# Global ORRESPONDENT

## "Unprecedented Floods Require an Unprecedented Response"

Helen Ouyang, MD. MPH

Pakistan's official celebration of Independence Day on August 14 was suspended this year because the country was drowning in calamity. Less than 5 years after a devastating earthquake, Pakistan fell victim to nature again—this time, to catastrophic floods, decimating the country from north to south. United Nations (UN) Secretary-General Ban Ki-Moon said that the disaster was "beyond imagination" and called for an "unprecedented response" from the international aid community. The daunting number of people affected is more than the 2004 Indian Ocean tsunami, the 2005 Kashmir earthquake, and the 2010 Haiti earthquake combined. The UN estimates the number affected at a startling 18 million people—more than one-tenth of the population—and rising.<sup>2</sup> This is the worst natural disaster that Pakistan has ever faced.

#### THE PERFECT STORM

Floodwaters swelled on the night of July 21, 2010, as record heavy monsoon rains overwhelmed the Indus River, which runs lengthwise down the country's center. The deluge swept over the northwest first, traveling to the southern part of the country. One-fifth of the country was immediately flooded. The Khyber Pakhtunkhwa province, formerly known as the North-West Frontier province, which was the region in Pakistan most heavily affected by the 2005 earthquake, initially experienced the greatest damage from the floods. Notably, this part of the country is also home to the Swat Valley, which has endured the majority of terrorist activities and domestic Taliban insurgency. As another wave of monsoon rains swept over the Sindh and Punjab provinces, the floods were rapidly swallowing the southern part of the country.<sup>2</sup>

### **EXTRAORDINARY DAMAGE**

The situation has gradually deteriorated for this country of 185 million.<sup>3</sup> Internet and television reports broadcast daily graphic images of the victims entrenched in muddy waters. The country has been left to grapple with an enormous recovery effort that the government projects will take \$15 billion<sup>4</sup> and up to 5 years to complete.<sup>5</sup>

Pakistan's agricultural heartland has undergone the most damage. The floods submerged 3.2 million ha of standing crops and caused \$2.9 billion in damage to the agricultural sector, the country's economic backbone.<sup>2,6</sup> Irrigation systems, which cover 90% of Pakistan's cultivated land, have been decimated.7

As of September 1, 2010, 4.6 million Pakistanis were stranded without shelter, and 700 000 were displaced to temporary settlements after initial relief efforts.<sup>2</sup> Field assessments portend that an initial estimate of 6 million people in need of food aid by the end of October may actually be too low.<sup>2</sup> Disease outbreaks are rapidly emerging as well and will only escalate. According to the World Health Organization and Pakistan's Ministry of Health, acute diarrhea, acute respiratory infections, skin diseases, and suspected malaria are the major reasons for seeking health care, with acute watery diarrhea setting off the greatest alarm. Cases of cholera, measles, and dengue fever have been confirmed. Because more than 200 health facilities have been ravaged by the flood, local doctors are poorly equipped to handle patients with infectious diseases.8 Contaminated water and lack of proper sanitation leave survivors vulnerable to disease, and infants and young children are at special risk for deadly waterborne diseases.

#### **COMPLEXITIES OF AID**

With the swell of the floods, the anger and frustration experienced by Pakistanis are likewise rising. Nearly 8 million survivors are estimated to be in need of immediate, direct assistance. Humanitarian aid has been insufficient from and politically complicated by both the Pakistani government and the international community.

Protests have erupted over the government's perceived slow and chaotic response. Floodwaters have overwhelmed the emergency response system, essentially annihilating the road infrastructure and making access a logistical nightmare. More than 800 000 people in need are completely inaccessible by land. The National Disaster Management Authority has already deployed 12 helicopters for use by the World Food Programme, but at least 40 helicopters are needed. Recently, helicopters intended for the fight against the Taliban have been reallocated for relief operations. 10 The World Food Programme is the lead agency for logistics and is managing all of the available air assets in Pakistan to transport emergent relief supplies, including nonfood items.

On the whole, the government's efforts have been widely perceived as disappointing. President Asif Ali Zardari was the target of much criticism for initially remaining in Europe instead of returning home when the floods first ravaged the country. Parliamentarians likewise have been conspicuously absent from their home districts. The

#### **Global Correspondent**

government has developed a reputation for its inability to rapidly mobilize its limited resources and for not having emergency backup plans. In contrast, Islamic charities have launched swift and efficient action, and many flood victims have successfully persuaded police not to close these operations given the lack of an alternative from the government. As an example, in 2 districts in Khyber Pakhtunkhwa province, Islamic charities provided valuable aid, including shelter and hot food, for 1 week before any signs of government presence emerged.

Policy experts are concerned that a coup may be on the horizon for Pakistan, further exacerbating a critical and separate national catastrophe. The United States has already deployed 19 Chinook helicopters to the area, an action that is similar to postearthquake relief efforts in 2005, and has already committed nearly \$156 million, one-quarter of the total \$643 million pledged by the entire international community. US efforts may blunt any further chaos in Pakistan, which would have significant consequences on American foreign policy.

International donors as a group were initially sluggish in providing funds. The UN's pledge for \$460 million for emergency relief was only reached 1 month after the floods began, <sup>13</sup> after Secretary-General Ki-Moon's desperate pleas doubled donations. John Holmes, the Humanitarian Coordinator for the UN, partially attributed the slower response to the nature of the disaster itself. Unlike the earthquake in Haiti, the impact of the flood is not determined in a split second, but rather is unfolding. Donor fatigue is influencing contributions, especially in the aftermath of the Haiti earthquake. Others worry about potential corruption and incompetency in the country or fear that donated money may fall into other than intended hands. Neighboring India, a historic enemy of Pakistan, initially offered only a letter of condolence but has since pledged \$5 million after receiving strong international pressure.

#### **STORMY DAYS AHEAD**

The monsoon season in Pakistan lasts until the first week of September. The damage from the floods themselves is ongoing. The worst may be yet to come, as disease spreads in the absence of clean water and appropriate shelter. Millions of people will be unemployed and displaced, infrastructure will need rebuilding, and the probability of an increase in armed conflict is all too real. Climate change may increase the intensity and erratic nature of monsoonal rains, making it difficult to predict future cataclysmic flooding of the Indus River. As the ominous dark skies continue to brood above, the people of Pakistan will continue to search for hope in their government and the international aid community.

**Author Affiliation:** Dr Ouyang is with the Department of Emergency Medicine, Brigham and Women's Hospital.

**Correspondence:** Address correspondence and reprint requests to Dr Helen Ouyang, Department of Emergency Medicine, Brigham and Women's Hospital, 75 Francis St, Neville House, Boston, MA 02115 (e-mail: houyang @partners.org).

Received for publication August 31, 2010; accepted September 3, 2010.

Author Disclosures: The author reports no conflicts of interest.

#### REFERENCES

- Shah S. New wave of floodwater threatens Pakistan. http://www.guardian .co.uk/world/2010/aug/15/pakistan-floods-ban-ki-moon-response. Published August 15, 2010. Accessed August 25, 2010.
- United Nations Office for the Coordination of Humanitarian Affairs. Pakistan monsoon floods: situation report 17. http://www.reliefweb.int/rw /rwb.nsf/db900sid/VVOS-88NNKE?OpenDocument&query=situation report 17. Published August 25, 2010. Accessed August 26, 2010.
- Population Reference Bureau. 2010 world population data sheet. http: //www.prb.org/pdf10/10wpds\_eng.pdf. Published July 2010. Accessed September 11, 2010.
- LaFranchi H. Pakistan floods: signs of international aid picking up. http://www.csmonitor.com/USA/Foreign-Policy/2010/0823/Pakistan-floods-signs-of-international-aid-picking-up. Published April 23, 2010. Accessed August 24, 2010.
- Alfano S. Pakistan flood damage will take at least three years to fix, president says as crisis worsens. http://www.nydailynews.com/news/world/2010/08/24/2010-08-24\_pakistan\_flood\_damage\_will\_take\_at\_least\_three\_years\_to\_fix\_president\_says\_as\_cr.html. Published August 24, 2010. Accessed August 24, 2010.
- Collins H. Pakistan floods destroyed \$2.9 billion of agricultural products. http://www.dailyfinance.com/story/pakistan-floods-destroyed-2-9-billion-of-agricultural-products/19592273/?icid=sphere\_copyright. Published August 13, 2010. Accessed August 24, 2010.
- Executive brief: Pakistan flooding. http://www.fao.org/fileadmin/templates/tc/tce/pdf/Pakistan\_ExecutiveBrief\_\_17082010.pdf. Published August 17, 2010. Accessed August 24, 2010.
- Government of Pakistan/World Health Organization. Epidemiological bulletin: flood response in Pakistan. http://www.reliefweb.int/rw/rwb.nsf/db900sid/VVOS-88MQMN?OpenDocument&query=Epidemiological bulletin: Flood response in Pakistan. Published August 23, 2010. Accessed August 24, 2010.
- Pakistan floods: 800,000 people are only reachable by air, more helicopters needed urgently. http://ochaonline.un.org/OCHAHome/WhereWeWork/Pakistan/tabid/6844/language/en-US/Default.aspx. Accessed August 25, 2010.
- Haider Z. Pakistan moves choppers from Taliban fight to relief. http://www .alertnet.org/thenews/newsdesk/SGE67N09W.htm. Published August 24, 2010. Accessed August 26, 2010.
- Ellick AB, Shah PZ. Hard-line Islam fills void in flooded Pakistan. http://www.nytimes.com/2010/08/07/world/asia/07pstan.html?pagewanted=1 &r=1. Published August 6, 2010. Accessed August 25, 2010.
- Coughlin C. Pakistan's floods have left a country that's too difficult to rule. http://www.telegraph.co.uk/comment/columnists/concoughlin/7963111 /Pakistans-floods-have-left-a-country-thats-too-difficult-to-rule.html. Published August 25, 2010. Accessed August 25, 2010.
- Total humanitarian assistance per donor. http://www.reliefweb.int/fts. Published August 25, 2010. Accessed August 25, 2010.