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Resilience of Media in Risk Reduction: An Analysis of Pakistani Press through the Lens of Sustainable Development

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ABSTRACT

Aim of the Study: This study explores the role of media in disaster management, emphasizing sustainable development strategies for disaster risk reduction (DRR). It specifically analyzes the coverage of the 2022 flood crisis in Pakistan through the lenses of Social Responsibility and Framing Theory.

Methodology: The research uses a quantitative content analysis approach to examine news from two English-language newspapers (Dawn and Daily Express Tribune) and two Urdu newspapers (Daily Duniya and Jang). Using purposive sampling, the study encompasses the following timeframes: the pre-disaster stage (January 1, 2022, to May 31, 2022), the disaster stage (June 1, 2022, to October 31, 2022), and the post-disaster stage (November 1, 2022, to March 31, 2023).

Findings: The findings suggest that media attention peaked during the flood crisis but soon declined, indicating a pattern of inconsistent and reactive reporting. English-language newspapers provided a more comprehensive perspective, discussing political, economic, and policy-related aspects, including international aid. In contrast, Urdu newspapers primarily concentrated on immediate rescue efforts and their humanitarian impact. These findings underscore the urgent need to transition towards development journalism that actively educates the public about disaster preparedness, prevention, and sustainable management practices.

Conclusion: In conclusion, this research highlights the importance of adopting a development-oriented approach to disaster reporting. This approach should focus on building long-term resilience and promoting sustainable development to effectively mitigate future disasters' impacts.

Keywords: Disaster Risk Reduction, Sustainable Development, Risk Management, and Media.

1. INTRODUCTION

In Pakistan, disaster management presents a significant challenge. Despite having experienced numerous natural and man-made disasters throughout its relatively short history, the country still struggles with preparedness. While policies and plans are developed, there often is a breakdown in execution when

disasters occur. The primary risk lies in the system's failure at the critical moment, leading to chaotic situations. Even with ample resources, our disaster management efforts frequently fall short at the sites of these events. Natural disasters strike Pakistan annually, with increasing frequency, a wider geographic impact, and a rising death toll. The media plays a crucial role during such times, gathering timely information and quickly disseminating verified details to the public. Radio, television, and newspapers are essential communication tools, providing vital information locally and globally. These platforms allow individuals to access critical information on a broader scale, providing the opportunity for more effective responses. The primary responsibility of the government is to protect the public and reduce the harmful effects of disasters by keeping citizens informed before, during, and after such events (Perry 2005; Ahmed et al., 2024; Javed and Parwana, 2021). Disaster reduction involves managing factors that affect economic development and disaster resilience, including climate change, financial constraints, poor coordination between media and disaster management institutions, and environmental challenges. These issues increase the risks and vulnerabilities faced by the country. According to the United Nations Office for Disaster Risk Reduction (UNDRR, 2019), disaster risk reduction is a significant component of sustainable development. It requires the participation of all sectors of society, including government, private sectors, and professionals. A coordinated, people-centered approach is essential for building resilience against various hazards, emphasizing the importance of preventive measures and preparedness. Effective disaster risk communication and timely warnings are crucial for protecting lives and minimizing damage during natural and man-made disasters.

1.1   *Media and Disaster*

Natural catastrophes draw attention from professionals across multiple sectors. When disasters strike, experts from media outlets, disaster management, medical teams, and engineering, security, and relief organizations are ready to respond (Liu, 2009; Raza and Shah, 2024). Together, they form critical components of an effective disaster management system. Various stakeholders acknowledge the media's crucial role in sharing knowledge and reaching diverse audiences at all stages of a crisis. Recent major disasters, such as the floods in Pakistan, India, and Malaysia, have highlighted the importance of media in disaster reporting. Global media outlets provided daily updates on the affected regions, and many social science researchers have underscored mainstream media's role in disaster prevention. Communication, particularly through the media, is essential for early dissemination and public training before a disaster occurs. According to Adekunle, (2018), media coverage significantly influences public perception of potential disasters, current crises, and the lessons learned from them. The research in question focuses on the media's role before disasters strike, specifically in the pre-disaster phase, which is centered on risk mitigation. This study examines the contribution of Pakistani newspapers in the period leading up to flood disasters, highlighting how they engage the public and contribute to disaster preparedness.

1.2   *Pakistan Floods in 2022*

Natural disaster risks are increasing across South Asia due to heightened susceptibility and vulnerability. In Pakistan, this trend has been evident for decades, culminating in the unprecedented damage caused by the floods of 2022, particularly in the southern provinces. These floods were extraordinary in both scale and duration, displacing over 33 million people and resulting in significant human fatalities, ranking second globally. The catastrophe was triggered by a combination of heavy rains and an extreme heatwave, which accelerated the melting of glaciers in the northern highlands. Flooding, one of the most severe weather-related disasters worldwide wreaked havoc on both the land and infrastructure (Nanditha, 2023; Javed et al., 2024; Raza and Farhan, 2023). The impact of the 2010 floods, which left lasting damage to lives and infrastructure, was still being felt when the floods of 2022 struck, compounding the nation's challenges. At that time, Pakistan was already grappling with severe political and economic crises, and the heavy rains only worsened the situation. Political instability hindered the government's ability to effectively manage disaster response, leaving the affected population without adequate assistance (Qamer, 2023). The lack of political cohesion also disrupted critical policy decisions, leading to inflation and food shortages, which further intensified the hardships faced by millions. Flooding

continues to wreak havoc across the country, escalating Pakistan's already dire humanitarian crisis. Dr. Brennan, the WHO's Regional Emergency Director, emphasized the immense challenges faced by philanthropic organizations during this calamity, stating, "The catastrophe has pushed the country to its limits, with widespread outbreaks of diseases." The heavy rains claimed numerous lives, demolished homes, and devastated vast stretches of agricultural land. The economic toll has been overwhelming, with losses above $15.2 billion, compounded by severe shortages of food and clean drinking water. As the skies cleared across Pakistan, the sheer magnitude of the destruction caused by the floods became increasingly apparent (Knippenberg,2024).

1.3   Disasters in Pakistan

Pakistan is highly vulnerable to all ranges of natural disasters due to its topographical and climatic circumstances. Due to its topographical and climatic circumstances, Pakistan is highly vulnerable to various natural calamities, with disaster exposure ranging from moderate to severe. The country faces frequent threats from floods, cyclones, tsunamis, and geophysical and biological hazards like earthquakes, storms, landslides, and epidemics. These disasters significantly disrupt the economic and social infrastructure. Due to climate change, flooding, often seasonal, has become more frequent, occurring almost annually. While destructive earthquakes and tsunamis are less frequent, Pakistan's northern and western regions are particularly vulnerable to seismic activity (Wang, 2024).

1.4   National Disaster Risk Management Framework for Pakistan

Pakistan's Disaster Management Framework (DMF) has shifted from a reactive approach to a more proactive one. This switch underscores readiness and risk reduction rather than just responding to any calamity that has occurred (Mukhtar,2018). At the heart of this initiative is the creation of the National Disaster Management Authority (NDMA), which has been tasked with spearheading the Disaster Risk Reduction (DRR) agenda in collaboration with regional and local disaster management entities (Ahmed, 2013). To bolster this crucial endeavor, the National Disaster Risk Management Framework (NDRMF) was introduced in 2007, designed to support stakeholders engaged in disaster management efforts. Its primary objective is to promote sustainable socioeconomic and environmental development by reducing existing vulnerabilities and associated risks, particularly for marginalized communities, while ensuring an efficient emergency response and rapid disaster recovery (Shaw,2015).

1.5   Role of Media in Disaster Risk Reduction

The media plays a vital role in disaster management by illuminating critical issues through accurate and factual reporting. This involvement includes active participation in pre-disaster preparedness programs and providing early warnings to the public, particularly vulnerable communities and society segments (Van Belle, 2015). Additionally, the media serves as a bridge for communication between the National Disaster Management Authority (NDMA), Provincial Disaster Management Authority (PDMA), and other state organizations. Research conducted by Ali (2023) emphasizes the varied concerns and geographical contexts surrounding the mainstream media's role in disaster management. Dansoho (2024) indicates that the mass media's contribution is a central issue in Total Disaster Risk Management (TDRM), primarily focusing on informing and educating the public, rather than providing solutions. Effective coordination and communication among stakeholders are crucial for managing community disaster risks (Hardjosoekarto, 2014).

1.6   Objectives of the Study

1. To examine the extent of disaster coverage in selected newspapers during pre- and post-disaster phases.

2. To investigate the Sustainable Development Goals (SDGs) that are prominently featured versus those that receives less attention in the coverage of calamities by Pakistani mainstream newspapers.

1.7   Research Questions

RQ1: To what extent do Pakistani newspapers provide coverage of disasters during the pre-and post-disaster phases?

RQ2: What types of Sustainable Development Goals (SDGs) are highlighted or overlooked by Pakistani newspapers in their disaster coverage during the specified period?

1.7   Significance of the Study

This study possesses the following strengths:

It aims to emphasize the roles of governmental agencies and media organizations in managing disasters.

It provides guidance on how journalists and management organizations can establish best practices, particularly about a resilience framework before, during, and after a disaster.

1.8   Problem Statement

Media, with its ability to rapidly disseminate information, plays a vital role in disaster risk reduction. It serves to warn of imminent dangers, collect and transmit information about affected areas, notify public officials and relief organizations of specific needs, and promote global discussions on emergency preparedness and response. In light of this, this study aims to analyze how the media covers disasters from the perspective of sustainable development. Additionally, it explored the perceptions of media professionals and officials from disaster management institutions regarding current disaster management practices.

2. LITERATURE REVIEW

This research highlights the critical aspects of collaboration between Pakistani media and disaster management authorities in efforts to reduce disaster risk and adds important insights to the existing body of literature. In catastrophe management, the significance of having "accurate information at the right time," understanding disaster causes, and effectively utilizing media cannot be overstated. People are not only eager to learn how to prepare before a crisis occurs but also seek timely updates and comprehensive data throughout the process. They seek to be informed about losses in terms of both lives and property (khan, 2024). There is an urgent need for training that can be provided in the event such situations arise. In light of this, they are eager for the support available to help address their challenges during any catastrophic event. It is important to highlight the significant role of mass media in shaping public perception of disasters and influencing disaster management strategies (McKinnon et al., 2017). Numerous lives have been saved due to public education and the swift, widespread dissemination of alerts. Conversely, there have been instances where a lack of adequate education and information has resulted in numerous casualties and considerable property damage. Effective communication with residents to mitigate injury and loss both before and after disasters is a fundamental responsibility of the government. Disaster alerts are provided as a government service, akin to national defense (Shoyama, 2021). These disaster warnings function as public services, encompassing the routines, practices, and operational methods employed by designated public servants to deliver essential safety updates and information during crises. Citizens facing potential dangers from disasters rightfully expect governmental entities to prioritize their safety. The responsibility for disaster and emergency management falls to the national government, which must leverage science, technology, planning, and management (Huo, 2021). This multifaceted approach serves four key purposes: prevention, preparedness, response, and recovery or mitigation. During the preparation stage, services are provided to the community through warnings aimed at reducing or mitigating the impact of a disaster (Ishrat, 2024). Disaster notifications involve the timely and efficient dissemination of crucial information to those at risk, detailing when a hazard may occur, its potential severity, and the necessary preventative measures to lessen its effects. This pre-disaster information prompts individuals to take actions that can help prevent damage, save lives, and reduce injuries, as well as facilitate an effective response following the disaster (Azhar, 2022). Research

conducted by Zaheer (2016) highlights the social responsibility approach, indicating that media coverage of natural disasters tends to occur only after they happen, with the role of the press in the pre-disaster phase of even anticipated events being markedly limited in the aftermath of a catastrophe, the media often neglects to address governance issues and the responsibilities of disaster mitigation agencies. Findings indicate that the Pakistani media should establish a code of ethics for disaster coverage and clarify its reporting objectives during such events. As noted by Gul et al. (2020), the media primarily plays an agenda-setting role during most disasters. Furthermore, the news serves a crucial function in connecting victims to governmental resources and fostering engagement with both national and international communities, while also identifying shortcomings in the disaster preparedness system. Interestingly, one of its key roles has been to define what constitutes 'catastrophes.' It may be even more important to consider media coverage as a means of transmitting symbols that evoke concern and stimulate citizen involvement (Dynes, 2005). Patti et al. (2012) focused on the idea of "mediated disaster," demonstrating that media outlets often amplify their coverage as disasters unfold, which aligns with the trends observed in your data. Conversely, some studies indicate that news coverage of disasters does not always correspond to the severity or timeline of the event. These studies suggest that media attention can be swayed by external factors, resulting in inconsistent or diminished coverage even during significant disaster periods (Bennett et al., 2007). Additionally, another study points out that media coverage of disasters may decline swiftly if other news events eclipse the disaster, regardless of its severity or ongoing developments (Kitzinger and Reilly, 1997).

2.1 *Disaster Risk Reduction in Pakistan*

The West Pakistan National Calamities Act of 1958 emphasizes the importance of responding effectively to emergencies and facilitates the maintenance and restoration of order in areas affected by disasters, alongside supporting humanitarian initiatives. The Emergency Assistance Cell, established in 1971 under this Act and operating within the Division of Cabinet Affairs, oversees national disaster assistance. This cell manages the Prime Minister's Flood Relief Fund and provides additional financial and material support to provincial authorities. Tragically, the earthquake that struck Pakistan's northern regions in October 2005 resulted in the loss of over 75,000 lives. In response to the significant damage caused by the earthquake, Pakistan has initiated national efforts to establish an emergency management framework that emphasizes early detection, mitigation, and integrated response. This initiative involved a thorough review of existing disaster management systems and rescue policies. The National Disaster Management Act, which took effect in 2010, was approved by Parliament following the issuance of the National Disaster Management Ordinance (NDMO) in 2006. To expedite the development of a comprehensive national policy, the Prime Minister established the National Disaster Management Commission (NDMC). The primary federal organization responsible for disaster management is the National Disaster Management Authority (NDMA). Utilizing the technical guidelines provided by the NDMA, organizations at both national and provincial levels can formulate plans, strategies, and programs for effective disaster risk management. Under the NDMA's guidance, the NDMC will craft its policies and make critical decisions, with the NDMA Chairman serving as the administrator of the NDMC.

3. METHODOLOGY

3.1 *Research Design*

A research design serves as the blueprint for conducting a study, outlining the strategies to be employed. It encompasses the research approaches, dependent and independent variables, sampling design, data collection methods, analysis, and presentation of findings. To achieve the objectives and goals of the investigation, researchers must select the most appropriate research design. This choice is influenced by the nature of the research problem, the resources available (including cost, time, and researcher expertise), the accessibility of subjects, and adherence to research ethics. According to Pedlow et al. (2024), quantitative studies have a well-established tradition in social science research. In this context, the researchers first performed a content analysis of selected newspapers. The content analysis approach

ensures the objectivity and validity of the research. To analyze the newspaper content, the researchers employed content analysis techniques, examining the material through the lens of sustainable development.

3.2   Content Analysis

Our research involves conducting a content analysis of prominent Urdu and English newspapers in Pakistan. The rationale for adopting a quantitative approach is to produce data that is more accurate and clear-cut, facilitating the researcher's ability to combine, compare, and summarize findings with ease. Content analysis is a method employed to scrutinize the content of recorded figures (Ullah, 2023). This study explored variables such as framing, slant, frequency, length, and placement across two Urdu newspapers and two English newspapers in Pakistan. The newspapers selected for analysis are Daily Jang, Daily Duniya, Dawn, and Daily Express Tribune, and their content examined accordingly.

3.3   Population

In research, the population is the group of subjects or items being studied. For this study, all national newspapers published in Pakistan are considered the population (Dehalwar, 2023).

3.4   Sample

A sample is a smaller group selected from a larger population for measurement purposes. The sample includes Dawn, Daily Express Tribune, Daily Jang, and Daily Duniya.

3.5   Sampling Technique for Selection of Newspapers

The purposive sampling method is a research technique where the researcher uses their judgment to select participants from the population for the study.

3.6   Period/Timeline of the Study

The study encompasses the following timeframes: the pre-disaster stage (January 1, 2022, to May 31, 2022), the disaster stage (June 1, 2022, to October 31, 2022), and the post-disaster stage (November 1, 2022, to March 31, 2023).

3.7   Sampling Technique for Selection of Newspaper Issues/Copies

The researchers utilized a census sampling technique to select newspaper issues. This means that all copies of newspapers published during the specified period included for content analysis.

4.   DATA ANALYSIS

Figure 1: *News coverage about selected variables in the selected time period*
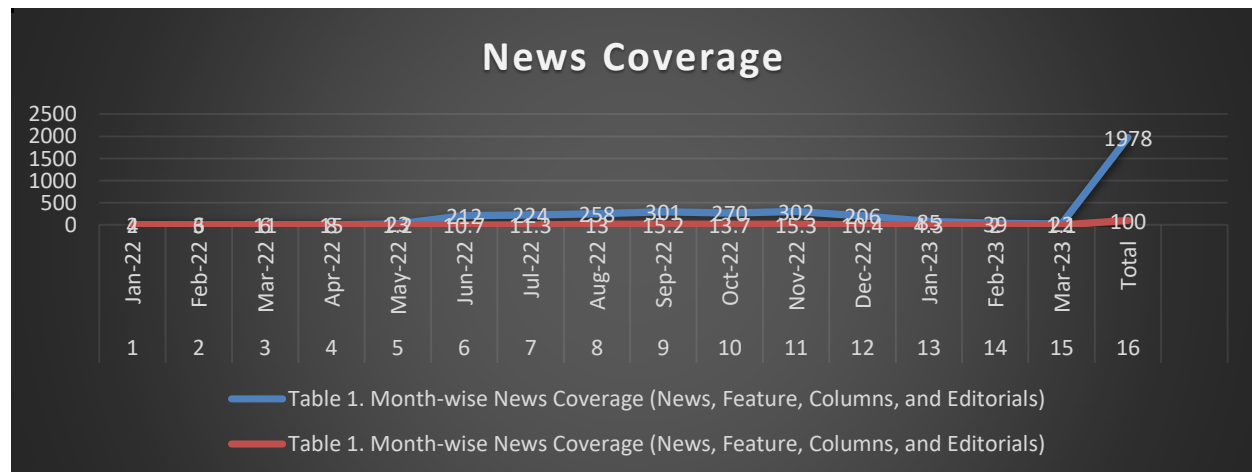
Figure 1 provides an overview of news coverage related to flood disasters from January 2022 to March 2023. The data highlights a significant rise in coverage during the disaster period compared to before it. In total, 1,978 news stories were reported across three phases of the disaster. Specifically, there were 4 news stories (2%) published in January 2022, 6 stories (3%) in February 2022, and 11 stories (6%) in March 2022. Coverage continued to escalate in the subsequent months: April 202215 (8%), May 2022 (23 stories, 1.2%), June 2022 (212 stories, 10.7%), July 2022 (224 stories, 11.3%), August 2022 (258 stories, 13.0%), September 2022 (301 stories, 15.3%), October 2022 (270 stories, 13.7%), November 2022 (302 stories, 15.3%), December 2022 (206 stories, 10.4%), January 2023 (39 stories, 2.0%), February 2023 (39 stories, 2.0%), and March 2023 (22 stories, 1.1%). This data clearly illustrates a marked increase in flood coverage during the disaster period.

Figure 2: *Newspapers wise coverage of disasters*
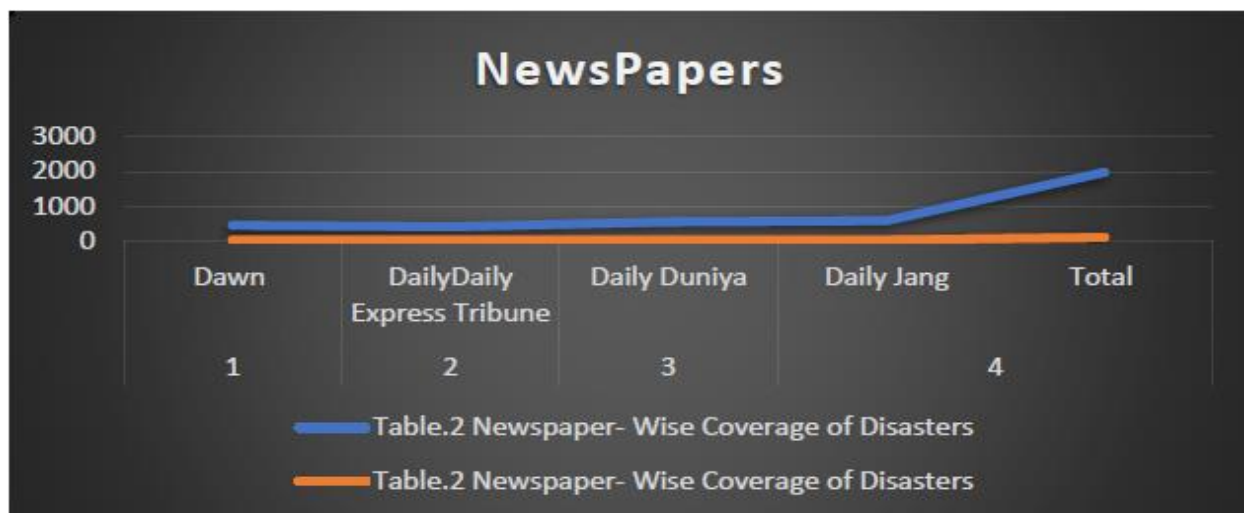
In accordance with the study's objectives, four newspapers were selected, comprising two English publications—Dawn and Daily Express Tribune—and two Urdu newspapers—Daily Duniya and Daily Jang. Notably, the Urdu newspapers provided more extensive coverage of the Sustainable Development Goals. As presented in Table 2, these four newspapers in Pakistan collectively reported a total of 1,978 news stories concerning the 2022 flood. Dawn published 448 stories (22.6%), the Daily Express Tribune covered 405 stories (20.5%), Daily Duniya included 543 stories (27.5%), and Daily Jang had the highest coverage with 582 stories (29.4%).

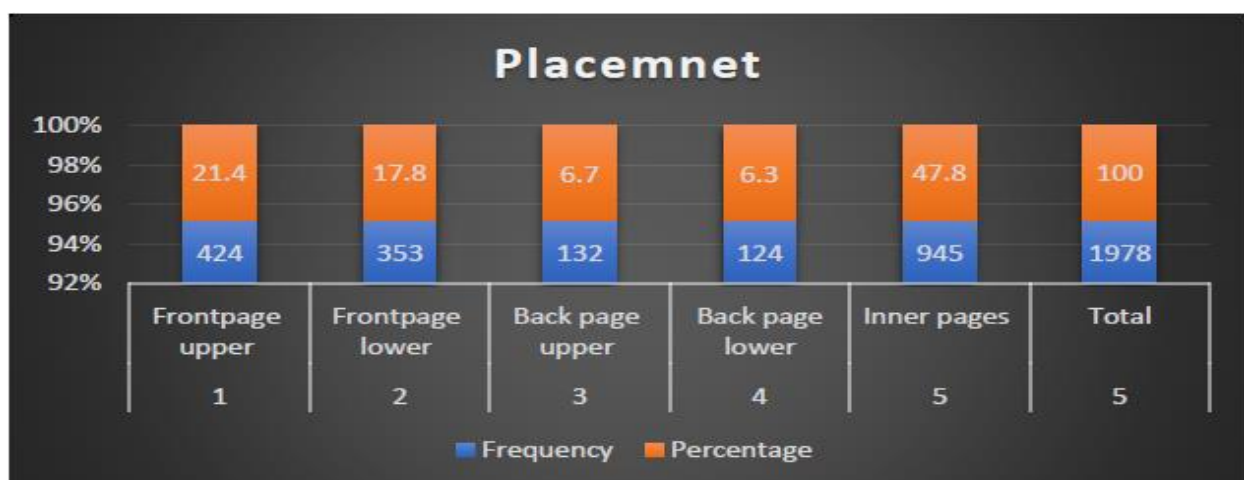Figure 3: *Newspapers coverage in term of placement*

Figure 3 presents the placement of news stories about a flood in various newspapers. A total of 1,978 news stories were published, with 424 (21.4%) appearing on the upper front page, 353 (17.8%) on the lower front page, 132 (6.7%) on the upper back page, 124 (6.3%) on the lower back page, and 945 (47.8%) on inner pages.

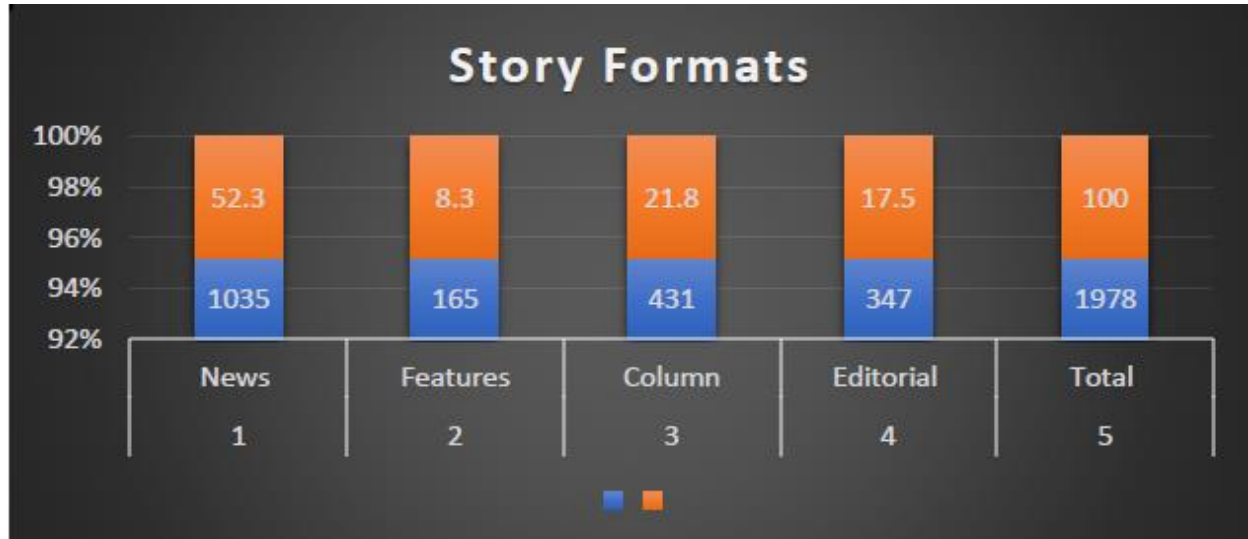Figure 4: *Newspapers coverage in term of story formats*

Figure 4 shows the formats of news stories from 1978, which included 1,035 (52.3%) news articles, 165 (8.3%) features, 431 (21.8%) columns, and 347 (17.5%) editorials about the flood in 2022, published in different phases of the disaster.

Figure 5: *Sources of News about the selected topics*
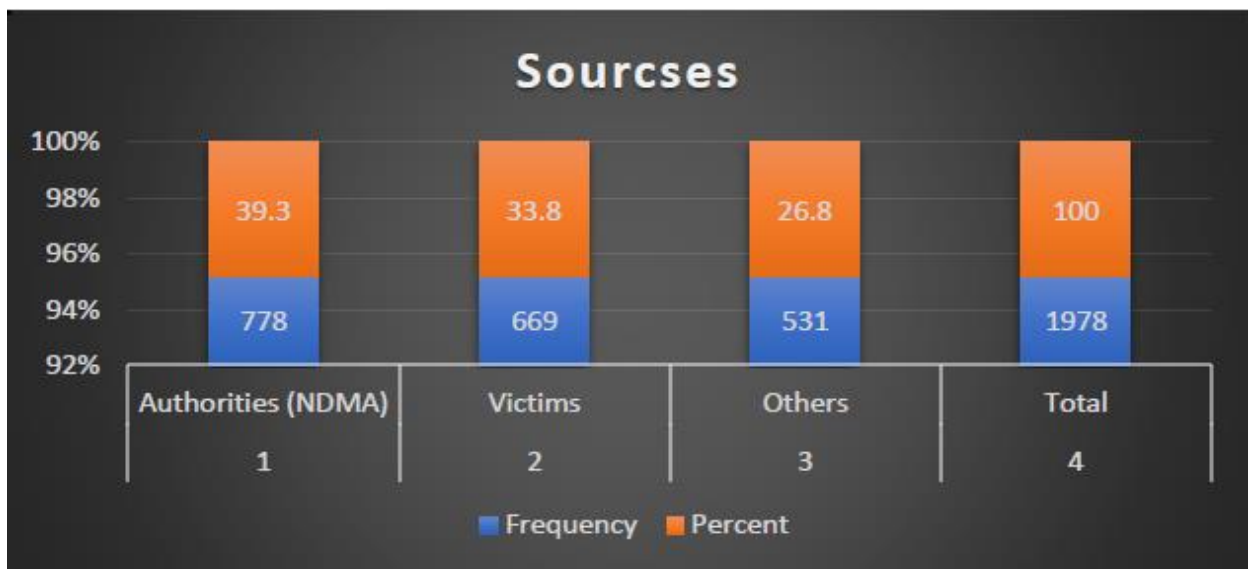
Figure 5 indicates that a total of 1,978 news stories about the 2022 flood were published in selected newspapers, with the highest number of 778 (39.3%) coming from the National Disaster Management Authority (NDMA).

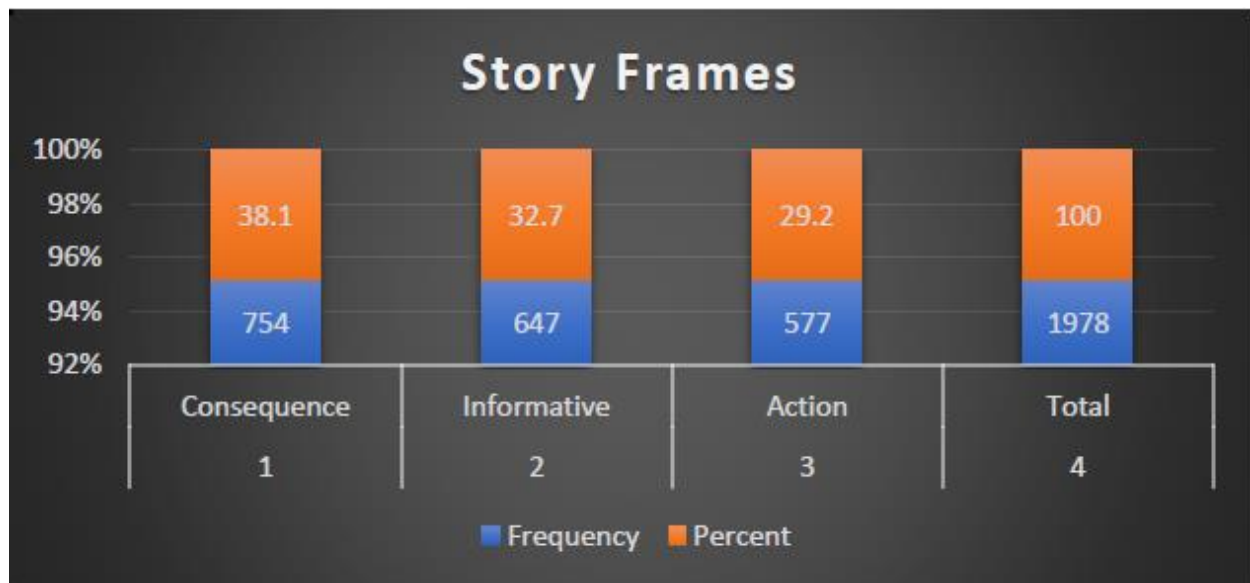Figure 6: *Newspapers coverage in term of story frames*

Figure 6 presents frames from stories, with 754 (38.1%) being consequence frames, 647 (32.7%) informative frames, and 577 (29.2%) action frames utilized in various news stories.
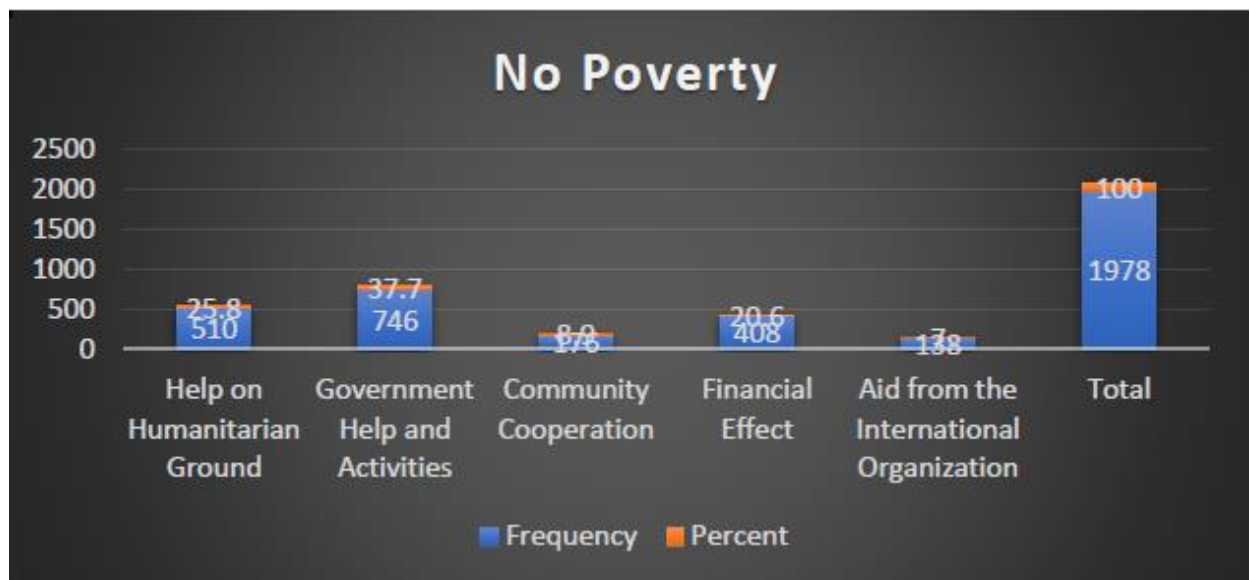
Figure 7: *Newspapers coverage about NO POVERTY*

Figure 7 indicates that a total of 1,978 news stories on the topic of poverty were published. Among these, 510 stories (25.8%) focused on humanitarian assistance, 746 stories (37.7%) reported on government initiatives and support, 176 stories (8.9%) discussed community collaboration, 408 stories (20.6%) examined financial impacts, and 138 stories (7.0%) covered aid from international organizations.

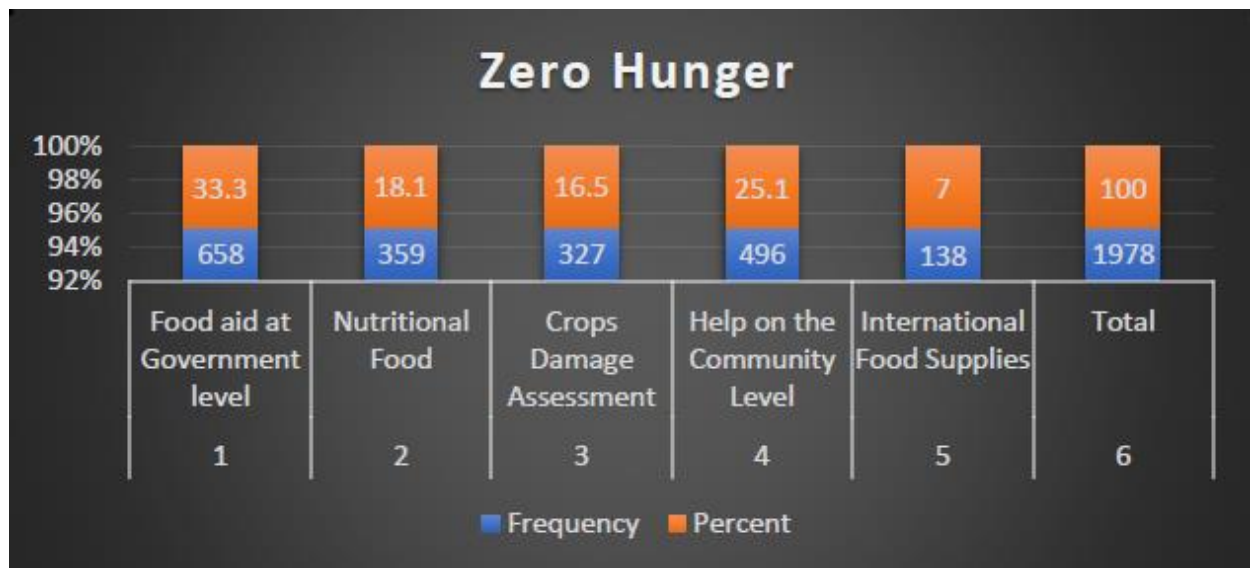Figure 8: *Newspapers coverage about ZERO HUNGER*

Figure 8 shows that 1,978 stories were published, of which 658 (33.3%) were about food aid at the government level, 359 (18.1%) focused on nutritional food, 327 (16.5%) addressed crop damage assessment, 496 (25.1%) related to community-level support, and 138 (7.0%) were published in selected newspapers.

Figure 9: *Newspapers coverage about ENSURING HELATHY LIVES*
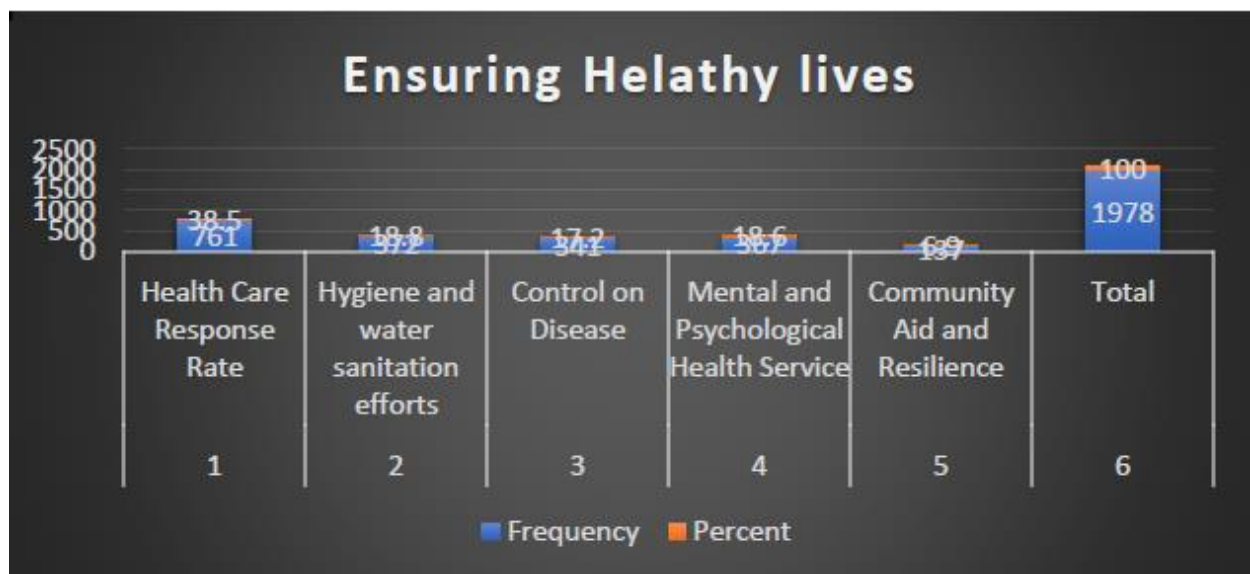
In figure 9, a total of 1,978 stories were published in selected newspapers regarding the sustainable development goal of ensuring healthy lives. The distribution of coverage is as follows: 761 stories (38.5%) focused on healthcare response rates, 372 stories (18.8%) addressed hygiene and water and sanitation efforts, 367 stories (18.6%) pertained to mental and psychological health services, 341 stories (17.2%) discussed disease control, and 137 stories (6.9%) were related to community aid and resilience.

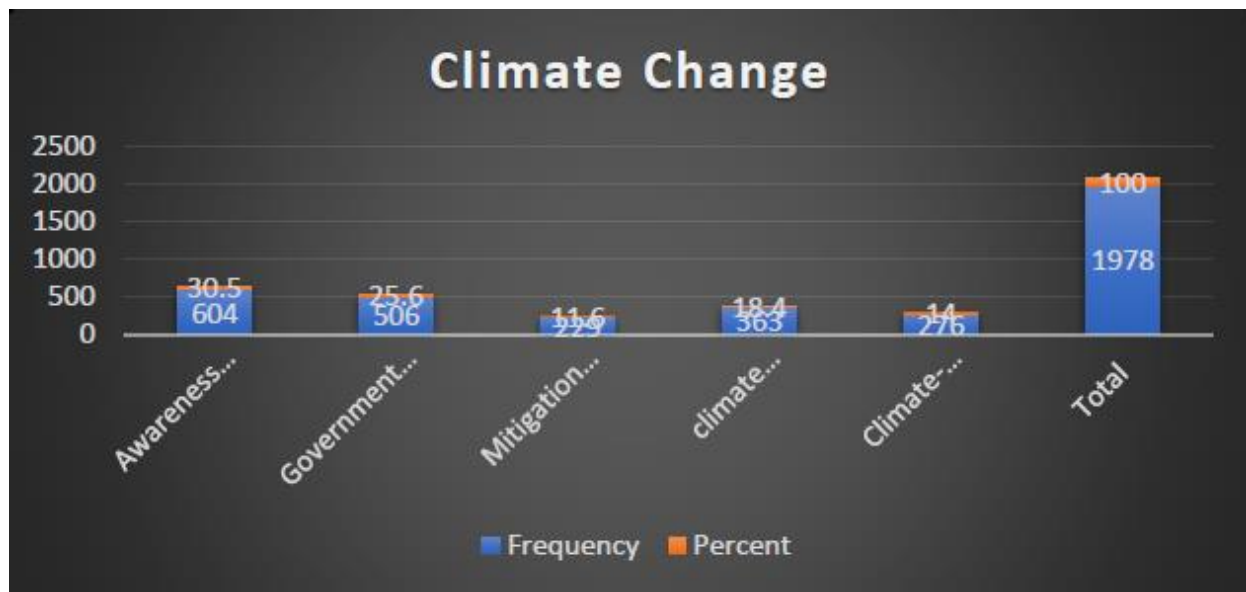Figure 10: *Newspapers coverage about CLIMATE CHANGE*

Figure 10 indicates that a total of 1,978 stories about climate change were published in selected newspapers. Among these, the highest coverage—604 stories (30.5%)—was dedicated to raising awareness and providing information on climate change. This was followed by 506 stories (25.6%) focusing on government policies related to climate change, 363 stories (18.4%) addressing climate change and health issues, and 276 stories (14.0%) concerning climate-related disasters. The lowest coverage, at 229 stories (11.6%), was given to mitigation strategies.

Figure 11: *Newspapers coverage about sustainable cities and communities*
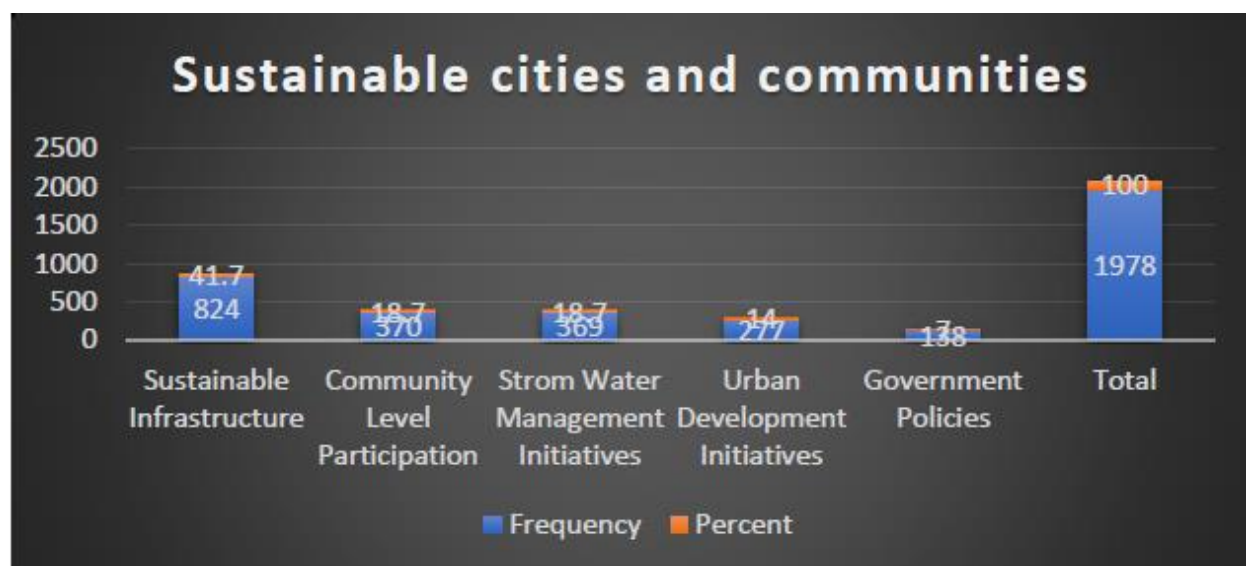

Figure 11 indicates that a total of 1,978 stories about sustainable cities and communities were published in selected newspapers. The highest coverage was given to sustainable infrastructure stories, accounting for 824 articles (41.7%). This was followed by community-level participation, with 370 articles (18.7%), and stormwater management initiatives and urban development initiatives, each receiving 369 articles (18.7%). Government policies related to sustainable cities and communities received the least coverage, with only 138 articles (7.0%).

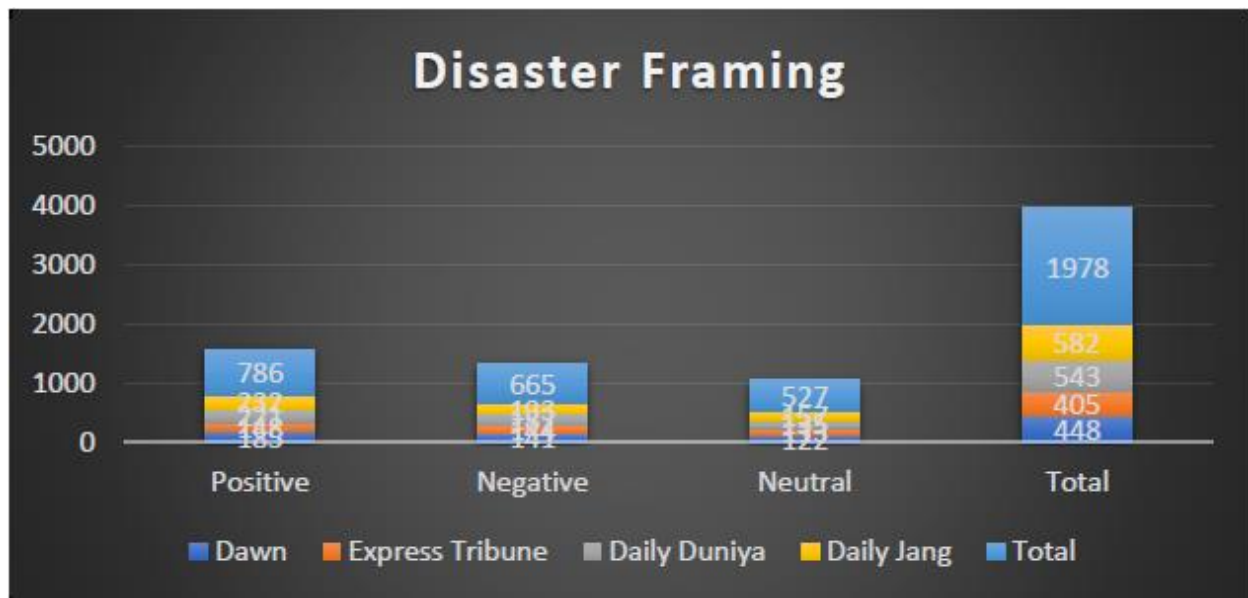Figure 12: *Newspapers coverage of disasters frmaing*

Figure 12 reveals that a total of 1,978 stories were analyzed, with Dawn publishing 448 news articles—185 of which were positive, 141 negative, and 122 exhibiting neutral framing. The Daily Express Tribune published 405 news stories, including 148 positive, 144 negative, and 113 with neutral framing. Daily Duniya released 543 news articles, consisting of 221 positive, 187 negative, and 135 with a neutral stance. Daily Jang contributed 582 news stories, with 232 positive, 193 negative, and 157 having neutral framing. Overall, there was the highest number of stories with a positive framing stance at 786, while the least was neutral, totaling 527.

5. CONCLUSION

This research focuses on how the media in Pakistan covered the 2022 flood crisis disaster risk reduction (DRR) and sustainable development goals (SDGs). The aim was to evaluate the media's role in disaster management. A mixed-method approach was employed, combining content analysis of two English-language newspapers and two Urdu newspapers with qualitative interviews of journalists and disaster management experts. This study investigates how the media addresses topics such as healthcare, economic disparities, climate change, and sustainable communities.

Consistent with previous research that indicates increased media attention during crises to meet public demand for information, the findings reveal that coverage of the 2022 flood disaster was extensive, with a significant increase in reporting during the disaster period. However, due to various influences, the media coverage was often inconsistent and decreased after the flood. The study revealed significant disparities in coverage between Urdu and English media channels. English newspapers offered a broader perspective, emphasizing political, economic, and policy issues, including international humanitarian efforts. In contrast, Urdu publications primarily focused on immediate rescue operations and the human impact of the disaster.

The findings underscore the need for a shift toward development journalism, which actively informs and educates the public about emergency preparedness, prevention, and disaster risk reduction. The research also identified notable gaps in media engagement during the pre-disaster phase, a time when the media could play a crucial role in risk reduction. While prevention and mitigation are recognized as essential, the media often concentrates on disaster response and recovery due to practical limitations.

The results highlight the urgency of improving early warning systems and community awareness in Pakistan. They also emphasize the media's potential to support proactive disaster mitigation efforts. In

summary, this study stresses the importance of a more comprehensive approach to the media's role in disaster management—one that not only responds to emergencies but also educates the public about long-term disaster risk reduction strategies.

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