

**Nexus of Human Security and Digital Media in Mitigating
Environmental Security Challenges: An Analysis of Floods
in South Punjab**



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Supervisor: Dr. Najimdeen Bakare

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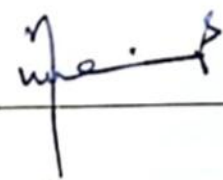
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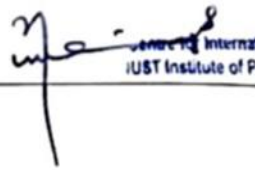
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LIST OF ACRONYMS

CHS	Commission on Human Security
DESA	Department of Economic and Social Affairs
EEA	European Environment Agency
EOC	Emergency Operations Centre
EPI	Expanded Programme on Immunization
FAO	Food and Agriculture Organization
GAR	Global Assessment Report on Disaster Risk Reduction
GWIndex	Global Web Index
ICCPR	International Covenant Civil and Political Rights
ICESCR	International Covenant on Economic, Social, and Cultural Rights
ICRC	International Committee of the Red Cross
ILO	International Labour Organization
L&NFBED	Literacy and Non Formal Basic Education Department
LDDD	Livestock and Dairy Development Department
NCSW	National Commission on the Status of Women
NDMA	National Disaster Management Authority
P&SHD	Primary and Secondary Healthcare Department
TEVTA	Technical Education and Vocational Training Authority
UNDP	United Nations Development Programme
UNDRR	UN Office for Disaster Risk Reduction
UNEP	UN Environment Programme
UNISDR	United Nations International Strategy for Disaster Reduction
UNTFHS	United Nations Trust Fund for Human Security
WCED	World Commission on Environment and Development
WDD	Women Development Department
WEF	World Economic Forum
WHO	World Health Organization

ABSTRACT

Amidst the relentless threat of climate change, the Southern Punjab region of Pakistan is confronted with a persistent human vulnerability to environmental adversities, particularly recurrent flooding events. The study endeavours to explore the nexus between human security and digital media, focusing how social media applications like X and Facebook became distinct yet complementary channels of interventions and narratives during the 2022 Monsoon-induced floods in the region. Grounded in the conceptual framework of human security, the research examines the digital discourse through the technique of qualitative content analysis, unravelling how disaster response and community resilience are shaped in the digital age, with a particular focus on the geographical dynamics of the flood-affected regions of District Rajanpur, District Dera Ghazi Khan, and Tehsil Taunsa Sharif within South Punjab. The research objectives are threefold, aiming to evaluate digital media's overall contribution to the broader human security framework, stakeholder engagement, and narrative-building. The findings of the paper paint a vivid picture of the digital ecosystem, integrating the perspectives of government departments, humanitarian organizations, and everyday citizens, to posit that digital media enhances human security during environmental security challenges like natural disasters, by serving as a conduit of information dissemination, stakeholder coordination, resource mobilization, and community engagement.

Keywords: Human Security, Digital Media, South Punjab, Floods, Rajanpur, DG Khan, X, Facebook

INTRODUCTION

In the digital era, the world has witnessed a transformative shift in problem-solving, with the solutions increasingly moving to the online space. The shift is particularly apparent in the realm of non-traditional security challenges, where digital technology has become a central pillar in addressing the multifaceted and mutually reinforcing human-centric issues. The evolution is not merely technological but also a reflection of the society's changing approach to crisis management and community resilience. Against this backdrop, digital media, particularly manifested in its social applications, has become a significant tool, transforming the way in which information is exchanged, crises are managed and communities are mobilized. The proliferation of digital media has permeated every sector, with its relevance becoming more apparent in addressing the crises posed by environmental insecurity, a dilemma increasingly faced by the world due to the escalating impacts of global warming, biodiversity loss, and resource depletion. The significance of digital media in this context lies in its ability to transcend the traditional barriers of communication, enabling a more democratic and inclusive exchange of information and engagement of actors. The field of digital response is thus reshaping both the dynamics of crisis communication as well as the ways of addressing the human security threats.

In Pakistan, the digital landscape has witnessed a growth, with a significant portion of the population embracing the Internet and social media platforms. As of early 2024, Pakistan hosts 111 million internet users and 71.7 million social media users, out of its total population of 242.8 million (Kemp 2024). This digital adoption is further evidenced by the fact that the internet penetration rate which stood at 36.5% at the start of 2022 (Kemp 2022), currently stands at 45.7% (Kemp 2024). The rapid expansion of the digital space in Pakistan thus makes it an important arena to explore how this digital potential can be harnessed to address the challenges faced by the country. As discussed earlier, similar to the rest of the world, Pakistan is also not immune to the ravages of environmental insecurity, with climatic hazards triggering natural disasters that annually test the vulnerability and resilience of the communities. These environmental upheavals

disproportionately impact the human security dynamics of Pakistan's more vulnerable regions. The Southern part of the Punjab province is one such example.

In exploration of the digital media's potential in the case of South Punjab's vulnerability to environmental disasters, particularly flooding, the conceptual framework of human security offers a critical lens. This analysis transcends the prospect of a conventional disaster response. Delving into the nexus of human vulnerability and digital capability, this nexus offers insights into how Information and Communication Technologies (ICTs) can be leveraged to enhance human security in the face of environmental challenges like natural disasters.

PROBLEM STATEMENT

For the past two decades, Pakistan has been consistently positioned amongst the top ten vulnerable states on the Climate Risk Index. Besides inducing weather-related calamities, fatalities and economic losses, these environmental security challenges also have the tendency to exacerbate vulnerability in regions already marginalized in terms of socio-economic indicators. Within the country, South Punjab remains historically known for its susceptibility to devastating and recurrent crises like flooding. The topography of the region along with the factors of climate change and governance lapses frequently make it susceptible to the devastating impact of hill torrents, flash floods, and riverine flooding. The detrimental consequences of such events like loss of lives, internal displacement, infrastructural and agricultural destruction, economic disruption and spread of water-borne diseases, have directly affected the natural environment and the well-being of local communities. Amidst these challenges, the potential of digital media remains a critical yet under-explored dimension in mitigating the adverse effects of such environmental threats in the region. Digital media platforms, including social networking channels, websites, and mobile applications, have emerged as powerful tools for disseminating critical information, community engagement, and facilitating coordination efforts between key stakeholders for disaster management and response. Hence, this necessitates

a comprehensive study of the digital media discourse, under the conceptual framework of human security, to examine the thematic patterns and narratives emerging from the digital content, thereby gaining insights into how digital media platforms like X and Facebook contribute to human security in the context of natural disasters, particularly in South Punjab.

RESEARCH QUESTIONS

1. How does digital media, particularly social media platforms X and Facebook, reflect the various dimensions of human security amidst the 2022 flooding event in the South Punjab region?
2. What insights can be gained from the digital content regarding the engagement of diverse stakeholders to alleviate the human security challenges faced by the flood-affected communities?
3. What thematic patterns are evident in the digital content and how do they inform the understanding of the narrative built by digital media regarding the human security dynamics in the case of South Punjab floods?

RESEARCH OBJECTIVES

- Analyze the digital media content to understand its portrayal of human security during the 2022 South Punjab floods
- Explore stakeholder engagement in addressing human security challenges within flood-affected communities

- Examine the underlying themes in digital content to understand the narrative built by digital media regarding human security dynamics in the region

SIGNIFICANCE OF RESEARCH

By comprehensively exploring the role of digital media in mitigating environmental security challenges, particularly in the context of floods, the study contributes to the growing relevance of human security in an era characterized by climate change and digital technology. Through the application of a multidimensional conceptual framework of human security, the research can offer a holistic perspective on the contribution of digital media in addressing the multifaceted vulnerabilities posed by natural disasters. Furthermore, the research would add into the broader academic discourse on human security, digital media, and environmental security challenges, fostering a deeper understanding of the contemporary security dynamics in flood-prone regions.

Chapter 1

LITERATURE REVIEW AND FRAMEWORK

1.1. Literature Review

In the evolving landscape of security, the security of an individual from pervasive threats - popularly known as human security - has surfaced increasingly in scholarly debates and policymaking. As pointed out by Kaldor (2007), humans are confronted with unique challenges posed by new wars; wars intertwined with multiple global issues and often fought by non-state actors, which have rendered the conventional rules of conduct drawn from the experiences of the Second World War, ineffective. Rothschild (1995) notes the departure of traditional national security towards the 'extended security approach' in various critical dimensions. Besides emphasizing a shift to individual well-being, the new principles of the 1990s security have transcended security beyond the national borders to encompass multiple entities. Hence, the responsibility for security no longer remains confined to states but also rests on individuals, institutions, governments, public, and press. Foreseeing the same transformation in security paradigm, Haq (1995) presented the idea of human security, defining it in terms of the security of individuals, irrespective of their environment, attained through development instead of arms.

While examining the historical roots of human security, scholars including Sarka Waisova, Neil Macfarlane and Foong Khong have added to the debate about whether human security represents a new conception of security or merely a rearticulation of preexisting ideas. Beginning with the prehistoric phase of human security, Waisova (2003) discusses how the constitutionalist state and nationalist tendencies of the seventeenth and eighteenth century prompted a new security paradigm. The discourse of human security though notably became prominent in the latter part of 1990s, the pluralistic approach to security, encompassing state and individual aims, persisted until the early twentieth century. This period, marked by the world wars, arms race, and nuclear trajectory, signified the military and state-centric elements of security, but the

collapse of bipolar rivalry reintegrated individual within the security framework. Additionally, Macfarlane and Khong (2006) have highlighted the ideological underpinnings of the United Nations (UN) Charter, development of discourse on human rights and the principle of self-determination. These factors collectively facilitated the gradual transition of a system based on state sovereignty towards a humanitarian rhetoric of intervention, thereby influencing the development of modern conception of human security.

As human security gained prominence, its extensive nature has made it a construct subject to diverse conceptualization. The multitude of the proposed definitions of human security vary in the scale of addressed threats. The various interpretations surrounding human security can be drawn from the work of Gasper (2010). He elucidates that the criterion for evaluating such threats spans a broader range of safeguarding human species to a more individual-centric perspective. His analysis also centers on the shared attributes of human security with multiple discourses, including human rights and human development. Human security has also acquired the attention of development agencies, international commissions, policy analysts, and scholars. Various approaches have emerged, broadly categorized into four types based on how these entities use the concept. The United Nations Development Programme (UNDP) approach, presented in various UN reports, constitutes the first perspective, followed by the approaches opted by governments, independent commissions and lastly, the academic world (Theoretical Perspective on Human Security n.d.). At its core, human security primarily identifies threats to an individual being, incorporating the broader concerns of human rights and development within the security landscape (Hudson, Kreidenweis, and Carpenter 2013). While reflecting on human security theory and practice, Gasper and Gomez (2015) have articulated human security as a 'security for all' approach against a myriad of challenges, thus underlining the universal relevance and inclusivity of the human security concept.

Central to the discourse of human security, however, are also contending views about its definition, scope, conceptual integrity, and operationalization. The dichotomy surrounding the narrow and broad interpretations of human security has been comprehensively examined by Owen (2004). Proponents of the former perspective

contend that the conceptual and analytic clarity, pragmatism, and normative impact of the human security concept is contingent on its narrow definition since an extensive list of potential threats renders the framework as inefficient. Counter to this view, Owen notes that the advocates of a comprehensive understanding of human security argue that issues of poverty, environment, and diseases are all intrinsically linked with the concept of security. Therefore, expanding the scale of analysis is needed to effectively cater to the wide-ranging implications of an extensive security paradigm.

Keeping in view the multiple conceptualizations of the term 'security' itself, Watson (2011) has elaborated various claims about the character of its referent objects. Drawing insights from the work of Waeber and Buzan, Watson contends that the nature of existential threats varies across different sectors, making humanitarian aspects of security often examined within the framework of securitization. Thus, depending upon the target that needs to be secured against a certain threat, Barnett (2007) equates environmental change as a security issue. This categorization has been further documented by illustrating the nexus of environment with violent conflicts, territorial integrity, and human security. While Barnett acknowledges the uncertain empirical validity of the initial claim that a change in environment can lead to a conflict, if not between, then within a state, he has justified the latter cases with examples. Besides being a risk to the national security, especially of small island states, environmental change can affect human security through the loss of lives, land, disease outbreak and contraction of income (Barnett 2010). Additionally, for a population already socially marginalized, having limited capital possessions and resource dependent, its human security would increasingly suffer because of climate change (Adger et al. 2014). Soroos (2000) points out that although scholars started recognizing the implications of environment on human and national security as early as the 1960s; the term 'environmental security' only started gaining prominence by the end of Cold War, with the increasing concern of global warming and ozone depletion.

Environmental security agenda encompasses several significant areas including re-conceptualization of security, examining the role of environmental factors in conflict, environmental security of the nation and people, ecological security, nexus of military

and environmental issues, and the issue of securitization (Barnett 2001). The merits of the concept on an analytical and normative basis for the first time were internationally debated in the publication by the World Commission on Environment and Development. The report termed environment and development as inextricably linked. Where development cannot subsist on deteriorating environmental resource conditions, environment cannot either be protected if growth does not take the cost of environmental destruction into account (WCED 1987). Nonetheless, the discourse of environmental security is also faced with a paradox. Trombetta (2008) has presented the realist and constructivist postulates with regards to the framing of the environment as a security issue. Realists, while employing a narrow conception of security and hierarchical classification of threats, categorize environmental issues as an area of low politics. In contrast, Constructivists and Post-Structuralists have explored the social construction and implications of broadening the security agenda. In doing so, they have influenced the academic and political debates by warning about the potential risk of framing environmental issues within the security paradigm. Graeger (1996) has examined the concerns raised by scholars about the operationalization of environmental security. She argues that while Arthur Westing and Sverre Lodgaard have stressed the political awareness created because of linking environment and security, the warning of Buzan, Waever and de Wilde against the securitization of environmental issues cannot be overlooked. To see the environment as an immediate threat, urgent enough to respond at the political level as per Buzan's definition, reduces the range of policy options available, depending heavily on the political and economic character of the state itself. However, the transnational character of environmental problems makes it difficult to encapsulate them within the state-centric model of security alone.

The work of UN Environment Programme on Environment Security is centered on exploring the intricate relationship of environmental degradation, climate change and the dynamics of peace and security. The analysis incorporates both the detrimental and beneficial aspects of this nexus, with the underlying aim to explore effective measures to safeguard the environment, enhance resilience in the wake of climate change, and foster peace (UNEP n.d.). A Special Report of UNDP (2022) on 'New Threats to Human Security' has elaborated how the key characteristics of human security - universal, inter-

dependent, prevention-oriented, and people-centric - have gained more relevance in today's world where people's security is threatened by challenges of digital technology, climate change and biodiversity loss. As emphasized by the report of UNTFHS (2016), crises like health pandemics, natural disasters, violent conflicts, and international terrorism are mutually reinforcing, entailing multiple forms of human security, and have the tendency of a spillover effect into all aspects of life. Global environmental issues, ranging from climate change to biodiversity loss, excessive consumption of natural resources, health and environmental crises are closely entwined with the aspects of poverty, ecosystem sustainability, resource security and political stability. The nexus, therefore, introduces substantial uncertainty and competition over resources, consequently straining the capacity of a state to sustain its food, water, and energy security (EEA 2010). In addition, the security risks posed by environmental challenges can undermine the fundamental human rights, including the right to adequate food, health, liberty, security, and the freedom from fear, as stipulated by the UN Human Rights Conventions, particularly the International Covenant on Economic, Social, and Cultural Rights (ICESCR) and International Covenant Civil and Political Rights (ICCPR) (Nguyen et al. 2023). The answer to whether the situation may escalate into a violent conflict or not, however, depends upon the intermediary factors like poverty, effective governance and institutions, adaptability, political inclusivity, and fiscal management (Vivekananda 2022).

In the context of environmental security and its vulnerabilities, natural disasters stand out as a grave threat. Natural disasters, as underlined by the Commission on Human Security (2003), are one of the greatest shocks to human security alongside economic crises and violent conflicts. As per the definition of the UN Office for Disaster Risk Reduction (2002), a natural disaster constitutes as an event which results as natural hazards affect the socio-economic system with a particular level of vulnerability, thereby hindering the capability of the affected communities to effectively manage the repercussions. Natural hazards become catastrophic once the damage ensued to individuals and societal structures necessitate an extended process of recovery and rehabilitation (Pickering and Owen 2006). The International Disaster Database has classified natural disasters into distinct hydrological, meteorological, biological, geophysical, and climatological

dimensions, encompassing events like droughts, earthquakes, floods, extreme temperature, landslides, storms, volcanic activities, and wildfires (CRED n.d.). The magnitude of the threat posed by natural disasters can be illustrated from the statistics of the UNDRR (2015) report, according to which approx. 90% of disasters over the past twenty years have been induced by weather-related occurrences. Furthermore, the report highlights flooding as the primary contributor, accounting for 47% of the total and affecting more than two billion people, with majority of Asians. An accelerated shift in climate change, persistent inequality, poverty, and unsustainable policy measures have collectively intensified the impacts of natural disasters and hindered the progress towards sustainable development (GAR 2023). Hans de Smet and his fellow researchers have identified demography, ever-changing environment, technology, and globalized socio-economic structures as the key drivers of social vulnerability to natural hazards (Smet, Schreurs, and Leysen 2015). Rasmussen (2004) argues that whether an event escalates into a natural disaster or not is mostly contingent on geography, vulnerability of the population, its level of preparedness, infrastructure, and the physical force, making developing countries susceptible to such crises. Having a major chunk of population residing in high-risk areas with inadequate infrastructural setup, developing states are particularly reliant on economic sectors directly impacted by weather conditions such as agriculture and tourism.

Numerous scholars have examined the facets of human security within the broader context of climate change, assessing how natural calamities, induced by climate change, in return reduce human security. Given the potential of climate change and disaster risks as imminent threat multipliers, Izumi (2021) has explored the intricate link between climate change adaptation, disaster risk reduction, and human security, asserting that community empowerment to withstand the impacts of climate and natural disasters can bolster human security. Hence, O'Brien and Leichenko (2007) have stressed that coping with the uncertainty of climate change and safeguarding well-being requires individuals and communities to respond with adaptation and mitigation approaches. Recognizing the complex and uncertain nature of contemporary threats, particularly those stemming from the environment, Trombetta (2008) has proposed the adoption of risk management and preventive measures. David and Hazel Todd have structured the disaster management

process into three primary phases. The pre-disaster phase including disaster preparedness, mitigation/prevention, and risk reduction, is followed by the disaster response and recovery phase (Todd and Todd 2011).

The International Strategy for Disaster Reduction, a UN agenda aimed at alleviating the social vulnerability to natural, technological, and environmental hazards, has marked a conceptual shift by integrating disaster risk reduction into sustainable development. The framework is premised on ensuring community resilience by facilitating collaboration amongst a network of international and civil society organizations, scientific and private sector, and governments to inculcate risk management in their developmental policies and programs (UNISDR n.d.). To promote a general understanding of the subject matter, the ISDR Secretariat has also presented basic definitions of some common terminologies including disaster (risk) management and reduction. Disaster management involves administrative decisions, skills, and capacity to implement policies for preventing and mitigating the adverse effects of hazards. Similarly, disaster reduction is composed of actions like risk assessment and awareness, applied research, community training and action, dissemination of early warning, and application of environmental management measures (UNISDR 2004). Based on literature review and a sample of case studies, Laframboise and Loko (2012) have concluded that the policy response to a disaster has a direct effect on the speed of the recovery. They opine that the human and fiscal cost of a natural disaster can be reduced by the relocation of disaster-prone communities, execution of stringent building plans, development of food inventories and emergency response mechanisms, and lastly, by implementing macroeconomic policies including drawdown of reserves, initiating financial adjustments, and securing timely external assistance.

The role of ICT in relieving the hazardous impacts of a disaster has also garnered frequent attention. Data, visualization, and analyses using numerous modes of technology like remote sensing, radar system, satellite imaging, smartphones, and Internet of Things (IoT), can improve disaster management by facilitating in the disaster preparedness, response, and the recovery phases respectively (Krichen et al. 2023). A substantial part of the academic world has explored how digital and social media have either contributed to

or hindered the development of citizen engagement and awareness. Describing media in its broadest sense, referring to both the content as well as the infrastructure responsible for its distribution, Couldry (2012) has observed digital media to be the latest yet complex addition within the landscape of media modernity. 'Digital media,' as defined by the World Economic Forum (2016), is a term encompassing 'digital platforms (websites and applications), digitized content (text, audio, video, images) and services (information, communication and entertainment) that can be accessed and consumed through various digital devices.' In addition, the report has identified the impact of digital media on individuals, society, and organizations in assisting social interaction and empowering individuals, increasing civic participation, facilitating learning, and enhancing the flexibility for employers and workers. Matthew Guinibert has enlisted four facets to define digital media. The 'digitization' of 'content' account as the first two characteristics of the definition which indicate encoding and transmission of content in the form of audio, video and graphics and information in a machine-readable format. The third facet is about 'communication.' Guinibert (2021) further discussed the democratization of media caused by digital platforms, thereby allowing any user to produce, consume and reproduce the content as per his liking. Lastly, digital media is deeply enrooted in information and communication technology.

Defining digital media as a state in which 'computer systems have become key infrastructures for every aspect of life,' Delfanti and Arvidsson (2018) have pondered upon its pervasiveness, fluidity, and efficiency in daily lives of common people. Furthermore, they have discussed the transformation of this 'new media' which entails an evolutionary process involving competition and cooperation amongst various media outlets. Frequently contrasted with traditional and print media, digital media includes computer software and programs, digital imagery, audio, and video, web pages, websites, and database (Peakson 2016). Within this domain, social media has emerged as a new and popular distribution of digital media. Mangold and Faulds (2009) contend that social media exhibits a hybrid nature. Emerging from diverse technological and media roots, it facilitates an immediate and real-time communication whilst employing various multi-media formats on numerous delivery platforms with a global reach, including Facebook and YouTube. Social media can be broadly categorized as the following: social

networking and blogging, virtual gaming, bookmarking sites, collaborative projects (communal databases like Wikipedia), content community platforms (YouTube), and social review sites (Richard et al. 2013; Chan 2013). While analyzing the explosion of digital media, Reyna, Hanham, and Meier (2018) have regarded Wi-Fi availability, rise of electronics and ubiquitous devices, software and applications as being responsible for the development of a digital media ecosystem on the Internet.

Schroeder (2017) argues that digital media has reshaped social lives in ways best observed by examining the integration of new digital technology in everyday life and its complementary role towards traditional media. The shift from traditional to digital media has been quantified by the report of Global Web Index (2019) which states that social networks are capturing more consumption time than traditional media by all age groups. The report maintains that traditional media has not been completely abandoned and watching TV remains the second biggest media activity after social media, yet the factor of second screening is prolific in more than 85% cases. Miller (2020) has drawn a distinction between the old and new media. Where the former is passive, the latter promotes more active communication. The new model entails a decentralized, two-way communication involving a more active, engaged, and aware audience, which can make a choice and formulate opinions on the array of information available to them. Two core attributes i.e., participation and interaction, distinguish social media from conventional media where personal profiling is not a pre-requisite (Manning 2014). Through constant internet connectivity, technologies like mobile devices and other wearables enable interactions transcending beyond the physical borders, thereby extending the temporal and spatial dimensions of the digital engagement (Sora, Jorda, and Codina 2017). Yet managing digital media content, especially the user-generated one, comes with certain challenges. Some of the prominent issues facing new media include privacy and security concerns, proliferation and amplification of unregulated content, creation of echo chambers, polarization, and digital divide (Dhiman 2023; Minehane 2017; Alexander 2013).

The nexus of digital media and human security can be examined within the broader context of the impact of technology on the security of people. Agir (2018) contends that

two contradictory views have been subject to continuous debate among scholars and practitioners. While one school of thought argues that technology enhances safety of individuals, the other emphasizes the resulting insecurity. Ramsden (2008) observes an indispensable role of technology in combating natural and man-made threats to safety, yet many applications of technology invade personal security in direct and indirect ways, raising moral and ethical questions related to security. Within the context of environmental security challenges, the nexus of digital media and human security can be explored by assessing the role of digital media, particularly social media, in crisis management and response. Digital media holds the potential to promote human security by expanding productivity and augmenting response to challenges like pandemics, anthropogenic risks, and other crises (UNDP 2022). However, crisis response entails an evolving research area, with prescriptive literature based on exclusive case studies (Coombs 2010). The same can be inferred for crisis in the context of natural disasters. The term crisis and disaster here imply situations, unforeseeable and urgent, that pose a severe threat to life, well-being, and preservation of other highly valued elements of the social structure (Dayton 2004). Given the multitude of ways in which people employ different media outlets during natural disasters, it is not easy to encapsulate the current state of development in this area. Additionally, effective crisis management in a disaster hinge on the actions of emergency organizations, grappling with the problems of communication, authority, and coordination (Quarantelli 1988).

The academic attention to ‘new media’ dates back a decade, yet Alexander (2013) has observed the literature on social media and networking amidst a disaster or crisis to be limited and primarily focused on short-term aspects of crisis response and recovery. He further notes that the existing body of work has thematic focus on the functionality of social networking, development of algorithms, user perception, preference, and the perspectives of emergency responders and journalists about the extent to which new media can be integrated within the traditional medium.

Luna and Pennock (2015) have opined that as conventional communication channels get disrupted during a crisis, digital media applications become dependable. They foresee a transformation in the role of social media from being merely a source of information

dissemination to an active emergency tool. Lindsay (2011) has conceptualized the use of social media as an emergency management tool which involves conducting emergency communication, issuing warnings and safety guidelines, requesting for assistance, and monitoring activities for situational assessment and damage estimation. The five attributes of social media - collectivity, connectedness, collaboration, completeness, and clarity – make it conducive for performing crisis management functions (Chan 2013). Apart from real-time situational awareness, the digital medium can also be utilized for coordination between the public and stakeholders (Luna and Pennock 2018). Ehnis (2017) has observed the interest of hierarchical and voluntary Emergency Management Organizations (EMOs) in using social media as a platform for broadcasting, engaging public, intelligence gathering and dispatching assistance amidst an extreme event. He has drawn a conclusion that the mode of operation of social media in emergency and disaster management is relevant to the phases of prevention, preparation, response as well as recovery. Kaufhold and Reuter (2016) discuss the dual aspect of digital media, stating that where these real-time updates can be used by organizations to coordinate response strategies, disaster affected people can also utilize it to self-organize and aid their neighborhood. The groups are small, loosely connected through online self-organization and can facilitate collective action during a public health emergency (Chen et al. 2023). Twig and Mosel (2017) emphasize the prevalence of these emergent voluntary groups and individuals in urban disaster scenarios. Their initiatives encompass search and rescue operations, distribution of relief supplies as well as food and water for the victims and emergency. In addition, digital media can aid community disaster resilience. By developing social capital, communicating warnings, coordinating community response, and conducting post-event study, social media can help build the social aspects of disaster resilience (Dufty 2012).

The nexus of digital media with multiple dimensions of human security; socio-economic, health, environment, and community, can be evident from the study of Ogie et al. (2022). By highlighting how social media can be leveraged during natural hazards for building social cohesion, financial support, post-disaster reconstruction, infrastructure, and socio-economic well-being, they have uncovered the collaboration of government, NGOs, and citizens, for long-term recovery of the disaster-hit communities. Similarly, in a study of

2018, Joseph and his fellow researchers have used the techniques of big data analytics and data mining of social applications like Twitter, Facebook, Instagram, and WhatsApp to investigate their efficacy in disaster management, particularly across the dimensions of preparedness, response, recovery, and mitigation. After examining the case studies of Taiwan's Typhoon Morakot, tsunami and earthquake of Tokyo, and Chennai floods, they have uncovered the role of social media as an asset in facilitating communication, real-time decision-making and fostering community resilience amidst disaster occurrences (Joseph et al. 2018). Amongst these digital platforms, Twitter has frequently gathered scholarly attention for being an effective tool during catastrophic events. After an examination of the usage of Twitter during the Typhoon Haiyan, Edson, Bruno, and Christine Carmichael have found it to be the most useful in the propagation of second-hand information as well as for generating coordination amongst key stakeholders (Takahashi et al. 2015). Bird, Ling, and Haynes (2012) have examined the use of community-initiated Facebook groups during the floods in Queensland and Victoria, Australia. They have noted that during an emergency as official channels exhibit a time lag; driven by the need of verification of information before the broadcast, community groups on social media, particularly Facebook, thrive on real-time information obtained directly from the public. Though concerns about the reliability of information became apparent in the latter case, the findings of their research suggest that administrators and users of such groups are quick to rectify such fallacies.

At the same time, despite the optimism about the role of social media in disaster mitigation, White and Fu (2012) have noted that the usage of digital media during or after a disaster is highly context-specific. It is dependent upon the level of trust of common people, or the way authorities are utilizing it to communicate with the public. This entails a challenge in generalizing about the pros and cons of digital technology usage during natural catastrophes. In addition, Singla and Agarwal (2022) have outlined impediments such as the regulatory and software-related, authenticity challenges, along with demographic, cultural, and physical barriers to leveraging social media for disaster management.

1.2. Conceptual Framework: Human Security

This research seeks a comprehensive exploration of the human security paradigm, delving into its complex interplay within the context of environmental upheavals like natural disasters, notably floods in the Southern Punjab region of Pakistan. Human security, in its essence, encapsulates the holistic well-being of individuals and communities amidst multifaceted challenges, including their inherent right to live in ‘freedom from fear, want, and dignity’ (UNTFHS 2016; CHS 2003; UNDP 1994). As envisaged by the former Pakistani Finance Minister Mahbub ul Haq in the Human Development Report, human security entails ‘safety from chronic threats’ and ‘protection from sudden and hurtful disruptions in daily patterns of life’ (UNDP 1994). The contextual applicability of human security is evident from the work of the CHS (2003) which has emphasized to ‘protect the vital core of all human lives’ by safeguarding people from ‘critical and pervasive threats’, utilizing ‘processes that empower their strengths and aspirations’, and ensuring their ‘survival, livelihood, and dignity’ by creating comprehensive systems. As per Kraus (2009), the definition avoids an exclusive focus on violent threats, requiring threats to be both ‘existential and pervasive’, thereby allowing the inclusion of multiple issues within the framework such as ‘food, health, environmental or political threats like violations of human rights or foreseeable risks of environmental disasters’. Nevertheless, seven key dimensions - economic, food, health, environmental, personal, community, and political security - extensively represent the wide spectrum of threats to individual and community well-being (UNDP 1994).

In the context of global environmental change and its subsequent ramifications, Brauch (2005) stresses the environmental dimension of human security to be ‘interaction between individuals and humankind, both as instigators and recipients of global environmental change in anthropogenic and natural variability contexts’. Maclean (1994) notes that personal protection and preservation of an individual also includes ‘protection from unstructured violence such as violence emanating from environmental scarcity or mass migration’. The underlying core of the human security framework, however, is to protect the ‘most vulnerable’, categorized by Suhrke (1999) as either ‘victims of war and internal conflict, those who live close to the subsistence level and are structurally

positioned at the edge of socio-economic disaster, or the victims of natural disasters'. Brklacich, Chazan, and Bohl (2009) have conceptualized the human-vulnerability continuum in the environmental context in terms of external and internal aspects. Where the former perspective studies 'exposure to environmental stresses, the internal dimension is about the 'capacity to cope with insecurity'. Similarly, Lonergan, Gustavson, and Carter (2000) illustrates human security as the 'recognition of the inter-linkages of environment and society', with individuals and communities having 'the options necessary to end, mitigate, or adapt to threats to their human, environmental, and social rights'. The statement indicates the complementary relation between human rights and human security. Human security aids in identifying rights pertaining to a situation, while duties and obligations inherent in human rights assist in promoting the ethical and political significance of human security (CHS 2003). In the context of environmental challenges, notably those stemming from natural disasters, adopting a human rights-based approach, rooted in the principles of human dignity and non-discrimination, constitutes as the standard for humanitarian endeavors amidst such crises (IASC 2011).

Adhering to the principles of universality, inter-dependence, and people-centricity within the human security paradigm (UNDP 1994), the repercussions of natural hazards can transcend beyond the domain of environmental security, exacerbating vulnerability across multiple dimensions of human security (Bacon and Hobson 2014). Owen (2008) opines that 'an interplay of socio-political and economic factors, interacting either in isolation or within a combination with the physical environment, creates a mosaic of risks and hazards that impact both the people and places they inhabit'. It is pertinent to note that within the framework of human security, scholarship delineates natural disasters into three perspectives, with a focus on 'exploring the determinants of vulnerability to disasters, macroeconomic repercussions of disasters and lastly, impact of disasters at the micro level, particularly on households within localities' (Rodriguez-Oreggia et al. 2010).

If exemplified through the case study of Pakistan, the monsoon-induced floods of 2022 represent one the most severe natural hazard in the country's history, causing an economic disruption of \$30 billion and affecting over thirty-three million people. Additionally, the observed 16% decline in the Health Hazards Index 2020-21

accompanied by a 40% decrease in the Environmental Protection Index 2001-02 signifies a critical concern for future human security landscape in the country, as indicated by Pasha (2023). The profound impacts of flooding on human security in Pakistan, as elucidated by Rezzonico and Sikorsky (2022), include catastrophic damage to critical infrastructure, agriculture and health facilities, disease spread, and exacerbation of governance crisis. Hafeez and Win (2023) highlight the post-flood political and economic insecurity, characterized by surging food and energy prices, depreciating currency value and a discontented population unable to afford essential goods and services. Pakistan's susceptibility to multiple natural hazards is a direct consequence of country's high variability in its topography, geology, and meteorology (Larson, Oliver, and Lanuza 2014). The Southern region of Punjab also illustrates a similar context in terms of human insecurity caused by flooding. Mubeen (2022) notes that hill torrent floods, exacerbated by climate change, in Southwestern Punjab, resulted in multi-dimensional consequences, affecting nearly 0.3 million people, livestock and livelihoods, destruction of 0.2 million acres of crops and fruit orchards, migration delays, and disruptions like electricity and internet failure, hampering the dissemination of critical information. The widespread impact of flooding on farmlands across the country generates an unprecedented food crisis, aggravating the risk of starvation and deepening concerns about food insecurity, especially in the regions of Sindh and South Punjab (Haq 2022).

Directing attention solely towards threats, however, overlooks the 'environmental opportunities for human security', which entails recognizing a 'positive potential that safeguarding and improving the environment can bring to people's well-being and livelihood' (Khagram, Clark, and Raad 2003). Besides offering a critical lens to comprehend the influence of biological and sociological factors on individuals' safety and susceptibility to risks, the framework of human security also aids in the recognition of individual responsibility and improving accountability (Bacon and Hobson 2014). Against this backdrop, human security shares a conceptual space of 'human development', with both being multidimensional and people centric. Where the former is about individual choices and freedoms, human development encapsulates the long-term and holistic objective, aiming for 'flourishing individuals within their communities and expanding valuable choices' across diverse social contexts (Alkire 2003). The expansion

of choices is accomplished by ‘enhancing human capabilities and functioning’ (UNDP 1998). The parallel between human development and human security can be drawn by emphasizing their shared focus on three pillars of sustainable development: environment, economy, and society (Khagram, Clark, and Raad 2003). Within the disaster context, the exploration of human development conception often revolves around disaster preparation, risk reduction, and response strategies. Since susceptibility to harm during a disaster is rooted within a combination of physical and social factors (Cutter, Boruff, and Shirley 2003), disaster vulnerability can be mitigated through the key human development goals which include ‘alleviating poverty, promoting social equity and equality, ensuring affordable housing, fostering quality education, and enhancing food security’ (UNDP 2020).

The aforementioned initiatives play a pivotal role in fostering ‘resilience’, a term frequently conceptualized within the discourse of human security. In the context of environment and disaster management, human security can be strengthened by enhancing people’s choices and bolstering their resilience. This entails an ‘explicit or implicit targeting of the most vulnerable groups’ to enhance their ‘adaptive capacity’ (Brown 2013). Masten and Obradovic (2008) have conceptualized resilience within the context of human development in terms of the ‘processes, capacity, and patterns of positive adaptation during or following adverse experiences’. The case of flood resilience of the communities in South Punjab, however, demonstrates a high prevalence of socio-economic vulnerability, as identified by Bano et al. (2023) that a substantial number of moderately susceptible people in the region are very likely to transition into a highly susceptible population in case of a future flood event.

Chapter 2

RESEARCH METHODOLOGY

2.1. Research Design

This research adopts a case study research design, which is well suited for exploring the ‘complexity and particular nature of a case’ (Stake 1995). A case study research methodology entails a thorough ‘examination of a phenomenon in its real-life context’ (Yin 2009). While the conventional understanding of the term ‘case’ often associates it with a location; community or organization (Bryman 2012), in the context of this research, the concept of case extends beyond mere geographical borders. Here, the case is not only confined to the ‘floods catastrophe in the geographical location of South Punjab’ but also acknowledges the multifaceted dynamics of human security and digital media within the same setting. The extended definition allows for a holistic examination of the interconnected variables. In this regard, the deliberate selection of South Punjab as the focal point of this case study stems from the broader Punjab region’s vulnerability to a wide spectrum of environmental challenges, especially flooding. In particular, the Southern part of Punjab faces heightened risks to such hazards, as evident from the tremendous toll the flooding catastrophe of 2022 had on its population. The choice of South Punjab case study, therefore, is not only geographically pertinent but also demonstrated by the implications of environmental vulnerabilities on the local population.

Furthermore, qualitative research methodology guides this study's approach, allowing for the ‘identification of issues from the perspective of the study participants’ whilst using a set of research methods like ‘in-depth interviews, focus group discussions, content analysis, and observation’ (Hennink, Hutter, and Bailey 2020). Employing an ‘interpretative, naturalistic approach to the world’, qualitative researchers ‘study things in their natural settings, attempting to make sense of the phenomenon in terms of meanings ascribed by the people’ (Denzin and Lincoln 2008). Within the scope of this study, qualitative research allows for a holistic examination of the multifaceted dimensions of

human security, unraveling not only the explicit messages conveyed through the digital media content, but also the implicit themes and interpretations ascribed by users. This methodological approach allows for insights into the way people perceive and respond to the crisis through digital platforms, by communicating their experiences and needs, as well as to understand how digital platforms influence their individual and collective sense of security during a disaster.

2.2. Data Collection

The data collection component in a research involves the process of gathering information on the variables of interest, enabling one to answer his established research questions. The approach encompasses three key dimensions. Firstly, the research began with an extensive literature review focusing on the key variables; human security, environmental security challenges, digital media, and mitigation strategies. The review aimed to explore the existing knowledge and identify gap in the literature. Subsequently, data has been collected from two prominent digital media platforms, X (formerly known as Twitter) and Facebook. The selection of the platforms is based on consideration of their immense popularity amongst common masses, distinct user engagement dynamics, and their capability of disseminating dynamic, interactive, and visually-appealing content. X, for instance, is recognized for its flexible role during crisis communication based on the ability to establish shared ad hoc and rapid hashtags (Bruns and Burgess 2011). The feature is especially helpful in categorizing content in posts as per the required subject. Similarly, given the necessity for the disaster information to be both timely and localized to facilitate immediate organizational responses (Oh, Agrawal, and Rao 2013), the potential of Facebook and X has been leveraged for seeking critical information. Furthermore, the database and tagging capabilities of these platforms serve a strategic purpose, allowing outreach to organizations and individuals during emergencies (Goldfine 2011).

Both platforms offer a virtual space for exploring in-depth narratives, opinions, and shared experiences through textual and visual content. Hence, the data collection process

incorporates both content formats. Textual data includes tweets, captions accompanying the posts, as well as shared articles related to floods in South Punjab whereas visual data encompasses images and videos providing a visual representation of the crisis and the associated responses. The sources of data, in this case, include content generated by regular social media users, as well as the material shared by official social media channels of government departments like national and provincial disaster management authorities, Non-Governmental Organizations (NGOs), media outlets and community organizations.

The methodology for content identification on the two platforms is predicated on a keyword-based data search strategy. Both platforms support search operators for simple keyword searches to retrieve specific and historical posts pertaining to the study's objectives. On Platform X, the advanced search filter was particularly useful as it allowed for the customization of the search results based on criteria such as date, people, words, or places. Within this advanced search, the 'search by words' feature has been employed which allows for filtering the data by displaying several options including posts containing 'all specified words, exact phrases, any of the words, excluding specific words, a specific hashtag, or a specific language'. For the purpose of this study, the search by words feature has been used to extract 'posts with a specific hashtag', enabling the discussion and targeting of information directly related to the floods in South Punjab. Similarly, the same search engine capabilities have been employed in the case of Facebook to search for posts, photos, and videos.

Using a combination of five South Punjab region specific hashtags and keywords, a systematic approach yielded a total of 267 posts for analysis, with 136 posts sourced from Facebook and 131 from X. Initially, the two generic data searches have been conducted, focusing on South Punjab, as depicted in the Table below.

Table 2.1: No of Posts Analyzed

Searched Hashtag / Keyword	No of Posts	
	X (Twitter)	Facebook
1. #floodsinpakistan / South Punjab	25	35
2. #southpunjabfloods	19	No Post

The gathered content revealed a recurrent mention of District Rajanpur, District Dera Ghazi (DG) Khan and its Tehsil Taunsa Sharif. Consequently, the search criteria were refined to target these specific regions.

Table 2.2: No of Posts Analyzed

Searched Hashtag / Keyword	No of Posts	
	X (Twitter)	Facebook
3. #dgkhanfloods (X) / DG Khan Floods (Facebook)	26	26
4. Rajanpur Floods	38	65
5. Taunsa Floods	23	10

2.3. Sampling

After the data search based on the aforementioned hashtags and keywords, the displayed content was then sorted to prioritize the latest posts. Following this step, the study employed the approach of systematic sampling. This probability sampling technique begins with a randomly chosen starting point and proceeds with a pre-determined sampling interval of 5. Given the indeterminate size of the digital media content population, this approach allows for a structured yet flexible method of data collection. In addition, the study's data collection has been confined to the specific timeframe of July 2022 till December 2022 to ensure the relevance and timeliness of the content, interactions, and narratives that unfolded during and immediately after the 2022 Monsoon floods in the case of South Punjab.

2.4. Data Analysis

The technique of content analysis for analyzing the qualitative aspects of the gathered data has then been utilized. As a toolkit for analyzing documents and texts, printed or visual, content analysis entails the quantification of content as per a predetermined criterion, thereby making it a flexible method applicable across diverse formats of media.

Each post and its content has been analyzed under the categories specified in Table 2.3, to systematically interpret the textual and visual content pertaining to the case study

Table 2.3: Categories for Content Analysis for Digital Media Posts

Category	Description
1. Type of Platform	X or Facebook
2. Searched Hashtag / Keyword	The initial searched terms that yielded the content were

	noted
3. Other Hashtags	Any additional hashtags present in the post were identified
4. Time Period	The temporal focus of the post, specifically posts from July to December 2022, was considered
5. Content Format	Text, Image or Video
6. Geographical Focus	The specific geographical areas depicted in the post were noted
7. Nature of the Content	Posts were classified according to their primary subject matter including post-flood destruction, rescue and relief efforts, rehabilitation activities, information dissemination, emergency appeals, analysis pieces, and general awareness messages
8. Key Theme	The main topic of discussion of the post was extracted
9. Human Security Focus	The dimension of human security addressed by the post was identified, such as economic, food, health, personal, community, environmental or political security
10. Content Narrative	The overarching narrative presented within the post was summarized
11. Sentiment	Positive or negative
12. Type of Sentiment	The sentiment was further classified in terms of its specific type

By dissecting the posts according to the categories delineated in the aforementioned table, the study has extracted the human security dynamics of the flood-affected areas of South Punjab, specifically District Rajanpur, District Dera Ghazi Khan and Tehsil Taunsa Sharif. The last dimension of the data collection and analysis component is that the findings of the research have been evaluated across the established parameters of the human security framework. The purpose is to fill the empirical research gap observed after the literature review.

2.5. Limitations of the Study

The study confronts a notable limitation involving the absence of interaction with the individuals directly affected by the floods in South Punjab. The reliance on digital media content, though insightful for gauging public discourse and community responses, inevitably falls short in capturing the first-hand experience and view-point of the flood victims. The adoption of secondary data source of content collection instead of surveys and interviews in the research is partly due to the feasibility constraints. Similarly, the study being context-specific is faced with the potential challenge of generalizing findings beyond the specific geographical and temporal scope. However, given that the utility of digital technology by the disaster management authorities of Pakistan is an area of ongoing exploration, the context-specific insights generated by this study may offer relevant comparisons to other flood-affected regions within Pakistan. The research also acknowledges the potential biases inherent in the content gathered from the social media platforms as more active users might dominate the dataset. To address the concern, a systemic sampling approach is proposed, ensuring representation across different user levels. Authenticity of user-generated content presents yet another challenge and the study endeavors to address this by referencing the available information, wherever possible. Lastly, the absence of specialized software for conducting quantitative content analysis poses a limitation on the precise quantification of the metrics. In response, the study opts for thematic content analysis, also supported by the sentiment analysis technique, to gauge the overall narrative of the human security paradigm built by these

platforms within the concerned context.

Chapter 3

CASE STUDY: SOUTH PUNJAB AT A GLANCE

While South Punjab lacks an official demarcation of definitive political boundaries, the region in general is said to be distributed across three major divisions; Bahawalpur, Dera Ghazi Khan, and Multan, roughly spanning eleven out of a total thirty-six districts of the Punjab province. Specifically, the districts of Multan, Dera Ghazi Khan, Khanewal, Layyah, Rajanpur, Muzaffargarh, Bahawalpur, Rahim Yar Khan, Lodhran, Vehari, and Bahawalnagar, fall under the purview of the Southern Punjab region, as illustrated in Fig 3.1 (Source: Waleed et al. 2022). Moreover, it is home to 34.7 million people, constituting 32% of Punjab's population, and covers approx. 45% of the province's total land area (UN 2022).

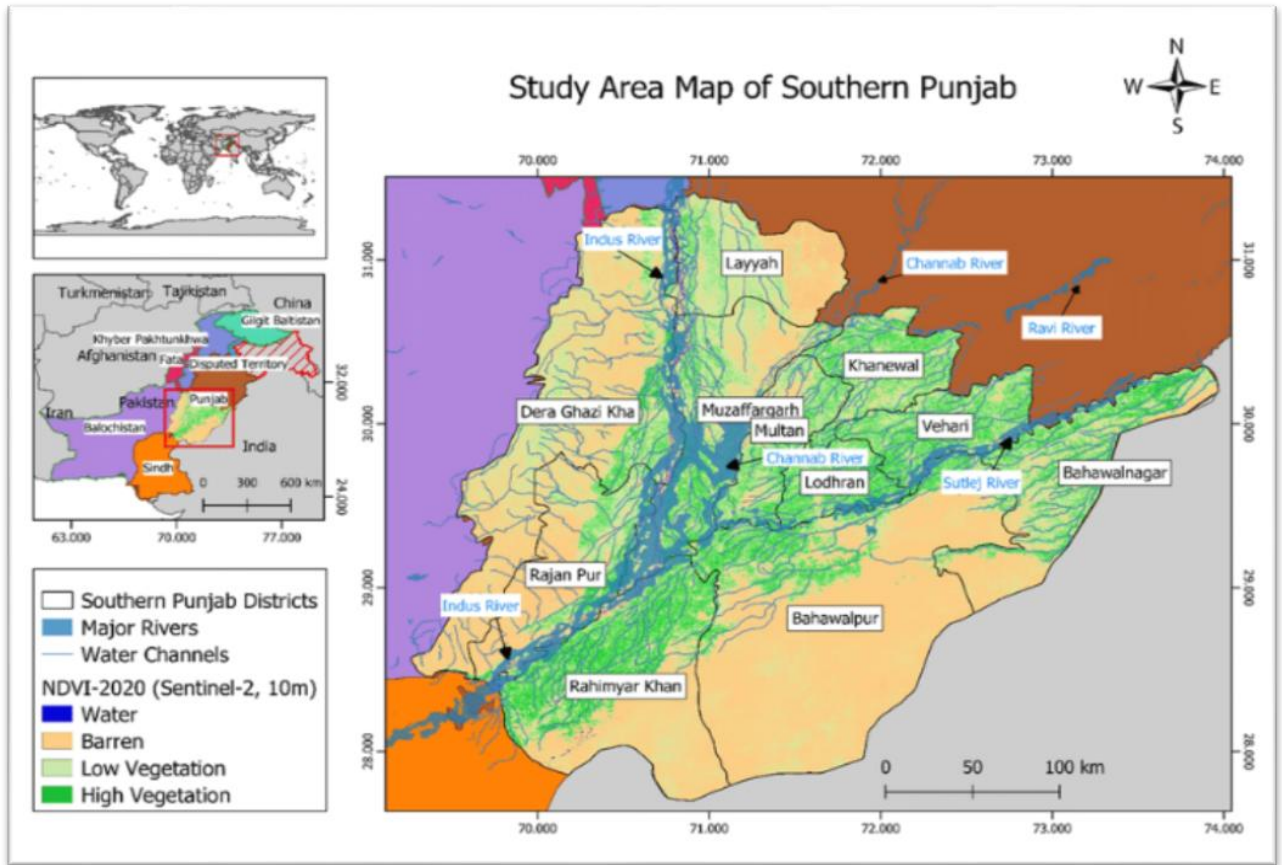


Figure 3.1: Geographical Location of South Punjab

South Punjab is an arid region, marked by a harsh climate (Syed et al. 2021). The tributaries along the Indus River in Punjab exhibit high variability in temperature and precipitation, thereby triggering climatic extremes and a disturbance in the hydrological cycles. District Muzaffargarh, Rajanpur, and Dera Ghazi Khan particularly stand out as most vulnerable to high-level floods while the adjacent areas like Layyah, Lodhran, and Bahawalpur, are prone to medium-level floods. Moreover, the frequency and duration of the Monsoon rainfall in the region, induced by climate variability, also affects the socio-economic status of the communities by causing agricultural losses, which in return exacerbate rural poverty, food price hike, and increased cost of living (Aslam et al. 2017).

Numerous assessments of multidimensional poverty and inequality have illustrated an inequitable landscape of socio-economic development across the Northern and Southern regions of Punjab. The eleven districts of South alone amount to one-fourth of the Pakistan's poor population, with Muzaffargarh, Vehari, Lodhran, DG Khan and Bahawalpur amongst the poorest districts based on low per-capita development expenditure (Naveed and Khan 2018). In addition, DG Khan and Rajanpur also face severe nutritional challenges. High levels of stunting in children under five in these districts highlight a stark health disparity between the underdeveloped South and developed North of Punjab (Pakistan Institute of Development Economics 2020).

The region is characterized by a rich and distinct cultural heritage, manifested through a spectrum of tangible and intangible assets. The tangible cultural assets include a diverse array of remnants of ancient civilizations, from Hakra-Indus civilization to medieval forts, palaces, mounds, and clusters of walled towns and structures belonging to the Harappa civilization. On the other hand, the intangible assets of the communities of South Punjab comprise vibrant oral, poetic, and literary traditions, devotional music associated with numerous shrines, as well as folk traditions of dance, customs, and rites (Vandal et al. 2011). In addition, Saraiki identity comprises the dominant faction in South Punjab. Amidst the backdrop of cultural marginalization of the Saraiki language and growing disparities between Southern Punjab and the rest of the province (Mughal 2020), a Saraiki ethno-linguistic movement advocating the establishment of South Punjab as a separate province emerged, marking a significant development in the Pakistani national politics (Rathore and Ghani 2023).

In the context of this research, though the research area encompasses Southern Punjab region, the case study primarily centers on the districts of Rajanpur and DG Khan, offering a focused analysis of flood-related content on Facebook and X, in the respective districts.

Rajanpur, previously a Tehsil of DG Khan district, was given the status of a district in 1982. The District profile of Rajanpur, comprising three Tehsils with their corresponding

Municipal Committees and Union Councils, has been illustrated in Table 3.1 (Source: Punjab Portal).

Table 3.1: Rajanpur District Profile

Name of Tehsil	Municipal Committees	Union Councils	Revenue Estates	Area (in Acres)	Population
Rajanpur	Rajanpur Fazilpur Kot Mithan	21	219	5,76,453	706,868
Jampur	Jampur	32	183	5,73,789	849,086
Rojhan	Rojhan	15	89	7,19,095	405,774
Tribal Area	-	1	43	9,88,421	34,230
Total	5	69	534	28,57,758	1,995,958

Out of the total regional population, approx. 83.1% reside in rural areas of the District. Similarly, the population structure comprises 51.5% males and 48.5% females, with approx. 48.5% people falling in the age bracket of 15-64 years (Rajanpur, n.d.).

Rajanpur has a diverse topography, with the majority of the region comprising of plains whereas the North-Eastern part consists of low mountains. The climatic data of Rajanpur indicates extreme dryness, in both hills and plains, with a brief cold spell in December. The region experiences low rainfall, leading to occasional but devastating floods. In 2022, District Rajanpur witnessed two significant flood events. Firstly, heavy rains in the Northern Pakistan and the water released downstream by India during the month of July caused the Indus River at Kot Mithan to rise, resulting in flooding, with an approx.

discharge of 720,000 cusec in suburban areas across the river banks. Secondly, flash floods originating at the Koh e Suleman mountain range at the West of Rajanpur generated heavy rains. The rainwater cascading from West to East eventually converged at the Indus River, flooding various locations of Tehsil Rajanpur and Rojhan (Floods | Rajanpur, n.d.).

The second district under consideration besides Rajanpur i.e., Dera Ghazi Khan is spread over on a strip between the Indus River and Koh e Suleman Mountain Range. The district comprises four Tehsils; DG Khan, Taunsa Sharif, Koh e Suleman, and Kot Chutta. DG Khan’s domestic makeup has been illustrated in the Table 3.2 (Source: Punjab Portal).

Table 3.2: Dera Ghazi Khan District Profile

Name of Tehsil	Tehsil Council	Area (Sq.) km	Population
Dera Ghazi Khan	Dera Ghazi Khan	13,018	Urban: 547,855
Taunsa Sharif	Taunsa		Rural: 2,324,346
Koh e Suleman	Koh e Suleman		Total: 2,872,201
Kot Chutta	Kot Chutta		

Similar to Rajanpur, climatic conditions of DG Khan are predominantly dry with a minimal rainfall. The mountainous terrain of Koh e Suleman experiences frequent wind storms in summer, making the area one of the hottest in Pakistan (District Profile | DG Khan, n.d.).

Chapter 4

FINDINGS AND DISCUSSION

The Table below illustrates the pattern of the number of posts in relation to their geographical focus, as observed on Facebook and X. The initial analysis of the data revealed that while some posts utilized hashtags specific to the South Punjab region, the geographical focus of their content extends beyond this region, indicating a broader engagement with the flooding event. Furthermore, Rajanpur emerges as the district with the highest concentration of posts, followed by Dera Ghazi Khan District.

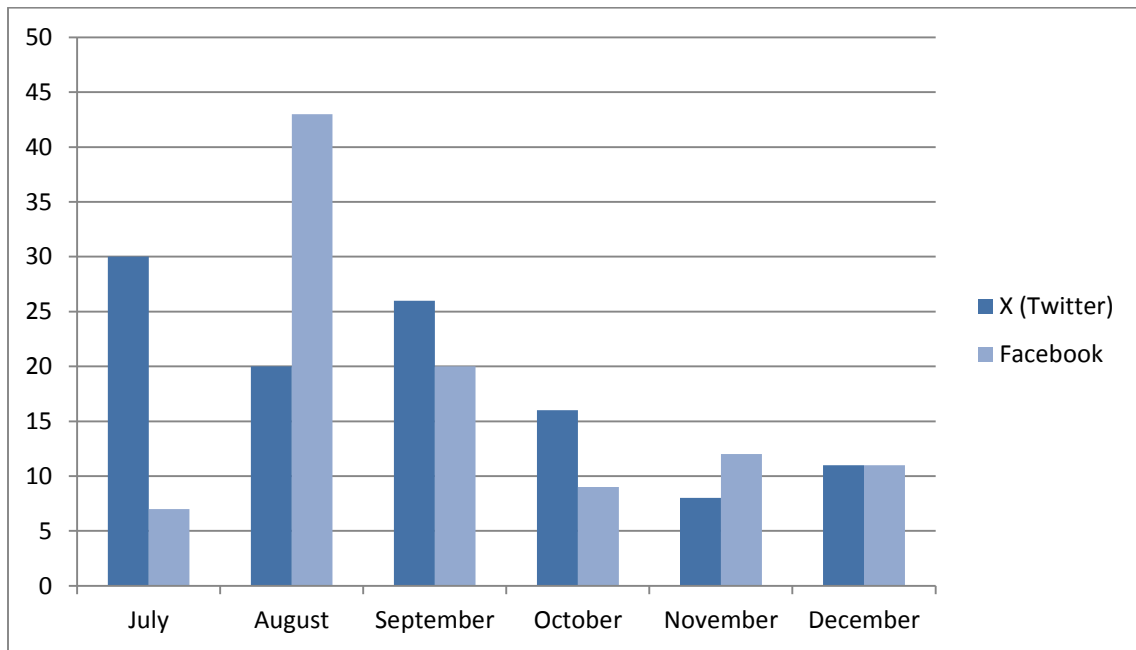
Table 4.1: Geographical Focus of the Content

Geographical Focus of the Content	No of Posts
1. Pakistan (South Punjab, Sindh, Baluchistan, Khyber Pakhtunkhwa)	54
2. South Punjab (a generic focus)	19
3. District Dera Ghazi Khan (Tehsil Taunsa Sharif, DG Khan, Koh e Suleman, Kot Chutta)	72
4. District Rajanpur (Tehsil Rajanpur, Jampur, Rojhan)	94
5. Content focused on more than one area of South Punjab	28
Total No of Posts	267

Moreover, it was also observed that the peak of the discourse on 2022 floods, as evidenced by the highest number of entries collectively on both platforms, occurred in August, immediately following the floods' peak. Specifically, for X, the majority of posts

have been recorded from the month of July. As for Facebook, the highest concentration was in August. This temporal distribution reflects the immediate response of the digital community to the unfolding disaster, with a surge in online activity corresponding to the most critical phases of the disaster.

Table 4.2: Count of Entries by Month and Platform



The data set also encompasses a diverse range of users, extended from typical social media users to include entities such as government departments, government department, humanitarian organizations, and media channels. As per the data, the content generated by the social media handles of humanitarian organizations, national and international, constitutes the highest volume, with more than a 100 posts, followed by the content generated and shared by common social media users.

Table 4.3: Sources of the Digital Content

Type of Organization	Description
State Stakeholders	Government departments
Non-Governmental Organizations (NGOs)	NGOs, NPOs, International Humanitarian Agencies, Social Welfare and Community-based Organizations (CBOs)
Media	Local and International news media, newspapers
Others	Social media users, Political parties, private companies, educational institutions

The portrayal of the disaster on X and Facebook, specifically within the targeted regions of South Punjab i.e. District Rajanpur, District Dera Ghazi Khan and Tehsil Taunsa Sharif, is detailed below. The analysis focuses on the content shared on both platforms, highlighting the similarities and differences in how the disaster is depicted and addressed by Facebook and X in the respective region.

District Rajanpur

In the case of Rajanpur, the data reveals an approach that is mostly similar yet a bit different in a few regards. Firstly, the similarity between the posts on both X and Facebook lies in their emphasis on rehabilitation and relief efforts in Rajanpur. Both platforms have served as channels for organizations to communicate their respective projects and document its progress. On Facebook, NGOs like Kawish Welfare Trust (KWT), Zaman Foundation, Taryaq Welfare Organization, and Akhuwat Foundation have publicized their rehabilitation initiatives which include construction of houses in Fazilpur, provision of interest-free housing loans and building of flood-proof homes. The

narrative is consistent on X, with tweets by the social media channels of Asani Trust, Jannat ul Firdous Trust, Minhaj Welfare Foundation, and Pakistan Mission Society showcasing their similar endeavours. As for relief efforts, Facebook features a greater number of posts, but both platforms are similar in their way of portrayal of flood relief in the District. Organizations like Musharaf Iqbal Foundation, Naya Qadam, and Alkhidmat have shared textual and visual statistics of their on-ground flood relief on their Facebook accounts, which is similar to the individual and collaborative relief efforts of Alms 360, Human Development Foundation (HDF) and Danish Muslim Aid, as highlighted on X.

Both X and Facebook have been utilized for fundraising and emergency appeals, with organizations and common social media users soliciting aid and support for flood-affected communities of Rajanpur. The fundraising campaign of Saylani Welfare International Trust is common to both platforms. Similarly, a consistent emphasis on healthcare and sanitation issues is also evident within the data set. On X, updates from organizations like World Health Organization (WHO) and Transparent Hands on the provision of free healthcare services have been highlighted. Conversely on Facebook, the focus extends to include disease prevention campaigns initiated by Punjab Healthcare Department and humanitarian organizations like WHO. This cross-platform discourse also indicates that initiatives undertaken by international organizations like WHO in Rajanpur were discussed and promoted on both social media channels.

Another observation common to both X and Facebook is how both platforms have raised awareness about the gender issues in the district. On X, Aiming Change for Tomorrow (ACT) International's activism for the prevention of Gender-based Violence (GBV) and women empowerment is mentioned which is similar to how Peace and Justice Network, on its Facebook channel, has highlighted its concern on the increase in underage marriage post floods in its community based child protection and safeguarding meeting held in the District.

Apart from the similar approach, a notable distinction that can be seen within the data set is the varying emphasis of the two platforms on the sources of relief and rehabilitation efforts. Posts extracted from X majorly focus on the efforts of NGOs in Rajanpur. In

contrast, Facebook featured content by a diverse array of actors besides NGOs, including state departments like Emergency Operations Centre (EOC) Punjab, District Health Authority Rajanpur, Literacy and Non-Formal Basic Education Department (L&NFBED) Punjab, and the National Disaster Management Authority (NDMA). Moreover, Facebook also highlighted the role of educational institutes in Rajanpur whereas its emphasis on X is less pronounced. The content analysis of Facebook posts has revealed the discussion on the voluntary initiatives undertaken by La Salle High School and College Campus Faisalabad, Directorate of Student Affairs of University of Education Lahore, Saraiki Students Council of Quaid-e-Azam University Islamabad, Namal Society for Social Impact (NSSI) of Namal University Mianwali, Government College University Lahore, and Islamia University of Bahawalpur. On X, relief efforts of the National College of Arts (NCA) Lahore and Fatima Jinnah Medical University Lahore can be seen.

Lastly, the data set reveals distinct patterns in how information is disseminated and the focus of user engagement on both platforms. Posts on X have focused more on social media's aspect of real-time information dissemination, with users actively sharing updates on the flood situation and the status of relief activities. Facebook users, on the other hand, have demonstrated a greater propensity for documenting the post-flood destruction instead. The content on Facebook is characterized by posts that include damage estimates and visual documentation, such as images and videos, which illustrate the extent of the destruction wrought upon infrastructure and communities in Rajanpur.

District Dera Ghazi Khan

The difference in social media's approach to DG Khan floods is evident in the content format and the geographical focus. Content in the video format is more prevalent on Facebook as compared to X. This is reflected in the data, where Facebook posts include textual posts accompanied by videos showcasing the real-time situation, rescue efforts by Rescue 1122, and distribution of aid by various organizations like Muslim Medical Mission and Alkhidmat Foundation. Moreover, unlike in the case of Rajanpur District, where both platforms focused on relief, rehabilitation, and donation appeals, X's content

on #dgkhanfloods is predominantly focused on post-flood destruction. Posts include information on loss of lives, images of flooded villages and crops, dead bodies, and cattle, with a particular focus on the areas of Basti Ahmedani and Ghulamani. Facebook's content, in contrast, is more balanced, discussing both the post-flood destruction and relief efforts, along with donation appeals by organizations like RUHIL Foundation, Kawish Welfare Trust, Jafriya Disaster Management Cell Welfare Organization (JDC), and Al-Kahf Foundation. Secondly, the geographical focus of the content on X under the hashtag dgkhanfloods is primarily on Dera Ghazi Khan itself while the same hashtag yielded no post on Facebook. Instead, the search for keywords 'DG Khan Floods' on Facebook presented a broader geographical scope, with posts not only focusing on Dera Ghazi Khan but also mentioning other flood-affected regions of Rajanpur, Muzaffarabad, Chitral, Mirpur Khas, and Balochistan. The difference reflects Facebook's role in providing a wider perspective on the national disaster while the focus of X remain localized.

In the case of DG Khan District, both social media platforms share a common element of critique, targeting the response of civil administration, as well as mainstream media coverage. Users on X have criticized the failure of the local and provincial administration on a timely response to rescue children in the District. Moreover, mainstream media of Pakistan has also been criticized for its limited flood coverage. Similar sentiments about the lack of response from the authorities and limited media coverage have been expressed by the Facebook posts.

Tehsil Taunsa Sharif

In the case of Tehsil Taunsa Sharif of the DG Khan District, X and Facebook exhibit a similarity in their geographical focus, content format, and nature. The content is primarily centered on relief, rehabilitation, post-flood destruction, and emergency appeal posts from various organizations and individuals, all contributing to the collective effort of addressing the flood crisis in the region. A significant aspect that stands out on both

digital platforms is the critical information dissemination regarding the warning of rising flood levels in the Indus River, which is a crucial aspect of disaster preparedness and response.

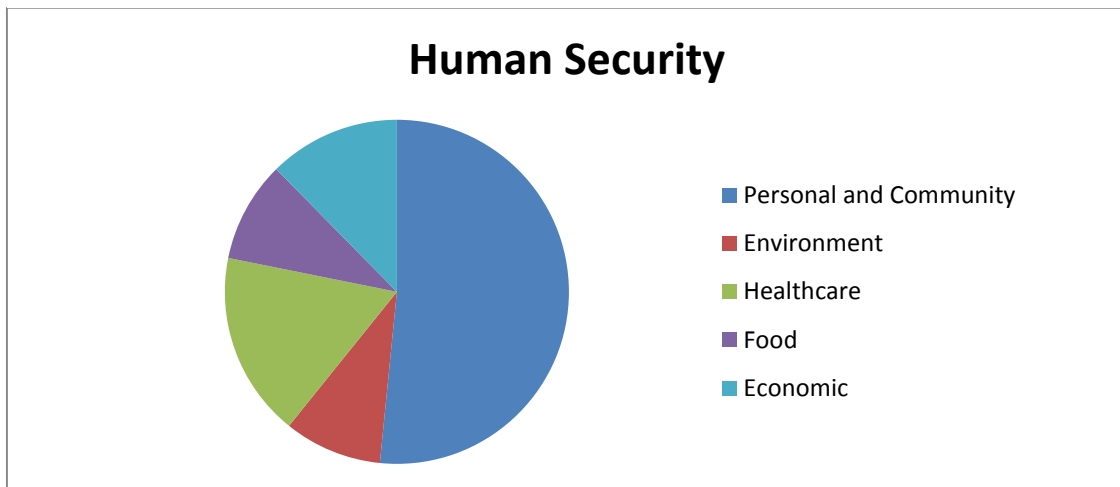
A distinct feature observed on X is the prominent role of political parties in the discourse and response to floods. Pakistan Tehreek-e-Insaf (PTI) and Tehrik-e-Labaik Pakistan (TLP) are notable in this regard, with PTI's involvement through relief distribution through the #InsafReliefProgram and TLP's contribution in constructing houses for the flood victims. Furthermore, X also highlights the role of civil society and youth movements, as evidenced by the posts of the Progressive Youth Alliance account, highlighting information about its protest demanding fee waivers, free hostel accommodation, transport, and education for students from flood-affected areas.

4.1. Digital Media and Human Security

This section explores the nexus of human security and digital media, focusing on the content gathered from X and Facebook. This examination serves a dual purpose: it dissects how digital discourse related to South Punjab floods reflects various dimensions of human security, encompassing health, food, economic, environmental, personal, and community security. It further evaluates the role of these platforms in augmenting the respective dimensions.

As observed by the nature of the content, personal and community security are the most frequently discussed dimensions, accounting for nearly 50% data. This is followed by healthcare security and economic security. Notably, environmental and food security are discussed with equal prominence.

Table 4.4: Human Security Focus of the Content



4.1.1. Personal and Community Security

The different approaches to human security stem largely from the preference of those who view an individual as a referent object while others view it in terms of a community.

This distinction especially becomes relevant in the context of natural disasters, where threats and vulnerabilities to human dignity and freedom can manifest at both personal and community level. The term community here can be defined either in terms of ‘geographical area or shared interests, values, and needs of citizens’ (UNDP 2009). Community security in the UNDP report is an expanded and flexible framework that bridges the state-centred and individual-centred notions of security, while focusing primarily on ‘freedom from fear’. This conception of freedom entails a human rights agenda, including the right to be guaranteed ‘food, income, health, and environmental security through government programs and multilateral initiatives’, along with the right to act without the threat of violence (Winter 2015). The study, however, is concerned with the former aspect.

4.1.1.1. Immediate Threat to Life

In the aftermath of natural disasters, the immediate threat to life is a manifestation of fragility of the human security paradigm. In this context, the individual-orientation of community security, as envisaged in the UNDP (2009) report, is brought to the forefront, highlighting the urgency of protecting individuals from life-threatening situations. The South Punjab case study presents a pertinent example of how such events can rapidly escalate into crisis that imperils human life. The digital discourse surrounding floods comprises images and videos that serve as a visual narrative of the crisis. For instance, several posts on X, tagged with #dgkhanfloods and #taunsaneedsattention, emphasized the immediate threat to life by sharing images and detailing the tragic loss of multiple members of same family as a result of the disaster. A few more posts on X, utilizing the same hashtags, have shown distressing images of dead bodies of children and cattle, further illustrating the severity of the situation in DG Khan. On Facebook, users have attempted to seek the attention of civil administration, criticizing their ineffective response by sharing the same kind of pictures, even videos that depict the flood’s devastation in the form of deaths, flooded and collapsed homes, homeless children, and destroyed lands. A prominent example from the data set in this regard is of the DG Khan

Times, a social media channel dedicated to sharing news and development updates from Dera Ghazi Khan. This channel has documented the post-flood destruction in the District through both textual and visual content. The same is the case observed in the data on Rajanpur. On one instance, WHO emphasized the post-flood destruction in Rajanpur's Tehsil Kot Mithun, sharing a report on locals building shelters from whatever they could salvage from their flooded homes (WHO 2022).

4.1.1.2. Disruption of Social Services

The disruption of social services as a result of a disaster is a critical challenge to human security and human development paradigm. The UNDP's broad conceptualization of community security encapsulates this essence by defining community security in terms of the actions aimed at ensuring 'freedom from want'. The idea is based on a multi-stakeholder approach for the effective delivery of services as per the local need (UNDP 2009). In this case, the digital content highlights cascading effects of service disruptions, from medical facilities to water and sanitation services, housing, transportation and communication disruption as well as long-term impacts on the education sector. The response to these challenges, as gathered from social media, reflects an approach aimed at capacity-building of communities by restoration and maintenance of services vital for human dignity. A post on X, while employing the hashtag #floodsinpakistan, highlighted the disruption of educational activities particularly in South Punjab. An article by Dawn News shared on its X account with the hashtags #southpunjabneedsattention, #taunsaneedsattention and #southpunjabfloods further added to this analysis by sharing a prior UNDP report on how the South Punjab region is already the most deprived in terms of basic services, raising concerns about the region being neglected in the local and provincial development allocations (Ahmed 2022). The Facebook channel of Literacy and Non-Formal Basic Education Department of the Government of Punjab shared a video report on the impact of floods on non-formal education sector in South Punjab, with hashtags #literacy #nonformaleducation #educationisbasicright #literacymatters. Similarly, the content also reveals posts based on addressing this concern. The article on

Technical Education and Vocational Training Authority (TEVTA) waiving off the fee of students belonging to the flood-affected regions of DG Khan and Rajanpur (The News 2022) was also shared on X. Besides the education sector, there is also a discussion on the disruption of traffic because of the crisis with posts on X disseminating the real-time updates by the National Highways and Motorway Police about the traffic flow on highway amidst the flooding situation in both Districts.

4.1.1.3. Social Stability and Protection of the Vulnerable Population

Some population groups are at high risk than others based on characteristics such as age, gender, culture, identity, socio-economic status, geographic location, migrant and indigenous status or disabilities (Newnham, Ho, and Chan 2022). Such liability in the form of disproportionality, underdevelopment, exploitation, and institutional failure thus increases their disaster susceptibility. Thus, one measure to strengthen a community's response and recovery is to pay attention to the most vulnerable citizens. A community security perspective in this regard involves the 'reduction of disparities' by employing strategies that 'support social networks, foster respect, and encourage inclusion of the excluded groups' (UNDP 2009). The phenomenon is reflective of the 'Social Cohesion' theory which associates community security and social cohesion as mutually reinforcing based on the assumption that 'secure communities are more likely to act in a cohesive manner' (Caballero-Anthony 2015).

In the examined digital discourse, floods increased challenges for the vulnerable population. BBC News on its X handle shared a video report, analyzing why flooding majorly affected the lower socio-economic class of the South Punjab region (BBC News 2022). A concern for special-abled people can also be seen on X, with WaterAid Pakistan sharing its flood relief initiatives which also included wheelchairs for disabled people. Moreover, a user of X shared a snippet of Al Jazeera's article on the hidden victims of Pakistan's floods i.e. the elderly. The article detailed how families fled for their lives in panic while a huge number old people were left abandoned as they failed to catch up,

emphasizing the need to include the neglected older people in humanitarian response (Afzal 2022). Another aspect visible in the data is the regard for population on sect basis. Bab ul Hawaij Islamic Centre, a Canada –based religious non-profit organization, called for call for relief assistance for Shia families of DG Khan, Rajanpur, and Muzzafargarh, on Facebook.

The data also reveals posts discussing how floods increased the vulnerability particularly of women and children, leading to a rise in GBV, under-age marriages and risks associated with delivery and women dignity in the areas of Taunsa and Rajanpur. The inclusion of the gender-sensitive initiatives within disaster response initiatives carried out by several actors can be observed in this case, as highlighted by both X and Facebook. For instance, the National Commission on the Status of Women, established through the NCSW Act 2012, frequently documented its efforts on X, dedicated towards providing relief to flood-affected women across Pakistan. In the case of DG Khan particularly, NSCW shared on its X account the collaboration with the Women Development Department (WDD) of the Government of Punjab, of visiting the food-affected women of Taunsa to address their concerns. On another occasion, NCSW highlighted the prevalence of a high number of pregnant women in the flood-affected areas of the District, emphasizing the need of creating awareness of maternal health issues and family planning. A similar concern of an increase in underage marriages post floods in Rajanpur and Taunsa can be seen in the Facebook post of the Peace and Justice Network, tagged with #pjmpakistan #earlymarriage. Similarly, several posts on both platforms by NGOs have highlighted their provision of dignity and delivery kits along with other relief items. In line with the community security and social cohesion dimension, the documentation of gender specific issues and social media’s portrayal of the efforts to support the vulnerable groups emphasize the importance of inclusivity and non-discrimination in disaster response and recovery, as well as digital media’s role to foster it by raising awareness.

4.1.2. Health Security

The 1994 UNDP Report explicitly identified health as a general component of human security, with disease in particular as one of the chronic threats to humans. This recognition is driven by the catastrophic trans-border effects of the contemporary human security challenges. Without a common definition, various conceptualizations of the term health security exist in different settings (Augustynowicz, Opolski, and Waszkiewicz 2022). World Health Organization defines health security in terms of ‘activities required to minimize vulnerability to acute public health events’. The report has further identified global health security issues in terms of infectious diseases, food safety challenges and risks emanating from catastrophes; natural, accidental or deliberate (WHO 2007). In the context of the 2022 floods in South Punjab, the content gathered from X and Facebook reveal various dimensions of health security that were highlighted and discussed on digital media. This is in line with WHO’s Global Health Security Agenda (GHSA) which emphasizes the necessity of timely and rapid information sharing in health security response mechanisms (WHO 2020).

4.1.2.1. Disease Outbreak and Health Risks

One of the primary health concerns during the flooding has been the spread of the waterborne diseases in the affected communities. The data set includes numerous mentions of disease outbreak like cholera, typhoid, and diarrhoea, which are reported to prevail due to contaminated water sources and poor sanitation, especially in District Rajanpur. A post on X discussed the information about the unsanitary conditions of drinking water in Rajanpur, request for safe drinking water. Alkhidmat Foundation, on its Facebook account, highlighted the issue of contamination of drinking water and the spread of waterborne diseases. The post also highlighted the organization’s initiative of addressing the issue by providing mobile water filtration plants to Rajanpur communities. Another post on Facebook shared the initiative of Primary and Secondary Healthcare Department (P&SHD) and Punjab Health Reforms which included door to door

examination by physicians and paediatricians as well as provision of drugs to prevent the disease outbreak in Rajanpur. A health security perspective in this regard involves preventing, detecting, and responding to the disease transmission to sustain public health amidst a crisis. Therefore, the dissemination of information of healthcare challenges on digital media platforms indicate the effort of raising awareness about the immediate health risks caused by a natural disaster, the importance of clean water as an essential need of flood victims, and the urgency of adopting preventative actions to mitigate these threats.

4.1.2.2. Access to Healthcare and Medical Supplies

Health Security has also been conceptualized as ‘ensuring socio-economic and environmental conditions that enable the right to health protection, including an access to medical services’ (Augustynowicz, Opolski, and Waszkiewicz 2022). The disruption of health security in the wake of a natural catastrophe hence calls for coordinated health relief efforts in the flooded areas. The content on social media platforms provides an illustration of a healthcare-driven flood response in the case of South Punjab, with an extensive documentation of the provision of essential medical supplies to the flood affected communities by a combination of state and non-state stakeholders. One notable aspect in a series of posts has been the dissemination of information about the availability and location of free medical camps. NGOs like Minhaj Welfare Foundation and Alkhidmat have frequently posted on their Facebook and X accounts the details about their medical camps and the facilities provided by them. One post on Facebook even provided information about the availability of facilities involving veterinary medical camps across South Punjab. A post on X also disseminated information about mobile veterinary dispensaries arranged by the Livestock and Dairy Development Department South Punjab to treat flood-affected animals (LDDD 2022). This content not only serves as means to reach out to the flood-affected communities with critical information. It further showcases the potential of digital platforms for use by relief organizations and governmental departments in these efforts.

4.1.2.3. Public Health Campaigns

The aforementioned definition also indicates an inter-relation of health security with socio-economic and environmental factors. It is in this regard health security challenges ought to be mitigated by initiatives not limited to physical health. This includes raising awareness and understanding about health issues and mobilizing support for action. The data shows that flood response in South Punjab comprised hygiene awareness sessions along with disease targeted campaigns. For instance, Water Aid Pakistan shared details about its hygiene awareness session in the areas of Swat and Badin, besides Rajanpur, on its X account. Information about the polio campaign of Emergency Operations Centre (EOC) Punjab in DG Khan can be seen on Facebook. Similarly, posts on Facebook can be seen highlighting the measles and rubella campaign initiated by the Federal Directorate of Immunization (FDI) under its Expanded Programme on Immunization (EPI) in 34 flood affected UCs of District Rajanpur and DG Khan, given the increasing risk of spread of disease due to high number of internally displaced people (FDI 2023). The visibility of these initiatives on social media elucidates the importance of an inclusive health security approach comprising prevention, awareness, and response strategies.

4.1.3. Economic Security

Economic Security comprises basic social security, defined by an access to basic needs pertaining to the areas of health, education, social protection, information, and work (ILO 2004). In simple terms, it refers to the ‘ability of individuals, households, or communities to fulfil their essential needs, sustainably and with dignity’ (ICRC 2015). Therefore, economic insecurity caused by a disaster has particular relevance in the context of the study. It is brought about by an ‘exposure of individuals and communities to adverse events, shocks or hazards, which create an inability to cope with the loss’ (DESA 2008). The economic shocks caused by an extreme weather event disrupt infrastructural,

economic, and capital assets, thereby causing the rural population to face disproportionate losses (Deraniyagala 2016). In the case of South Punjab floods, digital media has served as a platform for highlighting these disruptions and mobilizing support for the affected communities, thus playing a part in economic recovery process in a post-disaster scenario. This dynamic is similar to the concept of ‘network humanitarianism’ where ICTs have emerged as a significant medium for driving collective action in the information age (Currion 2018).

4.1.3.1. Cash Assistance and Fundraising

The idea of providing unconditional cash assistance in times of emergency, especially in developing states, is viewed as means of combating economic insecurity and poverty (Standing 2007). As a fast, flexible, and safe emergency relief option, cash support can assist people to rebuild their livelihoods at times of a crisis (ICRC 2020). The data reveals initiatives by organizations to provide direct financial support to flood victims besides other relief items. From an economic security perspective, this aligns with the ICRC’s definition as cash distribution would promote self-reliance by enabling the beneficiaries to prioritize their respective needs. The posts highlighting this aspect of economic security on the social media platforms not only inform the public of the on-going flood relief but also emphasize the urgent need of economic support to the flood victims through crowd-funding.

Multiple instances of fundraising appeals by general public and non-governmental organizations on both social media channels are apparent in the gathered content. For instance, an organization named as the National Rural Support Programme (NRSP) not only detailed its relief efforts in DG Khan but also initiated fundraising on its Facebook account, with posts tagged with #donate #solidarity and #appeal. Some other initiatives visible on Facebook, similar to this post, include the fundraising effort by Jafriya Disaster Management Cell Welfare Organization, with the hashtags #weneedyoursupport and #donate, Comprehensive Disaster Response Services’ (CDRS) post tagged with

#donatetocdrs, and Akhuwat Foundation's post tagged with #solidarity and #donate. Donation appeals by NGOs on X are also frequently seen in the gathered content. Pakistan Economic Affairs, an X account aimed at providing insights into Pakistan's economic affairs, disseminated information about the aid received by the country from international bodies amidst the catastrophe. World Bank's pledge of assistance is one such example highlighted by this account (Associated Press 2022). Moreover, users on X have also discussed the fundraising telethon by the former Prime Minister Imran Khan for the flood victims. The visibility of such campaigns on digital platforms illustrates the aspect of 'mobilizing resources and supporting actions' to address multifaceted challenges of human security (UNESCO 2008).

4.1.4. Food Security

Food Security, a term originated at the World Food Conference 1974 has since undergone numerous changes to reflect evolution in policy thinking (FAO 2006). A widely accepted understanding of food security includes 'an assurance of physical and economic access to basic food, of all people at all times' (FAO 2002). In simple terms, it is about the 'availability, accessibility, and affordability' of food (Singh 2022). The relation of food security with human security is based on the realization of the basic human right to sufficient sustenance, given that a limited access to food can endanger individuals and groups by exacerbating insecurity across other human security dimensions (Qaim, Bhutta, and Jehan 2023). The term has also been contextualized in periods of intensified pressure caused by conflicts, economic disruption, or natural catastrophes. This 'transitory food insecurity' arises once external shocks affect the food production and distribution systems of the households who otherwise have an access to food under normal circumstances (FAO 1997). For rural population, a seasonal impact on crop production via floods or droughts can make people transitorily food insecure. Yet for regions like South Punjab that are highly susceptible to such events, the need arises to address the food insecurity challenge as a priority.

4.1.4.1. Promotion of Sustainable Agricultural Practices

The provision of immediate food aid is a critical strategy to address food insecurity in the disaster-hit areas. Hence, temporary food aid can be considered as part of a coherent strategy to advance food security goals. The initiative serves as an ideal intervention approach to address acute symptoms of poverty and hunger amidst a national emergency where people are cut-off of their means of livelihood (Barrett 2006). In South Punjab, media posts from humanitarian organizations have frequently highlighted the provision of food packs and ration including flour, cooking oil, rice, pulses, mineral water, as well as cooked meals to mitigate immediate hunger of flood-affected communities. This aspect can be seen on the X social media accounts of organizations like Muslim Hands, Human Development Foundation, HANDS, and Alkhidmat.

While this aspect is essential for immediate relief, promoting sustainable agricultural initiatives is vital for long-term food security in the region. Sustainable agricultural farming, including practice of ‘biological pest control, regulation and maintenance of soil quality, structure, and fertility, biodiversity conservation, and carbon sequestration’ can achieve food security whilst minimizing further environmental and ecological degradation (Rehman et al. 2022). In the given study, digital content also reflected initiatives like restoration of damaged agricultural land, training of farmers in resilient farming techniques, and promotion of seasonal vegetable gardening in response to floods. Alkhidmat on its X channel shared details about the launch of its Farmer Rehabilitation Project. The project, introduced across the flooded regions of Balochistan, Sindh, Khyber Pakhtunkhwa and South Punjab, included the provision of seeds, fertilizers and pesticides to at least 5000 farmers (Alkhidmat 2022). Similarly, Pakistan Girl Guides shared pictures on its X account of the flood relief camp at Hajipur in Rajanpur. With the post tagged with #sustainablefoodsystems, the initiative aimed at the promotion of vegetable gardening for sustainable food resources which included the provision of seeds of seasonal vegetables to the flood-affected. Thus, digital media, in this regard, has been a

medium for amplifying South Punjab context-specific and innovative solutions for addressing food insecurity concerns.

4.1.5. Environmental Security

The notion of human security has widened the focus of environmental security beyond its conflict-oriented focus, thereby making the term subject to various interpretations. In the context of the study, environmental security pertains to ‘ways in which environmental change puts human security at risk’ (Barnett 2009) as well as ‘actions that guard against environmental degradation to protect human, material and natural resources’ (Wenning et al. 2007). The nexus of environmental threat and vulnerability is apparent in the argument that integrity of ecosystem is imperative for a population’s sustainable livelihood, given that conditions like ‘pollution, depletion, or natural disasters’, once activated by environmental change, can pose acute threat to individual vulnerability (Biswas 2011). Therefore, an environmental security standpoint advocates the protection of environment to ensure a continuous availability of resources that sustain livelihood. Multiple posts on X and Facebook have highlighted the extensive damage to crops, cattle, and infrastructure in pictorial and video format.

4.1.5.1. Plight of Disaster-induced Migrants

Disaster or environment-induced displacement has a dynamic nature. In a broad sense, a displacement could include the forced internal mobility influenced by certain environmental factors. Similarly, it is also one of the adaptation strategies implemented by governmental agencies in response to an extreme event marked by continuous deterioration of human security (Terminski 2012). Faced with uncertain conditions whilst leaving their homes, these Internally-Displaced Persons (IDPs) are then exposed to health, economic, political, environmental, personal, and community security threats (Ejiofor, Oni, and Sejoro 2017). In the context of the case study, digital media content

highlighted both the aspects of disaster-induced displacement. Firstly, the data reflects dissemination of evacuation warnings, including information about rising water levels and expected areas of impact in the region. For instance, ARY News on Facebook disseminated the updates of NDMA about the statistics on life and property damage. The article also generated warning by the Flood Forecasting Division (FFD) to locals at the embankments and low lying areas, telling them to evacuate given the heavy movement of floodwater from Rajanpur point of Indus River (ARY News 2022). The same updates have been shared by FFD on its Facebook account as well.

Secondly, the digital content also sheds light on the multitude of healthcare risks encountered by IDPs, including an exposure to waterborne diseases. A user on X made an appeal to WHO about poor health conditions in the IDP camps of Rajanpur and DG Khan. On Facebook, the measles and rubella campaign of WHO was highlighted, that targeted to prevent the disease spread in areas with high concentration of IDPs.

By demonstrating the dual aspect of the displacement caused by flooding in case of South Punjab, digital media offers a comprehensive narrative on this aspect of environmental security. The content thus depicts the role of environmental insecurity as a threat multiplier, exacerbating vulnerability across various dimensions of human security.

4.2. Stakeholder Engagement

The catastrophic floods that swept through South Punjab, especially ravaging the Dera Ghazi Khan division, posed significant threats to the human security of the residing communities. Hence, a multitude of stakeholders, from governmental bodies to NGOs, international humanitarian entities, community-based welfare organizations, media groups, the private sector, and individual volunteers, thus mobilized their efforts to protect the "vital core of all human lives" from this "critical and pervasive threat" (CHS 2003). The term vital core here encapsulates 'human rights and freedom pertaining to survival, livelihood, and dignity' (Alkire 2003).

Through a comprehension of the content disseminated across the two platforms, it becomes apparent that these stakeholders assumed diverse roles. It reiterates the notion that the response aimed at mitigating human security threats is equivalent to types of individuals and communities affected, thus solidifying the argument that such challenges, universal and interdependent, are to be catered by actors beyond the jurisdiction of a state. For governments, human security serves as a guiding principle for policy formulation, conflict resolution and prevention, disaster management, and upholding rule of law and human rights. While the advocacy of civil society entities for human security is meant to facilitate reconciliation, mediation, and hold governments and private sector accountable for their actions (Srinivas n.d.). To further contextualize this role of the stakeholders in the case of South Punjab, the section below provides insights into the potential of collaborative approaches to enhance human security outcomes in similar contexts.

4.2.1. State-centric Intervention:

Following a natural disaster, the objectives of preservation of life and stabilization of injuries become of critical importance (Dass-Brailsford 2010). A state is central to these efforts, leveraging its authority, resources, and responsibility to safeguard its populace.

Hence, an intervention involving the collective efforts of the military, governmental departments, and emergency responders play a significant role in mitigating the disaster impact and restoring normalcy to the affected regions. Within the context of this study, the examination of social media content pertaining to the floods in South Punjab reveals several hashtags that were widely used across X and Facebook, highlighting the involvement of various state-centric actors.

4.2.1.1. Government

The analysis of the social media discourse also reveals a recurring theme of government's involvement. Central to this discussion are departments like Emergency Services Department of Punjab, National Disaster Management Authority (NDMA), Provincial Disaster Management Authority (PDMA), and National Highways and Motorway Police. From the posts on Facebook and X, the engagement of these departments ranges from a direct participation in flood relief operations to communication about traffic flow, dissemination of statistics on life and infrastructural damage, warnings of rising flood levels in the Indus River, and evacuation advisories for vulnerable areas. Moreover, the role of the Punjab Irrigation Department in conducting on-ground assessments and supervision of repair works on flood infrastructure also emerges as a notable observation in the X content. This participation can be seen as means to address the immediate concerns related to the preservation of livelihoods dependent on agricultural activities.

In Rajanpur District, government interventions have prioritized healthcare. For instance, on Facebook it was discussed that the Chief Executive Officer of the District Health Authority visited various district hospitals of Rajanpur. Consequently, another post of Facebook highlighted the details, with pictorial documentation, of the health campaign initiated by Punjab Primary and Secondary Healthcare Department and WHO. This effort included setting up free fixed and mobile health camps, providing routine immunization, maternal and child health services, vaccination for COVID-19, water-borne and skin diseases, as well as screening of vector-borne diseases like Malaria and Dengue across 37

flood-affected Districts of Pakistan (WHO 2023). With respect to Southern Punjab, the user specifically highlighted the Rajanpur, DG Khan, and Rahim Yar Khan Districts.

The involvement of WHO reflects the universal nature of human security challenges, which transcend national borders, thereby reinforcing the idea of collective responsibility inherent in the human security framework. A collective human security notion entails new ways of engagement at the international level, beyond a military-centric intervention, emphasizing the shared responsibility of all for the prevention of crises as well as reconstruction of a disaster hit society (Tadjbakhsh 2005). At the same time, this collaborative initiative of government and WHO highlights the critical intersection of gender and disaster response, recognizing the unique vulnerabilities and needs of women in crisis situations. Ensuring a regard to the gender dimension whilst addressing human security concerns also remains an important part of United Nations Educational, Scientific and Cultural Organization's (UNESCO) Medium-Term Strategy for 2008–2013. Another similar event highlighted in an X post is the visit by the Secretary of the Women Development Department (WDD) and the Chairperson of the National Commission on the Status of Women (NCSW) to assess and highlight the challenges faced by women, girls, and females with disabilities in the camps of Mangrotha Maghrib, one of the most highly affected Bastis of Taunsa in DG Khan. The group was also accompanied by the UNFPA Mission team (PID 2022).

In addition, the relief efforts in Taunsa Sharif extended beyond human welfare to include the well-being of flood-affected livestock. This is illustrated on X where the post details the opening of mobile veterinary dispensaries by the Livestock Department of South Punjab (LDDD 2022). The approach aligns with the 'One Health' approach, emphasizing the need of a unified approach to balance and optimize the health of humans, animals, and ecosystems (WHO 2023).

Beyond healthcare, the data reveals a commitment demonstrated by the governmental stakeholders in addressing the issue of educational disruption in flood-affected communities. This relates to UNESCO's recommendation of prioritizing education at times of crisis. As stated earlier, a similar approach can be seen in the data where the

Literacy and Non-Formal Basic Education Department of the Government of Punjab shared a video report on its Facebook account, highlighting how the flooding affected the non-formal education sector in Rajanpur. Moreover, the Technical Education & Vocational Training Authority (TEVTA), Punjab, has taken proactive measures to alleviate financial burdens and ensure a continued access to vocational education opportunities. An article by The News, shared on X, revealed the organization's announcement of providing fee waivers to children enrolled in the TEVTA institutes of flood-affected areas of DG Khan and Rajanpur (The News 2022).

4.2.1.2. Armed Forces

On X, hashtags such as #prideofnationpaf and #pakarmyrescueefforts surfaced frequently alongside #floodsinpakistan, the predominant hashtag utilized nationwide during the 2022 floods catastrophe. The #prideofnationpaf hashtag specifically emphasizes the appreciation of X users for the Pakistan Air Force's (PAF) contributions to humanitarian and disaster relief. As evident from the posts disseminated immediately after the peak of the flood crisis, Aug 2022 - October 2022, PAF has been actively engaged in post-disaster relief operations across several regions, including South Punjab, Sindh, Baluchistan, and Khyber Pakhtunkhwa (KP). The varied nature of content, encompassing both textual and pictorial format, depicts PAF's execution of rescue missions, delivery of relief supplies, and support in rehabilitation phase of the flood victims.

Moreover, the data illustrates the joint efforts of PAF and the civil administration authorities, reflecting a coordinated approach to address the interconnected human security concerns in a post-disaster situation. Particularly in the Rajanpur district of South Punjab, according to a Facebook post, PAF Fareed Air Base team collaborated with Pakistan Kidney Institute, and with the logistic support of the Association of Physicians of Pakistani Descent of North America (APPNA) - an American non-profit organization – these stakeholders distributed food and medical supplies to areas most in need. Besides this, as per the annual journal of APPNA, the organization also collaborated with

Alkhidmat Foundation, Comprehensive Disaster Response Services (CDRS), Saylani Welfare International Trust and Khana Gher to disburse \$2.02 million across Pakistan in general, and particularly the DG Khan, Hajipur, Rajanpur regions of South Punjab (APPNA 2022). The individual work of former three NGOs in South Punjab can be separately seen within the gathered content as well.

Nevertheless, the cooperation of PAF with humanitarian organizations entails leveraging the resources and expertise of diverse organizations, thereby recognizing that to address human security concerns in the aftermath of a natural disaster, a multi-stakeholder and multi-sectoral approach is required. Yet for this human security strategy to be effective, coherence in intervention is required wherein negative and positive externalities are weighed against each other. The aim is to not advertently exacerbate other human security issues.

Similarly, Pakistan Army also emerged as a stakeholder often featured in social media discussions, particularly due to its establishment of medical and relief camps for flood victims across all the affected provinces. Amidst these relief efforts, a development covered by both Facebook and X users, through the sharing of the Express Tribune article, has been the visit of international wrestlers from France, UK, and Ireland to the flood-affected areas of Rajanpur and the army relief and medical camp in Fazalpur (The Express Tribune 2022). The wrestlers' interaction directly with the flood victims served as an event to amplify awareness about the severity of the crisis. Furthermore, it highlights the potential of celebrity advocacy in humanitarian action and mobilizing support by leveraging their influence and visibility to draw attention to issues not publicized or well-forgotten (Young 2018).

4.2.2. Non-Governmental Organizations (NGOs)

NGOs are especially suitable for an action to address human security challenges given their size, reach, proximity with local population, and ability to cater transnational threats through coalition-building (Michael 2002). In particular the initiatives of non-state actors

are critical as enablers in providing support to the state stakeholders, filling the response gaps where necessary (UNDRR 2015). Alkhidmat Foundation stands out as the most prominent NGO in the X data, with multiple hashtags including #alkhidmatfloodrelief and #alkhidmatfloodresponse associated with its efforts.

The content, including text, image and video format, showcases Alkhidmat's active engagement across Pakistan's flood-affected provinces of Sindh, Baluchistan, and Punjab. Its approach in Southern Punjab is evident in the diverse array of activities across the district areas of Rajanpur and DG Khan. For instance, the provision of medical assistance through free medical camps in Tehsil Jampur and the locality of Fazilpur (Rajanpur district), reflects its role in addressing the immediate needs in a post-disaster situation. This contribution has been further substantiated by the official statistics shared by the NGO on its X and Facebook handles after conducting an on-ground assessment, highlighting the number of medical camps held, the beneficiaries served, and the areas covered. Alkhidmat's response further extends to addressing broader public concern of contaminated drinking water by installing mobile water filtration plants in Rajanpur, as shared by the organization on Facebook. In addition, its involvement in rescue operations in Taunsa Sharif has been well-documented on X through videos showcasing the deployment of boats for the evacuation of the stranded individuals amidst the infrastructure disruption.

The data also highlights the organization's rehabilitation initiatives, with its Farmers Rehabilitation Project being particularly noteworthy in the X discussion, a project aimed at empowering the flood-affected communities of the region to restore their livelihoods. (Alkhidmat 2022). Lastly, Alkhidmat maximized its efforts by collaborating with national and international entities. One such instance seen on X is the joint effort of Alkhidmat, US AID, the Ministry of Land, Infrastructure, Transport, Tourism (MLIT), Japan, for the provision of ration, cash, and medical assistance to the communities of Rajanpur.

The involvement of various NGOs in South Punjab reflects an intensive effort to support flood-affected communities through diverse initiatives. Taryaq Welfare Organization, active in both Rajanpur and Taunsa Sharif, collaborated with a private company Pulcra

Chemicals Pakistan to serve rehabilitation purposes and posted the initiative on its Facebook account with the hashtag #togetherwebuild. The Million Smiles Foundation shared its relief updates on X, along with the initiative of conducting post-destruction assessment in Rojhan and Taunsa Sharif. Meanwhile, NGOs like RUHIL, Al-Kahf Foundation, Pak-Aid Welfare Trust, E Hands, Go Green Welfare Society, and Jafriya Disaster Management Cell Welfare Organization Pakistan shared their complementary efforts in DG Khan on their respective Facebook accounts, aimed at addressing other aspects of community needs, from medical assistance to ration distribution and provision of temporary shelters.

In Taunsa Sharif, the data reveals an extensive presence of NGOs. For instance, from X posts, it can be gathered that the Deaf Welfare Awareness Foundation, an organization exclusively concerned with the vocational and technical training of hearing-impaired people, got involved in rehabilitation efforts. Yanfa-un-Naas Foundation also utilized X to disseminate information about its operation of free medical camps. Consequently, Imamia Disaster Management Cell (IDC) and the Association for Women's Awareness and Rural Development (AWARD) used Facebook to generate appeal for humanitarian aid and showcase their food relief initiatives. These initiatives reflect an effort to tackle human security issues amidst a national crisis across various administrative levels within the DG Khan district.

District Rajanpur emerges as a focal point within the data set, thus indicating the district's vulnerability to humanitarian catastrophe. NGOs like Human Development Foundation have a presence on both platforms, sharing details of its joint contribution with the Danish Muslim Aid in terms of cash assistance and provision of hygiene kits, winter quilts and ration packs. Asani Trust and Transparent Hands Trust utilized X, where the former publicized its rehabilitation efforts and the latter used its account to highlight its healthcare relief and collaboration with a private company, Coppergat. Similarly, with the hashtag #fareezeainsaniyat, Aas e Kausar Foundation posted on X about its distribution of ration and tents and also appealed for fundraising. HANDS organization addressed the immediate food needs and shared it on X. Moreover, comprehensive initiatives of Lodhran Pilot Project and Zaman Foundation laid the

groundwork for long-term recovery. Besides mitigating the immediate risks, the former organization's disaster response and mitigation strategy in Tehsil Rojhan and Rajanpur, as gathered from Facebook, incorporated livestock vaccination and fertilizer assistance. Moreover, its conduct of agricultural sessions to enhance agricultural productivity by empowering the disaster struck people with valuable knowledge and skills necessary for sustainable farming practices has also been highlighted by on its social media (Government of the Punjab n.d.). In parallel, Zaman Foundation's Facebook post about its flood proof homes build-up project, aimed to enhance the community's infrastructural ability to withstand any future disasters. Similar to this are the Facebook posts about the house-rebuilding campaign of the Rahma Islamic Relief and distribution of specific roofing materials by the Al-Farooqia Trust.

A unique aspect of Sanjh Preet Organization's involvement in Rajanpur lies in its focus on building Safe Spaces for flood-affected women and children besides providing them psychological support (Government of the Punjab n.d.). The initiative was shared on the organization's X account. The effort not only shows its commitment to building a physical refuge but also creating an environment that is conducive to healing from the psychological impact of a natural disaster. Furthermore, the visit of the UNICEF delegation to these Safe Spaces signifies the international recognition of the local efforts as well as showcases the importance of incorporating targeted strategies for women and children in humanitarian endeavours (Sanjh Preet Organization 2022). This suggests that human security is context-specific; making these threats vary from place and time. The characteristics of the crisis itself determine the human security priorities that are to be integrated in the mitigation strategies. Therefore, the response needs to adapt to grass-root perceptions and the real-life dynamics (UNTFHS 2016).

4.2.2.1. International Charity and Humanitarian Agencies

Digital media has become a popular arena for international humanitarian and charity organizations to showcase their commitment to assisting the population in crisis. Their

social media channels reveal numerous examples of such efforts. The same was observed in the data set related to South Punjab floods as various similar efforts have been highlighted. Organizations like Kashmir Orphans Relief Trust (KORT) and Muslim Hands - an international NGO working in over fifty countries to aid the victims of natural disasters, conflicts, and poverty - have been active in delivering essential aid to ensure basic needs of the affected population across Sindh, Baluchistan, KP, and South Punjab. The former has shared its efforts on X and the latter on Facebook. The collaboration of Danish Muslim Aid, a Denmark-based voluntary humanitarian organization, with Human Development Foundation (HDF) in flood relief can be seen on HDF's Facebook and X channel and has been discussed above. Another collaborative effort discussed on X includes the partnership of United Nations International Children's Emergency Fund (UNICEF) with the Sanjh Preet Organization for building shelters in Rajanpur's Tehsil Rojhan. United Nations Fund for Population Activities (UNFPA) collaborated with the local NGO ACT International. As shared by the latter on X, the effort sought to provide medical aid to the communities of Rajanpur and address the issue of lack of clean water, sanitation, and prevalence of diseases. Besides this, both also worked together to open Women and Girls Friendly Space (PID 2022). Moreover, UNFPA's collaboration with government departments Women Development Department (WDD) and National Commission on the Status of Women (NCSW) has also been observed in X data, as stated earlier. The press release following this visit states UNFPA's support of dignitary kits to more than 250 women (PID 2022). WaterAid's complementary effort according to its X post involves hygiene promotion sessions in households of Rajanpur. Up till now the organization has conducted 82 sessions in 1100 households and also provided them hygiene kits (WaterAid n.d.). Lastly, emergency appeal and fundraising efforts by Crescent Relief Australia have been apparent on its Facebook.

4.2.2.2. Social Welfare and Community-based Organizations (CBOs)

The content highlights the efforts of social welfare and community-based organizations in addressing the needs of the affected communities. Defined in terms of 'loosely

structured not for profit union of individuals, based on some geographical or thematic characteristics’, a CBO strives to ‘promote economic and civil development by satisfying societal needs’ (Hussain 2024). Kawish Welfare Foundation illustrates this case. An organization primarily concerned with the provision of free education and medical facilities, extended its mandate of relief and rehabilitation, and disseminated updates on Facebook about providing meals and shelters in Tehsil Rojhan, Rajanpur. Similarly, the Naya Qadam Trust - a charity organization born out of the Kashmir earthquake to especially aid physically disabled people - leveraged its commitment to humanitarian causes and initiated a flood relief program in Rajanpur. The initiative, highlighted on X, also included a collaboration with Musharaf Iqbal Foundation, a non-profit organization engaged in multi-sector development, including human rights protection, women empowerment, healthcare, education, microfinancing, environmental protection, and poverty eradication. The instance therefore showcases the flexibility, adaptability, and responsiveness of CBOs in a national crisis.

Other civil society organizations transcend into broader societal concerns. For instance, the Peace and Justice Network (PJN) - a national civil society network comprising 52 organizations across the country, striving to uphold rule of law, social justice, and protection of human rights - played a part in addressing the surge in underage marriages post-flood. PJN’s advocacy for community-based child protection measures in the areas of Taunsa Sharif and Rajanpur, revealed on its Facebook, highlights the importance of addressing complex social challenges exacerbated by natural calamities to ensure long-term societal resilience.

4.2.3. News Media

Various news media channels while utilizing their official social media handles have covered the monsoon-induced 2022 floods in Pakistan. With relentless stream of updates and on-ground coverage, these channels have kept the world informed about the disaster

unfolding, extensively reporting on the human security challenges faced by the affected communities.

4.2.3.1. International News Media

The coverage by international news media channels including BBC, Al Jazeera, CGTN, and TRT World provided a geographically diverse perspective of the crisis, with an emphasis on hard hit regions of Sindh, Baluchistan, and Punjab. The BBC's presence, in particular, stands out, appearing multiple times in X content. The data reveals that BBC's coverage has been characterized by focusing on the human stories behind a disaster and its asymmetrical impact on the vulnerable communities. One entry, for instance, highlights its report on flood survivor accounts (Vaidyanathan 2022). Specifically with regards to the South Punjab region, a user on X shared BBC's columnist Wusat Ullah Khan's documentary series on how the 2010 floods wreaked havoc in terms of humanitarian and infrastructural losses across the Southern region. Similarly, on another account, a BBC video report on X analyzed the impact of flooding on the lower socio-economic class of South Punjab (BBC News 2022). The argument stands in true with Barnett et al.'s (2014) assertion that the impact of climatic factors on human security increasingly worsens for already socially marginalized population.

Other international news channels have contributed in various ways. Sky News, in a news report shared on X, provided a visual overview of the aftermath of the floods in Pakistan in general, particularly highlighting post-flood destruction (Sky News 2022). Meanwhile, Al Jazeera's video report on X emphasized the severity of the disaster by conducting live interviews with the affected people. The report also covered the impact of flooding on Pakistan's economy, major climatic dangers faced by the country, and the necessity of an urgent response (Al Jazeera 2022). TRT World, CGTN, and Voice of America have also provided an insight into the challenges faced by the people of Rajanpur. While CGTN's video report on Facebook emphasizes the destruction of villages and crops, submerged roads, and displacement challenges faced by the locals (CGTN 2022), TRT World's

shared article on Facebook provided a broader picture of the scale of disaster and casualties, supported by the figures released by the NDMA (TRT World 2022). Likewise, Voice of America shared the video sourced through AFP News on Facebook, communicating the challenges faced by the people of Aqilpur town in Rajanpur.

4.2.3.2. Pakistani News Media

Through their official social media accounts on X and Facebook, local Pakistani news channels, including ARY News, Hum News, and Public News, have provided critical insights into the challenges and governmental responses in areas of Rajanpur and DG Khan. Dawn News has a presence on both social media channels. In X posts, its video coverage provided an overview of post-flood destruction and flood relief activities of Alkhidmat in South Punjab. On Facebook, Dawn shared report of PDMA about population affected, deaths, injuries, and damage statistics of livestock, houses, crops, and infrastructure in Southern Punjab, with DG Khan and Rajanpur being the worst hit regions (Malik 2022). It also shared a special report on the flood affectees of Rajanpur (Dawn 2022). Express News utilized its Facebook platform to share snippets of the live programs conducted by the channel on Pakistan floods. One of the post exclusively covered widespread destruction in Rajanpur. On the same platform, the coverage by Daily Public News on the subject matter also featured interviews with the affected communities of Rajanpur. Hum News' social media presence on X has been similar to Express News. In one of its X posts, the channel shared its visual documentation of destruction in DG Khan, where over one lac people were rendered homeless by the end of July. The content shared by ARY News on Facebook involved an article featuring the statistics on life and property damage provided by the NDMA. The report also included an emergency evacuation advisory generated by FFD to locals in embankments and low-lying areas of Rajanpur (ARY News 2022).

4.2.3.3. Newspapers

News articles by Express Tribune and Pakistan Today, disseminated on X, emphasized the widespread destruction, as it unfolded, with statistical figures issued by national and provincial disaster management agencies. On the other hand, Dawn provided an analytical depth to the on-going situation. For instance, one of its opinion article shared on X stressed the need of unity among political leaders amidst the unfolding human catastrophe in the country (Hussain 2022).

4.2.4. Individual Contributions and Informal Networks

4.2.4.1. Voluntary Efforts

During the months of July and August 2022, multiple individual volunteers across the South Punjab region took the initiative of providing immediate aid to flood victims, including food, medical assistance, and temporary camps. On X, multiple posts can be seen depicting voluntary initiatives. One post showed the local residents of DG Khan undertaking rescue operations to relocate flood affected community members to a safer location during the crisis peak in July. Another post on Facebook shows a user propagating information about a protest arranged in Taunsa Sharif, demanding fee waivers, free hostel accommodation, transport, and education for students belonging to flood affected areas. HIVE Pakistan - a training and research organization aimed at social development and countering extremism - led a citizen-driven flood relief campaign on Facebook, highlighting people's contribution for distribution of food and healthcare essentials. Moreover, Facebook pages like 'Kindness for Everyone' engaged in fundraising and facilitated the provision of ration, groceries, and financial support to the affected people in regions of Punjab, including DG Khan and Mianwali.

4.2.4.2. Educational Institutes

Educational institutes have also played a part; mobilizing the students to aid the flood affected communities. A few prominent examples apparent in the Facebook and X posts include the comprehensive flood relief efforts in the areas of Rajanpur and Taunsa Sharif

by the students of Fatima Jinnah Medical College, University of Sargodha, University of Education Lahore, Government College Women University Sialkot, and Islamia University of Bahawalpur. These campaigns included the distribution of ration, gas stoves, blankets, mineral water gallons, clothes, and medicines. Meanwhile students of National College of Arts (NCA) engaged with Pakistan Mission Society to distribute hygiene kits, aqua tabs, and dignity kits in Rajanpur. The effort has been shared by the NGO on its X account. On its Facebook page, Namal University shared the contribution of its student-run society, Namal Society for Social Impact (NSSI). The example stood out as the students after undergoing a training program of Provincial Disaster Management Authority (PDMA) Punjab, did a damage assessment in Rajanpur and then organized flood relief. Fundraiser organized by the Saraiki Students Council of Quaid-e-Azam University Islamabad on Facebook could be observed in the data as well.

4.3. Key Themes in the Digital Content

An in-depth analysis of the digital discourse pertaining to the South Punjab floods has revealed three thematic patterns across the platforms of Facebook and X. These patterns, each distinct in its focus and emotional resonance, collectively paint a comprehensive picture of the narrative-building that digital media did regarding the human security dynamics of the flood-affected communities. The following section delves into an exploration of each narrative type. In addition, the technique of sentiment analysis has been employed to uncover the underlying emotions that define these particular narratives.

Sentiment Analysis, also known as opinion mining, is a field of study that analyzes ‘people’s emotions, sentiments, appraisals, attitudes, opinions, and evaluations towards organizations, events, individuals, issues, products, and services’ (Liu 2012). The technique processes data based on five steps i.e. data collection, text preparation, sentiment detection, classification, and output presentation (Aqlan, Bairam, and Naik 2019). The initial steps of data collection and preparation were completed through the prior gathering of the digital content related to the South Punjab floods. For the detection of sentiment, a manual approach has been employed wherein each post was analyzed for the presence of emotional or opinionated language. This methodological process allowed for the extraction of sentiments like fear, frustration, hope, despair etc. embedded within the social media posts. Afterwards, the classified sentiments were categorized into pre-defined emotional indicators i.e. positive and negative. This has been done by assigning specific emotional expressions to their corresponding sentiment categories. For instance, expressions of fear, distress, and frustration have been classified under the negative sentiment category due to their inherent association with adverse emotional state. The same process was followed for categorizing positive sentiments. Lastly, the findings have been presented in a way wherein it has been elucidated what nature of the content resonates with the particular sentiment category.

4.3.1. Crisis

Crisis, in the context of human security, is characterized by a ‘sudden and hurtful disruption in the patterns of daily lives’ (UNDP 1994), requiring a coordinated multi-disciplinary response due to its ‘magnitude, complexity, and gravity of potential consequences’ (UNDSS 2020). The definition thus reflects the immediacy of a response required to manage the fallout of such events. The South Punjab floods can be regarded as such, illustrated by digital media’s portrayal of this event as a crisis.

4.3.1.1. Hashtag Activism and Politics of Visibility

Hashtags such as #southpunjabneedsattention and #taunsaneedsattention have collectively appeared for more than 30 times on X alone. By targeting Taunsa, these hashtags indicate an effort by social media users to direct public attention to the severity of the crisis, thereby creating a focused narrative that highlights the unique needs and challenges faced by the communities in the locality. This strategic use of hashtags can also be analyzed under the framework of ‘politics of visibility’, which pertains to the ‘mobilization of a collective identity across media’ (Creech 2020). Here the concept of visibility as power is rooted in the understanding that media can deliberately or unconsciously influence public discourse and perception. Hence, the visibility or invisibility of a particular subject, group or issue in media can have profound implications on power dynamics, social inclusion and formation of collective identity.

In the digital age, visibility can be regarded as a critical component of crisis response since it determines the flow of information, resources, and support to the affected communities. Hashtag activism in the context of the study, therefore, can be seen as an attempt of constructing a collective narrative by using a hashtag #taunsaneedsattention that amplifies the voices of the crisis affected communities in South Punjab. The approach also aligns with human security framework’s emphasis on the need to protect the ‘most vulnerable’ population. Firstly, the use of this hashtag is in combination with various content formats i.e. video, text and images. Users of X have shared videos and

articles from reputable news sources like Dawn and BBC, that visually document the crisis and at the same time provide analytical insights, even historical context of the 2010 floods and the ongoing challenges faced by lower socio-economic class of the region. The nature of these posts is predominantly centered around post-flood destruction, call for emergency attention, and critiques of the limited coverage of the crisis in mainstream media. This latter aspect is especially significant as the ‘activists’ on X platform are not only drawing attention to the crisis but also criticizing media’s role in perpetuating the invisibility of certain communities, which in this case is about the communities of Tehsil Taunsa Sharif.

The urgency required to mitigate the crisis is further emphasized by hashtags like #emergency and #savepakistan, which are also integral to the politics of visibility strategy. These hashtags not only convey the immediacy and critical nature of the situation but also a sense of collective action and responsibility required on behalf of both public and institutional response. On Facebook, post of Human Development Foundation, tagged with #floodsinpakistan #emergency #donate, showed the visit of the team to the affected areas of Rajanpur, emphasizing the critical need for immediate humanitarian support given the severity of the situation. Other Facebook posts by Spreading Kindness Together Welfare and Al Jalil Developers, a real estate firm, with the hashtags #restorepakistan and #savepakistan also convey the similar immediacy, making the plight of the flood-affected communities more visible and compelling action from a broader audience.

4.3.1.2. Climatic Dimension of Crisis

In addition, hashtags like #climatechange and #climatecrisis in the data frame the flooding event within the broader context of environmental security. For instance, Waste Busters, a waste management, recycling and environmental services company operating from Lahore, documented its relief efforts in Rajanpur in a Facebook post, while also employing the hashtag #climatecrisis. The post illustrates how the organization’s effort

addresses the immediate humanitarian needs in the wake of a situation exacerbated by climate. Similarly, a video podcast uploaded on X in Nov 2022, identified by the hashtags #southpunjabfloods #climatechange, discusses the lessons that should have been learnt from the 2010 floods, thereby linking a past event to the current crisis and emphasizing their commonality of climate change. By emphasizing a direct proportionality between global climate variability and human security, digital media thus reinforces the narrative of addressing the local flooding crisis as part of a long-term implication of climate change.

4.3.1.3. Sentiment Analysis: Alarm, Frustration, and Despair

Sentiment analysis of the X and Facebook content reveals an emotional landscape dominated by negative sentiments such as alarm, despair, and frustration. The prevalence of negative tone in the content is a reflection of the natural emotional reaction of general public to the suffering of fellow citizens, indicative of a nation in crisis. Alarm and concern are the dominant sentiments evident in the content capturing the challenges associated with rapid progression of the disaster. Posts on X and Facebook, especially those featuring video content from renowned local and international news agencies like Dawn, Express and Hum News, BBC, and Al Jazeera, evoke a sense of alarm through their vivid imagery and reporting on flood damage. For instance, posts that disseminated NDMA updates on rising flood levels, or brought attention towards internally displaced people, unsanitary water conditions, spread of disease or disruption of social services, reflect a sense of awareness, concern, and fear that prevailed amongst the social media users about the alarming situation in the region.

Frustration, another commonly observed sentiment, has been manifested through the posts on both platforms that reflected the inadequacies in disaster response by criticizing the administration and mainstream media's neglect of the South Punjab region. The frustration incited by these social media users is evident through their usage of hashtags like #southpunjabneedsattention and #taunsaneedsattention.

Similarly, the sentiment of despair emerges from the posts showing the profound loss of life as well as the emotional toll the floods had on the communities. The latter can be seen in the form of personal stories of loss circulated on these platforms. Images and videos of homeless children and families, destroyed infrastructure, and flooded fields, humanize the disaster by making the statistics of damage and displacement more compelling to the common public.

4.3.2. Humanitarian Narrative; Beyond Crisis towards Solidarity

The humanitarian narrative, as observed in the gathered content, is linked to the conceptual framework of human security, particularly through the lens of human rights. At the core of both concepts lies the notion of ‘human dignity’. This relation is based on the shared value of protecting the individual well-being. In the case of South Punjab, the content builds a humanitarian narrative by highlighting the efforts of diverse array of actors, aiming to address the immediate communitarian needs and ensure that basic human rights of these individuals are upheld, including the protection of human life, livelihood, health, and dignity.

To examine the construction and dissemination of this humanitarian narrative within the digital discourse, the section below offers insights from the framing theory.

4.3.2.1. Framing Theory

As conceptualized by Ajzen and Fishbein (1980), an individual’s attitude towards an object is formed by the overall evaluation of his beliefs about its attributes, each weighed by its perceived importance. Framing theory in this context posits the idea that an issue can be construed from various perspectives, having implications for multiple considerations (Chong and Druckman 2007). Entman (1993) calls it the process of ‘culling a few elements of the perceived reality to present a narrative’. The theory also

shares the conceptual space with the second level of the agenda-setting framework, focusing on media's function of telling the audience how to think about an issue (McCombs et al. 1997). This careful presentation of the issue in a certain field of meaning is therefore aimed at influencing the decision-making pattern of the public. Framing can be done of situations, attributes, choices, actions, issues, responsibility, and news (Hallahan 1999). And to do so, metaphors, exemplars, catchphrases, depictions, and visual symbols can be used (Gamson and Modigliani 1989).

In the case of the study, framing theory helps dissecting how digital media framed the flooding event of 2022 in the humanitarian context, emphasizing the necessity of a collective action to address the needs of affected population. Following frames evident in the digital discourse can be used to present the humanitarian content narrative. The term 'frame' here indicates a conceptual structure that "encourages target audiences to think, feel, and decide in a particular way" (Entman 2007).

4.3.2.1.1. The Human Interest Frame

The Human Interest Frame, as applied on the South Punjab case, centers on the individuals affected by the floods, presenting their concerns in a manner that induces interest in the audience. This frame is characterized by its focus on personalized stories, depicted on Facebook and X through various forms of multimedia content like in-depth articles, images, and videos. The digital discourse on Facebook and X is replete with exemplars that highlight the human dimension of the crisis. These include posts depicting visuals of homeless children and families huddled in makeshift shelters, interviews with survivors recounting their experience of loss and displacement, footages of people stuck in the floodwaters, being rescued by boats or attempting to wade through the water to reach safety. On X particularly, users have also shared videos of locals of Basti Ahmedani in DG Khan rescuing the stranded community members. By showcasing these humanitarian consequences of the disaster, the visual rhetoric of Facebook and X represents the abstract conception of the disaster as a tangible crisis. Besides documenting the disaster, this visual framing resonates with the notion of 'protection of

human dignity’, by fostering a sense of empathy amongst the common masses, an element crucial for an effective crisis response. Moreover, the data also includes the usage of certain hashtags as catchphrases, aiming to translate the response of the audience beyond mere sympathy. Posts accompanied by hashtags like #solidarity, #togetherwecan, #socialresponsibility, #weneedyoursupport, #restorePakistan and #donate exemplify the case.

4.3.2.1.2. Responsibility Frame

Frames that assign responsibility for either causing or treating an issue are categorized under this aspect of framing (Temmann et al. 2021). A responsibility frame in this study focuses on the accountability and actions of government, military, NGOs, CBOs, international organizations, students, and volunteers involved in disaster management and response. The frame analyzes the performance of these actors, highlighting the successes, challenges, and limitations in the efforts. In the case of South Punjab, digital media became a platform for both commendation and critique of these efforts. In the former context, media has put a spotlight on the efforts of emergency responders, organizations, and volunteers working on the frontlines. Hashtag #prideofnationpaf emerges more than 10 times on X alone, with posts reflecting Pakistan Air Force’s extensive flood response operations. The nature of the posts is also reflective of this aspect, with a particular example of Dawn News’ video on X. The post provides an update and commends Alkhidmat for its flood relief efforts. Similarly, multiple posts can be seen on X, with users discussing the fundraising telephone arranged by Imran Khan, the former prime Minister of Pakistan, for the flood victims across the country.

Conversely, the digital discourse also contains criticism directed at the perceived inadequacy of mainstream media coverage and slow government intervention. Posts on X that have highlighted the inaction of Pakistan People’s Party (PPP), or the Facebook ones criticizing the lapses in the role of the Provincial government and civil administration of DG Khan include direct tagging to hold these stakeholders accountable for their role in effective management of the crisis. The dual nature of the responsibility frame fosters a

humanitarian narrative that is both empathetic and analytical. It further allows for an assessment of the effectiveness of disaster mitigation efforts which would ultimately be helpful to project future human security responses.

4.3.2.2. Sentiment Analysis: Solidarity, Empathy, and Unity

The sentiment analysis reveals a mixture of sentiments reflecting the humanitarian content narrative, with positive sentiments like gratitude, generosity, solidarity, unity, and empathy predominant in the data set besides the negative sentiments of frustration and concern. Gratitude has been expressed in the posts featuring appreciation for the rescue, relief, and rehabilitation efforts undertaken by state and non-state actors. Appreciation for Pakistan Air Force and Alkhidmat stands out within the data.

Generosity is another key sentiment that is reflected in the widespread calls for donation and fundraising initiatives. Posts accompanied by hashtags like #donate, #weneedyoursupport, and #givebacktopakistan, evoke a sense of generosity and encouragement to the social media community, asking for their willingness to contribute financially or voluntarily in their time and skills to support those in need. These posts are also a manifestation of social media's solidarity and empathy. Similarly, posts that mention the joint efforts of government departments and humanitarian organizations evoke a sentiment of unity.

4.3.3. Resilience; From Recovery to Capacity-building

4.3.3.1. Disaster Resilience

The depiction of resilience in the digital content related to South Punjab floods reflects a narrative that is deeply rooted in the principles of human development. This narrative reflects the critical importance of sustainability in any provision of human security, emphasizing that true resilience extends beyond immediate recovery efforts to encompass

long-term capacity-building. The idea is shared by the conceptual underpinnings of disaster resilience, a framework that has bridged the divisions between Disaster Risk Management (DRM) and development studies. Development, in this context, is understood holistically, extending beyond the narrow conception of economic wealth to include five C's proposed by the Sustainable Livelihoods Framework. These include development of human, natural, social, financial, and physical assets (DFID 1999). Against this backdrop, disaster resilience can be conceptualized as the 'ability of a community to pursue socio-economic and ecological objectives while managing disaster risk over time' (Keating et al. 2017).

To examine how digital media portrayed resilience narrative in this study, the gathered content has been analyzed across three core components of the disaster resilience theory.

4.3.3.1.1. Adaptive Capacity

Adaptive capacity focuses on facilitating the 'ability to adapt to change, moderate potential damages, and cope' (Cutter et al. 2008) with the consequences of a disaster through 'governance, social arrangements, and institutional management' (Parsons et al. 2016). In simple terms, it involves the planning, preparation, and implementation of strategies that enable institutions to adapt to new challenges, take advantage of any opportunity, and transform the response according to the changing conditions (Sen 2021). Digital media's portrayal of adaptive capacity in the aftermath of the South Punjab floods is manifested in its coverage of initiatives aimed at long-term adaptation. On Facebook, Pakistan's Girls Guide Association (PGGA) highlighted its campaign involving the advocacy for vegetable gardening in Rajanpur by providing the seeds for seasonal vegetables and encouraging vegetable gardening among the community. Its post tagged with #sustainablefoodsystems shows that the organization aimed to create general awareness about the importance of sustainable food resources by promoting self-sufficiency, an element aligning with the key human development goal of enhancing food security (UNDP 2020). On the same platform, tagged with #rebuildinglives, Zaman Foundation's post provided updates about its rehabilitation initiative, involving the

construction of flood-proof homes in Rajanpur. These examples reflect the adaptive capacity's principle of 'using resources in inclusive and sustainable way to adapt to changes in climatic conditions' (Jeans et al. 2017).

4.3.3.1.2. Absorptive Capacity

It focuses on 'intentional protective actions by anticipating, planning, coping, and recovering from specific known shocks and short-term stress'. Measures to enhance absorptive capacity include 'forward planning, informing, learning and innovation, gender empowerment, enhancing livelihood, and accountable governing' (Jeans et al. 2017). One of the key areas where absorptive capacity-building was apparent within the data is the health sector. Vaccination drives aimed at preventing disease outbreak and hygiene awareness sessions were some of the prominent initiatives highlighted on both X and Facebook. These initiatives, along with the presence of hashtags #healthequity and #healthforall accompanying posts on digital media, not only reflect an effort of addressing immediate health needs. It also illustrates forward planning to protect against the anticipated health risks associated with the floods before they could severely impact the affected communities.

4.3.3.1.3. Coping Capacity

Coping capacity requires communities 'to use their absorptive capacity in the event of disaster' (Sec 2021). This indicates that while absorptive capacity lays the foundation for resilience by anticipating and mitigating the known risks, coping capacity is the direct application of these preparations in real-time to manage and recover from disasters. A pertinent example in this regard, highlighted within the data, has been of Scientology Volunteer Ministers International. The organization - based on the international Volunteer Minister (VM) program - shared details about its assistance to Pakistan's flood victims on X. Under the searched keywords 'Rajanpur Floods', Scientology's program of

assisting the region's children to cope with emotional trauma emerged, reflecting its contribution of building coping capacity. Recognizing the profound stress and trauma children experience during such disasters, the team implemented activities aimed at helping the children adjust to their new environment and find normalcy amidst the chaos. The initiative was supported by the volunteers' training which equipped them with the techniques to address emotional and spiritual aspects of a trauma (Scientology 2022). The example shows how pre-emptive measures like psychological training programs are employed, supported by an external organization, to ensure psychological recovery post natural catastrophes.

4.3.3.2. Sentiment Analysis: Optimism and Determination

The digital media content related to South Punjab serves as a testament to community resilience, evoking a sense of optimism and determination. This is particularly evident in the posts that highlight innovative capacity-building initiatives, as discussed above. The narrative and hashtags that accompany these posts showcase the determination to overcome the crisis and create a pervasive sense of hope, serving as a reminder that the community can bounce back and move towards a more sustainable and disaster resilient future.

CONCLUSION

The exploration of the digital discourse on the 2022 floods in South Punjab, particularly the Rajanpur and Dera Ghazi Khan Districts, under the conceptual framework of human security presents a holistic and people-centric analysis of the multifaceted impacts of the flooding event on the region. The framework holds significance with regards to its application in this study since it encapsulates the complex interplay between individuals, communities, and the environment, thereby offering comprehensive understanding of the interdependent threats and opportunities that natural disasters like the South Punjab floods pose to human well-being. By focusing on the vital core of human lives and addressing the critical and pervasive threats through empowering processes, human security paradigm offers a foundation for analyzing the extensive repercussions of the floods on environmental, health, food, economic, personal and community security dimensions. Its relevance to the case study is also driven by the multi-dimensional impact of the monsoon-induced floods in the region, highlighting the need of context-specific, integrative, adaptive, and community-driven approaches to mitigate the disaster impacts and build resilience.

The research first sought to understand how digital media platforms like X and Facebook contributed to the discourse on human security in the case of South Punjab floods. The exploration into the nexus within the case study reveals a paradigm shift into how environmental security challenges are perceived and addressed. Through these platforms the discourse not only highlights the immediate personal and community security challenges, health and economic insecurities, and the threats to environmental and food security, but also demonstrates the potential of digital media to serve as a powerful conduit of disseminating critical information, raising awareness, mobilizing resources, and supporting actions aimed at enhancing human security. The visibility of health campaigns, food and medical aid distribution, economic supportive initiatives, challenges posed by the disruption of social services and environmental protection efforts on digital media shows the importance of these platforms in fostering community resilience and informing responses to environmental security challenges like natural disasters.

The next section of the research turned focus to the insights gained from the digital content regarding the contribution of diverse stakeholders to alleviate human security challenges faced by the disaster-struck communities. The major takeaways from this exploration specifically in the context of Rajanpur, Dera Ghazi Khan, and Taunsa Sharif are manifold. Firstly the findings highlight the critical importance of an integrated approach to disaster management, involving state-centric actors, non-governmental organizations (NGOs), media, and voluntary individual efforts. Secondly, the adaptability, cross-sectoral collaboration, and context-specific human responses exhibited by these humanitarian organizations have emerged as key themes. These organizations have demonstrated their ability to navigate complex challenges by adapting their strategies to unique context and particular needs of the flood-affected communities of South Punjab, especially those of the vulnerable population like women, children, and the internally-displaced people. Their initiatives, ranging from immediate relief efforts to long-term rehabilitation and resilience building projects, reflect the importance of flexible, collaborative, and locally-tailored approaches in addressing human security challenges. Thirdly, the coverage of news media has been crucial in raising awareness and providing critical information to the public. By focusing on human stories, the asymmetrical impact on marginalized communities and the efforts of the humanitarian organizations, both local and international news media channels along with newspapers have contributed to strengthening human security, as revealed by the posts on X and Facebook. Lastly, local voluntary initiatives in the form of student activism, individual and community-based efforts demonstrate the potential of grassroots movements in fostering human security.

The last research question sought to explore the underlying thematic patterns in the form of narratives that shape the digital discourse. The analysis reveals three types of content narratives. Firstly there is a crisis narrative characterized by a sense of urgency. This narrative has been constructed through the strategic use of hashtags like #southpunjabneedsattention and #taunsaneedsattention as a visibility strategy that emphasizes the severity of the disaster and unique challenges faced especially by the people of Taunsa Sharif, thereby communicating the critical nature of the situation that requires an intervention on behalf of both public and institutional response. Besides

crisis, digital discourse has also built a humanitarian narrative around the South Punjab floods, focusing on the protection of human dignity and basic human rights of the affected communities. This narrative has been constructed through the use of human interest frames that personalize the disaster by images, videos, and interviews based on survivor testimonies. In addition, responsibility frames have been utilized to commend and critique the performance of various stakeholders. Lastly, these platforms have articulated a resilience narrative by highlighting adaptive, absorptive, and capacity-building initiatives, including the construction of flood-proof homes, advocacy of sustainable food systems, vaccination drives, hygiene awareness sessions, and psychological training programs for children. These initiatives reflect a commitment to disaster resilience, fostering a sense of optimism and determination among the affected communities.

Overall, the digital discourse surrounding the 2022 South Punjab floods reveals the early emergence of flood-related discussions on digital media, preceding the mainstream media coverage. The phenomenon shows the potential of digital media channels for real-time information sharing and community engagement. However, it is noteworthy that the response of digital platforms in the case of South Punjab has been largely reactive, rather than proactive, indicating a gap in utilization of digital media in the disaster management cycle. The limitation is particularly evident in the emphasis on disaster response, with less attention paid to disaster prevention and recovery. To address this, leveraging the power of visibility and strategic framing on digital media is crucial. By highlighting the success stories, innovative solutions, and resilient practices, the narrative can be shifted from that of victimhood to empowerment. The approach would then encourage a more constructive and forward-looking digital discourse, fostering a community-driven response that not only prioritizes addressing the immediate human security challenges but also promotes a sustainable recovery.

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