

1. FLOODS IN PAKISTAN

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INTRODUCTION

In late July 2010, Pakistan experienced unusually heavy monsoon rains that resulted in the largest and most destructive floods in its history (IRIN, 2010). The downpour, which went on uninterrupted for more than eight weeks, swelled the Indus River up to 40 times its normal volume, inundating an area of 132,000 square kilometers (equivalent to the size of Italy), leaving one-fifth of the country under water. The heavy precipitation gathered into waves of floodwater flowing down the Indus River basin, spurring UN Secretary General Ban Ki-moon to describe the crisis as a “slow-motion tsunami” (*The Guardian*, 2010).

The floods spread chaos and destruction along its path, submerging entire villages, sweeping roads and bridges away, devastating agricultural land and livestock, and damaging many health and education facilities. The floods killed approximately 2,000 people, destroyed one million homes, and seriously affected more than 20 million people, making it the largest disaster ever recorded in terms of affected population, area covered, and number of households damaged (Solberg, 2010). A wider area and more people were affected by the 2010 floods in Pakistan than by the 2004 Indian Ocean tsunami, the 2005 Kashmir earthquake, and the 2010 Haiti earthquake combined (NDMA, 2011). The cost of the damage was equally colossal, with more than \$10 billion (US) worth of losses, effectively reducing Pakistan’s GDP by 5.8% (Asian Development Bank/World Bank, 2010).

This case study addresses population displacements caused by rapid onset disasters, by examining the particular case of the 2010 floods in Pakistan. The consequences of the floods are first analyzed as a quadruple crisis: health, shelter, and food crises in the midst of a complex emergency (Part I) –highlighting how its multi-dimensional

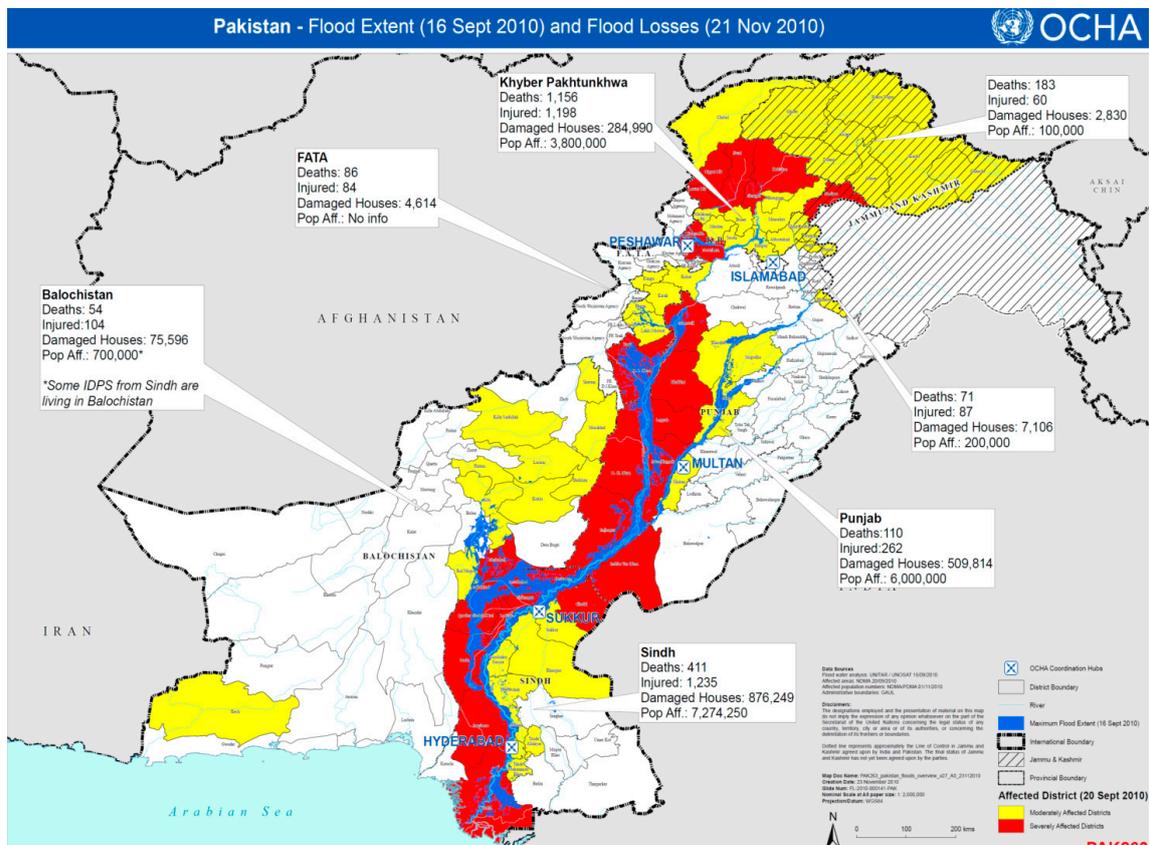
aspect deepened population vulnerabilities and raises questions about their legal rights. The article then explores the emergency response to the floods by considering funding, coordination, and ground operations (Part II). It ends by assessing the effectiveness of the response and evaluates the prospects of future flood impacts in Pakistan (Part III). The discussion will reveal that while the emergency relief phase of the response successfully avoided a major humanitarian crisis, the early recovery and reconstruction objectives are being neglected, leaving affected populations more vulnerable than ever in facing the next inevitable flood. It is therefore imperative that lessons be learned from the 2010 floods and concrete measures be taken to strengthen preparedness and resilience to floods in Pakistan.

1. THE CONSEQUENCES OF THE FLOODS

Many regions of Pakistan were affected by the 2010 floods, which submerged 78 of the country’s 141 districts. The floodwaters ran from the northern Pakistani provinces of Khyber Pakhtunkhwa (KPK) and the Federally Administered Tribal Areas (FATA), through the central regions of Punjab and Balochistan, and finally reached the Southern Sindh area, before finding their way into the Indian Ocean (see map 1).

Regions were affected differently, nonetheless, according to their level of exposure to the flood and their topography. Mountainous areas like KPK were more affected by flash floods and mudslides, while others were more exposed to lasting riparian floods. Furthermore, while the water receded in Balochistan and KPK within days, it took several weeks in Punjab, and months in some areas of Sindh, for the water to clear, due to their flat topography.

Map 1. Pakistan Flood Extent and Losses



Source: OCHA 2010.

1.1. Floods as a quadruple crisis

Floods are fast-onset disasters caused by prolonged heavy precipitation, which can affect populations both directly and indirectly (IPCC, 2007a). They provoke direct physical damage by causing deaths and injuries, damaging crops and destroying houses and infrastructure. They also affect people indirectly by disrupting agricultural production, contaminating water supplies, spreading diseases, and putting pressure on public resources and services. Floods are multi-dimensional crises, therefore, whose factors of impact (direct and indirect) often interact to produce cumulative effects. Thus, the consequences of the floods in Pakistan can be understood as a quadruple crisis: health, shelter, and food crises in the midst of a complex emergency.

1.1.1. The health crisis

Floods are first and foremost a health crisis. They cause death through drowning and fatal injuries, contaminate clean water supplies, and foster vector-borne diseases. According to Pakistani government statistics, the floods affected

20,184,550 people, and resulted in 1,985 deaths and 2,946 injuries (Solberg, 2010). These data indicate that morbidity and mortality rates remained relatively low, despite the immense scale of the disaster. According to the final IASC report, the timely and effective delivery of emergency humanitarian aid can largely be credited for this success (ISAC, 2011:55).

By contaminating water supplies, floods provoke dehydration and diarrhoeal diseases such as cholera, typhoid, and rotavirus. They often combine with dehydration and undernourishment, moreover, to create a vicious cycle of susceptibility to infections that particularly affects children. Floods also favour the spread of infectious diseases like malaria, as the pools of stagnant water constitute prolific breeding grounds for disease-carrying insects and rodents (Ahern, 2005).

In Pakistan, outbreaks of acute respiratory infections (ARI), typhoid, malaria, hepatitis A, conjunctivitis, skin infection and gastroenteritis were particularly feared in the aftermath of the floods (Solberg, 2010). World Health Organization (WHO) data shows that out of the 5.3 million consultations it conducted, 13% were for acute

diarrhoea, 15% were for ARI, 18% were for skin disease, and 3% were for suspected malaria (WHO, 2010a).

Floods can also have substantial mental health impacts, although no studies were found for this case, such as post-traumatic stress syndrome, depression, anxiety, and even suicide (Ahern, 2005:38). In addition, the floods had indirect health impacts in Pakistan by damaging or destroying 515 of the 3,000 hospitals and clinics present in the affected districts, further aggravating the vulnerability of local communities to health risks (NDMA, 2011).

1.1.2. The shelter crisis

Although the health crisis was contained, millions of people lost their home in the flood. A total of 1,744,471 houses were destroyed, which will amount to a total cost of some \$1.5bn (ADB/WB, 2010). About 12 million people were left homeless as a result and were forced to seek refuge along roadsides, in public buildings, within host communities, or in displacement camps (UN, 2011). In total, about 3.4 million people were forced to flee their area to live in some 5,928 relief camps (UNHCR, 2011a).

According to a WHO survey conducted in the 29 most severely-affected districts, close to 90% of households were forced to move for at least 2 weeks after the floods, with over half having living in an Internally Displaced People (IDP) camp at some point. Most displaced populations also remained in their area of origin – with only 17% moving away. Finally, once they relocated to an IDP camp, the majority of IDPs stayed put, as shown in Table 1; the paths taken by those who moved repeatedly were not captured in the survey (WHO, 2011).

Table 1. Movements of flood-affected IDP (after relocation to IDP camp)

Stayed in one place	64%
Moved once	34%
Moved more than 5 times	2.5%

Source: WHO, 2011.

UNHCR data also shows that IDPs mostly gathered in small groups after the floods, with the average camp size being 264 IDPs and the largest camp holding 20,000 people (UNHCR, 2010). With regards to camp management, the Pakistani authorities headed half the camps, a quarter lacked any central management, and the rest was organized by local NGOs, the Army, or individuals. The location of camps also varied, as shown in Table 2.

Table 2. Camp Locations

Sites	% of camps
Schools	39%
Other public buildings	10%
Tents	28%
Spontaneous roadside settlements	11%
Other	12%

Source: UNHCR, 2010.

Then again, it is very difficult to draw a detailed picture of population movements, in part due to the sheer size of the disaster and because data was not systematically collected. Nevertheless, the International Organization for Migration (IOM) is now rolling out a “displacement-tracking matrix”, which will enable detailed data about population displacements to be gathered systematically and centralized in a common database (IOM, 2011b).

1.1.3. The food crisis

Thirdly, the floods brought about an acute food crisis by destroying many crops shortly before harvesting season. This caused prices to increase at the very moment that the purchasing power of the affected population fell sharply. On the one hand, the floods reduced the *availability* of food by destroying agricultural production. About 80% of food reserves were lost, 2.4 million hectares of standing crops (worth \$1 billion) were destroyed (including a third of the rice planted in 2010), and hundreds of thousands of livestock and poultry were killed (WFP, 2010). According to the World Bank, the damage inflicted on the agricultural and fisheries sectors amounts to about \$5 billion, roughly half the total cost of the damage (ADB/WB, 2010).

On the other hand, the food shortage was compounded by a reduced *accessibility* to food. By submerging land, sweeping away stores of feed and seed, and destroying irrigation systems, the floods hindered agricultural production and deprived rural communities of their unique sources of livelihoods. As 80% of the affected populations depended on agriculture for their income, millions became dependent on food aid – especially those families forced to flee to IDP camps (IASC, 2011:43).

As a result, the floods gravely stressed food security and increased under-nutrition, a condition that also exacerbates vulnerability to diseases (Black et al, 2008). UNICEF reported that six months after the floods, 22% of children aged 6-59 months in Sindh were still suffering from acute malnutrition, well above the WHO’s 15% emergency threshold level (UNICEF, 2011a).

The floods wiped out years of development and aggravated the inequality that is endemic in

Pakistan: two percent of households control more than 45% of the land in the country (World Bank, 2011). The cataclysmic results of the floods further marginalized poor and vulnerable populations, leaving most farmers without productive land and severely curtailing access to vital services that would normally serve as a safety net in difficult times.

1.1.4. A complex emergency

Finally, a “complex emergency” occurred in areas of military conflict that were also affected by the floods. The precarious security situation in North-west Pakistan aggravated the risk of negative outcomes from the natural disaster. The region is embroiled in the “War on Terror” pitting national and international security forces against Taliban insurgents, and over 2.4 million people have been internally displaced by the fighting (HRCP, 2010).

Conflict-induced IDPs were “among the most vulnerable groups in flood-affected areas” (IDMC, 2010). Many had only just recently resumed farming activities when the floods destroyed their crops. Furthermore, the most severely affected areas were precisely those where people displaced by conflict and human rights abuses had sought protection. Finally, the precarious security slowed the delivery of emergency relief. Tellingly, the highest mortality rates occurred in areas controlled by Islamist militants: for example, KPK province experienced mortality rates 10 times above the national average (WHO, 2010b).

It is clear that floods are multidimensional crises with wide-ranging consequences for affected populations. But how do underlying vulnerabilities interact with the crisis itself to trigger migration? The context of social vulnerability that paved the way for mass displacement in the wake of the floods will be now examined, in line with the legal rights that protected them.

1.2. Vulnerabilities and rights

The relationship between floods and migration is non-linear, but contingent on the vulnerability of the affected group or individual. Vulnerability refers to “the totality of relationships in a given social situation producing the formation of a condition that, in combination with environmental forces, produces a disaster” (Oliver-Smith, 2006). That is to say that disasters are socially produced, in so far as environmental hazards only become disasters when the social, economic, and political resources “to anticipate, cope with, resist, and recover from the impact of a natural hazard” are exhausted (Blaikie, Cannon, and Wisner, 1994:9). Population displacements, therefore, depend on

the level of exposure to the flood, as well as on the ability to resist or adapt to its effects.

Vulnerability to environmental disasters, furthermore, is determined by four categories of factors: (i) individual factors, such as the level of health or socio-economic standing of a person; (ii) community-level factors, such as the presence of water and sanitation infrastructure in a locality and egalitarian access to drinkable water; (iii) access to information, which is facilitated by early warning systems and democratic institutions; and (iv) geographical factors, such as the proneness of low-lying river basin areas to floods (Adger, 2006).

The floods impacted Pakistani communities so markedly not solely because of their wide extent, but also because of the high vulnerability of the exposed population. The floods took place in flood-prone areas, and where communities had little access to information and similarly meager resources with which to cope or adapt. The people most severely-affected were predominantly small farmers and unskilled laborers that are reliant on agriculture for subsistence and live close to, or below, the poverty line. In addition, children were most affected by infectious diseases due to their inherent physiological vulnerability. Lastly, political instability and insecurity also contributed to this climatic event becoming a “complex emergency”.

Responses to floods may vary, including *flight* and *evacuations* of people from harm’s way, temporary *displacements*, *resettlements* to new homes, or *migration* to new (and usually distant) areas (Oliver-Smith, 2006). Moreover, such responses are often linked with one another. In Pakistan, for example, people initially fled or were evacuated by the Army, many were then placed in camps; and upon leaving camps, some resettled to new homes, while those who could not return to their area of origin simply migrated elsewhere (though detailed figures on such patterns are not available).

The vast majority of Pakistani displaced also did not cross an international border, which is a prerequisite to be granted the “refugee” status. The populations displaced by the floods in Pakistan, therefore, are not refugees but environmentally-induced internally displaced peoples (IDPs).¹

Although not a legal category as such, IDPs are more and more recognized in international law.

1. IDPs are those “forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border.” (1998 UN Guiding Principles on Internal Displacement)

Certain legal documents do indeed provide protection to them, such as the 1998 United Nations (U.N.) Guiding Principles on Internal Displacement, which sets clear rules to protect their human rights.² But they remain instruments of soft law devoid of clear enforceability. While such principles have gained general acceptance and authority, and were broadly respected during the Pakistani floods, it is important to note that the Pakistani Government labeled flood victims “flood affectees” – restricting the IDP category to those affected by military conflict in the Northwest (IASC, 2011).

2. RESPONSE TO A HISTORIC CATASTROPHE

Underlying social vulnerabilities and the legal context shape much of how the flooding disaster unfolded. But how did the emergency response play out on the ground?

The 2010 floods in Pakistan occurred with such speed and on such a scale that few governments could have faced it alone. With over half the country’s districts affected, the sheer geographical scale and the number of affected people by the flood made the humanitarian response one of the biggest and most complex ever conducted by the humanitarian community (IASC, 2011).

2.1. Timetable of the response

The timetable of the response to the floods was organised in three phases: (1) a “rescue & relief” phase focused on immediate emergency operations, to prevent epidemics and provide emergency food and shelter, which started with the floods and ended in January 2011; (2) an “early recovery” phase to help affected populations rebuild their houses, restore their livelihoods, and restore basic health and education services, which also started with the floods and is expected to end at the end of 2011; and (3) a “reconstruction & rehabilitation” phase to rebuild all the remaining damage, which started in January 2011 and is expected to be completed within three to five years (OCHA, 2010). According to the Damage and Need Assessment conducted by the World Bank and the Asian Development Bank, the costs of the floods are as follows:

2. Also provide similar guidelines for action: the IASC Operational Guidelines on Human Right and Natural Disasters, the Humanitarian Charter, and Minimum Standards in Humanitarian Response.

Table 3. Total Cost of the floods (in \$US)

Phase	Funding
Emergency Relief	\$928 million
Early Recovery	\$956 million
Reconstruction and Rehabilitation	\$6.8 billion - \$8.9 billion
TOTAL	\$8.6 - \$10.7 billion

Source: ADB/WB, 2010.

2.2. Funding

The Pakistani authorities quickly solicited the help of the international community as the colossal scale of the floods became apparent. A first appeal was launched in early August 2010 for \$459 million to respond to the immediate relief needs of the flood-affected populations. In November, the UN Office for the Coordination of Humanitarian Affairs (UNOCHA) launched the “Pakistan Floods Emergency Relief and Early Recovery Response Plan” (PFRERRP), which called for \$1.96 billion to finance the first two phases of the response. To date, only \$1.3 billion (69.7%) of funds requested have been raised, and only 34% of the early recovery components having been financed (OCHA Financial Tracking Service, 2011).

These funds have been the main source of finance for the international relief efforts. They have been directly distributed to UN Agencies, international organisations and INGOs/NGOs to fund projects on the ground, but have not been routed through Pakistani government channels (NDMA, 2011). In addition to international funds, help came in the form of rescue operations, medical supplies, food, clothing, non-food items (NFIs) and shelter kits from various countries, donor agencies, NGOs, the private sector and individuals.

In spite of these donations, the brunt of the cost of the floods is being born by the Pakistani government, especially as it now enters into the “reconstruction & rehabilitation” phase of the response. The immense cost of the disaster has placed an extreme burden on public finances in Pakistan (ADB/WB, 2010).

2.3. Coordination

In Pakistan, natural disasters are managed by the National Disaster Management Authority (NDMA), which is mandated to oversee and coordinate all disaster response activities. At the national level, it coordinated the evacuation and rescue operations of the Army and established a logistic flow system to dispatch relief goods to affected areas. Relief goods were first centralised at the Pakistani Air Force “main operating base” in

Chaklala, then dispatched to provincial “forward operating bases”, and transported to “district nodal points”. From district nodal points, relief assistance was transported to affected areas by helicopter, boats, trucks or mules (NDMA, 2011). By and large, these early first-response operations are credited with having prevented massive loss of life (IASC, 2011:33).

Within a few weeks, the vast array of actors who came to operate on the ground were organised into clusters, as requested by the 2005 humanitarian reform. Local and international non-governmental organizations, international organizations, UN agencies and foreign aid agencies all worked to support the Pakistani authorities. The UN and its partner NGOs formed 10 clusters, each with a specific mandate and lead organisation at its head (see Table 4).

Table 4. Clusters and lead organisations

Cluster	Lead organisation
Agriculture	Food and Agriculture Organization (FAO)
Camp coordination and management	UN High Commissioner for Refugees (UNHCR)
Community infrastructure	UN Development Program (UNDP)
Education	UNICEF
Food	World Food Program (WFP)
Health	WHO
Logistics	WFP
Nutrition	UNICEF
Shelter and non food items (NFI)	IOM
Water sanitation and hygiene (WASH)	UNICEF

Source: OCHA, 2010.

2.4. Humanitarian response

The humanitarian response has sought to meet three overarching objectives: implementing the “survival strategy” to prevent excess mortality and morbidity, restoring livelihoods, and re-establishing community services (OCHA, 2010).

The Health Cluster carried out 25 million medical consultations through the Disease Early Warning Systems (DEWS). With the help of its partners, the WHO also set up 1,400 mobile health clinics in disaster zones, which have treated 5.7 million people (WHO, 2010b). Medical teams have been primarily treating skin diseases, acute diarrhoea, respiratory infections and suspected malaria. They have also been running immunization programs as well as providing health education and maternal care

(WHO, 2010b). Six months after the floods, three-quarters of households reported a flood-related health issue, but almost all reported sufficient access to basic healthcare (WHO, 2011:13-14).

The Food Cluster was able to nearly triple its food emergency distributions from three million to eight million beneficiaries by October 2010, thereby preventing millions from temporary hunger (IASC, 2011:34). *The Nutrition Cluster*, for its part, has focused on screening and treating children for malnutrition (UNICEF, 2010). From October onwards, it substantially expanded its nutrition programs: especially in Southern Pakistan, UNICEF established a total of 625 Feeding Centres for the management of severely malnourished children, as well as 602 Supplementary Feeding Programmes (UNICEF, 2011a.). So far, 1.3 million young children have been screened, and 55,921 out of 89,832 severely malnourished, 155,000 out of 301,000 moderately malnourished and 95,131 out of 180,000 pregnant and lactating women have been treated in feeding centres (OCHA, 2011b:3). UNICEF also provided 8.5 million children with Vitamin A supplements (UNICEF, 2011a).

The Water Sanitation, and Hygiene (WASH) Cluster has worked to reduce the vulnerability of affected populations to water-related diseases, by improving access to safe drinking water and sanitation, and raising hygiene awareness. UNICEF and its 172 reporting organisations have provided clean water to 3.5 million people daily (mainly by installing and repairing hand pumps) and sanitation facilities to 1.9 million people. By January 2011, it had also provided hygiene kits to nearly 6.5 million people and distributed thousands of buckets and jerry cans (USAID, 2011). On the whole, the absence of major outbreaks of water or sanitation-related diseases highlights the success and benefit of the WASH aid (IASC, 2011).

The Shelter and NFI Cluster, headed by IOM, provided emergency shelter to families made homeless by the flood, and has since been helping them rebuild their homes. During the floods, the cluster distributed one million tents and tarpaulins, mostly in the provinces of Punjab, Sindh and KPK – still, only accounting for 67% of the emergency shelter needs. In addition, it provided substantial non-food items (NFIs) that included 438,600 bedding sets, 603,200 kitchen sets and 94,500 tool kits (IOM, 2011b). As part of its “winterization strategy”, moreover, it distributed more than 2.5 million blankets to help households get through the cold winter (IOM, 2011a).

Since March 2011, the Cluster has focused on “Early Recovery” efforts to rebuild houses and support sustainable returns. Households with completely destroyed houses (60% or more damaged)

have been helped to move out of their emergency shelter and into solid “one-room” or “transitional” shelters. Transitional shelters are wooden light-weight structures that can be relocated, and are aimed to those who cannot yet return to their area. One-room shelters are simple traditional structures made from mud or brick, which can progressively be upgraded with more rooms to form a home once finances are available. The cluster has used work-for-food programs and cash hand-outs (WATAN cards) in order to support the recovery of the local economy. It has refrained from conducting key-in-hand projects, while providing technical assistance and ensuring the fluid supply of locally sourced materials (NDMA, 2010).

Furthermore, other clusters have worked to restore livelihoods where crops and livestock have been destroyed and land inundated. *The Agriculture Cluster* has distributed seeds (wheat and vegetable) as well as fertilizers for the winter planting season to over 768,000 households. Some 320,000 households have also received livestock feed to prevent further losses of animals. As a result, the latest estimates show that agricultural production in flood-affected areas will reach 90% of pre-flood levels (NDMA, 2010:38-39). Finally, the response sought to restore basic community services. *The Education Cluster*, for example, repaired about 1,000 flood-damaged schools, trained 8,000 teachers in disaster risk reduction, and established Temporary Learning Centers that benefited nearly 300,000 children. UNICEF also established about 1,000 Child Friendly Spaces (CFS), which today provide educational and recreational activities as well as psychosocial support to 411,000 children. In addition, it plans to install 500 Transitional School Structures (TSS) in flood affected areas in 2011 to ensure access to quality education for children whose schools were damaged or destroyed by the floods (UNICEF, 2011b).

3. THE CURRENT SITUATION AND FUTURE PROSPECTS

3.1. Assessing the response

The emergency relief phase of the response was successful, as a major food crisis or epidemic outbreaks were avoided, despite being undertaken in difficult circumstances. Aid was sent to areas that were either under water, in mountainous regions cut off by damaged bridges, or in areas where the Taliban insurgency was under way. Conversely, it has been reported that aid distribution was subordinated to political interference in some instances,

and that organisations with ties to radical Islamic organisations such as Lashkar-e-Taiba engaged in relief and rescue operations, raised funds, and set up camps (*Times of India*, 2010).

In addition, most IDPs have now left relief camps. In the aftermath of the floods, 3.4 million people were displaced and forced to live in some 5,928 relief camps. Six months after the floods 166,000 people still lived in more than 240 camps and spontaneous settlements (UNHCR, 2011a). Today, 97% of displaced populations have left relief camps. Some areas remain under water, however, such as in Sindh and Balochistan, where approximately 53,075 acres of land are still inundated with half a metre of floodwater. In these provinces, 60 relief camps continue to host a total of 53,168 flood affected IDPs, while all other provinces are now showing 100% rates of return (NDMA, 2011).

But due to the scale of the destruction, many returnees have not been able to live in their own homes. As of January 2011, more than half the IDPs had returned to their original homes, but a third were still living in tents, while the remaining 15% were living with host families or in rented accommodation in their area of origin, according to a survey conducted by UNHCR in Sindh (UNHCR, 2011b).

Early recovery and reconstruction objectives, on the other hand, have only partially been met thus far. A year after the floods, affected populations report ongoing needs across all sectors, with the most pressing issues being permanent shelter (54.0%), economic support (28.5% for loans to restart farms or businesses and 23.3% for employment), and food (31.3%) (WHO, 2011). The main impediments are by-and-large financial and organisational insufficiencies, as only 34% of the requested funds for early recovery have been raised from donors to date, and most clusters have inadequate strategic plans (IASC, 2011:42). As detailed below, the funding gap particularly affects the housing and agricultural sectors, as well as health and education (OCHA, 2011a).

Table 5. Funding gap for early recovery (in \$US)

Sectors	Balance needs
Agriculture and Food security	79,000,000.00
	20,819,870.00
Health and Nutrition	44,958,230.00
Water and Sanitation	32,811,052.00
Education	44,079,573.95
Housing	118,601,921.00

Governance	10,536,000.00
Non-Farm Livelihood	12,030,000.00
Community physical Infrastructure	25,000,000.00
Disaster risk reduction	10,665,000.00
Environment	(4,316,500.00)
Gender	4,909,582.00
Protection	14,000,600.00
TOTAL	413,095,328.95

Source: OCHA, 2011a.

Limited financial resources have meant that few houses have been rebuilt. Only 40,500 one-room and transitional shelters have now been constructed, out of the 1.7 million homes damaged or destroyed by the floods. Likewise, the current commitment to help build 247,000 solid shelters by the end of the year would only meet 31% of the total needs (UN, 2011). This shows that there remains a clear and dire need for increased funding if the shelter crisis is to be resolved.³ In addition, many houses are being rebuilt in dangerous riverbank areas, while many people without land rights have been returning home to find themselves without a place to plant or rebuild a house (OCHA, 2011b).

Moreover, basic social services remain disrupted in flood-affected areas (UNICEF, 2011b). Concerns subside about the potential outbreak of epidemics, while many people still lack food assistance, safe drinking water, and permanent shelter, particularly in Sindh. Local communities are also facing the challenge of re-establishing their source of livelihood and rebuilding destroyed infrastructure. In addition, Pakistan hosts 1.25 million IDPs, as well as 1.8 million refugees from Afghanistan (IOM, 2011c:119). These populations are particularly vulnerable to environmental disasters and underscore the continuing risks created by complex emergencies in Pakistan.

3.2. Climate change and preparedness

Early recovery activities must transition as seamlessly as possible to support long-term reconstruction and avoid leaving affected populations in an even more vulnerable position to face the next disaster. Indeed, future prospects do not bode well for floods in Pakistan. It already is a disaster hotspot and one of the most flood-prone countries in the world. Unfortunately, climate change will only

worsen the trend, forcing ever-larger numbers of people off their land. It will intensify monsoons, with up to 20% more rain falling in South Asia by 2050. Melting glaciers will increase the risk of flooding during the wet season and drought in the dry-season, particularly in South Asia (IPCC, 2007b). Global warming will also cause extreme weather events to increase in intensity and frequency, with category 5 tropical storms expected to triple over the next century (Knutson and Tuleya, 2004).

Climate change is also set to cause more epidemics and malnutrition (IFPRI, 2009), as crop yields will fall by 30% in South Asia over the next 40 years (IPCC, 2007a:11), and diarrhoeal and infectious diseases will affect more people due to higher temperatures and humidity levels (WHO, 2009:24-25). This in turn will erode the systems sustaining health and may lead to conflicts over depleted resources.

Pakistan is therefore caught in a ratchet, as environmental factors steadily gain in strength while affected populations become ever more vulnerable. The 2010 floods have stretched the coping mechanisms of flood-affectedees to their limit as many have reportedly sold whatever assets they owned to survive last year's disaster (IASC, 2011:45). It is therefore urgent to help the most vulnerable groups build up their resilience. Until now, the international response has largely focused on emergency relief, but a strong commitment to early recovery and reconstruction is absolutely necessary.

Pakistan must also improve preparedness. It must first build up national capacities and develop specific contingency plans for areas at risk. Since the floods, the NDMA has established a Strategic Planning Unit (SPU). The government has also set a goal to meet the Hyogo Framework for Action (HFA) on disaster risk reduction by 2015, and has established early warning systems for this purpose; flooding mitigation programmes are also being developed in collaboration with the UN (NDMA, 2011).

Pakistan must also strengthen its cooperation with external actors and improve cluster coordination. Indeed, reconstruction has been organised along cluster lines rather than having an integrated perspective at national and regional levels. An overarching strategy for reconstruction and rehabilitation as well as a comprehensive assessment of outstanding needs are both still lacking today in Pakistan. A major reason for this is that the NDMA and OCHA requirements for medium and long-term strategies have been inconsistent and changed over time (IASC, 2011:57). Also, while information was widely collected, it was often duplicated and not used for strategic purposes.

3. Nevertheless, the crisis has been resolved in certain regions, like in Gilgit-Baltistan where 100% of the caseloads have been covered.

The NDMA should, therefore, appoint a single unit to conduct continuous needs assessments during and after disasters to avoid duplications, while cluster leads must agree on standard assessment formats and methodology. IDPs must also be systematically tracked, to better target their needs (IASC, 2011).

CONCLUSION

One year after the 2010 floods in Pakistan, a mixed picture subsides of the disaster response and future preparedness. The floods were of an unprecedented scale as the heavy monsoon rains of the North traveled the length of the country, washing away entire communities and forcing massive population displacements. Within weeks the humanitarian response grew to become the

largest emergency operation ever staged, thereby preventing the crisis from enduring unnecessarily and avoiding many deaths.

Nevertheless, although the floodwaters may now have receded, the devastation remains. It is critical for recovery and reconstruction efforts to be maintained, and proper funding and strategic coordination to be provided, if the resilience of vulnerable communities is to be restored. The Pakistani authorities must also continue making headway towards institutionalizing disaster mitigation and integrated response to natural disasters, as well as improving preparedness.

Climate trends are unequivocal: floods will affect Pakistan with ever-greater frequency and severity. Therefore, the humanitarian community, local and federal governments, as well as local communities must learn from their shortcomings and better prepare for the next, inevitable disaster in Pakistan. ■

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