Contextualizing Disaster: An Analysis of the Differing Responses to the 2005 Kashmir Earthquake and the 2010 Indus River Floods

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Introduction

"Vulnerability is a state of defenselessness which renders a community powerless to withstand the debilitating effects of events commonly perceived as disaster or natural hazards" (Mustafa, 1998, pg. 290). In order to understand the dramatic differences in the responses that the state and international humanitarian community made to the 2005 earthquake and the 2010 floods within Pakistan, it is essential to view vulnerability through this conceptual lens. Both the Kahmir earthquake and the Indus River floods that wracked Pakistan brought widespread destruction and significant challenges to a troubled state. However, despite the fact that these events took place within the territory of the same state and within five years of one another, the responses to and critiques of the response have been largely antithetical. The earthquake response has been hailed as an "unprecedented" success, while the flood response, conversely, has been slammed as an "abysmal failure" (UNDP, 2008, pg. 5; Kronstadt, Sheik, & Vaughn, 2010, pg. 23). This paper constitutes an attempt to understand the root and proximate causes behind this dichotomy. It presents an overview of each disaster – the type, context in which it occurred, and scope of the damage – an analysis of the response to each disaster by the Government of Pakistan (GoP) and the international humanitarian community, and an overview of the capacity challenges these institutions faced in their respective responses. It then delves into the major variables that differentiate the perceived success or failure of the repsonses to each disaster, which include the type of disaster, the time of year in which they occurred, the scope and locations of each disaster, the form and capacity of the Government of Pakistan at the time, the security situation in the affected areas, and the state of the humanitarian community leading into each disaster. Taken in isolation, no one variable can explain the relative effectiveness of the disaster responses; one must instead understand the confluence of factors inherent in these

cases. Despite the widespread damage and loss of life that resulted from the 2005 Kashmir earthquake, the Government of Pakistan and the international community largely succeeded in mounting an effective response and recovery; in contrast, the circumstances surrounding the 2010 Indus River floods created a disaster that neither a weak Pakistani state nor the international humanitarian system had the capacity to adequately address.

Overview of the 2005 Kashmir Earthquake

Shortly after 8:00 on the morning of October 8, 2005, a magnitude 7.6 earthquake struck northern Pakistan and northwest India. The epicenter of the earthquake was located approximately 19 kilometres from Muzaffarabad, the capital of the province of Azad Jammu Kashmir (AJK), the Pakistani portion of the disputed region of Kashmir (UN, 2005). The earthquake battered AJK and its neighboring region, the North West Frontier Province (NWFP), rippling through an area of approximately 28,000 square kilometers. The sheer scope and damage made it the most destructive earthquake ever to hit the Indian subcontinent. In the aftermath, the GoP reported that the disaster killed at least 73,000 people and injured another 128,000 (Mumtaz et al., 2008). The event took a heavy toll on the infrastructure and housing stocks within the affected areas. The United Nations estimated that 3.5 million people were left homeless due to the damage or destruction of more than 600,000 houses. Eighty-four percent of the housing stock was damaged or destroyed in AJK, compared to a still non-trivial 36% in NWFP (Mumtaz et al., 2008). The initial earthquake was followed by approximately 1,200 aftershocks, the strongest of which reached a magnitude of 6.0 (UN, 2005).

The Asian Development Bank and the World Bank coordinated to complete the humanitarian community's needs assessment. This assessment placed the price tag for relief, recovery, and reconstruction at $5.2 billion. The damage to and reconstruction of private

housing accounted for 44% of the total costs. Much of the damage to the buildings throughout the affected areas resulted from poor design and construction practices. While most houses were built out of inadequate materials, such as corrugated steel sheeting and subpar concrete, even those made of quality materials were poorly constructed. At least 95% of the buildings were non-engineered, indicative of the lack of expertise and state capcity in the area (Mumtaz at al., 2008).

In addition, the earthquake significantly damaged other vital components of social and physical infrastructure. The majority of those affected were poor, rural, and derived their livelihood from subsistance agriculture. Small-scale irrigation systems suffered significant damage. Mortality rates for livestock – an important socioeconomic asset and source of food security – were as high as 100% in some districts. These effects took a devastating toll on the vulnerable populations within the affected districts. Six of the nine districts already faced food insecurity prior to the earthquake. In its aftermath, more than 2.3 million people required food assistance. Children seem to have suffered disproportionately. Approximately 18,095 children were killed in and by their schools. Twenty percent of mothers with children under the age of two stopped breastfeeding, while 10% of breastfeeding children lost their mothers (UN, 2005). The disaster left 324,000 people – 29% of those employed in the areas – without jobs (Asian Development Bank and World Bank, 2005).

Overview of the Earthquake Response

Despite the scope of the destruction, the people and Government of Pakistan responded as "a nation united." General Pervez Musharraf, Pakistan's President at the time, arrived on the ground in the affected areas within 24 hours of the earthquake (ADB and WB, 2005). Pakistani citizens, NGOs, and community-based organizations mobilized rapidly, acting as first responders

and raising more than $100 million for relief. The Pakistan Army deployed 60,000 troops to the affected areas to conduct search and rescue operations. The international community also acted swiftly. Within 48 hours, humanitarian support began flowing into the country, and troops from the United States and NATO coalition force in Afghanistan arrived at the border (Wilder, 2008). At least 85 bilateral and multilateral donors responded to the initial UN Flash Appeal. Donors ultimately pledged $5.8 billion, even more than the $5.2 billion requested in the needs assessment (Cochrane, 2008).

The humanitarian community, particularly within the UN system, widely considers the earthquake response to be one of the most effective disaster relief efforts to date. An internal review at United Nations Development Programme called it "unprecedented." Because of the widespread damage inflicted within the affected areas, the disaster largely left local governments incapacitated. Acknowledging this, the federal government took the lead in coordinating the response, with the army playing a central role. The army deployed helicopters to assess the damage and plan relief operations a mere 25 minutes after the earthquake took place. Members of the Army Corps of Engineers worked to clear rubble and debris from important transportation lines in and out of the affected areas (Cochrane, 2008). Because much of the affected areas are located in rugged, mountainous terrain, it was extremely difficult to get to those in need quickly. To address this challenge, the Pakistani military, NATO, and the UN Humanitarian Air Service worked together to operate perhaps the most successful humanitarian helicopter airlift in history. They pooled 100 helicopters to deliver food and supplies, rescue injured civilians, and marshal humanitarians in and out of the disaster zone (Wilder, 2008).

Since the earthquake happened late in the year and at such high altitudes, any delay could have led to a large number of deaths due to exposure. This challenge seems to have motivated

responders to succeed in "Operation Winter Race." When it became clear that there were not enough tents and housing supplies for the 3.5 million people affected, the humanitarian community adopted a "one warm room" policy. Through this, it sought to help those left homeless erect temporary, one room structures from salvaged materials (Wilder, 2008). The international community also worked to distribute heating and cooking supplies. This effort, led by UNDP, distributed heating and cooking implements to 57,896 families, camps housing approximately 275,000 displaced people, and a number of medical facilities (UNDP, 2008). Remarkably, fewer people died in the affected areas after the earthquake ended than would have normally died during a typical winter (Wilder, 2008).

Challenges Surrounding Earthquake Response

Though many have cited it as a paragon of effective humanitarian action, the Kashmir Earthquake was not without its significant challenges. The primary cause for these challenges stems from the lack of state capacity, particularly within civilian institutions, to respond to a disaster of this scale. Pakistan has endured several major natural disasters in its history, but no comprehensive disaster management mechanism existed at the time of the earthquake. UNDP's country team had proposed that the GoP establish a national disaster management agency in 2003, but the GoP did not heed these calls, leading UNDP to conclude in early that 2005 that the country could not deal with long-term disaster management and preparedness. Pakistan approached disasters in an ad hoc basis, viewing them "in isolation from the processes of mainstream development and poverty alleviation planning" (Cochrane, 2008, pg. 18).

The Emergency Relief Cell (ERC), which was in place, constituted the major disaster relief agency, but its mandate only allowed it to coordinate and distribute federal funding to local government officials in affected areas. The function of the ERC reflected its nature as an

organization that operated within Pakistan's nominal federal structure. The Local Government Ordinance, passed in 2001, dictated that disaster management and relief would follow the international principle of subsidiarity. However, the Kashmir Earthquake presented an exogenous shock that this system was not designed to handle. The disaster wreaked havoc on the local governments within AJK and NWFP. Large numbers of local administrative buildings, government vehicles, judicial buildings, and police stations/jails within the affected areas were severely damaged or destroyed (ABD and WB, 2005). The political situation was an even more acute issue in NWFP, where recent provincial elections created uncertainty between incoming and outgoing officials. Furthermore, because of the domestic nature of the ERC, it could not coordinate the needed international funding and humanitarian assistance. The GoP found it necessary to create multiple institutions to fill this gap, beginning with the Federal Relief Commission (FRC) it established on October 10. The Earthquake Rehabilitation and Reconstruction Administration (ERRA) later replaced FRC when the relief phase ended on April 1, 2006. ERRA was then supplemented by a permanent agency, the National Disaster Management Agency, in early 2007 (Cochrane, 2008).

The inability of civilian institutions to coordinate the relief effort signified both a consequence of the military's dominant position in Pakistani politics and cause for the primary role it played in the disaster response. The Musharraf government was a military regime, which complicated the relationship between the military and civilian institutions regarding disaster relief. According to Pakistani law, the responsibility for disaster management & relief rests with civilian leaders, and they must formally request military assistance. The army must then abide by the mandate it receives. This process did not occur in 2005. Citing its capacity to respond and the damage to governance structures, the army simply assumed these responsibilities

(Wilder, 2008). This dynamic did not change as the relief/recovery phase ended and reconstruction began. Though the local governments had regained most of their capacity by this time, the military continued to lead the way. It retained de facto leadership far down the road; for instance, the heads of both ERRA and NDMA, ostensibly both civilian organizations, are Lt. General Nadeem Ahmed and Major General Farooq Ahmed Khan.

The leadership of the military became problematic for both Pakistani civilian authorities and some humanitarian agencies. Many civilian officials felt that the military bypassed them, choosing instead to retain their consolidated power. Several aid agencies objected to the involvement of the military because they believed it violated humanitarian principles, particularly those of neutrality and inclusiveness. Some felt that the military's needs assessment was not democratic. Others pointed to the fact that the military refused assistance from India on political/security lines that they did not prioritize the needs of those affected before their own interests (Cochrane, 2008). The UN operated against this backdrop, working directly with the military, seemingly with little concern for the political implications. UNDP's internal audit criticized the agency for placing little emphasis on promoting civilian oversight of the process (2008). The earthquake response followed a typical storyline within Pakistani politics. Civilian authorities lacked the capacity to lead the effort, largely due to years of marginalization by the military. But sidelining these civilian leaders became just another missed opportunity for them to gain the experience they need to achieve legitimacy.

Overview of the 2010 Indus River Floods

Late in July 2010, strong seasonal rains began falling in the mountains of Pakhtunkhwa (KP, formerly known as NWFP). The monsoon rains typically fall over southern Pakistan, but they had shifted northward. While over KP, the monsoon ran into a low pressure zone from the

West, which typically would have bypassed Pakistan; however, atmospheric pressure changes over China pushed it farther South, where it met up with this convergence. This anomalistic weather event brought historic rainfall to much of Pakistan throughout July and August; more than 78 inches of rain fell within 24 hours in some areas (Thomas & Rendón, 2010; ADB and WB, 2010). KP, a region with a fairly dry climate that receives far less rainfall than areas in eastern Pakistan, could not absorb this torrent (Thomas & Rendón, 2010). The rain set off a number of flash floods, and the area's watercourses overflowed, which triggered a series of massive flooding events that would eventually inundate 20% of the Pakistan's land area. Though the deathtoll – at least 1,980 people – pales in comparison to that of the earthqauke, the floods eventually displaced over 21 million people, more than the combined total numbers affected by the 2004 Asian Tsunami, the Kashmir Earthquake, and the 2010 Haitian Earthquake. UN Secretary General Ban Ki-moon called the floods the worst natural disaster he had ever seen (Asian Development Bank and World Bank, 2010; Fair, 2011).

Damage from the Indus River Floods was widespread and devastating. The Asian Development Bank and the World Bank completed their Preliminary Damage and Needs Assessment, placing the pricetag for damages at just over $10 billion (2010). The GoP disputed this number, claiming instead that the total costs were actually $43 billion (Mustafa & Wrathall, 2011). The incredible scope of the floods ensured that almost no part of Pakistan was spared. Over 100,000 square kilometres were affected in 78 of 141 total districts. There was at least one affected district in all seven of the provinces. Sindh and Punjab, Pakistan's two most populous and agriculturally productive provinces, were the hardest hit. Forty-four percent of the total damages occurred in Sindh, while another 26% hit Punjab. The agricultural sector accounted for half of the total damages by sector. More than 2.1 million hectares of standing crops were

destroyed, creating a vast food security crisis. The standing water presented an enormous surface for vector borne diseases, challenging the fragile public health systems already in place. Overall, using the ADB/WB estimates, the flood damages accounted for 5.8% of Pakistan's GDP (ADB and WB, 2010). Using the figures the GoP cites, this climbs to a staggering 25% of GDP.

Overview of the Response to the Floods

As the extent of the floods became apparent, the GoP recognized it could not respond on its own. The UN issued its initial Flash Appeal in August, requesting $459.7 million to fund the initial response plan. However, it was soon clear this too would not be sufficient. On September 17, the UN sent out a revised appeal for $2 billion to finance essential emergency services; this constituted the single largest humanitarian appeal in UN history (ABD and WB, 2010). This quadrupling of the aid request within just a month illustrates the daunting nature of the disaster. The flooding left the GoP and the international community on their heels, and the response was incongruent to the distribution of the damages. The most successful relief efforts took place in KP, yet KP suffered less than half as much damage as Punjab and less than one quarter that of Sindh. The nature of the damages was also diffuse and complex. Sindh experienced the most widespread and enduring damages, while the majority of deaths occurred in KP, and Punjab was home to the largest number of people affected (UNOCHA, 2010).

The Pakistan Army once again took a primary role, this time in coordination with NDMA under retired General Farooq. Within 72 hours, the army deployed 20,000 troops to conduct rescue and relief operations. The international community eventually managed to put together its own mission. Agencies already on the ground, like UNDP, helped to coordinate the UN response as personnel and supplies trickled in (ABD and WB, 2010). Actors could not manage to conduct an airlift effort on par with that done in 2005, given the circumstances. Certain

agencies within the UN system were more attuned to the potential conflict between military involvement and humanitarian principles. This pushed the UN Office for the Coordination of Humanitarian Affairs (UNOCHA) to reject NATO's offer of an air bridge, which aid agencies had used in 2005 (Madiwale, Holdsworth, & Virk, 2011). By the end of October, the intial rescue and relief phase began to draw to a close. NDMA reported that the response resulted in the rescue of 1.4 million people, distribution of food aid to eight million people, and issuing of 977,570 Watan cash cards to affected families (ABD and WB, 2010;). The continued efforts of the GoP and its international humanitarian partners did manage to avert many of the most dire consequences, including a secondary wave of mortality (Fair, 2011).

Critique of the Indus River Floods Response

In contrast to the celebrated response to the 2005 earthquake, the GoP and international humanitarian community faced considerable criticism and scrutiny for their efforts following the onset of the floods. A senior Pakistani analyst declaired that the flood response constituted an "abysmal failure" on the part of Pakistan's political leaders (Kronstadt, Sheik, & Vaughn, 2010, pg. 23). Ultimately, the incredible scale and scope of the flooding ensured that no national government or humanitarian coalition could adequately tackle the problem. Aid agencies were slow to respond and struggled to get necessary personnel and supplies on the ground in affected areas. Two major causes for this include the location of the flooding and the continual southward movement of the floodwaters. The most severe effects of the flooding took place primarily in Punjab and Sindh; these provinces are the two most prosperous in Pakistan, and aid agencies had a relatively small footprint in them before the floods. In addition, as the waters continued to move, humanitarians found themselves scrambling from one location to another, trying to triage the damage (Thomas & Rendón, 2010). Because of the relatively slow, reactive

response on the part of international actors, some observers have argued that they did not provide primary relief in many areas outside of KP. Rather, they arrived on the ground in time to give a "second wave" of assistance to those in need (Palastro et al., 2011). This left the onus to a GoP that lacked the capacity to respond.

The disaster response and recovery also took place against a difficult political backdrop in Pakistan. Though civilian leaders replaced the military government of General Musharraf in 2008, neither these political leaders nor Pakistan's weak civilian institutions could effectively lead and coordinate the response effort. The entire relief effort was clouded by political interference from Pakistani officials and by the consequences of a tenuous and complex security situation. The Inter-Agency Real Time Evaluation, which DARA completed, showed that rampant politicization colored humanitarian efforts. Political officials interfered extensively with beneficiary targeting efforts, steering aid to their families, friends, and supporters rather than distributing it on the basis of need. Many vulnerable populations and ethnic minorities were sidelined through this process, as aid concentrated in the hands of wealthy landlords and the politically well-connected (2011).

The security situation in many of the affected areas and the dynamic between the military and civilian leaders complicated matters further. There were disagreements between the GoP and the humanitarian community and even among agencies within the humanitarian response regarding the use of military supplies and materials. Though humanitarian principles dictate that military supplies are only utilized as a last resort in the absence of a civilian equivalent, this concept was not applied evenly by different groups. And as the Pakistani military took a leading role in the response once again, the UN continued to show a reticence to enforce these principles. This led to several complications, including military personnel restricting access to and escorting

humanitarians into certain affected areas in KP and Baluchistan Provinces. The military also controlled much of the distribution of aid, funneling a disproportionate amount of it to Punjab (Thomas & Rendón, 2010).

Major Variables Differentiating the Response Efforts

1. Nature of the Disasters

The first obvious and significant difference between the Kashmir Earthquake and the Indus River Floods is the nature of the disasters. Though aftershocks continued to ripple throughout the affected areas for more than a month, the major damage of the earthquake took place within a short window. The flooding, on the other hand, developed over the course of several weeks, leading to a slow accumulation of new affected areas, some of which – particularly in low-lying Sindh – would remain inundated not just for weeks, but for months (UNHCR, 2011). Whereas the Pakistani military and humanitarian responders managed to enter the affected areas and begin rescue and relief missions within hours of the earthquake, the scale and progression of the floods made this type of rapid scaling up nearly impossible. Every time that aid workers tried to set up relief efforts in one area, the floodwaters continued to move. The flood created a "moving body of water in equal dimension to the land mass of the United Kingdom" that headed farther and farther South, acting as a "slow-moving tsunami," causing devastation wherever it went (ADB and World Bank, 2010, pg. 21; UNHCR, 2011, pg. II). Additionally, much of the damage of the earthquake took place in NWFP, an area in which the humanitarian community had a sizeable presence. The majority of the flood damage, on the other hand, occurred in Punjab and Sindh, where very few international organizations or NGOs had a footprint. Agencies scrambled to get on the ground in these areas, setting the response back drastically (UNHCR, 2011).

Moreover, the different disasters preyed upon two separate weaknesses within Pakistan's infrastructure – poor construction/design of buildings and outdated hydrologic infrastructure. The earthquake pointed out a lack of quality control and construction capacity within the affected areas, both for private and public buildings. There was a general lack of awareness and/or concern regarding seismic vulnerability within the affected areas, and almost none of the buildings showed any sign of aseismic construction features. Better understanding of the seismic risk and simply quality control measures could have significantly lowered fatality rates, as approximately 90% of the 73,000 deaths were directly caused by building failure/collapse (Mumtaz, et al., 2008). Poor building design and construction created a number of additional problems. For instance, the damage to and destruction of public buildings created governance capacity disaster; collapsing buildings destroyed public records, ruined local supplies, buried government vehicles buried in rubble, and incapacitated local government officials. Rubble also blocked roads in and out of the affected areas. And building collapse contributed to food insecurity, due to the deaths of livestock from collapsing enclosures/pens.

Aging and poorly designed hydrologic infrastructure exacerbated the 2010 floods. Pakistan has traditionally focused heavily on attempting to pacify and harness the Indus River for large-scale irrigated agriculture. This reflects government priorities, which places emphasis on cultivating water-intensive cash crops for export. As Mustafa (1998) points out, this policy creates a structural vulnerability within the country by both marginalizing the poor and placing the majority of the agricultural sector at flood risk. In order to foster this large-scale irrigated farming scheme, Pakistani hydrologic engineers have created a large network of canals, dams, levees, flood diversions, etc. This system has been structured in order to protect wealthy, landed farmers and important hydrologic infrastructure components from harm, at the expense of the

poor and the politically marginalized. The poor primarily reside in low-lying, flood-prone areas; the fact that many of the fail safe/release points for irrigation channels are located in or near impoverished areas compounded their vulnerability (Mustafa, 1998). There have been several reports of government actors and land owners intentionally breaching levees to protect their interests, at the expense of neighboring villages. Additionally, this outdated scheme and the pervasive ethos of trying to control the Indus likely exacerbated the flood damage by at least 30% (Thomas & Rendón, 2010). Pakistan's hydrologic engineers have designed this system to emphasize irrigation and hydropower first, while flood control remains secondary. As such, it is set up to control small to medium scale floods but may actually make large scale floods far worse. One major cause of this is excessive water withdrawals from channels for irrigation; these withdrawals kept the water level in the channels too low to control siltation, which intensified the inundation. Mustafa and Wrathall (2011) have called this tradeoff of agricultural prosperity for the well-connected at the expense of the vulnerable a "Faustian bargain." Pakistan paid its dues for this bargain with the 2010 floods.

Lastly, the hydrologic infrastructure systems do not provide an adequate outlet for waters to quickly recede from flooded areas. This proved catastrophic in Sindh, where many villages remained flooded into January 2011. The presence of the stagnant floodwaters created a severe health emergency, especially for a country that already had a weak public health system. Within the first two months after the flooding began, physicians had reported more than 6.24 million patient consultations. At least one million children suffered an increased risk of disease. Overall, eight million people required immediate medical care (ADB and WB, 2010; UNOCHA, 2010). Standing water led to vector borne diseases, with skin and tissue conditions accounting for 33% of reported illnesses and diarrheal diseases making up another 30%. Though it was not

widespread, malaria represented 4% of illnesses (Ahmed, Khan, and Nisar, 2011). Lack of access to clean water and sanitation complicated matters further. Just 46% of people had access to clean water after the floods, down from 71% before, and a mere 28% had proper water storage capabilities (UNOCHA, 2011).

2. Time of the Year the Disasters Occurred

A second major factor contributing to the divergent responses stems from the different times of the year in which the disasters occurred. The earthquake struck on October 8, which is fairly late in the season for the affected areas, most of which lie in rugged terrains at high elevations. The GoP and international community understood the acute risks that could occur if they did not move quickly before the onset of winter. With this in mind, aid agencies launched "Operation Winter Race," which, by all accounts, was a success. As noted earlier, fewer people died in the affected areas after the earthquake that would have in an average winter under normal circumstances (Wilder, 2008). The impending start of winter also ensured that reconstruction efforts would not begin in earnest until the following spring. Displaced persons spent the winter residing in temporary shelters or in UN camps. The humanitarian community used this opportunity to provide valuable trainings to the captive audience. UN-HABITAT conducted a number of trainings with local masons and laborers on good construction practices and principles of aseismic buildings (Mumtaz, et al., 2008). UNDP held trainings that helped reorganize and revitalize over 1,000 community based organizations. The Food and Agriculture Organization put together 60 farmer field schools that provided local farmers with lessons on best practices in sowing seeds and preparing their fields; many of these farmers then formed their own associations to disseminate the information. The International Labour Organization carried out trainings in 20 different trades, focusing on vulnerable young men and women. These trainings

improved employment opportunities; in the village of Jabri, the number of people employed in seven skilled trades rose from 297 before the earthquake to 363, a 22% increase (UNDP, 2008).

The timing of the 2010 floods could not have proven to be worse. The floods occurred at harvest time for the summer – *kharif* – planting season and immediately before the beginning of the winter – *rabi* – planting season. Floodwaters drowned more than 2.1 million hectares of standing crops, all of which were ready for the harvest. Flooding affected 34% of the country's rice crop and 21% of its total cotton crop. Agriculture, which accounted for 21% of Pakistan's GDP in 2009, made up half of the total damages from the flooding. Crop losses in parts of Punjab, Sindh, and Gilgit-Baltistan were as high as 90-100%, and the number of families reporting that they had no livelihood increased sixfold. (ADB and WB, 2010). The slow ebbing of floodwaters also prevented many from planting their winter wheat crops. Even in areas where floodwaters dissipated, it was not always possible to farm, as 0.5-0.6 million tonnes of *rabi* wheat stocks were ruined (UNOCHA, 2010). Pakistan already suffers endemic malnutrition – it was the cause of more than 30% of infant and child deaths in 2001. Given this, the food security crisis created by the floods is untenable (Ahmad and Farooq, 2010). The destruction of crops also caused a spike in inflation, with perishable food prices increasing 14% in September 2010 alone. All told, the disaster left 48.6% of those affected without enough food to lead full lives (ADB and WB, 2010).

3. Security Situation in the Affected Areas

A third key variable distinguishing the response efforts to the two disasters involves the security situation within the affected areas. The primary security issue emerging from the earthquake surrounded the Line of Control (LOC) along the border between the Pakistani and Indian-controlled portions of Kashmir. The overwhelming concern that the Pakistan Army has

regarding the security threat from India influenced the manner in which it acted following the earthquake. Initially, the Army secretly moved reinforcements into AJK to replace those soldiers that were wounded or killed along the LOC. It didn't deploy forces to the affected areas until it had shored up this strategic front. As noted earlier, military leaders also refused offers of supplies and humanitarian assistance from the Indian government, further demonstrating their priorities (Wilder, 2008; Cochrane, 2008). The role of jihadi/Islamist organizations in the response complicated matters further. The organizations were among the first responders in AJK, where they had existed with the full knowledge and support of the Pakistani government for years. Ultimately, humanitarians ended up working alongside members of the jihadi groups, including individuals from NGOs and government agencies in the US, though many raised concerns that allowing the jihadi groups to take part in the official response effort would legitimize them in the eyes of the Kashmiris (Wilder, 2008).

The security situation in 2010 was far more dire for Pakistan. After ignoring repeated requests from the US and NATO officials to engage with Taliban forces housed within its borders, the Pakistani military finally launched operations in the Swat Valley of KP (which was still known as NWFP at the time) in early 2009. These operations initially failed, and Taliban forces repelled Pakistani incursions on three separate occasions (Fair, 2011). At one point in April 2010, Taliban militants took control of Buner district, just 90km from Islamabad (Perlez, 2009). Though the military eventually retook most of Swat and moved into other areas, including Aurakzai and Bajaur Agencies in FATA, it came with a heavy cost. The conflicts displaced more than 2 million people in Swat & FATA, and many locals came to view the military with suspicion, following evidence of torture, arbitrary arrests, and extrajudicial murder. The military also changed its view of the humanitarian community during this crisis, concluding

that its was slow and ineffective (Fair, 2011; Madiwale, Holdsworth, & Virk, 2011). Military leaders believed that they needed to play an active role in providing security and acting as law enforces in affected areas. As such, they restricted access to areas in KP, FATA, and Baluchistan (which is rumored to house many Taliban and al Qaeda leaders) and insisted on providing military escorts into parts of these provinces. While much of this may have been based in the government's concern about aid workers coming under attack, it almost certainly slowed the response effort (Madiwale, Holdsworth, & Virk, 2011).

4. Comparison of the Cluster Approach in Each Disaster

An additional area of comparison between the earthquake and the floods involves comparing the effectiveness of the UN Cluster Approach. The UN adopted this strategy for coordinating humantarian relief efforts following a comprehensive system review in early 2005. Through this framework, humantarian agencies work together to identify gaps in the response and create "clusters" that work with the national government to fill these gaps. The approach was not scheduled to go into effect until January 1, 2006, but the UN decided to field test it during the Kashmir Earthquake response. This risk appears to have paid dividends. The GoP and the Pakistani military embraced the Cluster Approach. Without their full support in this process, the effort would likely have failed. Government officials worked closely with cluster leaders; a handful of clusters lacked parallel agencies in the GoP, and it was these clusters that performed most poorly (Cochrane, 2008). This system was not without its challenges, however, as one may expect for such a new method. Some participants felt that the gaps assessment was inadequate. Others argued that cross-cutting issues largely fell by the wayside. Additional criticisms included poor cluster leadership, a lack of communication and coordination between clusters, and a lack of support from donor governments. Despite these failings, however, the

Inter-Agency Standing Committee concluded that the success of the relief was largely due to the Cluster Approach and the GoP adoption of it. Many participants argued it performed better than its predecessors (Cochrane, 2008; Wilder, 2008).

The Cluster Approach did not perform nearly as well during the floods. By the time that the international cohort arrived on the ground, the floods had already spread throughout much of the country. Rather than setting up a complete set of clusters, agencies opted to roll out four emergency clusters: food, shelter, health and water, sanitation and hygiene. This provided challenges in rolling out other necessary clusters, such as protection, at a later date. The new clusters, especially those not focused on immediate, life-saving functions, found it difficult to secure funding streams. There was also a lack of buy-in from the GoP at the launch of the initial Flash Appeal and relief plan. Rather than commit fully to the UN Cluster Approach, as it had in 2005, the GoP did not endorse this appeal due to disagreements over funding levels and the number of clusters. Many of the clusters based in Islamabad and their GoP counterpart agencies also devoted too much time developing and fundraising for the revised appeal, rather than managing the relief effort (DARA, 2011).

These structural failings, combined with the challenging nature of the floods, created operational dysfunction within many clusters. Much of this was also a consequence of the lack of presence many of the agencies had in Punjab, Sindh, and parts of Baluchistan. The agencies did not have connections with local authorities, which hurt communication and organization. Communication between clusters and with other NGOs was also reportedly weak; it took the UN five weeks to receive information on the work the Internatinal Committee for the Red Cross/Red Crescent was completing. Lack of a local presence also affected staffing, as many agencies were forced to bring in outside support in lieu of local assistance. High turnover rates within clusters

further compounded this issue (Thomas & Rendón, 2010). These shortcomings demonstrate a few critical components for a successful cluster approach. It is vital to have established connections with those in the affected areas prior to a disaster. The humanitarian community also needs to ensure that it doesn't ignore the important step of completing the framework and structure for the cluster approach as it begins life-saving operations. Trying to save lives without lines of communication or adequate staffing and funding is unlikely to be a fruitful endeavor.

5. Additional Variables

Some additional variables played a role in the differing responses. One involved the different types and relative strength of the government in power at the time. In 2005, Gen. Musharraf presided over a strong, centralized military government. Democratic and humanitarian principles aside, having a strong regime with a well-trained, capable military at its disposal helped ensure much of the success of the earthquake response. The military moved quickly to remove many of the bureaucratic barriers that may have delayed international assistance, including waiving visa requirements for aid workers and allowing them into AJK without mandating no objection certificates (Wilder, 2008). The civilian government under President Asaf Ali Zardari lacked this decisiveness. One contributing factor resulted from the implementation of the 18th Amendment, which came into law in April 2010. The bill provided for greater devolution of federal powers to the provinces, which required a transfer of powers that was to take place by June 30. However, by the time the floods began, 50% of these provincial positions were still vacant, creating a political vacuum (ADB and WB, 2010). Zardari also seemed reluctant to take a proactive leadership role; when the Pakistani media criticized him for vacationing at his French chateau in August as the floodwaters rose, he argued that the Prime Minister, not he, was responsible for leading the response (Fair, 2011).

Donor fatigue also seems to have played a role. Musharraf was regarded as a "donor darling" in 2005, which helped elicit the strong donor response (Cochrane, 2008). By 2010, many donor countries viewed the GoP with suspicion. The international community also had fewer resources at its disposal following the Haitian Earthquake in January. In five weeks, private Americans had contributed just $25 million to flood relief; in the same timeframe, they raised $900 million for Haiti (Neely, 2010). The Haitian Earthquake had also created a shortage of emergency supplies. In a cruel twist of fate, Pakistan produces 85% of the world's emergency tents, but it had shipped almost all of its supply to Haiti earlier in the year (DARA, 2011).

Conclusion

Pakistan endured two of the most significant and destructive natural disasters not just in its history, but in recent world history, in 2005 and 2010. Yet, despite these disasters having taken place in the same state and within a relatively short window, the responses that the Government of Pakistan and the international humanitarian community undertook were vastly different. Where as the response to the 2005 Kashmir Earthquake was celebrated as an historic success, the effort to address the 2010 Indus River Floods was criticized as a disaster in its own right. This paper has shown that a number of underlying variables – the type of disasters, the time of year in which they occurred, the scope and locations of each disaster, the form and capacity of the government, the security situation in the affected areas, and the state of the humanitarian community – created the context for these two highly divergent outcomes.

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