Pakistan

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Introduction

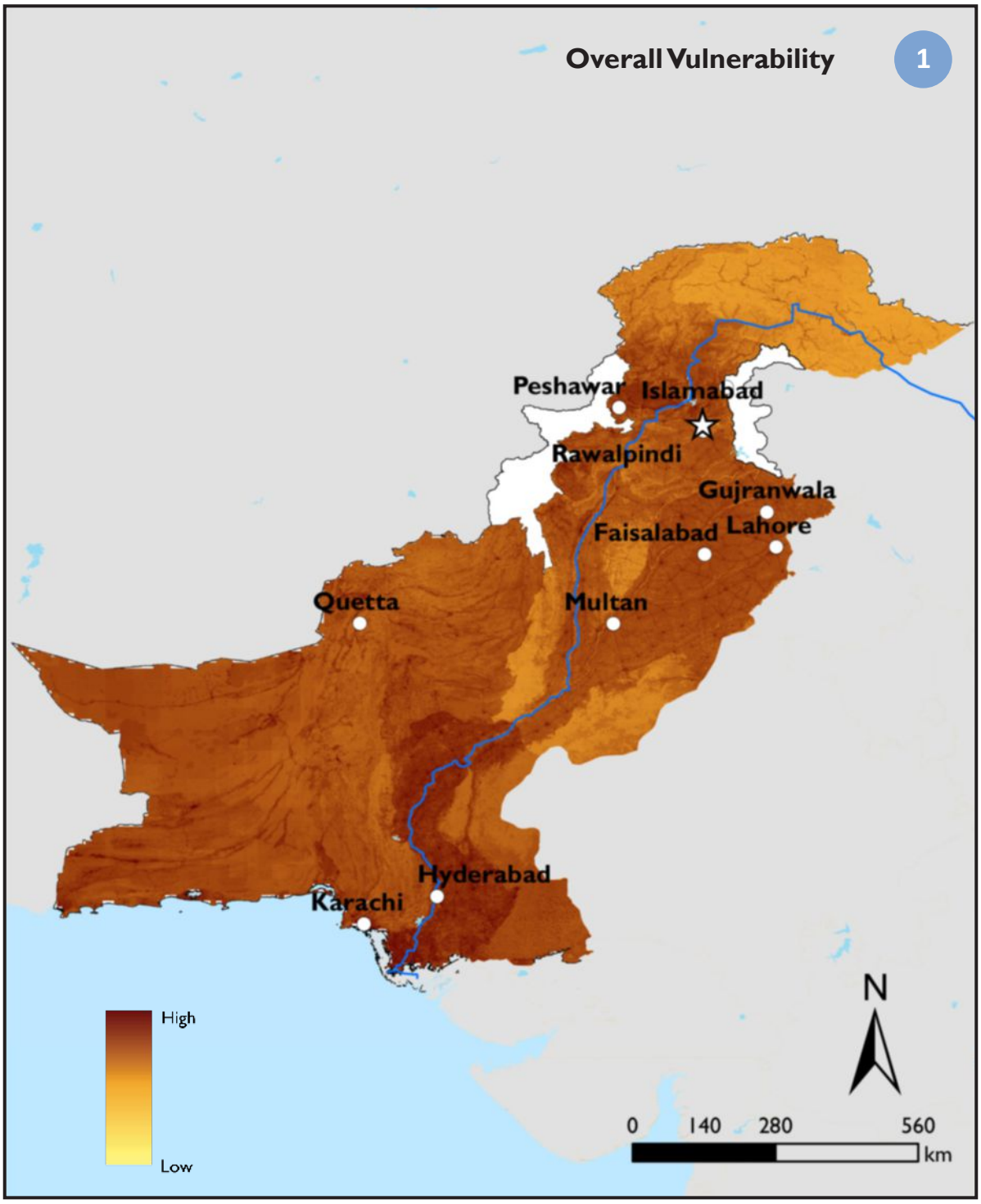
Pakistan's biggest threat is often considered terrorism, but as the impacts of climate change continue to grow, the political and economic instability it brings will threaten Pakistan's security. Pakistan sees multiple catastrophic floods each year that often displace millions along the Indus River and especially Sindh province bordering the Arabian Sea, while severe droughts in Balochistan province in the west also devastate livelihoods. Since a majority of Pakistan's 190 million people are still involved in agriculture, decreases in crop yields due to climate change could have enormous impacts on its agriculture dependent economy. One river, the Indus, provides water for 90 percent of the country's crops as well as generates about 50 percent of Pakistan's total electricity.[1] Changes in the monsoon season and glacial melt will affect the quantity and quality of Indus water.

With the sixth highest population in the world and high climate risk vulnerability, calculations under the CEPSA program indicate that approximately 86% (166 million) of Pakistan's population faces above average exposure. Further, roughly 36 million people (i.e., 19%) and 5.7 million people (i.e., 3%) face exposure 1 and 2 standard deviation above the regional mean respectively.[2] As figures 1 through 5 highlight, high climate-related exposure, high political instability (see figure 5) and low household capabilities (see figure 4) contribute to this highly vulnerable population.[3] Low household capabilities can be attributed to a high infant mortality rate and low numbers of nurses per capita as well as low primary school attendance and female literacy.[4]

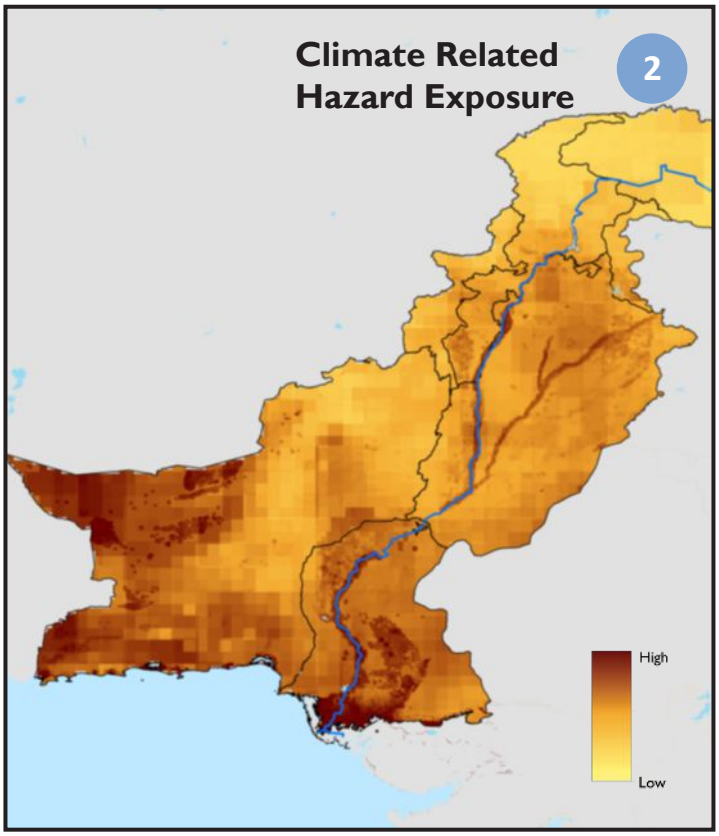
Natural Disasters and Climate Change Vulnerability

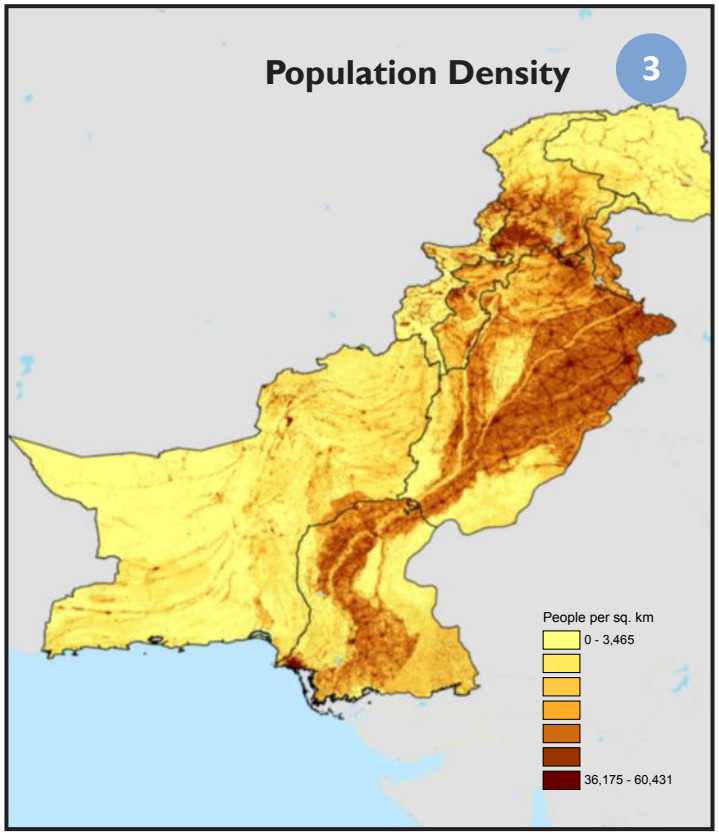
Climate change is likely to threaten Pakistan in two main ways: by limiting freshwater resources and by damaging the coastline through rising sea levels and cyclones.[5] In recent years, Pakistan has already been subject to a number of high profile disasters such as floods, heat waves, and droughts. The country has experienced sixteen flooding events and eight extreme temperature events since 2000.[6]

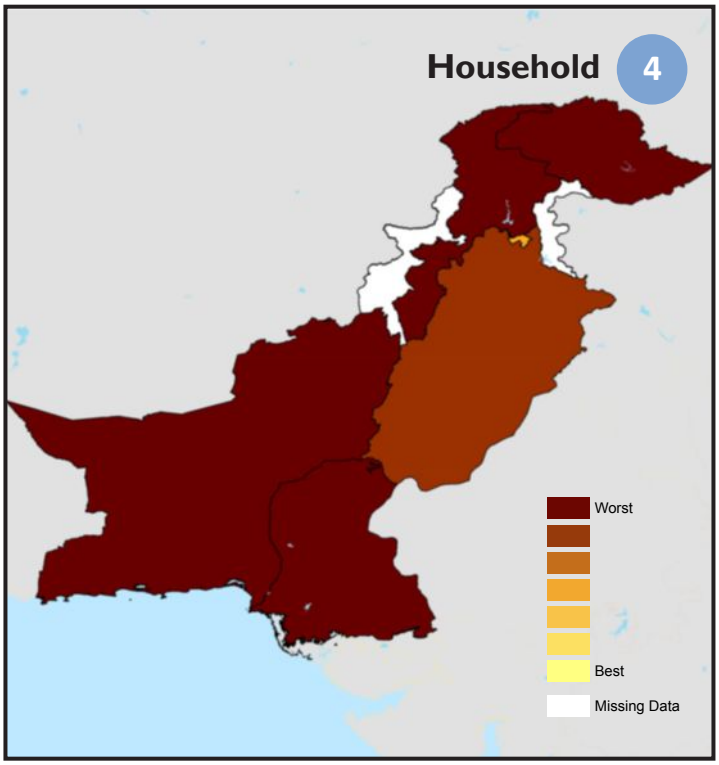
From 2010 to 2012, several unusually intense monsoons caused the Indus to flood affecting approximately one-fifth of Pakistan's total land area and resulting in widespread floods killing thousands and displacing millions. The floods caused 2000 deaths and affected another 20 million people by destroying property, livelihoods, and infrastructure.[7] UN Secretary-General Ban Ki-moon had initially asked for $460 million for emergency relief, noting that the flood was the worst disaster he had ever seen. Ultimately, flows of aid reached nearly $1.4 billion dollars.[8] The U.N. had been concerned that aid was not arriving fast enough

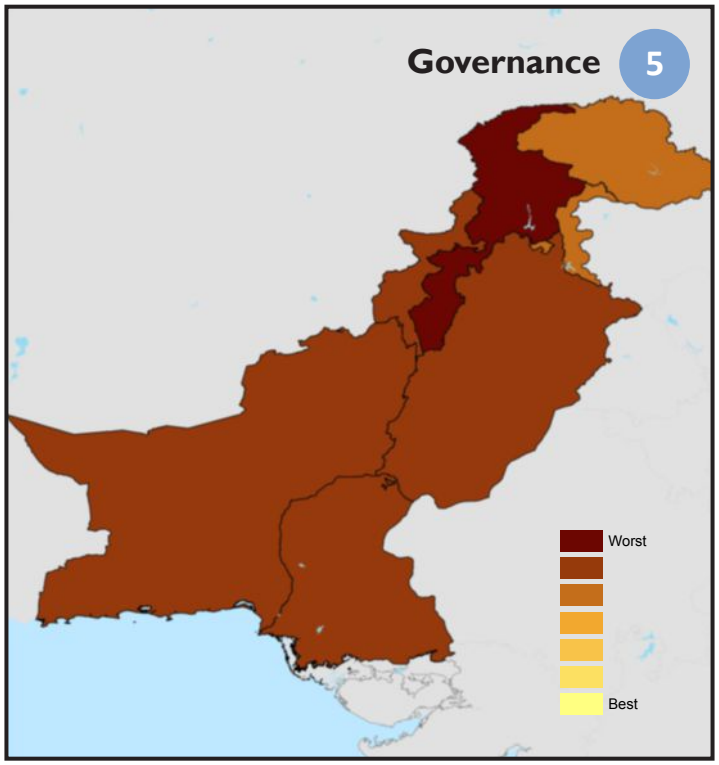


Data Sources: KOF Index of Globalization; World Bank World Governance Indicators; Political Instability Task Force (PITF); Polity IV Project; World Bank World Development Indicators; USAID Demographic and Health Surveys; UNICEF Multiple Indicator Cluster Surveys; Center for International Earth Science Information Network; UNEP\Grid-Europe; Viewfinder Panoramas; LandScan; Princeton University Terrestrial Hydrology Research Group


Climate Related
Hazard Exposure
2
High
Low


Population Density
3
People per sq. km
0 - 3,465
36,175 - 60,431


Household
4
Worst
Best
Missing Data


Governance
5
Worst
Best

and the World Health Organization reported that ten million people were forced to drink unsafe water.[9] Pakistan's president Asif Ali Zardari was heavily criticized for being on a foreign trip at the time of the floods and for a lackluster response to them.[10]

In addition to floods, Pakistan has also been suffering from severe heat waves in recent years. In 2015, Pakistan's most populous metropolitan city, Karachi, suffered a heat wave with temperatures soaring to around 120°F. This heat wave claimed the lives of almost 1,200 people.[11] Hot weather is not unusual during summer months in Pakistan but power cuts restricted the use of air-conditioning units and fans, and widespread abstention from water during daylight hours during the fasting month of Ramadan made extreme heat even worse. As the provincial PPP government appeared unresponsive, many people became upset over the slow response to the crisis. Many in Karachi felt that if the authorities had taken more proactive actions many lives could have been saved.[12]

Water scarcity also plagues much of Pakistan and lower than normal rains pose a huge threat to its agricultural sector. For example, in late October 2016, the Pakistan Meteorological Department informed farmers that no rain was forecast for the crucial wheat-growing months of November and December in parts of northern Pakistan that rely solely on rain-fed agriculture. This warning was the first of its kind from Pakistan's weather service, aimed at helping farmers look ahead and plan for crops more likely to survive drought. This drought combined with unusually high temperatures forced farmers to delay wheat sowing in areas of northern Pakistan near Islamabad.[13]

Climate change is also likely to threaten Pakistan's coastline, with rising sea levels and increasingly frequent and destructive cyclones representing the greatest challenges to livelihoods and economic interests. In June 2007, a series of storms killed 200 people in Karachi, demonstrating the inability of Karachi's infrastructure to withstand even existing risks. Generating 42 percent of the total GDP, Karachi is Pakistan's single largest financial, trade, and manufacturing center. The city's vulnerability to the effects of climate change has critical implications for the national economy.[14]

In 2012, Pakistan's Parliament adopted the National Climate Change Policy to steer Pakistan towards climate-resilient development.[15] The NCCP helps coordinate climate change adaptation with Pakistan's existing development plan stated in the Pakistan 2025 document. While the document covers overall development goals of the country, climate change mitigation and adaptation features as one of the main challenges the country will need to face. According to the Grantham Institute, "the policy document refers to mitigation measures for energy efficiency and conservation, transportation, forestry, industry, agriculture, livestock and town planning."[16]

External Assistance

Pakistan received US $75.9 billion in aid between 2000-2013, with over $7 billion going towards emergency response and $4.7 billion going towards climate change adaptation and disaster risk reduction. The top five donors -- JICA, DFID, World Bank, ADB, and USAID -- provided $56 billion (i.e., 75%) of the total foreign aid to Pakistan.[17] Pakistan has used this aid to run a number of different projects and meet emergency needs during its growing number of climate-related natural disasters. It is one of the priority countries within the

World Bank managed Global Facility for Disaster Reduction and Recovery (GFDRR) which runs projects on disaster risk management and climate change adaptation.[18]

Pakistan is the fourth largest recipient of U.S. assistance, after Israel, Afghanistan, and Egypt; however, much of the aid provided to Pakistan by the United States has been for defense. Pakistan has been critical to U.S. counterterrorism efforts and regional stability. Between 2002-2003, only 30 percent of US foreign assistance to Pakistan was appropriated for economic-related needs; the remaining 70 percent was allocated to security-related assistance.[19]

Despite its government's lackluster response to natural disasters, Pakistan has received billions of dollars in U.S. and international assistance. Substantial resources designated towards flood mitigation projects were poorly managed leaving the poor and ethnic minorities vulnerable during major events. As Climate Central reported, "Pakistan's scientists say that the government must take many steps in order to mitigate the impacts of climate change including developing high temperature-tolerant crop strains, comprehensive flood warning systems and more reservoirs on the upper Indus."[20] There are serious doubts about funding for such projects. Currently, Pakistan has allocated 58.8 million rupees to combat climate change, a commitment that must be increased if they are to significantly improve the country's capabilities.[21]

Regional Issues

The separation in 1947 of British India into the Muslim state of Pakistan (with West and East sections) and largely Hindu India was never satisfactorily resolved, and India and Pakistan fought two wars and a number of limited conflicts -- in 1947-48, 1965, and 1999 respectively -- over the disputed Kashmir territory. India-Pakistan relations improved in the mid-2000s but have been rocky since the November 2008 Mumbai attacks and have been further strained by attacks in India by militants suspected of being backed by Pakistan. The 1960 World Bank-brokered Indus Waters Treaty preserves for Pakistan the use of the western rivers of the Indus system. Although this treaty has been very successful, constant tensions with India as well as climate-related pressures threaten the stability of the agreement (see article on India).[22]

Governance

Nawaz Sharif took office as prime minister in 2013, marking the first time in Pakistani history that a democratically elected government completed a full term and transitioned to a successive democratically elected government. Given ever-present external threats from India, the military in Pakistan has modernized its capabilities but also intervened in political affairs resulting in military administrations for roughly half of its history (1958–69, 1969–71, 1977–88, and 1999–2008). Regional conflicts and terrorism also threaten to destabilize the Pakistani state. The Sindhis and Pakhtun people have both claimed independent states which led to violent rebellions in Balochistan in the 1980s and since 2002.[23] Following a series of bomb and suicide attacks by the Tehrik-e Pakistan Taliban (TTP) begun in 2007, the Pakistan Government and TTP representatives agreed to a cease-fire in early 2014. However, by mid-year 2014, the talks collapsed and the TTP resumed attack plotting against Pakistani targets.[24]

Climate security in a national security state like Pakistan presents a complex problem. The process will require rethinking what national security means in a climate-challenged region. The current decentralized state has created a temporary disjunction between those with responsibility for addressing climate change, provincial ministries, and those with the authority to do so.[25] Pakistan's state institutions are relatively weak and unlikely to serve as defenses against the challenges of climate change. Given the government's low accountability to the people, its poor performance during climate-related disasters is not surprising.[26] Low household capabilities, combined with poor governance and a history of conflict, have created socio-political conditions that make climate change adaptation more difficult to execute but integral to maintain state security in Pakistan.

Endnotes

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