is it referring to two or more sides of the issue?</p> <hr/> <p>1. Is it a reflection of people's/groups'/parties'/countries' willingness to work together?</p> <p>2. Is it referring to individuals/groups/parties/countries having similar positions/goals?</p> <p>3. Is it stressed that two or more parties are cooperating on protocols in a constructive manner?</p>
Responsibility Frame	<hr/> <p>1. Does this suggest that some level of government is capable of are you addressing climate change?</p> <p>2. Is there any advice on how to deal with climate change?</p> <p>3. Does this suggest that a single person or group is too responsible for climate change?</p>
Human Interest Frame	<hr/> <p>1. Is it filled with emotional words and personal vignettes?</p> <p>2. Is it clear how people and groups are affected?</p> <p>3. Does it go into the actors' private/personal lives?</p>
Environmental & Human Impact Factor	<hr/> <p>1. Is it referring to the effects of climate change on nature?</p> <p>2. Is it referring to the effects of climate change on human beings?</p>

Results and Findings

Table No. 3 Characteristics of Sample

		Frequency	Percentage	X ²
Newspaper	<i>Daily times</i>	832	(60.2)	57.543; P < .001
	<i>Dawn</i>	550	(39.8)	
	Total	1382	(100.0)	
Topics of the stories	Political stories in <i>Daily Times</i>	244	17.7	232.877; P < .001
	Economic stories in <i>Daily Times</i>	195	14.1	
	Disaster stories in the <i>Daily Times</i>	393	28.4	
	Political Stories in the <i>Dawn</i>	175	12.7	
	Economic Stories in the <i>Dawn</i>	90	6.5	
	Disaster stories in the <i>Dawn</i>	285	20.6	
	Total	1382	100.0	
National and International stories	National stories in <i>Daily Times</i>	640	46.3	505.595; P < .001
	International stories in <i>Daily Times</i>	192	13.9	
	National stories in <i>Dawn</i>	440	31.8	
	International stories in <i>Dawn</i>	110	8.0	
	Total	1382	100.0	

Characteristics of the Sample: Table 3 presents the characteristics of the sample. The data shows that the *Daily Times* newspaper has a higher frequency with 832 articles (60.2%) compared to the *Dawn* newspaper with 550 articles (39.8%). The chi-square test indicates a significant difference between the two newspapers in terms of frequency ($X^2 = 57.543$; $p < .001$). The data in Table 3 also provides information on the topics covered in the stories. In *Daily Times*, the most frequent topic is disaster stories with 393 articles (28.4%), followed by political stories with 244 articles (17.7%) and economic stories with 195 articles (14.1%). In *Dawn*, disaster stories also dominate with 285 articles (20.6%), while political stories account for 175 articles (12.7%) and economic stories for 90 articles (6.5%). National and International Stories: Table 3 further presents the frequency and percentage of national and international stories covered by both newspapers. In *Daily Times*, national stories have a higher frequency, with 640 articles (46.3%), while international stories account for 192 articles (13.9%). At *Dawn*, national stories have a frequency of 440 articles (31.8%), whereas international stories have a frequency of 110 articles (8.0%). The data in Table 3 provide insights into the topics

covered by both the *Daily Times* and *Dawn* newspapers. *Daily Times* covered a significant number of political stories (244), economic stories (195), and disaster stories (393). Similarly, *Dawn* also covered political stories (175), economic stories (90), and disaster stories (285). This indicates that both newspapers addressed climate change within the context of various topics. The coverage of disaster stories indicates that both newspapers recognize the importance of reporting on climate change-induced disasters in Pakistan. This highlights the urgency and relevance of the climate change crisis in the country. The prominence of political stories suggests that the media recognizes the role of policy-making and political action in addressing climate change. Economic stories, although less prevalent, indicate that the media acknowledges the economic implications and opportunities associated with climate change mitigation and adaptation efforts (McCombs, 2019).

Moreover, the higher proportion of national stories indicates that both newspapers prioritize reporting on climate change issues specific to Pakistan. This suggests a recognition of the local impact and the need for national-level actions and solutions. The lower proportion of international stories suggests that the media coverage in Pakistan may be more focused on domestic climate change concerns rather than

global perspectives.

Topics of the Stories

Table 4 provides information on the stories printed before and after the implementation of NDCs. In the Daily Times, 357 articles (25.8%) were published before the NDCs, and 475 articles (34.4%) were published after. Similarly, in Dawn, 174 articles (12.6%) were printed before the NDCs, and 376 articles (27.2%) were printed after. The chi-square test shows a significant association between the time of publication and NDCs for both newspapers ($X^2 = 136.744$; $p < .001$).

Table 4: National determined contributions

Stories printed before and after NDCs plan	Frequency		X ²
	Per cent		
before NDCs in daily times	357	25.8	136.744; $p < .001$
after NDCs in daily times	475	34.4	
before NDCs in the dawn	174	12.6	
after NDCs in the dawn	376	27.2	
Total	1382	100.0	

Table 4 provides data on stories printed before and after the implementation of the NDCs long-term plan. In Daily Times, the number of stories before the NDCs plan was 357, while after the plan, it increased to 475. Similarly, in Dawn, the number of stories before the NDCs plan was 174, and after the plan, it rose to 376. These findings suggest that there was an increase in the coverage of climate change-related stories after the implementation of the NDCs long-term plan. This analysis contributes to addressing the research objective of analysing media reporting before and after the NDCs plan.

Both of these newspapers differ in terms of the topics covered, focus on national and international stories, timing of coverage related to the NDCs plan, and the frames used to present the issue. Daily Times tends to prioritize disaster stories and national coverage, while Dawn emphasizes environmental impact and international stories. The introduction of the NDCs plan influenced the coverage in both newspapers. These findings provide valuable insights into how the media portrays and emphasizes different aspects of the climate change crisis, which ultimately influence public perception and engagement with this critical issue (Pakistan's Nationally Determined Contributions (NDCs) under the Paris Agreement, 2021).

Hence, the two newspapers differ in terms of the topics covered, focus on national and international stories, timing of coverage related to the NDCs plan, and the frames used to present the issue. Daily Times tends to prioritize disaster stories and national coverage, while Dawn emphasizes environmental impact and international stories. The introduction of the NDCs plan influenced the coverage in both newspapers. These findings provide valuable insights into how the media portrays and emphasizes different aspects of the climate change crisis, which can ultimately influence public perception and engagement with this critical issue (Painter, 2013).

Frames of the Story

Table 5 presents the frequency and percentage of different frames used in the stories. In Daily Times, the most frequent frame is the environment/human impact with 299 articles (21.6%), followed by the responsibility frame with 245 articles (17.7%). In Dawn, the highest frequency is observed in the human-interest frame with 129 articles (9.3%), followed by environment/human impact with 199 articles (14.4%). The chi-square test indicates a significant difference in the frames used between the two newspapers ($X^2 = 457.609$; $p < .001$). Table No. 5 illustrates the different frame areas used in presenting the climate change crisis in both newspapers. In Daily Times, the most prevalent frame was environment/human impact with 299 articles (21.6%), followed by the responsibility frame with 245 articles (17.7%) and the human-interest frame with 115 articles (8.3%). Similarly, in Dawn, the environment/human impact frame was dominant with 199 articles (14.4%), followed by the

responsibility frame with 106 articles (7.7%) and the human-interest frame with 129 articles (9.3%). The chi-square tests reveal significant associations between the frames used and the newspapers (conflict frame: $X^2 = 457.609$; $p < .001$; collaboration frame: $X^2 = 457.609$; $p < .001$; human interest frame: $X^2 = 457.609$; $p < .001$ environment/human impact frame: $X^2 = 457.609$; $p < .001$; responsibility frame: $X^2 = 457.609$; $p < .001$).

Table No. 5 Frame of the story

The the	Frames	Frequency	Per cent	X^2	use of
	conflict frame in daily times	52	3.8	457.609 ; $P < .001$	
	collaboration frame in daily times	121	8.8		
	human interest frame in daily times	115	8.3		
	environment/human impact in daily times	299	21.6		
	responsibility frame in daily times	245	17.7		
	conflict frame in dawn	54	3.9		
	collaboration frame in dawn	62	4.5		
	human interest frame in dawn	129	9.3		
	Environment human impact in dawn	199	14.4		
	responsibility frame in dawn	106	7.7		
	Total	1382	100.0		

environment/human impact frame in both newspapers suggests a focus on emphasising the effects of climate change on the natural environment and human well-being. This implies that the media understands the need to address climate change and its immediate and long-term consequences. The prominence of the accountability frame shows that the media holds individuals, organisations, and governments accountable for acting on and implementing climate change mitigation and adaptation measures. The inclusion of the human-interest framing suggests the media's endeavour to emotionally engage readers and highlight personal stories and experiences related to climate change (Shabbir & Yusuf, 2018). Both the Daily Times and the Dawn used many frames, such as conflict, collaboration, human interest, environment/human impact, and responsibility. The prevalence of the environment/human effect frame in the Daily Times and the human-interest frame in the Dawn reflects the newspapers' attention on the repercussions of climate change, as well as their endeavour to emotionally and directly engage readers. The employment of different frames, on the other hand, indicates a complex and varied approach to covering the climate change challenge (World Meteorological Organisation 2021).

4. Discussions

The data research sheds light on the coverage of the climate change catastrophe in Pakistani print media, with a particular focus on two notable newspapers: Dawn and the Daily Times. The findings shed light on the extent and type of climate change reporting by revealing three crucial aspects of media coverage. When compared to Dawn, the Daily Times had a higher frequency of articles. This shows that, in comparison to Dawn, the Daily Times has placed a stronger priority on climate change coverage. The large difference in frequency between the two newspapers suggests that they prioritise climate change reporting differently, which could reflect differences in editorial policy or audience preferences. When the issues covered in the stories were examined, both publications addressed climate change in several ways. Disaster stories received the most attention from the Daily Times, followed by

political and economic events. Similarly, Dawn covered disaster tales extensively while also addressing political and economic issues. These findings illustrate that both newspapers recognize the importance of reporting on climate change-induced disasters, the role of politics and policymaking in addressing climate change, and the economic implications and opportunities associated with it (Table 3). The higher proportion of national stories in both newspapers suggests a focus on reporting climate change issues specific to Pakistan. This indicates a recognition of the local impact of climate change and the need for national-level actions and solutions. Evaluating the timing of coverage related to the NDCs plan, the data reveal an increase in the number of climate change-related stories after the implementation of the NDCs' long-term plan. This indicates that the introduction of the NDCs plan influenced the media's attention to climate change issues and their reporting on the topic. The NDCs plan likely catalyzed increased media coverage and public awareness of climate change. The chi-square test shows a significant difference between the time of publication and NDCs for both newspapers $\chi^2 = 136.744$; $p < .001$ (Table 4).

Analysing the frames employed in the stories reveals more about how the media portrays and frames the climate change issue—the Daily Times used the environment/human impact and responsibility frames extensively, emphasising the repercussions of climate change and the need for action and accountability. Dawn, on the other hand, had a higher frequency of human-interest framing, showing a focus on emotionally engaging readers and emphasising personal stories and experiences relating to climate change. The different frameworks utilised by the two newspapers indicate variances in their approaches to communicating the climate change crisis to their readers.

$P < .001$ shows that there is significant statistical evidence that the observed effect or difference is real and not attributable to random fluctuations in the data.

5. Conclusions

The examination of climate change coverage in Pakistani print media, with a particular focus on the Dawn and Daily Times newspapers, provides vital insights into the media's important role in affecting public views, attitudes, and behaviours about this critical problem. The long-term plan for implementing the NDCs has had a perceptible impact on the coverage of climate change-related articles in both media. Notably, following the implementation of the NDCs plan, both Dawn and the Daily Times boosted their coverage of climate change problems, demonstrating that the plan had a significant impact on media attention and reporting. Second, an examination of media representation in Pakistan's English media landscape finds that the Daily Times, as opposed to Dawn, has a higher frequency of climate change articles. This gap suggests that the Daily Times places a stronger priority on climate change coverage. The large difference in article frequency between the two newspapers shows that they have different editorial practices or audience preferences when it comes to reporting on climate change. Furthermore, an examination of the prominent issues covered in newspapers reveals the prominence given to climate change-related calamities. Disaster stories had the most frequent coverage in both the Dawn and the Daily Times, highlighting the importance of reporting on climate change-related disasters in Pakistan. Political and economic issues received substantial attention, demonstrating the media's recognition of the role played by policymaking, politics, and the economic repercussions of climate change. In terms of regional concentration, both publications prioritised reporting on national climate change problems. This emphasis acknowledges the local impact of climate change while emphasising the need for comprehensive national-level initiatives and solutions. International stories, on the other hand, received significantly less coverage, showing that the Pakistani media places a higher emphasis on domestic climate change concerns rather than global perspectives. As a result, the complete analysis demonstrates the Pakistani print media's grasp of the urgency and relevance of the climate change challenge. The newspapers effectively address various dimensions of this issue, including disasters, politics, economics, and local impact. Furthermore, the implementation of the NDC plan exerts a notable influence on media coverage, while the utilization of different frames to present the climate change crisis underscores its consequences and the imperative for action and

accountability.

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