



# PAKISTAN

## Disaster Management Reference Handbook

June 2021

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## Front Cover

Shrine in Multan, located in Pakistan's Punjab Province. Photo by Umar Khan on Unsplash.  
<https://unsplash.com/photos/kyOthi68nMs>

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# Letter from the Director

In the years since the 2005 Kashmir earthquake, Pakistan has steadily built additional structural and institutional capacity both to mitigate disaster risk and to manage disaster response. These structures and institutions are regularly tested amidst earthquakes, floods, and drought. However, Pakistan does not undertake its responses alone. The country's own disaster response stakeholders engage with UN agencies, regional groups, and bilateral partners both to respond to emergencies and to expand civilian and military expertise.

The people and territory of Pakistan confront a variety of natural and man-made hazards. The federal government gives direction to the measures to be taken in response to any disaster situation. District or provincial authorities are expected to have prepared for smaller-scale disasters and immediate responses; however, the federal authorities have the resources and responsibility to oversee and coordinate larger-scale disaster relief operations. Pakistan's armed forces are also closely involved in disaster management and response. In addition, community-based disaster risk reduction and disaster management activities involve school-based emergency drills, health care system planning and preparedness operations, and cultivation of information-sharing relationships.

This Pakistan Disaster Management Reference Handbook strives to provide an understanding of the nation's disaster management capabilities and vulnerabilities with information on the social, economic, and geographic context as well as demographics, hazards, government structure, regional and international assistance, infrastructure, laws and guidelines, and other relevant areas. Moreover, this handbook discusses Pakistan's disaster management policies and practices. Within this examination, we can see how the country is incorporating resilience and risk mitigation as it faces longer-term challenges related to climate change.

U.S. government – civilian and military – and non-government organizations (NGO) have historically participated in disaster management activities in Pakistan when requested, and there is an ongoing effort to revive the constellation of engagements, exercises, and meetings that allowed U.S. and Pakistani practitioners to cooperate in responses both within Pakistan and elsewhere. As the U.S. and Pakistan remake their relationship and engage in multi-lateral fora, the information in this book can serve as a tool for building a comprehensive disaster management partnership, which will aid future disaster response, security cooperation, and other assistance activities.



Sincerely,

Joseph D. Martin, SES  
Director

# About the Center for Excellence in Disaster Management & Humanitarian Assistance

## Overview

The Center for Excellence in Disaster Management & Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization that was established by the U.S. Congress in 1994. The Center is a direct reporting unit to U.S. Indo-Pacific Command and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

CFE-DM was founded as part of the late Senator Daniel K. Inouye's vision. The Senator had witnessed the effects of Hurricane Iniki, which struck the Hawaiian Islands in 1992, and he felt the civil-military coordination in the response could have been more effective. He set about establishing CFE-DM to help bridge understanding between civil and military responders, and to provide a DoD platform for building Disaster Management and Humanitarian Assistance (DMHA) awareness and expertise among U.S. armed forces, and with partner nations in the Asia-Pacific. While CFE-DM maintains a global mandate, the Asia-Pacific region is the priority area of effort, and collaboration is the cornerstone of our operational practice.

## Vision

The Joint Force, allies, and partners are fully prepared to conduct and facilitate foreign humanitarian assistance.

## Mission

CFE-DM builds crisis response capacity in U.S. and partner militaries, enhances coordination and collaboration with civilian and foreign partners, and strengthens those relationships to save lives and alleviate human suffering before, during, and after humanitarian crises.

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# EXECUTIVE SUMMARY

The Islamic Republic of Pakistan (hereafter Pakistan) is affected by climate change, increased urbanization, environmental degradation, and increasingly severe and larger scale natural disasters. Pakistan is prone to natural hazards such as drought, floods, heat waves, extreme cold, and earthquakes. According to the Climate Risk Index 2021, Pakistan ranks eighth for countries most affected by extreme weather events between 2000 and 2019.<sup>1</sup>

Pakistan has experienced a series of hazards in recent years. Drought-like conditions, which began in late 2018 and continued through 2019, affected five million people with 2.1 million people targeted for humanitarian assistance. This was followed by a winter emergency affecting one million people across much of the western part of the country. The worst desert locust infestation in 27 years was declared a national emergency by the Government in January 2020. This was followed with the Coronavirus Disease 2019 (COVID-19) pandemic, which began in February 2020 and contributed to health and economic shocks, a disruption in education, and increased food insecurity. In September 2020, the Government declared a national emergency due to heavy monsoon rains that triggered major floods in Sindh Province and affected an estimated 2.4 million people.<sup>2</sup>

The Government of Pakistan has a strong disaster management foundation built around the National Disaster Management Authority (NDMA), the Provincial Disaster Management Authorities (PDMA), and national legislation from 2010. In addition, the Government has well-established national development and disaster risk reduction frameworks, including the Pakistan Vision 2025, the National Disaster Management Plan (NDMP) 2012-2022, and National Flood Protection Plan (IV) (NFPP-IV) 2015-2025. Humanitarian partners also work across different areas to ensure alignment of response with Government activities. The United Nations (UN) and humanitarians work

closely with the NDMA, PDMA, Line Ministries, and the National Disaster Risk Management Fund (NDRMF) in support of these initiatives.<sup>3</sup>

The Government of Pakistan, with support from international and national humanitarian and development partners, responded to the pandemic by strengthening response coordination, case management, disease surveillance, and testing services in laboratories, health systems and community mobilization to brace for the impact of COVID-19. The UN is working with the federal and provincial governments at multiple levels to aid coordinated management of COVID-19 preparedness and response. Through coordination mechanisms, the UN Office for the Coordination of Humanitarian Affairs (OCHA) has supported the Humanitarian Coordinator and Humanitarian Country Team by implementing the Global Humanitarian Response Plan, including supporting coordination structures at national and provincial levels through working groups with NDMA/PDMAs and relevant ministries and line departments.<sup>4</sup>

Several agencies - including the World Bank, World Food Program (WFP), the UN High Commissioner for Refugees (UNHCR), United Nations Population Fund (UNFPA), the Food and Agriculture Organization of the UN (FAO), UN Children's Fund (UNICEF), UN Women, and others - have coordinated in the country to achieve these goals and lessen the burden.<sup>5</sup> For example, UNICEF has focused its Water, Sanitation, and Hygiene (WASH) response and capacity-building support by concentrating WASH/Infection Prevention and Control (IPC) interventions in 20 of 27 high-burden districts. This activity included drafting the National WASH/IPC COVID-19 Preparedness and Response Plan. Almost nine million people in the country have been supported with hygiene promotion services including COVID-19 prevention and control information, with close to five million people utilizing the additional handwashing stations in affected areas.<sup>6</sup>



# COUNTRY OVERVIEW

## History

South Asia was home to some of the world's earliest known civilizations. Evidence points to the development of urbanized, grain-growing communities in the Indus River Valley during the period 2300-1750 Before Common Era (BCE). The best-known settlements of this era are two key cities: Harappa and Mohenjo-Daro (in modern Pakistan's Punjab and Sindh provinces respectively).<sup>7</sup> Photo 1 shows the excavated and preserved area at Mohenjo-Daro, a UNESCO World Heritage Site.<sup>8</sup> This civilization, which had a writing system and a diversified social and economic system, encompassed cities and towns stretching from the Himalayan foothills to Balochistan (Pakistan).

After about 1000 BCE, the semi-independent kingdom of Gandhara rose in the region surrounding modern Peshawar. Alexander the Great defeated Gandhara in 326 BCE, but Greek rule did not survive. Instead, Gandhara

was subsequently conquered by the Mauryan Empire (321-185 BCE). The Umayyad caliph in Damascus sent an expedition to Balochistan and Sindh in 711 CE. This foray saw the inauguration of coastal trade, and a Muslim colony emerged in Sindh from which culture and religion radiated. Some 250 years later, Turks and Afghans spearheaded the Islamic conquest of India via the northwestern mountain passes, particularly the Khyber Pass. During the last years of the 12th century, Muhammad of Ghor conquered Ghazni, Multan, Sindh, Lahore, and Delhi. In 1211, his successors established the Delhi Sultanate, which ruled almost the entirety of modern Pakistan.<sup>9</sup>

Although Europeans had reached the subcontinent in 1498, the area remained under the rule under the Mughal Empire (1526-1858) until internal factionalism, resulting from the 1707 death of Emperor Aurangzeb, prevented the Mughals from resisting European dominance. During the 17th century, European traders had established trading outposts – Dutch (1609),



Photo 1: Ruins of Mohenjo-Daro, Sindh Province

English (1612), and French (1674)<sup>10</sup> – that would eventually serve not only as transshipment points but also fortified refuges. British outposts gradually began to apply British law to disputes that arose within their jurisdiction, and the British East India Company armed its personnel to protect trade. From the middle of the 19th century, almost all of the territory that constitutes modern Pakistan, India, and Bangladesh was under rule of the British East India Company. The formal end of the Mughal Empire and the shift from British East India Company rule to British Crown authority came with the British Parliament's Government of India Act (1858).

After World War I, the subcontinent saw increasingly urgent moves toward ending British rule. Events in the late 1920s and 1930s led Muslims to understand that their destiny might be in a separate state from Hindus. During the 1930 Muslim League session at Allahabad, the League's President demanded a confederated India to include a Muslim state. A group of students at Cambridge in Britain would give a name to this state in a 1933 pamphlet, which said "Pakistan . . . is . . . composed of letters taken from the names of our homelands: that is Punjab, Afghania [North-West Frontier Province], Kashmir, Iran, Sindh, Tukharistan, Afghanistan, and Balochistan. It means the land of the Paks, the spiritually pure and clean." In provincial legislative elections in 1937, the union-oriented Indian National Congress gained massive majorities and refused to form coalition governments with the Muslim League whose Mohammad Ali Jinnah became convinced that "Pakistan" would become a unifying issue among Muslims. When the Labour Party came to power in Britain in July 1945, it sent a team to India to discuss self-government. The Cabinet Mission Plan sought to transfer power to a single union. When the viceroy representing the Crown proceeded to form an interim government without Muslim League, the party called for "Direct Action" starting in August 1946. Communal rioting broke out; it quickly spread and continued well into 1947. The new viceroy arrived in February 1947, and he

convinced government that partition would be required swiftly. On 14 July 1947, the House of Commons passed the India Independence Act, which created two independent dominions. The more than 500 princely states were left to accede to either and all but three quickly chose. The accession of Jammu and Kashmir could not be resolved.

On 15 August 1947, Pakistan achieved independence. Muhammad Ali Jinnah became the first governor general of the Dominion of Pakistan, which faced myriad challenges not the least of which was that the new country's territory was divided into two parts (East Pakistan, now Bangladesh, and West Pakistan, now Pakistan), separated by 1,600 kilometers of Indian territory. Moreover, a lack of constitutional authority saw a succession of leaders from Jinnah who died in September 1948 through Ghulam Mohammad, who was forced to resign in 1955. The 1956 constitution merged the western provinces of Balochistan, North-West Frontier Province, Punjab, and Sindh into a single administrative unit, which in the new Legislative Assembly was to have parity with the more populous province of East Pakistan. However, an eruption of political and armed unrest in several areas saw General Iskander Mirza suspend the 1956 constitution on 7 October 1958. Mirza himself was ousted and exiled 20 days later.

General Ayub Khan assumed control. He oversaw the promulgation of a new constitution in 1962, but both he and the 1962 system fell in 1969. In West Pakistan, the Pakistan Peoples Party (PPP), founded by former regime insider Zulfikar Ali Bhutto, called for a "revolution"; in the east, the Awami League's Sheikh Mujibur "Mujib" Rahman rallied the opposition. On 25 March 1969, martial law was proclaimed, and General Agha Mohammad Yahya Khan assumed the presidency. Pakistan's first "one person, one vote" general election was held on 7 December 1970. Awami League won a colossal victory in East Pakistan without winning a seat in the West. PPP won a large majority in the West but no seats in the East. Yahya Khan tried to persuade Bhutto

and Mujib to negotiate, but this effort proved unsuccessful. On 1 March 1971, Yahya Khan dissolved his civilian cabinet and indefinitely postponed the National Assembly.

In East Pakistan, civil disobedience erupted. The writ of the central government all but ceased to exist in East Pakistan. Mujib, Bhutto, and Yahya Khan met in Dhaka in late March, but when talks broke down on 25 March, General Tikka Khan, who commanded Pakistani forces in East Pakistan, launched emergency operations. Mujib was taken into custody and flown to West Pakistan to stand trial for treason. The military crackdown accelerated into a full-blown civil war. In Chittagong, southeastern East Pakistan, Major Ziaur Rahman proclaimed the independence of Bangladesh. By early April, the Pakistan Army controlled most of East Pakistan. Relations between Pakistan and India, already tense, deteriorated sharply after the Indian parliament passed a resolution in support of the “people of Bengal” and sent assistance. In response to Indian military movements along and across the Indian-East Pakistan border, the Pakistan Air Force attacked military targets in northern India on 3 December, and on 4 December India began an integrated invasion of East Pakistan. Indian forces closed in on Dhaka and received the surrender of Pakistani forces on 16 December. Violent demonstrations against the military government erupted at the news of Pakistan’s defeat. Yahya Khan resigned on 20 December. Bhutto assumed power. Until 1976, no formal relations existed between Bangladesh and Pakistan.<sup>11</sup> Pakistan’s post-1976 territory is shown in the map in Figure 1.<sup>12</sup>

On assuming power in 1971, Bhutto promised to make a new Pakistan out of the West. He took steps to revitalize a stagnant economy, negotiated a peace settlement with India in 1972, and built new links between Pakistan and the oil-exporting Islamic countries to the west. Pakistan’s third indigenous constitution was promulgated on 14 August 1973. However, opposition and insurgency plagued the PPP administration. Bhutto’s January 1977 announcement of national and provincial assembly elections in



Figure 1: Map of Modern Pakistan

March saw nine political parties form a unified opposition that was, nonetheless, handily defeated. Expecting trouble, Bhutto restricted political assembly, and a mass protest movement immediately arose. The army intervened in July and took all political leaders, including Bhutto, into custody.

General Mohammad Zia ul-Haq took control and proclaimed martial law. He canceled elections to carry out a program of “accountability” that would culminate in the trial and hanging in April 1979 of Bhutto. After the 1985 election, Zia promised to end martial law if legislators would pass the Eighth Amendment to the constitution and legalize all acts taken under martial law. With the amendment passed, Zia ended martial law. Pakistan Muslim League and PPP both resumed activity, the latter under the leadership of Bhutto’s daughter, Benazir. In May 1988, Zia dissolved the national and provincial assemblies and decreed new National Assembly elections on 17 November 1988. But in August, Zia was killed in an explosion aboard his airplane along with the chairman of the joint chiefs committee, the U.S. ambassador, and 27 others. The election went ahead, and results gave a plurality to PPP. Benazir Bhutto was sworn in as Prime Minister on 1 December 1988.<sup>13</sup>

Between 1988 and 1999, PPP's Benazir Bhutto and Muslim League's Nawaz Sharif alternated in the Premiership with both confronting allegations of incompetence and corruption and encountering pressure from the armed forces. In 1991, Islamic Sharia law was formally incorporated into the legal code, and in 1998, the country conducted its own nuclear tests after India had exploded several nuclear devices. Then, in May 1999, Pakistan-backed forces clashed with the Indian military around Kargil in Indian-held Kashmir. More than 1,000 people were killed on both sides. By this time, Bhutto was already in exile to avoid prison on criminal charges. After October 1999, when General Pervez Musharraf seized power, Nawaz would go into exile in 2000 after having been charged with trying to halt the 1999 coup. In June 2001, Musharraf named himself President. Later that year, he publicly backed the U.S. campaign against the Taliban and al-Qaeda in Afghanistan; as part of this support, he took steps to curb religious extremism at home. Another initiative was to improve ties with India, and efforts included a Kashmir ceasefire, the resumption of direct air links, direct bus service between Muzaffarabad in Pakistani-administered Kashmir and Srinagar in Indian-controlled Kashmir, and finally, the February 2007 agreement aimed at reducing risk of accidental nuclear war.

In latter 2007, both Benazir Bhutto and Nawaz Sharif returned from exile as Musharraf moved toward a controversial victory in presidential elections. That December, amidst campaigning, Benazir was assassinated at a political rally. In early 2008, PPP and Muslim League formed a coalition government. They moved to impeach Musharraf who resigned in August. The coalition government also fell apart, but PPP formed a fresh government in September and Benazir's widower was named President. Elections in 2013 brought Nawaz back to power; he was forced out in August 2017 amidst fresh corruption charges that would see him convicted and sentenced to jail. In 2018, the succession of PPP-Muslim League premierships ended when Imran Khan became Prime Minister after his party won

general elections.

Alongside political wrangling, Pakistan continued to combat terrorism and militancy, particularly linked to the ongoing conflict in Afghanistan. Notable incidents included attacks on schools and schoolchildren as well as large-scale assaults on security forces. In July 2007, security forces stormed the jihadist-occupied Red Mosque complex in Islamabad following a week-long siege. In September 2008, a suicide bombing on a Marriott Hotel in Islamabad left 53 dead, and the government launched a major offensive in Bajaur tribal area that resulted in the deaths of more than 1,000 militants. In August 2009, the leader of Pakistan's Taliban was killed in U.S. unmanned aerial vehicle (UAV) attack in South Waziristan. That month, a suicide bombing in Peshawar killed 120. In May 2011, Osama bin Laden was killed by U.S. Special Forces in Abbottabad. In October 2012, Taliban gunmen seriously injured 14-year-old Malala Yousafzai for "promoting secularism." Not only did the attempted murder eventually net Malala the Nobel Peace Prize, but the shooting sparked an upsurge of anger in Pakistan against the militants. In November 2012, a Taliban suicide bomber killed 23 people at a Shia procession in Rawalpindi. In June 2014, an assault on Karachi's international airport left dozens dead; Uzbek militants fighting with the Pakistani Taliban said they carried out the attack. Meanwhile, peace talks with the Taliban collapsed and the army launched a major offensive on Islamist hideouts in northwest Pakistan. In December 2014, the Taliban killed nearly 150 people in an attack on a school in Peshawar. And in February 2017, Islamic State claimed responsibility for a suicide bombing at a Sufi shrine in Sindh; the attack killed nearly 90 people and would spur Pakistan to close its border with Afghanistan.<sup>14</sup>

## Culture and Demographics

### Ethnic Makeup

Pakistan is a complex country, wedged between Hindu influences from India and the

contrasting Islamic cultures of Afghanistan and Iran.<sup>15</sup> Pakistan has long been a route of military conquest and a center of exchange and, as a result, it has created a national identity composed of multiple ethnicities and cultures. Pakistan’s population can be divided broadly into five major and several minor ethnic groups. The Punjabis are the largest group and constitute almost half of the population (44%).<sup>16</sup> Other groups include the Pashtuns or Pathans (15.4%), Sindhis (14.1%), Saraiki (8.4%), Muhajirs – Muslims who fled to Pakistan after Partition in 1947 - (7.6%), Balochi (3.6%), and others (6.3%).<sup>17</sup>

### Key Population Centers

Pakistan has a population of 238.1 million although estimates vary widely among sources. Key population areas include Karachi (16.4 million), Lahore (13.1 million), Faisalabad (3.5 million), Rawalpindi (2.3 million), Gujranwala (2.3 million), and Islamabad, the capital (1.2 million).<sup>18</sup>

The age structure of the country skews heavily toward younger people. While people over 65 years of age make up only 4.44% of the population, people under 25 years of age make up 55.31%. Thus, only about 40% of the

population labors to support the remainder. This demographic structure is visualized in Figure 2.<sup>19</sup>

The population pyramid reveals a significant youth bulge, making it the fifth largest ‘young country’ in the world. Conventional economic thinking posits that, as a large number of young adults enter working ages, a youth bulge can either become a demographic asset or liability, depending on how the working-age population is employed in productive activities. According to this thinking, Pakistan’s high youth unemployment rate is a cause of concern.<sup>20</sup>

### Language

The most common first language spoken by Pakistanis is Punjabi (48%). Other languages include Sindhi (12%), Saraiki - a Punjabi variant - (10%), Pashto or Pashtu (8%), Urdu – the official language - (8%), Balochi (3%), Hindko (2%), Brahui (1%), and other languages, e.g. English, Burushaski, etc. (8%).<sup>21</sup>

### Religion

Islam is the official religion of Pakistan and is adhered to by 96.4% of the population. Sunni Islam is dominant with 85-90% of Pakistanis following it versus 10-15% following Shia Islam.

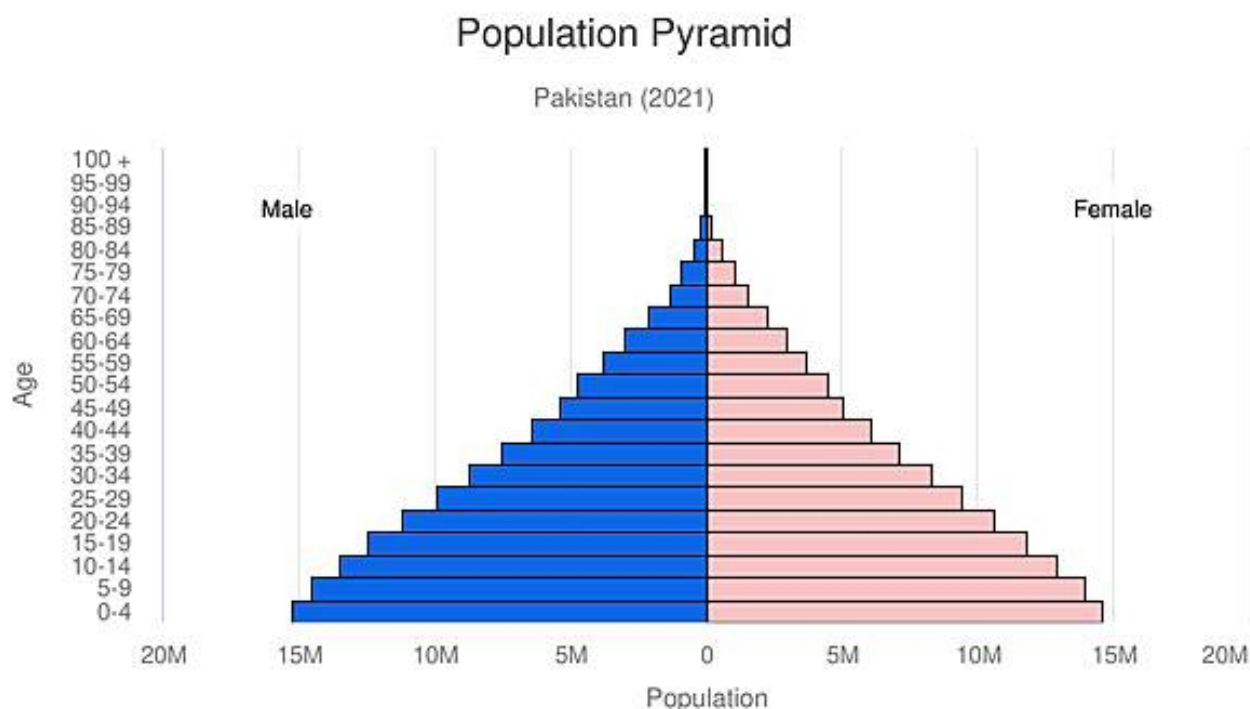


Figure 2: Pakistan Population Pyramid, 2021

Less than 4% of the population follow other religions, mostly Christianity and Hinduism.<sup>22</sup>

### Vulnerable Groups

More than half of Pakistan's population lives in rural areas although the proportion living in urban areas is increasing. There are stiff challenges in providing public service access and reducing disaster risk in both settings. The Indus River Basin is the most common setting for the country's natural disasters, and this zone, particularly the northeast, is an area of high population density; thus, there is a high risk of displacement and destroyed livelihoods alongside the potential for a disaster to increase the incidence of harassment and violence against vulnerable populations.

### Women and Girls

Women in Pakistan confront discrimination and a lack of access across the economic, educational, political, criminal justice, and health care spectra. Pakistan ranks very low on global measures of gender equality – 153rd of 156 countries measured – with particularly low rankings in economic participation (.369 on a 0-1 scale where 0 is perfectly unequal and 1 is perfectly equal) and political empowerment (.148 on a 0-1 scale where 0 is perfectly unequal and 1 is perfectly equal).<sup>23</sup> The passage of the 18th amendment to the constitution, among other reforms, eliminated the Ministry of Women's Development and devolved responsibility for gender policy to the provinces where there were wide disparities in the readiness of provincial governments to handle the mission.<sup>24</sup>

The challenge of economic participation and financial independence is interlinked. Although Pakistan saw a doubling of the female labor force participation rate between 1995 and 2012, progress has slowed with the female unemployment rate (those women looking for work but not currently working) rising. Moreover, women's wages have not risen in parallel with men's, and families are increasingly questioning the value of educating girls if

educational expenditures do not produce a return on investment via valuable employment.<sup>25</sup> Of particular note, women's labor force participation rate in 2021 stood at only 22.6% with nearly 40% of employed women being underemployed. Meanwhile, fewer than 5% of senior officials and managers are women, and only one-quarter of professional or technical workers is female.<sup>26</sup> Often lack of financial contribution to a household holds women back from having a say in household expenditures, and less than 10% of Pakistani women report having access to any type of bank account. In addition, households are not spending on appliances or devices that save women time in household labor, thereby ensuring that housework continues to require women's time, prohibiting them from seeking employment outside the home.<sup>27</sup>

On the political front, the country has minimal female participation at the highest levels where 20% of members of parliament are female, 10% of government ministers are female, and a woman has been head of state for fewer than 5 years in the last 50<sup>28</sup> (Benazir Bhutto's two terms as Prime Minister during 1988-1990 and 1993-1996).<sup>29</sup> In the 2018 general election, the latest for which statistics have been published, 11 million fewer women than men exercised their right to vote, a male-female gap of 9.1% in turnout; indeed, of the 46 million registered female voters, only 40% participated that year. Surveys have found that even in urban areas, female voters express concern and interest in different issues than do male voters, and this suggests that women are less likely to vote if political attention is not paid to issues of concern to them. This self-directed non-participation worsens societal impediments to voting that stem from communal mores, lack of transport or time, illiteracy, or lack of outreach. Of particular interest are survey findings that show that age is a key element determining female participation: older women are more likely to vote because they can obtain head-of-household permission and do not have as many demands on their time whereas younger women have more household duties and are less likely to obtain permission to vote.<sup>30</sup>

In 2010, Article 25-A of the Constitution legislated free and compulsory education for children ages 5-16.<sup>31</sup> Gender disparities are rampant with boys outnumbering girls at every stage of education. Human Rights Watch reported that 32% of girls of elementary school age are out of school, compared with 21% of boys. By grade six, only 41% of girls participate in education, compared with 51% of boys. And by grade nine, merely 13% of young women are still enrolled in school. The causes of gender disparities include safety concerns, particularly in rural areas where students walk to school and there are concerns about sexual assault. Moreover, some gender inequity can be linked to child marriage and a culture that has historically undervalued the education of young women. Poverty also plays a major role. Families, particularly those in rural areas, often cannot afford the costs related to education. Girls are frequently kept at home to cook and do housework so that both parents can work.<sup>32</sup>

Maternal health has seen significant improvement in the past decade with the percentage of deliveries attended by a skilled birth attendant rising from 52% to 69% in 2019 on the basis of the creation of Mobile Health Units in some areas, the upgrading of basic clinics, and the advent of telemedicine. However, of Pakistan's Sustainable Development Goals for 2030, the country seeks to increase the proportion of women with family planning needs satisfied by modern methods from 47% to 70% and to reduce the adolescent birth rate from 44% to 22%. As of its 2019 review, the country found that the contraceptive prevalence rate had stagnated at 34% with an unmet contraceptive demand of 17%. Despite these numbers, the country continues to see the provinces avoid making policies that would directly address the health needs of women that had been laid out in the National Health Vision Pakistan 2016-2025. Rather than focusing on maternal health and family planning needs, provinces enacted policies related to hepatitis, occupational safety, and juvenile smoking.<sup>33</sup> Indeed, there is little to indicate an appetite at the political leadership

level to confront the issue of women not having a say in family planning matters or access to health professionals who can or will advise them on reproductive health issues. A 2013 survey found that 51% of women versus 75% of men indicate that they have power to decide on seeking medical services for themselves due to the following restraints: not wanting to go to the health facility alone, lack of transport, distance to facility, getting money for treatment from head of household, and getting permission to seek treatment.<sup>34</sup>

### **Children**

Nearly 40% of Pakistan's population is under 18 years of age, and a national survey in 2017 found that there were 80.4 million children in the country. Marked disparities exist for children among Pakistan's provinces and regions and between rural and urban areas. In general, urban children enjoy better outcomes due to access to quality services – health care, immunization, proper nutrition, education, clean water and sanitation, and birth registration – than rural children. Rural areas more commonly exhibit low school enrollment, economic exploitation, malnutrition, poor sanitation, and early marriage. In addition to location, gender plays a role in children's vulnerability. Girls are less likely than boys to access basic services and have, on average, consistently lower development outcomes. Young women and girls are disproportionately burdened by gender norms which impact their opportunities, mobility, pursuit of education, nutritional status, and right to be protected from violence and harmful practices, such as child marriage. Girls represent a higher proportion of out-of-school children aged 5-16, are more likely to marry before the age of 18, have lower rates of full immunization coverage, and are less likely to receive treatment for illnesses.

Pakistan ranks second on the global ranking of out-of-school children. An estimated 22.6 million children between the ages of 5 and 16 are not in primary, middle, or secondary schools; this accounts for 44% of the country's school-

age children. Moreover, the country's low levels of birth registration (34%) are a hurdle for child protection as are high levels of violence and exploitation experienced by children. While significant disparities do not appear to exist between girls and boys, birth registration rates in urban centers are far higher than rural areas (59% v. 23%). Disparities also correlate with wealth. Birth registration is necessary as a key component to addressing violence against girls and women, sexual violence, child labor, child marriage, child trafficking, and the neglect of vulnerable children.<sup>35</sup>

The upshot of poverty, discrimination, and lack of education among many Pakistani children is that they do not have access to or cannot understand information related to disaster preparedness, communicable disease, or relief and recovery services.

### *Elderly*

According to HelpAge International, a London-based NGO working with and for older people, as of 2019, almost 15 million people living in Pakistan were 60 years of age or older (7% of the country's total population). This proportion is expected to rise to 40 million people, or 12% of the population in 2050. A combination of rural-urban migration and emigration out of Pakistan by younger, better educated Pakistanis is increasingly leaving older Pakistanis alone in both rural and urban settings. According to Assessment and Management of Geriatric Care in Pakistan, the government does not subsidize the health system and treatment for the elderly; indeed, general specialists and medical practitioners see and treat senior citizens. There are few rehabilitation centers for the elderly, and there remains a massive data gap on diseases among the elderly.

The Employees' Old-Age Benefits Institution was formed in 1976 to build social insurance and provide financial cover to senior citizens. Under the scheme, insured persons would be entitled to "old-age pension," but it does not cover more than 60% of Pakistan's elders because

those people who worked in the informal economy or whose employers did not enroll are excluded. This lack of financial resources means that Pakistan's elders continue to rely heavily on family and traditional social structures that integrated elders into social systems. However, migration and emigration has broken down these structures. As a result, elders have little say in where they live, with whom they live, what their daily life looks like, or what type of facilities and services they access.<sup>36</sup>

The Senior Citizens Welfare Council was established by the Senior Citizens Act 2014. It is responsible for policy proposals and implementation of senior citizen safeguarding, particularly in financial and healthcare realms. The council prioritized elderly well-being by establishing senior citizen homes, encouraging senior citizen groups, and creating a senior citizens card that provides free access to public spaces, separate access for medical treatment, and financial support for those in need. This was complemented by similar Senior Acts in Balochistan (2017), Sindh (2017), and Khyber Pakhtunkhwa (2014).<sup>37</sup>

Anecdotal evidence from the 2020-2021 COVID-19 pandemic found that Pakistan's elders were broadly aware of the pandemic but that most information on preventative measures was not in a language that they understood well and, thus, felt less well-informed on how to protect themselves. Moreover, there was a reported chasm between older men's and older women's access to and use of personal protective equipment and hygiene measures such as masks and soap for handwashing. Many older women reported having asked for but been refused disinfecting sprays or soaps due either to cost or availability. Many elders, particularly elder women, had only the option of isolating. Those who did not wish to or could not undertake such isolation disclosed continuing to go to the mosque, market, and neighbors' houses. Surveyed elders all reported higher rates of anxiety and financial worries during the pandemic.<sup>38</sup>



### Poor

Pakistan continues to struggle with poverty and has set the goal of reducing the poverty rate to 19% by 2023. Its fluctuating GDP growth over the past 20 years has been reflected in uneven progress. Although the total poverty rate is said to have halved between 2005 and 2015, impoverished people still accounted for about 25% of the population in 2015, with an estimated 39% of the population living in non-monetary or “multi-dimensional” poverty, meaning they lack access to education, health, or livelihoods. Various public and private programs exist to try to improve poor people’s access to resources and to stop people falling into poverty, but cash handouts and old-age pension systems cannot make up for gaps in education, health, and livelihoods access that are at the root of poverty.<sup>39</sup>

There are regional dimensions to the country’s poverty challenge; rural, multidimensional poverty may be as high as 55% in contrast to 9% urban, multidimensional poverty. Moreover, some districts in Balochistan and Khyber Pakhtunkhwa report 90% of the population living in multidimensional poverty while urban districts like Lahore, Karachi, and Rawalpindi report less than 10% in such a situation.

The federal government launched the Ehsaas program in 2019 as part of its broader development policies in hopes of building a modern welfare state that halts rising inequality and evens out development across the country’s districts. The program has four pillars: making the government work to create equality by addressing elite capture of the state, building safety nets for specific population segments, jobs and livelihoods, and building human capital. While the program nominally seeks to address the various types of poverty felt by different groups – farmers, laborers, chronically ill patients, students, people experiencing homelessness, persons with disabilities, orphans, widows, and the elderly – as a federal program within the devolved government structure, it has limitations. Thus, the “safety net” pillar has received the greatest attention via increased government spending, a focus on

institution building to implement programs, building a database for tracking, and instituting transparency and accountability systems. Among the actions to be taken are cash transfers to the chronically poor, a shock-oriented program to protect the poor against and after catastrophes, and recruitment of the private and non-profit sectors to intervene. In the end, Ehsaas foresees a progression of impoverished Pakistanis through a system of asset transfers, skills training, interest-free loans and microcredit, and eventual graduation from the system.<sup>40</sup>

Despite the programming set out in Ehsaas and assistance from multi-national and international organizations, the threat posed by natural or man-made disasters to Pakistan’s impoverished communities is substantial as they lack coping mechanisms and may be far from relief delivery hubs. However, not all hazards will impact the impoverished in the same way. An analysis of the early COVID-19 impacts in Pakistan found that the country’s GDP declined by 26.4% from mid-March to the end of June 2020 compared to a non-COVID scenario. Services were hit the hardest, registering losses of 17.6%, followed by industry with losses of 6.7%. Agriculture turned out to be resilient and remained relatively unhurt, falling by 2.1%. All households witnessed a reduction in incomes, but higher-income quartiles appeared to have lost more than lower-income ones in a reflection of the sectors that were hit the hardest, i.e., higher-wage services. Total government emergency expenditures, including cash transfer, were directed towards different kinds of households to reduce losses, but the national poverty rate spiked to 43% and 38.7% in April and May 2020, respectively. Estimates suggested that poverty rates would stabilize at about 27% through early 2021.<sup>41</sup>

### Persons with Disabilities

In the absence of reliable data, estimates of the number of people living with disabilities in Pakistan vary wildly from 3.3 million to 27 million people.<sup>42</sup> In 2009, Pakistan introduced the Special National Identity Card (SNIC) to

identify persons with disabilities and cater to their needs. By 2011, the National Database and Registration Authority had registered over 600,000 people,<sup>43</sup> but the 2020 census revealed that only 371,833 people had registered for the special ID, meaning less than 1% of the population was registered in this way.<sup>44</sup> The 1998 population census in Pakistan identified that persons with disabilities made up 2.38% of the total population; subsequently, the 2017 census stated that the percentage has fallen to 0.48%. WHO estimates suggest that 15% of the global population lives with some form of disability. Some Pakistani observers suggest that the undercount stems from a lack of society's understanding of disability, i.e., that people only think of people in wheelchairs as disabled. As a result, people with hearing, visual, or speech impairments get some attention while people with mental or developmental disabilities get no attention.<sup>45</sup>

Although Pakistan ratified the Convention on the Rights of Persons with Disabilities (CRPD) in 2011, it has struggled to implement integration even in the public sector where the government has the greatest influence.<sup>46</sup> In addition to CRPD, the National Disaster Management Act of 2010 requires minimum standards of relief for vulnerable groups, including persons with disabilities, and prohibition against discrimination during roll out of compensation and relief. National policy guidelines for vulnerable groups in disasters lay out a matrix for inclusion of vulnerable groups in disaster risk reduction planning and rollout. However, implementation of this act remains weak.<sup>47</sup> In 2020, the federal supreme court ruled that all levels of provincial and federal government had to implement programs to ensure that 2% of the public workforce were persons with disabilities who could perform their jobs using appropriate adjustments to infrastructure, technology, and modifications to the work environment.<sup>48</sup>

Beyond slow implementation of laws and policies to integrate persons with disabilities into daily life, these people are often overlooked in disaster risk reduction and disaster management

cycles and seldom considered as important actors in conflict prevention even though they are often more exposed during conflicts and displacement. CRPD, in articles 11 and 32, requires that persons with disabilities benefit from and participate in disaster relief, emergency response, and disaster risk reduction strategies. To a great extent, this means that people with disabilities must be included both in planning and implementation of disaster risk reduction and in post-disaster relief and rehabilitation programs.

In Pakistan, integration of persons with disabilities has been left to provincial authorities and local NGOs with a specific remit for working with people with disabilities.<sup>49</sup> For example, in the aftermath of the 2005 Kashmir earthquake, disability-focused organizations played a critical role in identifying and locating persons with disabilities. They highlighted needs and acted as links between communities and aid agencies. However, these organizations were not integrated with other civil society organizations. Persons with disabilities were often excluded from broader discussions about political, social, and economic issues that directly affected their lives after the quake.<sup>50</sup> Some changes have occurred, as became evident during the catastrophic 2010 floods. During the course of the response to this disaster, the local organization, STEP – the Special Talent Exchange Program – launched an Information Resource Center on Disability to allow district authorities who were involved in disaster response to access computerized databases on persons with disabilities. This database was connected to both STEP and Pakistan Red Crescent Society information and included the locations and histories of persons with disabilities so that responding groups could provide coordinated and appropriate information and services to these people and their families during rescue, relief, and recovery phases. In the decade since that flood, STEP has expanded its information center to include integration of persons with disabilities into the database construction and management to ensure their voice in risk reduction, planning, and response.<sup>51</sup>

Beyond these specific responses, the country's National Disaster Management Authority (NDMA) has made significant progress in DRR planning in the past decade, according to observers. NDMA has formulated some key policy papers to mainstream gender and identify needs of differently-abled persons in preparedness. Those resources include: the National Policy Guidelines on Vulnerable Groups in Disasters (2014), Needs and Concerns of Groups of Vulnerable Populations Residing in the Most Disaster Prone Districts of Pakistan, and Summary Report on Gender Mainstreaming and Gender-Based Violence (GBV) in Disaster Settings in the Context of Pakistan (2017).<sup>52</sup>

### ***Internally Displaced Persons and Refugees***

Pakistan hosts more than 1.4 million registered Afghan refugees and a similar number of Afghan nationals with a different status. In 2020, the Government launched a new visa regime that enables documented and regulated entry and stay for Afghan nationals. As of 2021, an estimated 69% of registered Afghan refugees lived among Pakistani host communities, where they had access to local services (health and education). A document renewal and verification exercise set for later in the year was expected to provide the registered refugees with new identity documentation issued by the Government of Pakistan. Due to prevailing uncertainty surrounding Afghanistan peace talks, escalating violence and lack of access to basic services and livelihoods in Afghanistan, and the impact of the COVID-19 pandemic, few Afghan refugees are undertaking voluntary return.

The COVID-19 pandemic had a serious impact on the livelihoods of refugees in Pakistan; these people are mostly daily wage earners. Children were affected by school closures, and some health facilities were temporarily closed to non-COVID-19 patients. During 2020, UNHCR was part of the pandemic rapid response in Pakistan with implementation of emergency cash assistance to support the most vulnerable refugee families, replicating the Government's emergency cash assistance for Pakistani citizens. In public hospitals, refugees received equal treatment as

nationals, while UNHCR provided mobile health units for remote refugee villages.<sup>53</sup>

In addition to refugees residing in Pakistan, the country's own people occasionally experience displacement due to disasters or conflict. The Internal Displacement Monitoring Centre reports that, as of December 2019, there were more than 120,000 internally displaced people (IDP) in Pakistan; these were propelled by both disaster events and conflict. Meanwhile, during 2020, there were some 829,000 displacements due to disaster in Pakistan; these were movements, not individual people as one person may be displaced more than once if more than one disaster event occurs. The majority of 2020 displacements are believed to have been temporary, driven by weather events such as flooding or heavy storms.<sup>54</sup>

### ***Minorities***

The government's position is that there are no ethno-linguistic minorities in the country, only religious ones, and since 1998, only religious minorities (not ethnic, linguistic, or other) have been counted in the census. Based on official numbers, less than 4% of the population are not Muslim; Christians and Hindus are the largest minority religious communities. Reported violence and harassment against these minorities have seen an outflow of them, and it is expected that the most recent census will show a fall in the population of all religious minorities over the past two decades. Among Muslim communities, Ahmadis and Ismailis also report suffering violence and harassment. In most cases, minority religions and castes count fewer than 500,000 members in Pakistan.

In Sindh province, there is a rift between people identifying as Sindhis and those considered Mohajirs. The divide dates to partition in 1947 when Urdu-speaking Muslims in India fled to Sindh while Hindu Sindhis fled into India, leaving their land and other possessions to which Mohajirs were said to have had access while local Sindhis were prohibited from taking possession. Both groups claim to make up a numerical majority within Sindh province, and occasional violence erupts

between the Urdu-speaking Mohajirs and the Sindhi-speakers who resent flourishing Mohajir institutions. An influx of Punjabi, wealthy landowners and greater Punjabi influence on Sindh province politics is complicating the already tense ethno-linguistic situation in Sindh.

Shi'a Muslims account for approximately 10–15% of the Muslim population. Among their number are several different ethnic groups. Though as Muslims they are free from certain restrictions affecting other religious groups, Shi'a are still regarded as apostates by some extremist Sunni groups and individuals. As a result, many face hostility from extremists and public calls for members to be killed. Among the most vulnerable Shi'a are the Hazara. Hazaras are an ethnic group predominantly based in Afghanistan but with a large population in Pakistan with the group's population estimated at 650,000-900,000. The majority of Hazaras in Pakistan, approximately 500,000, live in Quetta, the provincial capital of Balochistan. The targeting of Shi'a and Hazara by militant groups has seen especially bloody murders, and terror groups have carried out bombings. At present, the Hazara community in Quetta has been effectively ghettoized to two predominantly Hazara areas, Hazara Town and Alamdar Road.<sup>55</sup>

In Pakistan, many policy sectors are the responsibility of provincial or local authorities who, most often, reflect the ethnic, linguistic, and religious character of the communities in their area of responsibility. Although this lessens the potential for misunderstanding and discrimination in DRR and disaster relief policies, it also means that provinces and districts with better relationships with Islamabad get more resources and assistance, leaving less populous, less politically connected communities with attenuated ability to implement programs to address disaster risk and climate change.

## Economics

Pakistan's economy has grown steadily over the last two decades despite inconsistent policies. The per capita annual growth averages 2%, less than the national average in South Asia.

This is generally attributed to the country's tendency to rely for growth on short-term, rapid consumption, which leads to quick cycles between deficit and surplus that stall any acceleration in economic growth.<sup>56</sup> Pakistan's budget deficit has narrowed in recent years due to consistent foreign direct investment (FDI); however, FDI has been decreasing in recent years as the government's global strategies have changed as it has internally refocused on budgets and industry funding cuts in hopes of encouraging a broader array of investors and projects.<sup>57</sup> Indeed, since 2019, after Pakistan received an International Monetary Fund (IMF) Extended Fund Facility, the government has made progress in addressing exchange rates, deficits, and inflation that will, over the long term, improve the economy's openness and attractiveness to FDI.<sup>58</sup>

Agriculture, one of Pakistan's main sectors, remains weak due to limited infrastructure investment and political and social instability across the broader region.<sup>59</sup> Nonetheless, this sector accounts for one-quarter of GDP and employs upwards of 42% of the labor force, meaning that much of the population relies in some way on agricultural livelihoods. Meanwhile, the Industrial and Services sectors remain underdeveloped due to a lack of investment in the infrastructure that would support their expansion beyond the industrialized Punjabi and Sindhi cities. Industry contributes less than 20% of GDP and employs just 22% of the labor force while Services contribute more than 50% of GDP but employ about 35% of workers. The country needs to both expand modern technology infrastructure and adapt education and training to match skills needed in the value-added services industries in order to address the shortcomings that stall the sector from developing like other South and East Asian giants.<sup>60</sup>

Poverty remains high across the country with 24.3% of the population living at or below the national poverty line.<sup>61</sup> To a great extent, Pakistan's economy is weighed down by a huge informal sector that thrives due to corruption, organized crime, and weak regulation. While

formal unemployment remains steady at about 4.5%,<sup>62</sup> estimates find that upwards of one-quarter of working adults are employed in the informal sector. Over the long-term, this is a challenge because neither employees nor employers in the informal sector pay into social safety net systems or other taxation regimes, starving the public purse. Moreover, these workers are vulnerable to abuses, loss of employment without warning or cause, and unpredictable wages. Over the short-term, however, the influence of the informal sector is mixed because informal work can provide a stopgap for those suddenly displaced from the formal sector either by business churn or societal factors.<sup>63</sup>

Agriculture, manufacturing, apparel, and textiles are the main export goods.<sup>64</sup> The travel and transport industries make up most of the exported services. Pakistan mostly imports fuel and mining products of which the country produces little.<sup>65</sup> In both exports and imports, Pakistan tends to be a price taker and is vulnerable to external shocks. Of note, during the COVID-19 pandemic, the country has consistently seen weak export earnings and highly variable import costs as the world markets for foodstuffs and commodities (especially oil and gas) have fluctuated wildly. As the world market adapts and recovers from the pandemic, Pakistan expects its export markets to vary as well with China taking fewer Pakistani goods and the U.S. and Southeast Asia taking more.<sup>66</sup>

The effects of the global pandemic on Pakistan's GDP remain to be seen. In 2020, growth held mostly steady with a slight decrease of -0.4%, far less than the global average of -4.9%.<sup>67</sup> Nonetheless, forecasts suggest that Pakistan's GDP growth rate will rebound and at least average 2% between 2019 and 2022.<sup>68</sup> Total GDP is US\$312.6 billion dollars across a country of 212.2 million people<sup>69</sup> and public debt is equivalent to 83.5% of GDP.<sup>70</sup> One expected impact of the pandemic had not, as of April 2021, come to pass: remittances from overseas Pakistanis jumped rather than slumped. Between June 2020 and March 2021, remittances topped US\$2 billion, and March 2021 numbers were

43% higher than they had been in March 2020. Inflows are dominated by Pakistanis in Saudi Arabia, the United Arab Emirates, Britain, and the U.S.<sup>71</sup> This steady – and even record-breaking – contribution by overseas Pakistanis follows a two-decade old trend of rising remittances as both skilled and unskilled workers find jobs in the Gulf, Europe, and North America.<sup>72</sup>

Foreign aid to Pakistan comes from a variety of countries however the United States is consistently one of its top donors. The U.S. government has provided US\$5 billion in foreign assistance and US\$1 billion in emergency humanitarian response since 2009.<sup>73</sup> Pakistan's requested U.S. funding for 2021 is US\$66.15 million with the top three categories of foreign assistance being education and social services; peace and security; and democracy, human rights and governance.<sup>74</sup>

Pakistan has been a member of the World Trade Organization (WTO) since 1995 and a member of the General Agreement on Tariffs and Trade (GATT) since 1948.<sup>75</sup>

## Government

Pakistan is a federal, parliamentary republic with three branches of government: executive, legislative, and judicial. The present Constitution came into force in 1973 and has been amended several times, most recently in 2018. Amendment of the Constitution requires a two-thirds majority vote in both houses of the legislature.<sup>76</sup>

The President or Head of State is Arif Alvi and the Prime Minister (Chief of Government) is Imran Khan.<sup>77</sup> The President acts on the advice of the Prime Minister on most policy issues. The President is elected for a term of five years by the National Assembly, the Senate, and the four provincial assemblies, and the Prime Minister is elected by the National Assembly. The amended constitution provides that holders of both positions must be Muslim.<sup>78</sup>

Pakistan's four provinces, two federal territories, and two autonomous territories are divided into administrative divisions, districts, and sub-districts (*tehsils*). These units are run by local administrators, such as the divisional

commissioner, the deputy commissioner at the district level, and the subdivisional magistrate, subdivisional officer, or *tehsildar* at the tehsil level. In addition to the provinces, the Islamabad Capital Territory and tribal areas are administered by provincial governments.<sup>79</sup>

The legislature is a bicameral parliament (Majlis-e-Shoora). The Senate is a 104-seat body made up of indirectly elected Senators selected by the provinces and territories; Senators serve 6-year terms with one-half of members renewed every 3 years. The National Assembly is a 342-seat body, 272 members of which are elected in single-seat constituencies and 70 members of which are directly elected by proportional list (women or non-Muslims). All Assembly members serve 5-year terms with all seats up for election at the same time.<sup>80</sup>

The judicial system also has a religious dimension with the primary purpose to judge whether laws passed by parliament are congruent with the precepts of Islam. The Federal Shariat Court, a court of Islamic law (Shariah), was set up in the 1980s, and the Shariah system operates alongside the more secular, largely Anglo-Saxon system and legal tradition.<sup>81</sup>

The last presidential elections were in 2018, after which Prime Minister Imran Khan's Pakistan Tehreek-e-Insaf (PTI) party formed the federal government for the first time. The PTI-led coalition is composed of two Baloch parties, the Grand Democratic Alliance, Muttahida Qaumi Movement-Pakistan (MQM-P), and the Pakistan Muslim League-Quaid (PML-Q). The PTI also leads the government in Punjab and in Khyber Pakhtunkhwa, and it is a junior coalition partner in the Balochistan provincial government.

Pakistan's main opposition parties include the Pakistan Muslim League-Nawaz (PML-N) and the Pakistan Peoples Party (PPP). In September 2020, the PML-N, the PPP, and other opposition parties formed an unsuccessful coalition called the Pakistan Democratic Movement (PDM) to oust the PTI-led government through protests.<sup>82</sup>

## Environment

### Geography

Pakistan's landscape is diverse with the Pamir and Karakoram mountain ranges giving way to the fertile Indus River plain. Approximately three-fifths of the country consists of rough, mountainous terrain and plateaus, and the remaining two-fifths constitutes a wide expanse of level plain. There are five major regions: the Himalayan and Karakoram ranges and their subranges; the Hindu Kush and western mountains; the Balochistan plateau; the submontane plateau (Potwar Plateau, Salt Range, trans-Indus plain, and Sialkot area); and the Indus River plain. The Himalayas form the northern rampart of the subcontinent, and their western ranges occupy approximately 320 kilometers (km) of northern Pakistan.<sup>83</sup>

### Borders

Pakistan is bordered by Iran to the west, Afghanistan to the northwest and north, China to the northeast, and India to the east and southeast. The Arabian Sea forms its southern border.<sup>84</sup> In all, there are 1,046 km of coastline and 7,257 km of border, 2,670 km with Afghanistan, 438 km with China, 3,190 km with India, and 959 km with Iran.<sup>85</sup>

### Climate

Pakistan is characterized as having a mostly hot, dry desert climate. It is temperate in the northwest and very cold in the north.<sup>86</sup> The country has extreme variations of temperature. The mean temperature during June is 38°C (100.4°F) in the plains, and the highest temperatures can exceed 47°C (116.6°F). Winters are cold, with minimum mean temperatures of about 4°C (39.2°F) in January. Tropical storms from the Arabian Sea bring rain to the coastal areas.<sup>87</sup> The country does experience a monsoon season that generally runs mid-June through September with some variation annually and by elevation. The areas that experience the greatest monsoon rainfall tend to be in Sindh Province.<sup>88</sup>

# DISASTER OVERVIEW

## Climate Change

Climate change poses one of the biggest threats that Pakistan faces. Over the past 50 years, Pakistan's annual mean temperature has increased by 0.5°C (by 0.9°F) and is expected to rise by 3-6°C (by 5.4-10.8°F) by the end of this century, increasing the risk of widespread droughts. While annual precipitation has increased, the frequency and variability of rain has become unpredictable.<sup>89</sup> While Pakistan as a whole faces challenges associated with climate change, the agricultural industry and nationwide food supply are impacted the most by such drastic changes in temperature and rainfall. Much of the country contains dry, arid desert land where farmers rely on regular monsoon rains to bring relief to the region and to water crops. While some infrastructure in rural regions allows for water storage in irrigation, these resources have been tested as prolonged droughts see farmers relying heavily on agricultural infrastructure instead of naturally replenished water sources.<sup>90</sup>

Pakistan's high vulnerability to climate change is linked to widespread food and nutrition insecurity. Changing, erratic, and intense weather patterns resulting from climate change make farming and irrigation challenging. Availability of food and stable agricultural infrastructure are upended by unpredictable weather patterns. Disruptions in the food supply directly impact the livelihood of Pakistan's population, of which half depend on the country's agriculture sector.<sup>91</sup> In 2018, a survey found that at least 23.5% of households in Pakistan were moderately to severely food insecure and 10.1% of households were severely food insecure. Although Pakistan is considered a food surplus country, producing more than enough food for its population, droughts have taken a toll on output needed to curb malnutrition.<sup>92</sup> Increasing temperatures are causing high evaporation rates, and, as a result, the demand for water irrigation is likely to increase. Farmers will have to adapt by

acquiring heat and drought-tolerant crops and farming technologies.<sup>93</sup> Regions at the greatest risk for food insecurity due to climate change are Balochistan, Sindh, southern Punjab, and Khyber Pakhtunkhwa. Women and people without land ownership in these regions will have an especially difficult time recovering from climate change related impacts.<sup>94</sup>

Recent findings presented to Pakistan's parliament suggest that over 128,000 deaths occur across the nation each year due to climate change and that the average Pakistani's lifespan could decrease by two to five years due to environmental pollution.<sup>95</sup> The government is facing pressure to address these issues with such a large annual human toll necessitating action. While food insecurity is widely believed to be the dominant threat, the unpredictable rains that cause droughts also bring about devastating flooding. In 2017, the World Bank lent \$125 million to Pakistan to address flood protection infrastructure and determine the kinds of natural disasters to which each region is particularly susceptible. The government has been using the World Bank funds to create logistics plans centered around flood and landslide disaster response in districts recently affected by these disasters, such as Azad Jammu Kashmir's Kotli District, which has experienced an increase in flooding in recent years.<sup>96</sup>

## Hazards

Pakistan experiences the following natural hazards:

### *Flooding and Landslides*

Regular rains from seasonal monsoons can bring relief to farmers seeking water for crops. However, these occurrences also cause widespread floods, flash floods, and landslides, which devastate communities and agricultural areas.<sup>97</sup> Pakistan's monsoon season runs roughly June through September. Rural regions, especially the southern districts of Sindh and

Balochistan, can be devastated by flash floods and landslides that wash villages and farmland away while blocking essential roads to remote areas. Urban areas, especially Karachi, have experienced some of the worst urban flooding in the history of the country. Streets and homes are quickly overwhelmed by rain and sewage water due to outdated drainage systems. Poor city planning is often to blame during urban flooding disasters.<sup>98</sup>

A type of flooding of special concern in Pakistan is Glacier Lake Outburst Floods (GLOF). The combination of high-altitude glaciers in the Hindu Kush, Himalayas, and Karakorum and climate change on top of simple seasonal changes means that sudden water flow from glaciers into glacial lakes can set off a series of events. This excess water can only flow into the V-shaped canyons that carry normal flow, and the sudden, rapid rise in water levels can destroy lives, livelihoods, ecosystems, and infrastructure in its path.<sup>99</sup> Areas of northern Pakistan are, of course, at the highest risk of GLOF. A recent study found that accelerating glacier melt has created more than 3,000 glacial lakes in Gilgit-Baltistan and Khyber Pakhtunkhwa, and of these lakes, 33 are assessed as prone to hazardous GLOF, putting 7.1 million people at risk.<sup>100</sup>

### **Cyclones**

Pakistan is at high risk of impact by cyclones with Sindh, Balochistan, and Punjab at “high,” “medium,” and “low” risk, respectively. More northerly, mountainous regions are considered to be at “very low” risk for this hazard. The threat of cyclone damage stems not only from the potential for high winds but also for storm surge as well as heavy rains and flooding that result from storms making landfall in coastal areas. As cyclonic activity in the Indian Ocean changes with the impact of climate change, the frequency of storms is expected to decrease on average whereas wind speed and rainfall of each storm is expected to rise.<sup>101</sup>

### **Earthquake**

The mountainous regions of northern and northeastern Pakistan are prone to frequent

and sometimes devastating earthquakes. While Pakistan has experienced several earthquakes resulting in widespread damage and loss, the 2005 earthquake has eclipsed any in history as the most catastrophic; it left 73,000 people dead while eight districts across Pakistan reported damage and loss. Recovery efforts were made difficult as the hardest hit areas were located in remote, mountainous regions where equipment for reconstruction had to be navigated through steep terrain and harsh weather conditions.<sup>102</sup>

### **Drought**

Drought has become the main disaster that Pakistan must address on a long-term basis with devastating droughts often spanning years. Food insecurity is rising at an alarming rate as 36.9% of the population is already food insecure.<sup>103</sup> A drought spanning 1998-2002 was the worst in 50 years; however, consistent drought conditions since 2013 have drawn comparisons as five million people have been affected in Sindh and Balochistan districts where the drought has persisted.<sup>104</sup> As a country that relies heavily on its own food production, droughts in these heavily agricultural regions have caused a domino effect, leading to low food, crop, and water supplies. As a result, malnutrition and food insecurity is widespread, especially among children. Twelve million children in Pakistan are considered to have stunted growth, a national rate of 40.2%. Drought has hit the poor harder than any other demographic, with some of Pakistan’s poorest populations residing in drought affected districts.<sup>105</sup>

## **History of Natural Disasters**

The following is a list of natural disasters in Pakistan in the last ten years.

### ***Drought, Locust Infestation, Floods, and Pandemic-2020-2021***

During 2020 and stretching into early 2021, the population of Balochistan, which already experiences the highest prevalence of food insecurity, malnutrition, and poverty in Pakistan,



faced multiple shocks including high food prices, locust outbreaks, rains, flooding and snowfall, all exacerbated by the impacts of the COVID-19 pandemic. Most of the districts classified as arid with high dependency on rainfall did not receive rain between April and November 2020. Due to deficiency of pre-winter and winter rainfall, a moderate drought-like condition emerged in southern and western parts of Balochistan. Around 760,000 people are estimated to be facing high levels of acute food insecurity during the period March-June 2021, corresponding to the end of the lean season and the beginning of the harvest season. Looking forward to July-September 2021, corresponding to the post-harvest season, indicates that the number of people in Crisis and Emergency phases is expected to fall by only about 30,000.<sup>106</sup>

#### ***Floods and Landslides-August 2020***

Severe monsoon rains during August and September resulted in urban flooding. A reported 409 people were killed and 402 injured across several districts, with Sindh being the hardest hit. The flood wiped out the region's staple crops and disproportionately affected women who work as farm laborers. Food insecurity has been widespread as a result. Following the floods, a massive landslide occurred in the Gilgit-Baltistan region in October; it killed 16 people and damaged roads.<sup>107</sup>

#### ***Earthquake-September 2019***

A high-intensity 5.8-magnitude earthquake struck at a shallow depth of 10 km and damaged homes in Mirpur and Bhimber districts of Azad Jammu and Kashmir. The quake resulted in 38 deaths and over 646 injuries with crucial electrical lines and mobile and landline phone services disrupted. Families in the area were severely affected as over 8,500 households reported full or partial damage as a result of the quake. Recovery efforts also focused on the main road from Mirpur to Jatlan and the Jatlan Canal, both of which experienced severe damage that harmed people in vehicles near the structures during the event.<sup>108</sup>

#### ***Floods and Landslides-July 2019***

Heavy rain over the northeastern region of Pakistan triggered flash floods and landslides. Over the span of two months the gradually rising death toll saw 225 fatalities and 166 injuries as a result of floods, landslides, and mudflows. Torrential rain swept away over 200 houses, and search and rescue operations evacuated people to relief camps. Standing water in flooded areas hampered relief and rescue operations.<sup>109</sup>

#### ***Drought-2018-2019***

A prolonged, widespread drought affected over five million people across Balochistan, Sindh, Punjab, and Gilgit Baltistan provinces. The drought was a result of a monsoon season that brought less rain than anticipated. Over 70% of households in the affected areas were reported to be food insecure with malnutrition rates increasing to over 30%. The situation became one of the worst disasters in Pakistan. Minimal or no rainfall persisted across the affected regions, completely drying up drinking water resources and lessening water available through springs and wells. A pattern of increased temperatures in the region suggests an overall deterioration of water availability over the next few years. Government-run relief programs were only able to reach about 2.5 million people, half of the overall population affected.<sup>110</sup>

#### ***Floods and Heavy Snowfalls-Jan 2017***

Heavy rain and record-breaking snowfall resulted in flooding across Balochistan province over a week in January 2017. Over 60,000 people in the province sought government assistance, but only 6,000 were provided support. Some 13 deaths and 650 injuries were reported, with additional deaths and injuries reported after an avalanche and landslide occurred following the floods.<sup>111</sup>

#### ***Floods and Landslides-June 2016***

A severe windstorm brought heavy rain to Rawalpindi, Islamabad, Peshawar, and Lahore, killed 226 people, and injured hundreds of others after flash flooding and landslides destroyed

homes. The city of Lahore spent several days without power due to flood damage.<sup>112</sup>

### ***Floods and Landslides-March 2016***

A premature storm ahead of typical monsoon season left at least 262 people dead and injured 223. Most of the fatalities occurred in Khyber Pakhtunkhwa where flooding and landslides damaged over 2,700 homes. Food shortages and telecommunication outages were also reported during the storm and its aftermath. Over 300,000 families were registered as internally displaced, with only half returning to their places of origin.<sup>113</sup>

### ***Hindu Kush Earthquake-October 2015***

An earthquake registering 7.5 magnitude struck Badakhshan province with reports of people also feeling the impact of the quake in Afghanistan and India. The epicenter was in the Hindu Kush mountain range on the border between Pakistan and Afghanistan. Extensive property damage in remote locations made relief efforts difficult and prolonged. Over 25,000 homes were damaged in Pakistan alone with nearly as many damaged in Afghanistan.<sup>114</sup>

### ***Floods-April 2015***

A severe storm affected several parts of Pakistan with unseasonably heavy rainfall. The hardest hit areas of Balochistan, Gilgit-Baltistan, Punjab, and Sindh experienced widespread infrastructure damage and population displacement. Since the storm occurred before monsoon season, the event was dubbed a “mini-cyclone” due to the abnormal intensity of the storm so early in the season. The heavy rains combined with rapidly melting snow and runoff from glacial lakes, which led to flash floods and major flooding of the Indus River in Pakistan. Over 285,000 people were affected with 238 deaths and 232 injuries. The Pakistan Army and Government responded to the immediate needs of affected populations, evacuated more than one million people, and moved them to relief camps.<sup>115</sup>

### ***Floods-September 2014***

In early September 2014, flash floods affected Punjab, Gilgit Baltistan, and Azad Jammu and Kashmir. Heavy monsoon rains brought intense flooding, which damaged homes and caused widespread destruction to farmlands and livestock. Over 2.5 million people were affected by the floods, and over 250,000 farmers lost farmland totaling over one million acres. A reported 367 people died in the floods; however, the total does not take knock-on health effects resulting from the floods into account. After returning to their places of origin, the displaced population suffered respiratory illnesses, diarrhea, and skin diseases, which required further assistance beyond immediate flood relief.<sup>116</sup>

### ***Drought-2014-2017***

Beginning in 2013, Tharparkar district, Sindh, reported an increase in deaths related to chronic malnutrition. Low rainfall resulted in widespread crop failure and loss of livestock. As the drought worsened, access to reliable water sources became difficult, and waterborne illnesses became more common in the region. At the same time, an outbreak of sheep pox killed thousands of small animals. Malnutrition rates soared among children and adults, with children comprising most of the deaths and hospitalizations, due to the food shortages and water scarcity. From the rural region, families have to travel an average of 17 km to access health facilities. As drought conditions eventually improved, a joint UN observation mission took place in Tharparkar, Umarnot, and Sanghar districts, and findings stated that the situation could quickly deteriorate into a “humanitarian emergency” if needs were not met and rainfall levels remained low. Estimates found that hundreds of adults and children died during the drought and tens of thousands were hospitalized over the course of several years. An El Niño storm system at the end of 2017 eventually brought rains to the region.<sup>117</sup>

### ***Earthquake Awaran-September 2013***

A large earthquake struck the province of

Balochistan in a remote, mountainous section of the region. The initial intensity was measured at 7.7 magnitude. A few days later an aftershock measuring 7.2 magnitude hit southwest Balochistan. The earthquake resulted in 399 deaths and 599 injuries. Further fatalities, injuries or widespread damage was averted due to the remote, rural location.<sup>118</sup>

### ***Balochistan Flood-August 2013***

Several days of heavy rains due to monsoons caused widespread flooding in Balochistan. Authorities prioritized clearing the sewage system in order to begin work on flooded infrastructure. Lasting damage affected major road systems and displaced populations who were temporarily housed on canal banks.<sup>119</sup>

### ***Earthquake Washuk (Mashkel)-April 2013***

A 7.8 magnitude earthquake hit a section of the Balochistan region on the Iran-Pakistan border. The earthquake caused the collapse of hundreds of houses, resulting in thousands left homeless across remote villages in the area. Nearly 90% of Mashkel, a moderately sized town in the region, was flattened by the quake.<sup>120</sup>

### ***Balochistan Flood-August-September 2012***

Seasonal monsoon rains resulted in widespread flooding across Punjab, Sindh, and Balochistan provinces. While the initial monsoon rains came late in the season, an intense, late season burst caused flooding, infrastructure damage, and casualties. Balochistan province was hit the hardest with rural farms and livestock washed away by the flood.<sup>121</sup>

*A note on major disasters that pre-date the above mentioned:*

It is important to note that two major disasters in Pakistan's history, a 2005 earthquake and floods throughout July 2010, were some of Pakistan's largest ever natural disasters and resulted in massive human and infrastructure loss. There was a substantial international response including a significant civil-military coordination component, with the U.S. military among the responders.

The October 2005 7.6 magnitude earthquake, which struck South Asia, devastated northern Pakistan, specifically the Azad Jammu and Kashmir region. The quake resulted in over 75,000 deaths; some 128,300 people were severely injured, and over 3.5 million people were left homeless. During the earliest stages of the recovery effort the Pakistan Army stepped in and completed one of the most effective responses to a disaster of this scale with assistance from global partners, including the U.S. armed forces.<sup>122</sup>

Pakistan's 2010 monsoon season was marked by a massive Indus River swell moving from the Himalayas down to the Arabian Sea. This flood became one of the most tragic disasters in Pakistan's history. More than 20 million people were affected by the flooding as populations lost their homes and livelihoods. While much of the country was affected by the disaster, the provinces of Khyber Pakhtunkhwa, Punjab, and Sindh experienced the worst damage. At least 1,700 people died, and over 7 million people were left homeless. Collaboration between the Government of Pakistan, Pakistan Armed Forces, the U.S., and global agencies was ongoing even as flooding in 2011 and 2012 continued to devastate the region.<sup>123</sup>

## **Country Risks**

### **Country Risk Profile**

Risk calculation takes into account exposure to hazards, vulnerability, and institutional coping capacity, all of which are important factors in Disaster Risk Management. The Index for Risk Management (INFORM) Global Risk Index (GRI) measures the risk of humanitarian crises and disasters in 191 countries. The INFORM GRI supports a proactive crisis management framework. INFORM GRI is helpful for establishing an objective allocation of resources for disaster management as well as for coordinating actions focused on anticipating, mitigating, and preparing for humanitarian emergencies. The INFORM GRI model is based on risk concepts published in scientific literature with three dimensions of risk: Hazards & Exposure, Vulnerability, and Lack of Coping

Capacity. The first dimension measures the natural and human hazards that pose the risk. The second and third dimensions cover population factors that can mitigate against or exacerbate the risk. The vulnerability dimension considers the strength of individuals and households relative to a crisis while the lack of coping capacity dimension considers factors of institutional strength.<sup>124</sup>

The INFORM GRI model is split into different levels to provide a quick overview of the underlying factors leading to humanitarian risk. INFORM gives each country a risk score of 1-10 (1 being the lowest and 10 the highest) for each of the dimensions, categories, and components of risk, as well as an overall risk score.<sup>125</sup> The higher the score the more at risk a country is to disasters. In the 2021 INFORM Global Risk Index, Pakistan had an overall risk of 6.1/10,

which INFORM categorizes as the “High Level” risk class. The Hazards and Exposure dimension score takes into account a combination of both natural and human hazards, in which Pakistan rated 7.2/10. The Vulnerability dimension score was 5.7/10, and the Lack of Coping Capacity dimension score was 5.5/10. Physical exposure to earthquake, 9.3/10, was the highest risk in the Hazards & Exposure dimension due to natural hazards, though it was exceeded by a Projected Conflict Risk score of 9.7/10 due to human hazards. The Development and Deprivation risk category, measuring at a 7.8/10, was the highest-risk category within the Vulnerability dimension. Governance was rated the highest risk category, at 6.6/10, in the Lack of Coping Capacity dimension.<sup>126</sup> Figure 3 displays the 2021 INFORM GRI for Pakistan.

## RISK PROFILE

## INFORM Risk

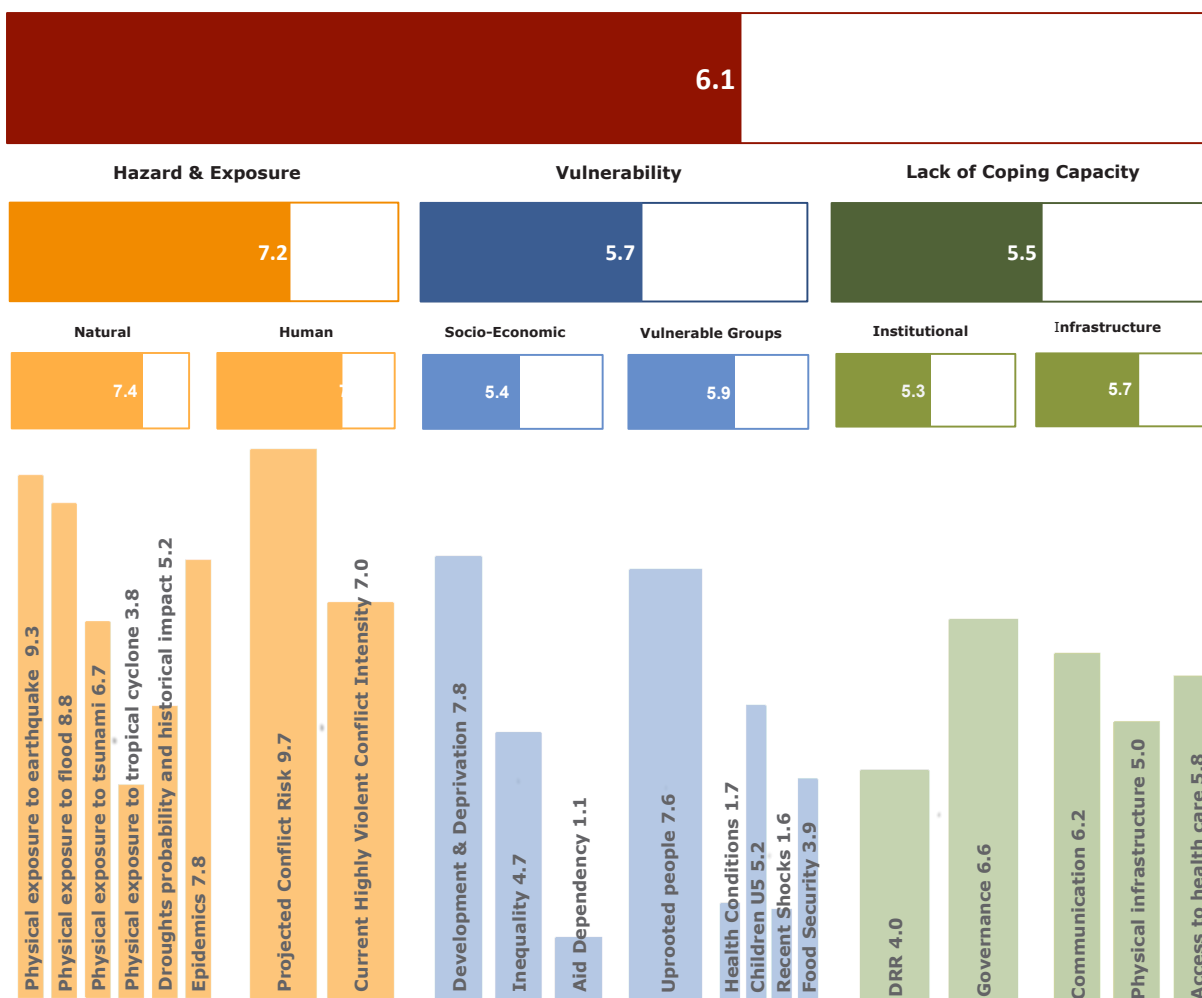


Figure 3: INFORM Risk Index for Pakistan, 2021

# ORGANIZATIONAL STRUCTURE FOR DISASTER MANAGEMENT

## Lead Government Agencies in Disaster Response

The National Disaster Management Commission (NDMC), headed by the Prime Minister, expedites overall policies at the federal level. The National Disaster Management Authority (NDMA) is the lead agency for disaster management at the federal level and provides technical guidance to national, particularly provincial-level, authorities on plans, strategies, and programs for disaster management. In 2011, the government placed NDMA under what would become the Ministry of Climate Change (MoCC), but it was then moved directly under the Prime Minister’s Office (PMO) in 2018.

There is a three-tiered disaster response system – Federal, Provincial, and District. At the Provincial (or other district) level, the Provincial Disaster Management Authority (PDMA) is the lead agency for disaster management. The Provincial Chief Minister heads the Provincial Authority or Commission. PDMA’s are

responsible for coordinating with ministries, departments, and districts for disaster risk management within the province.<sup>127</sup> Although this primacy of the Provincial administration is founded in the 18<sup>th</sup> amendment to the constitution, there remain some implementation challenges on the issues of disaster management and risk reduction.

The NDMA stood up in 2007 to be the federal government’s lead agency for implementation, coordination, and monitoring of all disaster management activities. These include preparedness, prevention, mitigation, response, recovery, rehabilitation, and reconstruction. Per the National Disaster Management (NDM) Act (2010), NDMA is headed by a Chair with three Members, each directing one agency wing (operations, disaster risk reduction, and administration/finance). The National Disaster Management Commission (NDMC) is the broader, whole-of-government body, chaired by the Prime Minister, of which NDMA is the Secretariat. Figure 4 shows the organization and lines of authority of NDMA.<sup>128</sup>

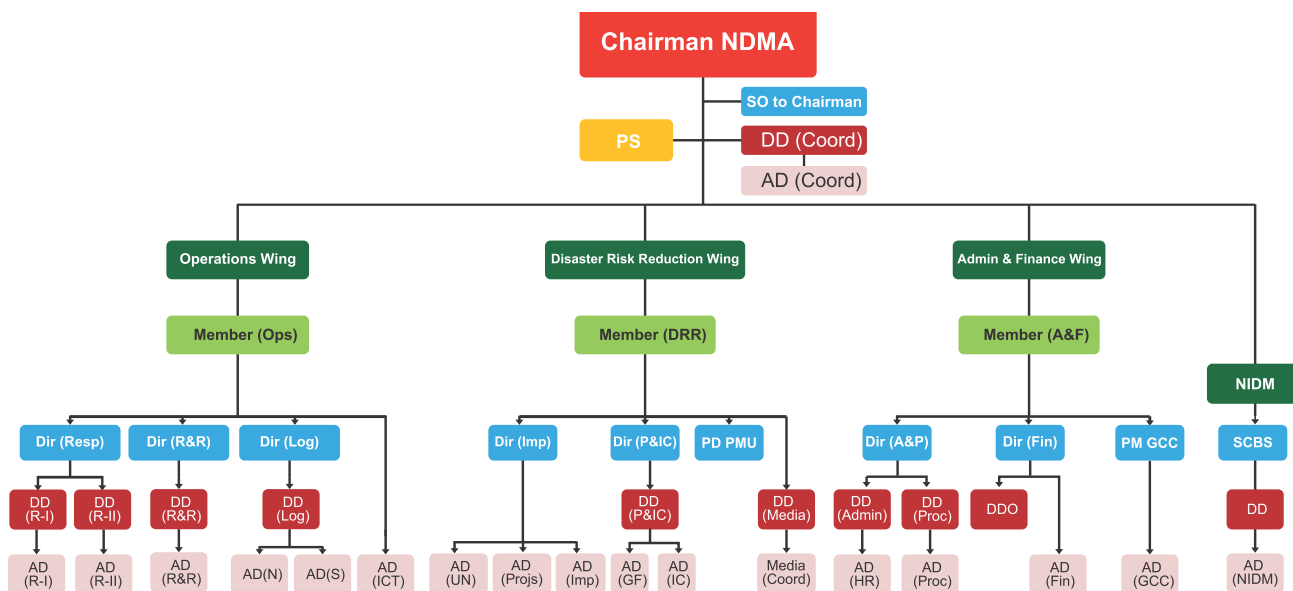


Figure 4: National Disaster Management Authority Organogram

NDMA's wings operate as follows:

- Operations (Ops) – The Ops Wing prepares contingency and response plans for natural and man-made events, develops policies and guidelines on rescue, relief, recovery, and rehabilitation, operates the National Emergency Operations Centre (NEOC), performs rescue, relief, recovery, rehabilitation, and reconstruction operations, coordinates assistance and relief efforts with government, UN, NGO, and other stakeholders, oversees training and deployment of Urban Search and Rescue (USAR), briefs Pakistani and other dignitaries, and conducts preparation exercises.
- Disaster Risk Reduction (DRR) – The DRR Wing establishes policies to address all types of disasters, insurance, and awareness, oversees implementation and progress on the National Disaster Management Plan (NDMP), plans, coordinates, executes, manages, and monitors NDMA projects with donors and partners, evaluates plans and strategies at the national, provincial, district, and civil society levels, mainstreams DRR with the development sector, manages international cooperation, frameworks, regional organizations, and conferences thereof, coordinates with UN agencies, bi- and multi-lateral organizations, and NGOs on all matters, and executes the Multi Hazards Vulnerability Risk Assessment (MHVRA) at national and provincial levels.
- Administration and Finance (A&F) – The A&F Wing provides administrative support for NDMA operations, handles procurement, transport, and record keeping of relief goods, manages administrative, transport, and Human Resources matters, carries out financial management of funds (budgetary and grant), advises on all NDMA finance matters, and ensures financial propriety and adherence to NDMA rules in using financial resources.<sup>129</sup>

The National Institute of Disaster Management (NIDM) operates under overall NDMA administration and serves as NDMA's research and training arm. In 2008, it began training and capacity development programs for managing natural disasters. One of its main tasks is developing the country's workforce for preparedness, prevention, recovery, and relief activities. Participants in training include agencies, non-government organizations (NGO), community development groups, and some members of the general public. Another task is to produce research, training, and awareness components of Disaster Risk Management (DRM) so that experts can provide knowledge, information, and training to the broader community. Under NIDM, the Disaster Information Resource Centre (DIRC) is intended to be the hub of disaster-related information for government agencies and organizations, the country's mass media, students, development professionals, and academics. Eventually, DIRC will provide online information on disaster statistics, news, briefs, etc.<sup>130</sup>

NDMA maintains warehoused stockpiles of relief items that can assist 300,000 at the immediate onset of a disaster. Provincial Disaster Management Authorities (PDMA) have similar size stockpiles. Six Urban Search and Rescue (USAR) teams – three heavy and three medium – are prepared and based in key locations throughout the country. In addition to coordinating and monitoring resources, NDMA keeps and disseminates guidelines for disaster management plans maintained by government ministries and departments and Provincial authorities, and it provides technical assistance to Provincial Governments. During emergencies, NDMA can disseminate guidelines and give direction to governments agencies at all levels regarding response measures. Moreover, NDMA can requisition the services of any person to assist.

At the provincial level, the PDMA has oversight on implementation, coordination, and assessments of ongoing risk reduction

efforts or on-the-ground emergency responses. Indeed, PDMA's are tasked with examining provincial vulnerabilities to different disasters and specifying prevention or mitigation measures. The PDMA has the power to examine construction to ensure it meets standards and to ensure that communication systems are in order and disaster management drills are carried out regularly.<sup>131</sup> It must be noted that despite PDMA's lead role in shaping risk reduction programs and even emergency responses, there are both financial and political obstacles to their functioning optimally. On one hand, provinces' ability to set aside funds for potential emergency responses is uneven meaning that PDMA's often immediately require financial assistance from the federal level.<sup>132</sup> On the other hand, as political creations, the Provincial administrations' willingness to devote resources to prevention and mitigation may be related to their relationships with the federal and district levels. One observer notes that when a party that is in the federal opposition controls a provincial administration, they may be more likely to prioritize the good publicity they can gain from disaster response than the less publicity attractive work of risk reduction.<sup>133</sup>

Finally, at the district level, authorities are closest to their communities and the groups most likely to be able to respond immediately. District Disaster Management Authorities (DDMA) ensure that areas vulnerable to disasters are identified and that measures for prevention and mitigation are undertaken. They organize specialized training for government officers and employees and for voluntary rescue workers, and DDMA facilitates community training and awareness programs. The DDMA has the greatest oversight of any level of government of early warning mechanisms, and it maintains communications systems via periodic drills. It has the power to identify buildings and places for use in the event of disaster situation, and it establishes stockpiles of relief and rescue materials or ensure preparedness to make such material available at short notice. Finally, DDMA encourages the involvement of NGOs and

voluntary social-welfare institutions working at the grassroots level in the district for disaster management.<sup>134</sup>

## Disaster Relief and Emergency Response

The National Disaster Management Act of 2010 mandates that NDMA elaborate guidelines and give direction to all concerned Ministries, Department, and Authorities at all levels of government regarding measures to be taken in response to any disaster situation. Despite this legal authority, many smaller-scale disasters remain within the remit of their respective district or provincial authorities as they do not rise to the level of requiring federal or international attention. International assistance can be requested by national authorities in case the scale of the disaster overwhelms national capacities.

The government level managing the emergency will operate the Emergency Operations Centre (EOC). EOCs operate in both emergency and non-emergency times. During a disaster, the EOC coordinates relief and early recovery while in non-disaster times, it works on preparedness and contingency planning. The EOC serves as the hub for information, coordination, and management of relief operations in affected areas. All agencies involved – Fire & Rescue, Pakistan Armed Forces, Civil Defence, Police Services, Ambulance Services, Pakistan Red Crescent Society, and other humanitarian agencies – will be coordinated by the EOC.<sup>135</sup>

### Armed Forces Role in Disaster Relief

Pakistan's armed forces are closely involved in all aspects of humanitarian assistance and disaster response. To a certain extent, the armed forces' organizational strength, well-trained and available manpower, resources, and institutional culture make it suitable to respond to emergencies, not just where conflict or other security concerns require the armed forces. Under the National Disaster Management Act

(2010), NDMA can call on the armed forces, police forces, or any other person or group to assist in disaster management. NDMA has the power to decide when/if the armed forces will be called upon and what assets will be requested.

The types of armed forces assistance that can be requested include:

- Preparing contingency plans
- Conducting rescue, relief, and evacuation operations alongside DM authorities
- Providing resources or equipment (helicopters, airplanes, ships, machinery, etc.)
- Assisting DM authorities in setting up camps and organizing medical camps in coordination with health leaders
- Supporting DM authorities in assessments
- Supporting DM authorities in recovery or reconstruction phases or conducting recovery and reconstruction independently as necessary
- Providing security during disasters, as necessary.

The National Disaster Management Plan (2019) envisions a role for the armed forces in Disaster Risk Reduction (DRR) while military institutions like the National Defense University,

Command and Staff College, and other training institutes, can be used for educating and training armed forces personnel on DRR, DRM, and mitigation.

Within the Armed Forces' Joint Staff Headquarters and at all Service Headquarters, the armed forces have a cell that can coordinate with civilian (National, Provincial, and District) leaders. NDMA Ops and the operations sections of provincial or district DMAs coordinate with the armed forces via the headquarters cells. Figure 5 shows the coordination mechanism linking the armed forces and civilian DMAs.<sup>136</sup>

## Disaster Management Partners

Beyond the NDMA and armed forces, Provincial Relief Commissioners are responsible for managing any disaster situation in the provinces. In theory, this Commissioner has access to funds that can be released down to the district level for provision of facilities, for compensation for casualties, housing or crop damages, and for relief items as granted and distributed through District Damage Assessment Committees.<sup>137</sup> In practice, Provincial-level Commissioners rarely have access to sufficient funding to respond to disasters.<sup>138</sup> Moreover,

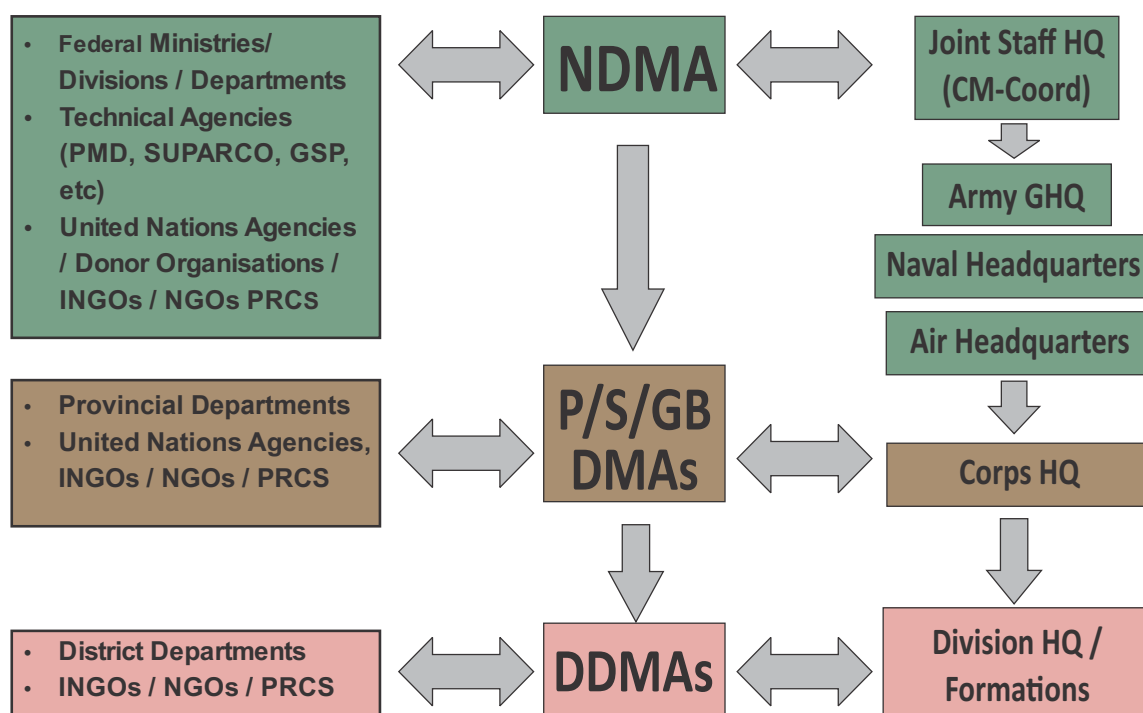


Figure 5: Civil-Military Coordination Mechanism for Disaster Management



at the provincial level there is often a lack of policies, procedures, or practices to manage the communications needed during an emergency, meaning that help is provided in a top-down manner that never results in preparedness. Finally, no level of authority in Pakistan's disaster management architecture has a complete, working information repository that would promote information management and institutional memory by logging past disaster events, what types of resources were used during them, and what stakeholders joined the response.<sup>139</sup>

Figure 6 shows the constellation of stakeholders envisioned in NDRP that may respond in case of a disaster in Pakistan.<sup>140</sup>

The Civil Defence Department is primarily tasked with confronting hostilities from foreign powers within Pakistan's territory, but it also has the following tasks in times of natural or man-made disasters in peacetime:

- Assist local administrations or the Army in rescue, relief, and evacuation measures
- Form Search and Rescue (SAR) teams and train them in each province/district
- Organize training and simulation exercises for government personnel, youth, and volunteers on SAR mission and on First Aid
- Organize training on bomb disposal and bomb reconnaissance for armed forces personnel, police, and other agencies
- Develop a database of volunteers at District and Agency Headquarters and within cities and provide SAR/First Aid training for these volunteers
- Organize training on firefighting for government staff and volunteers

- Create community awareness of Public Safety Organizations.

Municipal authorities may call upon the Fire Fighting Services as necessary. In addition, other emergency services, like ambulances, are present in all provinces and can be called up during disasters.

The Pakistan Red Crescent Society (PRCS), supported by other Red Cross or Red Crescent National Societies, is a key partner in disaster response and preparedness. It is involved in providing relief, assisting in recovery and reconstruction, and supporting capacity building. It is present in more than 80 districts throughout the country via 1,000 personnel and 50,000 volunteers.

The National Humanitarian Network (NHN) and Pakistan Humanitarian Forum (PHF) are coordinating bodies for national and international organizations respectively when those organizations become involved in disaster response in Pakistan. NHN and PHF coordinate



**Figure 6: Stakeholders, Key Players, Facilitators, and Enablers in Pakistan Disaster Response**

directly with NDMA. Other local charity, civil society, and philanthropic organizations that are either specialists (ambulance, evacuation, food distribution, etc.) or generalists are present nationally. They can augment the government response via provision of life-sustaining goods and services, reduce emotional and physical distress, and facilitate recovery. Among other volunteers that can be employed are volunteers from the Pakistan Boy Scouts and Girl Guides, Surge Emergency Response Teams (SERT) of experts, and industrial volunteers.

UN agencies in country are involved in the full scope of disaster risk reduction and disaster management, including assessment, planning, coordination, response, and recovery. The UN team in the country has a lead role in establishing the Inter-Agency Standing Committee (IASC) and in coordinating periodic UN-NGO meetings to monitor responses. UN agencies have a key role in capacity building, providing technical support to Pakistan's government (federal, provincial, and district) in policy formulation and disaster management planning. UN agencies and partners may activate the Cluster system during an emergency in Pakistan. Indeed, the multi-national response to the 2005 Pakistan earthquake marked the initial time that the Cluster approach was used during a major disaster.<sup>141</sup>

Many of the UN agencies operate in Pakistan; they include: the Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD), the International Labour Organization (ILO), International Organization for Migration (IOM), Office for the Coordination of Humanitarian Affairs (OCHA), UNAIDS, United Nations Environment Programme (UNEP), UN Department of Safety and Security (DSS), UN Development Programme (UNDP), United Nations Conference on Trade and Development (UNCTAD), United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Population Fund (UNFPA), UN-Habitat, United Nations High Commissioner for Refugees (UNHCR), United Nations Industrial

Development Organization (UNIDO), United Nations Children's Fund (UNICEF), United Nations Office on Drugs and Crime (UNODC), United Nations Office for Project Services (UNOPS), UN Volunteers, UN Women, the World Food Programme (WFP), and World Health Organization (WHO).

UNDP is among the most active agencies in supporting Pakistan's disaster risk reduction (DRR) planning, long-term ecological resilience building, and climate change adaptation. Among the top projects are the current Disaster Risk Reduction Program that emphasizes enhancing Government capacity at the national, provincial, and district levels, and supporting community resilience building for at-risk communities. Via this program, UNDP provides technical assistance to NDMA for developing a national plan of action on the Sendai Framework, early recovery need guidelines, and a policy framework on tsunami and coastal hazards preparedness. Via a public-private partnership strategy, UNDP is supporting Sindh and Punjab provincial authorities' access to resources for disaster risk management (DRM). In these same areas, UNDP has established four District Emergency Operation Cells and prepared Disaster Risk Management Plans for highly vulnerable districts. Moreover, the agency has helped implement community-based disaster risk management (CBDRM) in 130 at-risk communities in Khyber Pakhtunkhwa, Balochistan, and Sindh. UNDP assisted selected vulnerable districts of Sindh (Ghotki and Kashmore) and Punjab (Muzaffargarh and Rajanpur) to develop district DRM plans and Emergency Operation Centres. It supported implementation of 60 mitigation schemes including erosion control structures, flood protection walls and bands, causeways, culverts and drains, raised platforms, check dams, and solar submersible pumps. CBDRM training has been given to almost 10,000 community members. Finally, UNDP assisted the National Institute for Disaster Management in training government officials responsible for DRM.<sup>142</sup>

UNDP also runs the Institutional Support

to Climate Change Adaptation and Mitigation – II project. At the federal level, the project collaborates with NDMA. At the provincial level, Sindh and Balochistan PDMA are engaged. At the local level, UNDP involves district authorities and relevant departments. Pakistan Meteorological Department (PMD) is among key stakeholders for national and sub-national activities for tsunami monitoring. Additionally, NED University, Karachi, is engaged to undertake a detailed assessment of earthquake and tsunami risk. Furthermore, project interventions target groups in Gilgit-Baltistan, South Punjab, Sindh, and Balochistan. Communities that are marginalized or are most vulnerable to the impacts of climate change – women included – are crucial partners.<sup>143</sup>

Finally, UNDP is deeply involved in programs to scale-up Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan. The “Scaling-up of GLOF risk reduction in Northern Pakistan” (GLOF-II) project is a continuation of “Reducing Risks and Vulnerabilities from GLOF in Northern Pakistan” (GLOF-I), which helped vulnerable communities prepare for and mitigate GLOF risks through early warning systems, enhanced infrastructure, and CBDRM. GLOF-II aims to empower communities to identify and manage risks associated with GLOF and related impacts of climate change, strengthen public services to lower the risk of disasters related to GLOF, and improve community preparedness and disaster response. GLOF-II scales up GLOF-I from two districts in Khyber-Pakhtunkhwa and Gilgit-Baltistan to cover 10 districts, benefiting 29 million people or 15% of the population of Pakistan. In the end, the goal is that 95% of households in target communities are able to receive and respond to early warnings and take the appropriate action. In part, this includes the construction of 50 weather monitoring stations to collect meteorological data in catchment areas and 408 river discharge sensors to collect river flood data.<sup>144</sup>

Beyond agencies involved in disaster response, Pakistan also has two key agencies involved in

risk mitigation and reconstruction. Both the Earthquake Reconstruction and Rehabilitation Authority (ERRA) and the National Disaster Risk Management Fund (NDRMF) reflect the country’s experience after the 2005 earthquake. ERRA is mostly focused on rebuilding earthquake-hit areas of Azad Jammu and Kashmir and Khyber Pakhtunkhwa. The ERRA act of 2011 established the agency under the Prime Minister’s Office.<sup>145</sup> ERRA’s main role is planning at the macro level by developing strategies, financing, project approval, and monitoring and evaluation. Additionally, it ensures required coordination and provides facilitation to implementing partners; physical implementation of early recovery and risk reduction projects are the responsibility of respective governments.<sup>146</sup>

Contrary to ERRA, NDRMF invests in building works before disaster strikes. It came into being in 2016 with the responsibility to generate and consolidate financial resources and invest in a risk reduction and mitigation strategy to reduce the impact of disasters in a proactive manner. Its aim is to provide funding through matching grants of up to 70% for structural and non-structural interventions carried out by UN agencies and international and national NGOs; these projects must reduce risk and vulnerabilities associated with climate change and natural hazards.<sup>147</sup>

## The International Red Cross and Red Crescent Movement

### *International Committee of the Red Cross*

The International Committee of the Red Cross (ICRC) is a private, independent humanitarian organization, headquartered in Geneva, Switzerland. The ICRC bases its activities on the provisions of International Humanitarian Law, and it is neutral in politics, religion, and ideology. The ICRC assists with the protection of civilian victims of armed conflict and internal strife and their direct results. Within these roles, it may take any humanitarian initiative as a neutral and independent intermediary.<sup>148</sup>

### ***International Federation of Red Cross and Red Crescent Societies***

The International Federation of Red Cross and Red Crescent Societies (IFRC) is a humanitarian organization that provides assistance and promotes humanitarian activities carried out by the National Societies with a view to preventing and alleviating human suffering. IFRC was founded in 1919 and includes 192 National Societies. The IFRC carries out relief operations to assist victims of disasters and combines this with development work to strengthen the capacities of its member National Societies.<sup>149</sup>

### ***Pakistan Red Crescent Society***

The Pakistan Red Crescent Society (PRCS) was constituted and is governed by an Act of Parliament. It was founded in Pakistan in December 1947 by an Order called “The Pakistan Red Cross Order” issued by the then Governor General of Pakistan. It has branches in each province of the country as well as liaison officers in the federal Ministry of Information, National Health Service, and Ministry of Finance.

### **U.S. Government Agencies in Pakistan**

The United States Agency for International Development (USAID) leads efforts to save lives and help people emerge from humanitarian crises and progress beyond assistance. In Pakistan, the agency programs help develop a stable, peaceful, and prosperous Pakistan. For DoD-USAID coordination, note that Pakistan falls in USAID’s Asia region, but in DoD’s US Central Command (USCENTCOM).

USAID’s program to expand government writ along the Afghanistan-Pakistan border region includes projects to improve infectious disease prevention, detection, and response. In this border region, there is a history of disenfranchisement, conflict, poverty, and limited basic services, resulting in vulnerable and displaced local populations, particularly young men and women. USAID supports reforms in Khyber Pakhtunkhwa to extend governance, improve essential service delivery in health and education, and increase citizens’ voices,

participation, and representation.

Pakistan is one of 70 countries worldwide where the U.S. Government supports a Global Health Security Agenda, leveraging investments from the host government, donor partners, and the private sector to detect, prevent, and respond rapidly to infectious disease outbreaks. USAID activities support surveillance efforts, improve the use of data for making decisions, develop the capacity of the health workforce, and increase access to safe water and sanitation so that Pakistan will be more able to successfully prevent and detect infectious disease threats.<sup>150</sup>

In recent years, USAID participated in the multi-stakeholder response to the country’s on-going complex emergency, particularly drought. During the lengthy dry period, which began as early as 2013, USAID has been a partner in providing emergency food assistance, bolstering livelihoods, and addressing water, sanitation, and hygiene (WASH) needs. USAID has provided support to WFP for emergency food assistance - locally, regionally, and internationally procured food assistance and cash transfers for food - to vulnerable households in Balochistan and Sindh as well as to temporarily displaced persons in Khyber Pakhtunkhwa. Meanwhile, USAID partner UNICEF has provided nutrition services, including ready-to-use therapeutic foods, to nearly 50,000 children ages five years and younger and pregnant and lactating women in Balochistan and Sindh.<sup>151</sup>

Through the Responding to Pakistan’s Internally Displaced Fund, USAID has helped local NGOs to assist persons displaced within and to Pakistan due to various circumstances. In 2019, this support reached more than 250,000 drought-affected people in Balochistan and Sindh with cash grants, livestock feed distributions, nutrition assistance, and WASH interventions. Since 2013, the Fund has provided more than 100 grants to local and international relief agencies to deliver multi-sector support, including critical health and WASH interventions, to conflict- and disaster-affected populations. More than 2.7 million individuals - including more than 1.2 million IDPs and nearly

530,000 returnees - with emergency assistance have been reached during the eight years the program has existed.<sup>152</sup>

USAID's contact information includes:

## **USAID/Pakistan**

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U.S. Embassy Islamabad  
 Diplomatic Enclave, Ramna 5  
 Islamabad, Pakistan  
 Tel: +92-51-201-4000 or +92-51-201-5000  
 Emergency: +92-51-201-4000  
 Fax: +92-51-282-2632  
 E-mail: [ACSIslamabad@state.gov](mailto:ACSIslamabad@state.gov)

## **Laws, Policies, and Plans on Disaster Management**

The National Disaster Management Plan (NDMP) (2013-2022) is the overarching policy addressing Pakistan's planning and policy directions. It comprises the National Disaster Management Plan, Human Resource Development Plan on Disaster Management, National Multi-Hazard Early Warning System Plan, and Instructors' Guidelines on Community Based Disaster Risk Reduction (CBDRM). NDMP was formulated and approved by the National Disaster Management Commission and

covers the complete spectrum of disasters as well as the pre-, mid-, and post-disaster phases of a response.

## ***National Disaster Response Plan (2019)***

Updated and expanded from its 2010 iteration, the 2019 National Disaster Response Plan (NDRP) is the guiding document that establishes process and structure for the country's delivery of assistance to address the consequences of any major disaster. It outlines the commitments and role of NDMA, other government departments, and humanitarian stakeholders during all phases of response. The Plan is the federal government's "multi-hazard response plan" intended to allow the country to manage disasters in a comprehensive way. It focuses on the existing system, the procedure of declaring disasters, early warning systems, and the information flow among all stakeholders. NDRP delegates to local government institutions the task of developing and improving local response plans based on the underlying risks in their areas.<sup>153</sup>

## ***Human Resource Development Plan (HRDP) on Disaster Management***

The Human Resource Development Plan (HRDP or Volume I of the NDMP) is an effort to guide the systematization of education and training for DRM practitioners within Pakistan. According to the HRDP, the National Institute of Disaster Management (NIDM) should become the focal point for disaster management training, research, and capacity building. A library and Disaster Information Resource Centre (DIRC) will be built, and DRM training will be available to all federal, provincial, and district government employees. The plan foresees regular training for SAR, fire brigades, and ministry staff. Finally, the plan is to build community capacity via workshops for community leaders and training for community members and schools.<sup>154</sup>

## ***National Multi-Hazard Early Warning System Plan (NMH-EWS-P)***

The National Multi-Hazard Early Warning System Plan ((NMH-EWS-P) or Volume II of the NDMP) runs 2012-2022. It establishes

the early warning communication route for government agencies responsible for monitoring disaster data and how they broadcast that data to susceptible districts, the media, and other government agencies. Once the information from central authorities reaches the District Disaster Management Agency (DDMA) of the affected district, the DDMA is then responsible for verbal, telephonic, and electronic media dissemination to their public. The Plan takes into account the potential use of mosque loudspeakers, mobile phone SMS/MMS, sirens, and the public address systems held by civil defense, police, or fire brigades. In addition to disseminating information, the current Plan also addresses replacement, repair, and expansion of the radar and sensor networks that feed the Pakistan Meteorological Department (PMD), the lead agency for climate, seismic, and geophysical monitoring.<sup>155</sup>

### ***Instructors' Guidelines on Community Based Disaster Risk Reduction (CBDRM)***

The Instructors' Guidelines on Community Based Disaster Risk Reduction (CBDRM) (or Volume III of the NDMP) outlines how Pakistan's leaders will push down to the community level awareness and expertise in managing disasters. It outlines risk assessment, building a CBDRM plan, and establishing a committee to conduct local drills and awareness raising activities.<sup>156</sup>

### ***Host Nation Support Guidelines (2018)***

The Host Nation Support Guidelines focus on actions to reduce response time via clearly defined duties and roles for government, assisting countries, and international humanitarian organizations. Included are mandates, responsibilities, processes, clearance requirements, and coordination procedures to provide common operational understandings for all stakeholders.<sup>157</sup>

### ***National Flood Protection Plan IV (NFPP) (2016-2025)***

NFPP-IV builds on NFPP-I (1978), NFPP-II (1988), and NFPP-III (1998), which built a combination of flood protection structures and

institutions, developed flood early warning, and led to floodplain mapping and zoning. NFPP-IV includes non-structural measures with provision for restoration and maintenance of existing flood protection works. The Federal Flood Commission oversees development of each NFPP and supervises the Flood Forecasting and Warning System.<sup>158</sup>

### ***National Policy Guidelines on Vulnerable Groups in Disasters (2014)***

The National Policy Guidelines on Vulnerable Groups in Disasters cover major areas to which authorities overseeing disaster management must attend, including data collection and policy planning to ensure awareness of communities. Officials involved in rescue, relief, and rehabilitation must be sensitized to the presence of vulnerable communities when implementing a disaster response including officials at the planning level and the ground level staff. The main purposes include meeting the needs of vulnerable groups, ensuring interventions are designed with vulnerable groups in mind, safeguarding equitable access, and encouraging vulnerable groups' active participation in decision-making.<sup>159</sup>

### ***National Disaster Risk Reduction Policy (2013)***

The National Disaster Risk Reduction (DRR) Policy introduced a proactive approach to disaster management by emphasizing risk assessments, prevention, mitigation, and preparedness. It calls for Operational Plans to be readied ahead of disasters and that can be implemented by national and provincial governments. The policy promotes measures to ameliorate existing vulnerabilities to hazards and ensure that future development initiatives add resilience. The policy also seeks to provide guidelines for timely, dedicated, and adequate investment on hazard mitigation and preparedness interventions at all levels which will not only substantially reduce the disaster risk but also the consequential damages and economic cost associated with response, recovery, and rehabilitation.<sup>160</sup>

## ***National Climate Change Policy (2012)***

The National Climate Change Policy is the Ministry of Climate Change's policy to address all possible challenges of climate change and how to mitigate or adapt over the short-term. It is the foundational document to build Climate Change Action Plans, Programs, and Projects under the Ministry. It highlights vulnerabilities across national sectors and means to adapt these sectors. It also addresses policy measures for water, agriculture, forestry, coastal areas, biodiversity, and vulnerable ecosystems.<sup>161</sup>

## ***National Disaster Management Act (2010)***

The National Disaster Management (NDM) Act applies nationally. It created the National Disaster Management Commission that is responsible for policies, plans, and guidelines for disaster management. Moreover, it created the National Disaster Management Authority and laid out its responsibility for implementation and monitoring of disaster planning and responses. It calls for the National Plan to lay out measures for prevention and mitigation of disaster, preparedness and capacity-building activities, and financing sources for disaster management.<sup>162</sup>

## ***NDMA Guidelines on Stocking, Maintenance and Supply of Relief and Rescue Items***

These guidelines are intended to streamline the stocking system and provide a uniform matrix for items used by all relevant authorities in a rescue or relief situation. It divides stocks into Food and Non-Food Items, the latter sub-categorized into rescue, relief, or support items. It lays out lines of responsibility for maintenance of the stocks as well as the method for requesting additional or different items.<sup>163</sup>

## ***NDMA Policy Guidelines for Conduct of Multi-Hazard Vulnerability and Risk Assessment***

NDMA's national guidelines for Multi-Hazard Vulnerability and Risk Assessment (MHVRA) cover execution, methodology, governing policies, standard operating procedures (SOP), and monitoring, evaluation, and standardization

of data. The purpose is to set standards for datasets and tools for assessment to ensure the accuracy of the national picture for DRR planning. In the end, NDMA expects these guidelines to lead to the development of an MHVRA repository and offer a forum for data sharing, data acquisition, synchronization, provision of access to government data, and avoidance of overlap in data.<sup>164</sup>

## ***Guidelines for Multi-Sector Initial Rapid Needs Assessment***

Multi-Sector Initial Rapid Needs Assessment (MIRA) guidelines were developed by NDMA with support from UN OCHA. The approach is inclusive, comprehensive, decentralized, and focused on institutionalization. MIRA is the first step of the Assessment and Monitoring Framework and was designed to identify strategic humanitarian priorities after the onset of natural disasters or complex emergencies. After the floods of 2012 and 2014, lessons learned highlighted two major gaps in implementation including a lack of trained enumerators and a lack of validation mechanism. Revisions were incorporated into the latest MIRA up-date.<sup>165</sup>

## **Disaster Management Communications**

Pakistan's early warning system is heavily top-down in terms of federal authorities who collate and digest data from monitoring stations throughout the country. There are, however, explicit tasks for government agencies to inform each other and the public regarding impending disasters. The NDRP explicitly lays out a role for the media in saving lives and property before, during, and after a disaster by disseminating information regarding preparedness, early warning, disaster response, and calls for volunteers.

## **Early Warning Systems**

Pakistan Meteorological Department (PMD) falls under the Aviation Division of the Cabinet Secretariat. It is the primary collector, researcher,

and disseminator of meteorological information to the country's government and public. In addition to meteorology, it manages hydrological and seismic information. All of this information is intended to increase the safety of transport, mitigate disaster, and impact development within the context of climate change adaptation. Within its remit specifically, PMD is responsible for early warning of natural hazards (cyclones, heavy rains or storms, heat waves, floods, and earthquakes) and for monitoring the country's glaciers in order to issue a warning in case of Glacial Lake Outburst Flood (GLOF).

Under PMD are four Chief Meteorologists, three of whom head the following departments: National Drought Monitoring and Early Warning Center (NDMC), National Seismic Monitoring and Tsunami Warning Center (NSMC and NTWC), and Flood Forecasting Division (FFD).<sup>166</sup> Each of the departments publishes bulletins, alerts, and other information on its home page; in addition, Figure 7 shows the information sharing ecosystem that then leads to early warning dissemination.<sup>167</sup>

The NDMC in Islamabad is the hub for drought-related analysis for the country. It issues a monthly drought bulletin and moisture analysis based on indices collected from domestic and international resources. It advises the government on drought-related matters,

including the declaration of an emergency.<sup>168</sup>

The NSMC and NTWC are based in Islamabad. NSMC runs twenty remote seismic monitoring stations with broadband (120s) sensors throughout the country. Each station uses global positioning system (GPS), and all stations are linked with central recording stations at Karachi and Islamabad via satellite. A parallel program is in place for the installation of short period (1s) sensors for close monitoring of faults and local seismicity, and data is communicated to a central recording station via internet and radio.<sup>169</sup> NSMC/NTWC has links with global monitors, and PMD has developed links with warning centers in Japan and Hawaii.<sup>170</sup> Pakistan is also a member of the Indian Ocean Tsunami Information Center (IOTIC) and Indian Ocean Tsunami Warning and Mitigation System (IOTWS) that brings together the national seismic and tsunami centers of member states. It primarily uses seismic and tsunami information from Australia, India, and Indonesia for dissemination to member agencies.<sup>171</sup>

The Flood Forecasting Division (FFD) brings together data on the country's rivers, rainfall, and water management. Under it, the Flood Early Warning System of Pakistan (FEWS-Pakistan) began operation in 2007. It is based on a mathematical model composed of a hydrological model (SACRAMENTO) and a hydraulic model

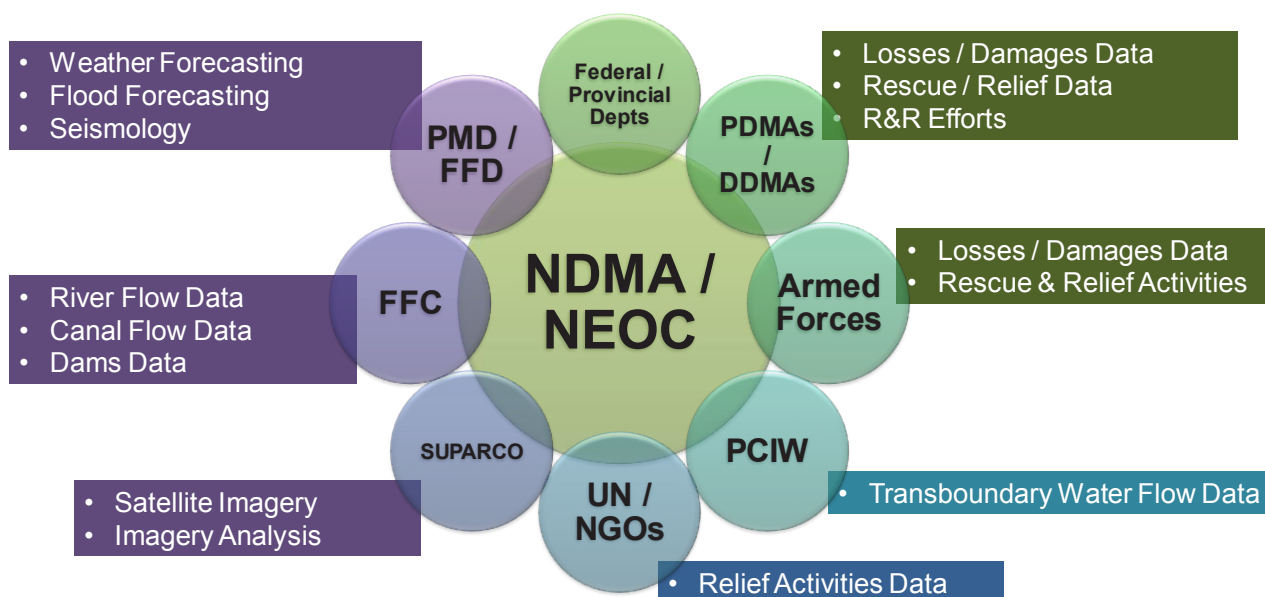


Figure 7: Pakistan's Disaster Information Sharing Ecosystem



(SOBEK). Together, they use rainfall-runoff data both from rim stations from the catchments of the Jhelum, Chenab, Ravi, and Sutlej Rivers in India and from hill torrents in Pakistan on main rivers in addition to river geometry. FEWS is now augmented by the Integrated Flood Analysis System (IFAS), which is hydrological modeling software used to calculate river discharge with the help of satellite rainfall data.

The current hydro-meteorological network for flood forecasting and communication systems comprises the following: a) High Frequency (HF) radio-based network, b) VHF real-time telemetry system, c) Meteor-burst telemetry system, and d) Weather Radars at Sialkot, Lahore, and Mangla. The HF and VHF systems are operated by the Water and Power Development Authority (WAPDA), partly in cooperation with Provincial Irrigation Departments; the HF network transmits data every six hours while the 24 VHF telemetry stations (7 in the Indus Basin, 8 in the Jhelum Basin, 5 in the Chenab Basin, 3 in the Ravi Basin, and 1 in the Sutlej Basin) have mostly been sidelined by the Meteor-burst Based Communication System (MBCS). MBCS consists of 24 Remote Terminal Units (RTU), which transmit hourly rainfall and river levels data. Data is delivered to FFD.

Beyond national assets, Pakistan has access to some of India's hydrological data. Under the Indus Water Treaty (1960), India and Pakistan each send a commissioner to the Permanent Indus Commission, which acts as a bilateral forum for discussing water use and management throughout the greater Indus Basin. An addendum in 1989 saw the parties agree to share river flow data in order to improve flood forecasting in Pakistan. Daily flow data from India is passed via Pakistan's Commissioner for Indus Waters (PCIW) to FFD for issuance of flood information to all other stakeholders. In periods of flood or potential flood, the transmission of the data can be increased to as frequently as necessary, up to once every hour.<sup>172</sup> Within the Office of the PCIW, a flood cell is established each year during the monsoon and runs 24/7 from 1 July through 10 October.<sup>173</sup>

## Information Sharing

Understanding how to overcome the information challenges that civilian and military agencies experience during a typical disaster response mission is important. Knowing what the available humanitarian assistance and disaster response (HADR) resources are will assist Joint Task Force leaders and staff during mission planning for international disaster response.<sup>174</sup> Sharing information is critical since no single responding entity, non-government organization (NGO), international governmental organization (IGO), assisting state, or the host government can be the source of all the required information.<sup>175</sup>

Collaboration, information sharing (IS), and networking have been the backbone of successful disaster response and preparation. Disseminating information not only to those in-country and threatened by disaster, but also to those responding to assist in the emergency has been crucial to timely, efficient, and effective disaster response. Recent technology has advanced to aid predicting and alerting of disasters around the world which has resulted in early warning and evacuation measures as well as opportunities to react and prepare for incoming threats to countries. The following are some of the ways in which information regarding disaster risk management and response are shared. Managing information is central to the overall mechanisms within disaster preparedness and response. There are many resources, stakeholders, and components to consider with IS before, during, and after a natural disaster. This section will discuss country-specific, humanitarian, regional, government, and DoD information sources.

### Pakistan Information Sources

#### *National Disaster Management Authority (NDMA)*

NDMA's homepage features advisories and situation reports regarding ongoing emergencies, potential hazards, and interventions in the country.

<http://cms.ndma.gov.pk/>

### ***Pakistan Meteorological Department (PMD)***

PMD's homepage hosts weather conditions and up-dates, advisories, alerts, and long-term outlooks.

<https://www.pmd.gov.pk/en/>

### ***National Drought Monitoring Center (NDMC)***

NDMC's homepage hosts various drought-related information product (alerts, bulletins, and maps) as well as reservoir levels throughout the country.

<https://ndmc.pmd.gov.pk/new/>

### ***National Seismic Monitoring and Tsunami Warning Center (NSMC and NTWC)***

NSMC's homepage keeps a running list of earthquakes throughout the world. The site hosts research and information bulletins regarding risk within Pakistan.

<http://seismic.pmd.gov.pk/events.php>

### ***Flood Forecasting Division (FFD)***

FFD's homepage hosts a map of current river flow conditions on each of the country's main rivers. In addition, it publishes forecast bulletins, warnings, and a weekly forecast.

<http://ffd.pmd.gov.pk/homepage/>

### ***Pakistan Red Crescent Society***

Along with its @PRC\_official Twitter presence, PRCS' homepage hosts news and up-dates on ongoing emergencies.

<http://prcs.org.pk/>

### **Humanitarian Information Sources**

#### ***United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Regional Office for Asia and the Pacific (ROAP)***

UN OCHA's ROAP seeks to optimize the speed, volume and quality of humanitarian assistance and coordinates emergency preparedness and response in the world's most disaster-prone region in support of national governments. ROAP covers 41 countries partnering with them for coordinated and effective international responses to emergency situations.

Website: <https://www.unocha.org/roap>

For OCHA situation reports, click on "Subscribe" button on bottom of page.

### ***ReliefWeb***

ReliefWeb is a service of UN Office for the Coordination of Humanitarian Affairs (OCHA) that consolidates information and analysis from organizations, countries, and disasters for the humanitarian community.

Website: <https://reliefweb.int/>

### ***PreventionWeb***

PreventionWeb is provided by the UN Office for Disaster Risk Reduction (UNDRR, formerly UNISDR) to consolidate disaster risk reduction information into an online, easy to understand platform.

Website: <https://www.preventionweb.net/english/>

### ***International Federation of Red Cross and Red Crescent Societies (IFRC)***

IFRC is the world's largest humanitarian organization, comprised of its 192-member National Societies including the Pakistan Red Crescent Society, a secretariat in Geneva, Switzerland, and over 60 delegations around the world. The IFRC carries out relief operations to assist victims of disasters and combines this with development work to strengthen the capacities of its member National Societies. IFRC's work focuses on four core areas: promoting humanitarian values, disaster response, disaster preparedness, and health and community care.<sup>176</sup>

Website: <https://media.ifrc.org/ifrc>

### ***International Committee of the Red Cross (ICRC)***

ICRC is an impartial, neutral, and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. It also works to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles. ICRC,

together with IFRC and the 192 Red Cross Red Crescent Societies, make up the Red Cross Red Crescent Movement.<sup>177</sup>

Website: <https://www.icrc.org/en>

### **Humanitarian Response**

Humanitarian Response is a platform providing the humanitarian community a means to aid in coordination of operational information and related activities.

Website: <https://www.humanitarianresponse.info>

### **Global Disaster Alert and Coordination System (GDACS)**

GDACS is a cooperation framework between the United Nations, the European Commission, and disaster managers worldwide to improve alerts, information exchange, and coordination in the first phase after major sudden-onset disasters.

Website: <https://www.gdacs.org/alerts/>

### **Virtual OSOCC**

The Virtual OSOCC is a real-time online coordination tool for disaster response professionals from urban search and rescue (USAR) teams, national authorities, as well as regional and international organizations at a global level.

Website: <https://vosocc.unocha.org/>

The latest alerts can be found here: <http://www.gdacs.org/Alerts/default.aspx>

To subscribe: <http://www.gdacs.org/About/contactus.aspx>

**Consider other information resources, such as:**

### **Think Hazard**

Think Hazard is a website that provides detailed information on a country. Hazard information is provided on Pakistan's risk, planning needs, technical specifications, and contact information.

Website: <http://thinkhazard.org>

### **Humanitarian Country Teams (HCT)**

HCT is a strategic and operational decision-making and oversight forum established and led by the Humanitarian Coordinator in each country. It is generally comprised of representatives from UN agencies including the IOM, international NGOs, and the IFRC as well as the respective National Society in the country. During a disaster response, HCTs often produce a Situation Report (SitRep), usually in conjunction with OCHA.

Most HCT SitReps can be found through ReliefWeb: <https://reliefweb.int/>

### **Humanitarian Data Exchange (HDX)**

HDX is an open platform for sharing data across crises and organizations launched in 2014 with the goal of centralizing humanitarian data for easy access and analysis. HDX is managed by OCHA's Center for Humanitarian Data in The Hague.

Website: <https://data.humdata.org/>

### **Regional Information Sources**

#### **SAARC Disaster Management Center (SDMC)**

The South Asian Association for Regional Cooperation (SAARC) Disaster Management Center (DMC) is currently an Interim Unit (IU) of the organization. It is based at India's Gujarat Institute of Disaster Management (GIDM) and is tasked with policy advice, technical support on system development, capacity building services, and training for DRM in the region. The focus of all activity during 2020 and into 2021 has been on collating and disseminating information related to the SARS-CoV-2 pandemic. Updates are posted to the COVID19 portion of the website and on SAARC social media accounts.<sup>178</sup>

Web: <http://www.covid19-sdmc.org/> **or** <http://saarc-sdmc.org/>

#### **U.S. Government (USG) Sources**

##### **U.S. Agency for International Development (USAID)**

USAID is committed to responding to crises around the world to help people and places most in need. They aim to:

- Promote Global Health
- Support Global Stability
- Provide Humanitarian Assistance
- Catalyze Innovation and Partnership
- Empower Women and Girls

USAID produces a monthly newsletter called USAID Newsletter which is available digitally at <https://www.usaid.gov/news-information/newsletter>.

More information and updates from USAID are available via their blog, IMPACT, at <https://blog.usaid.gov/> and on Facebook, Instagram, Twitter, and YouTube.

Website: <https://www.usaid.gov/>

### **Bureau for Humanitarian Assistance (BHA)**

The Bureau for Humanitarian Assistance (BHA) is responsible for leading and coordinating the U.S. Government response to disasters overseas. BHA responds to an average of 75 disasters in 70 countries every year. BHA fulfills its mandate of saving lives, alleviating human suffering, and the reduction of the social and economic impact of disasters worldwide in partnership with USAID functional and regional bureaus and other U.S. government agencies. BHA works with the international population to assist countries prepare for, respond to, and recover from humanitarian crises.<sup>179</sup>

USAID/BHA products include situation reports and maps, which are available via email mailing lists as well as Reliefweb.org. Information products (HA Updates/Fact Sheets, etc.) are also available on USAID.gov (<https://www.usaid.gov/humanitarian-assistance>)

For BHA updates on a disaster response, ask the BHA representative for the respective DoD Geographic Combatant Command to add you to the email list, if you have a U.S. government email address:

- [BHA.INDOPACOM@usaid.gov](mailto:BHA.INDOPACOM@usaid.gov)
- [BHA.SOUTHCOM@usaid.gov](mailto:BHA.SOUTHCOM@usaid.gov)
- [BHA.NORTHCOM@usaid.gov](mailto:BHA.NORTHCOM@usaid.gov)
- [BHA.AFRICOM@usaid.gov](mailto:BHA.AFRICOM@usaid.gov)
- [BHA.SOCOM@usaid.gov](mailto:BHA.SOCOM@usaid.gov)
- [BHA.CENTCOM@usaid.gov](mailto:BHA.CENTCOM@usaid.gov)
- [BHA.EUCOM@usaid.gov](mailto:BHA.EUCOM@usaid.gov)

### **Pacific Disaster Center (PDC | Global)**

Pacific Disaster Center (PDC | Global) has trademarked an early warning and decision support system called DisasterAWARE®. DisasterAWARE® is primarily for disaster management practitioners and senior decision makers. It supports disaster risk reduction and best practices throughout all phases of disaster management from early warning to multi-hazard monitoring. It has a collection of scientifically verified, geospatial, data and modeling tools to assess hazard risks and impacts. A restricted version of DisasterAWARE® is the EMOPS (Emergency Operations) system, which is specifically for the disaster management community, including government agencies and humanitarian assistance organizations serving at local, state, federal, and regional levels.<sup>180</sup>

PDC also provides a public version, Disaster Alert, which offers open access to a world map documenting 18 hazard types.<sup>181</sup> Disaster Alert also has a free, early-warning app to receive customizable maps based visual alerts of active hazards. The app offers a global notification system covering natural and man-made hazards. It is available on both iPhone and Android.<sup>182</sup>

Website: <https://www.pdc.org/> and <https://www.pdc.org/apps/disasteraware/>

Emergency Operations (EMOPS) system (request account): <https://emops.pdc.org/emops/>

### **All Partners Access Network (APAN)**

APAN is the Unclassified Information Sharing Service (UISS) for the U.S. Department of Defense (DoD). APAN provides the DoD and mission partners community space and collaboration tools to leverage information to effectively plan, train, and respond to meet their business requirements and mission objectives. Importantly, APAN's technology team has been supporting humanitarian assistance and disaster response (HADR) operations for over 15 years.<sup>183</sup> APAN has played an integral role in the success of disaster responses, such as the 2015 California Wildfire Response and the 2013 Typhoon Haiyan Response in which they provided organizations and militaries a centralized location to share information, increase situational awareness and

decrease response time and duplicated efforts for best practices in HADR services.<sup>184</sup>

Website: <https://www.apan.org/>

Note: The Multinational Communications Interoperability Program (MCIP) has an APAN site used in planning exercises and real world HADR information sharing.

### **Joint Typhoon Warning Center**

JTWC provides advanced warning for U.S. Government agencies and organizations in relevant areas.

<https://www.metoc.navy.mil/jtwc/jtwc.html>

### **Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI-APCSS)**

DKI-APCSS is a U.S. DoD institute that addresses regional and global security issues, inviting military and civilian representatives of the U.S. and Asia-Pacific nations to its program of executive education and workshops.

Website: <https://apcss.org/>

### **The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM)**

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) is a U.S. DoD organization that was established by U.S. Congress in 1994 and is a direct reporting unit to U.S. Indo-Pacific Command. CFE-DM provides training and education to help U.S. and foreign military personnel navigate complex issues in disaster management and humanitarian assistance. They produce country focused disaster management reference handbooks, after action reports, best practices, and lessons learned for advancement in response coordination. CFE-DM also works to improve cross-coordination and reduce duplication of efforts and promote U.S. involvement in civ-mil consultations and dialogues with relevant HADR parties such as the AHA Centre, OCHA, and the Changi RHCC. CFE-DM provides resources and updates on its website, and Facebook and Twitter accounts (@cfedmha).

<https://www.cfe-dmha.org/>

Disaster Management Reference Handbooks are available for download at: <https://www.cfe-dmha.org/DMHA-Resources/Disaster-Management-Reference-Handbooks>

CFE-DM Disaster Information Reports are available for download at: <https://www.cfe-dmha.org/Publications/Reports>

Civil-Military Coordination in Foreign Disaster Relief Missions: Best Practices for Information Sharing is available here: <https://www.cfe-dmha.org/Publications>

### **COVID-19 Information Sharing Sources**

Johns Hopkins Coronavirus Resource Center  
<https://coronavirus.jhu.edu/>

Cases Database  
<https://github.com/CSSEGISandData/COVID-19>

INFORM's COVID-19 Risk Index  
<https://data.humdata.org/dataset/inform-covid-19-risk-index-version-0-1-4>

Photo 2, courtesy of USAID Pakistan, depicts health care workers participating in responding to COVID-19.<sup>185</sup>



**Photo 2: Health Care Workers Participating in COVID-19 Response**

# INFRASTRUCTURE

Pakistan has gaps in infrastructure of all types in various parts of the country. It continues to seek investment in transport, communications, and energy projects. Given the country's vulnerability to natural hazards, there are engineering challenges as well as a need to ensure that the country's remote areas can be reached in case of emergency.

## Transport

Transport contributes about 10% to Pakistan's Gross Domestic Product (GDP) and accounts for over 6% of employment. Road transportation represents the backbone of the transport system, accounting for 96% of all passenger and freight traffic. Two major ports, Karachi and Qasim, handle 95% of all international trade; Gwadar Port is a project intended to serve as a gateway to the putative China-Pakistan Economic Corridor (CPEC).

As part of the national development plan called Vision 2025, the country expects to expand all types of transport infrastructure. Goals include raising road-density to a level of 0.45 km per square km thereby expanding the national network from around 260,000 km to 358,000 km. The plan foresees a major upgrade of the railway system to allow increased speeds from 95 km/h to 120-140 km/h, increased line capacity with a modern signaling system, and the development of North-South and East-West corridors and linkages to Central Asian States, China, and other neighboring countries. The objectives for both aviation and seaports are major enhancements of cargo handling with a view to integrated Pakistan more fully into the modern, global logistics sphere.<sup>186</sup>

## Airports

Pakistan boasts more than 150 airports. Of these airports, 108 have paved runways. Fifteen of these paved runways measure over 3,047m in length.<sup>187</sup> Table 1 outlines the country's major airports and their specifications.<sup>188</sup>

In total, the aviation sector directly employs 56,000 people and contributes US\$2 billion to the economy. When indirect contributions (suppliers, tourism spending, etc.) are included, aviation is estimated to contribute about 2% to Pakistan's GDP.<sup>189</sup> Airline passenger numbers have grown slowly compared to global trends as the country counted only 19.7 million international and domestic passengers in 2015-2016.<sup>190</sup> Passenger numbers are expected to top 35 million by 2038 (based on 2018 numbers). The Middle East is the largest market for passenger flows, followed by the greater Asia-Pacific region and Europe. More than 6 million passengers arrive annually in Pakistan from the Middle East (51.5% of total); passengers arriving from Asia-Pacific and European countries account for 34.6% and 9.8% of the total, respectively. The United Arab Emirates, Qatar, and Saudi Arabia are the top three busiest routes for both passengers and cargo.<sup>191</sup>

Pakistan International Airlines (PIA) is the flagship carrier. It accounts for 60% of the domestic market and 27% of the international market but is facing several challenges including financial problems and declining market shares. Airports in Karachi, Lahore, and Islamabad account for 80% of total aviation market activity. Major infrastructure development and upgrading of existing airports are underway to address relatively high freight charges and inadequate cargo facilities at certain airports.<sup>192</sup>

## Seaports

The Ministry of Maritime Affairs regulates and licenses ports and marine services and facilities. It also manages vessel traffic in port.<sup>193</sup> Pakistan's two main ports are Karachi and Port Qasim (southeast of Karachi). Although the Gwadar port in Balochistan is operational, management disputes mean that it has yet to gain steam as the major transshipment hub that it was built to be. Figure 8 shows Pakistan's ports, all on the Arabian Gulf shores of Sindh and Balochistan Provinces.<sup>194</sup>

National Airports/Airfields				
Airport	City (Province)	IATA/ICAO Code	Runway Length and Width, meters (m)	Runway Length and Width, feet (ft)
Allama Iqbal International Airport	Lahore (Punjab)	LHE/OPLA	2,743m x 46m 3,360m x 46m	8,999 x 151 ft 11,023 x 151 f
Bacha Khan International Airport	Peshawar (Khyber Pakhtunkhwa Province)	PEW/OPPS	2,700m x 46m	8,858 x 151 ft
Bahawalpur Airport	Bahawalpur (Punjab)	BHV/ OPBW	2,848m x 30m	9,344 x 98 ft
Chitral Airport	Chitral (Khyber Pakhtunkhwa Province)	CJL/OPCH	1,750m x 30m	5,741 x 98 ft
Dalbandin Airport	Dalbandin (Balochistan)	DBA/OPDB	2024m x 31m	6,640 x 102 ft
Dera Ghazi Khan Airport	Dera Ghazi Khan (Punjab)	DEA/OPDG	1,981m x 30m	6,499 x 98 ft
Dera Ismail Khan Airport	Dera Ismail Khan (Khyber Pakhtunkhwa Province)	DSK/OPDI	1,524m x 23m	5,000 x 75 ft
Faisalabad International Airport	Faisalabad (Punjab)	LYP/OPFA	2,826m x 46m	9,272 x 151 ft
Gilgit Airport	Gilgit (Gilgit–Baltistan)	GIL/OPGT	300m x 15m	984 x 49 ft
Jinnah International Airport	Karachi (Sindh)	KHI/OPKC	3,200m x 46m 3,400m x 46m	10,499 x 151 ft 11,155 x 151 ft
Moen-Jo-Daro Airport	Larkana (Sindh)	MJD/OPMJ	1,985m x 30m	6,512 x 98 ft
Multan International Airport	Multan (Punjab)	MUX/ OPMT	2,757m x 30m	9,045 x 98 ft
Nawabshah Airport	Karachi (Sindh)	WNS/ OPNH	2,743m x 46m	8,999 x 151 ft
New Islamabad (Benazir Bhutto) International Airport	Islamabad (Capital Territory)	ISB/OPRN	4,000m (x2)	13,123 ft (x2)
New Gwadar International Airport	Gwadar (Balochistan)	GWD/ OPGD	3,658m x 75m (set for 2022)	12,001 x 246 ft
Panjgur Airport	Panjgur (Balochistan)	PJG/OPPG	1,524m x 23m	5,000 x 75 ft
Quetta International Airport	Quetta (Balochistan)	UET/OPQT	3,648m x 30m	11,969 x 98 ft
Sialkot Airport	Sialkot (Punjab)	SKT/OPST	3,400m x 45m	11,155 x 148 ft
Sheikh Zayed International Airport	Rahim Yar Khan (Punjab)	RYK/OPRK	3,000m x 45m	9,843 x 148 ft
Skardu Airport	Skardu (Gilgit–Baltistan)	KDU/OPSD	1,982m x 31m	6,503 x 102 ft
Sukkur Airport	Sukkur (Sindh)	SKZ/OPSK	2,743m x 30m	8,999 x 98 ft
Turbat International Airport	Turbat (Balochistan)	TUK/OPTU	1,829m x 30m	6,001 x 98 ft
Zhob Airport	Zhob (Balochistan)	PZH/OPZB	1,829m x 30m	6001 x 98 ft

**Table 1: Codes and Runway Lengths for Pakistan’s Main Airports**



Figure 8: Map of Pakistan's Coast, Showing Ports

Karachi Port handles approximately 60% of Pakistan's total seaborne traffic, with 52 million tons of cargo handled in 2016-2017; this includes nearly 2.1 million twenty-foot equivalent units (TEU) of container traffic and 10 million tons of bulk, both record amounts at the time.<sup>195</sup> Port Qasim has steadily grown its share of Pakistan's cargo handling. It handled 51 million tons of cargo in FY2019-2020, including approximately 1 million TEU of containerized cargo.<sup>196</sup> While infrastructure and operations at seaports are generally satisfactory or are being improved, poor hinterland connectivity causes long delays.<sup>197</sup>

**Karachi Port**

Karachi can handle vessels up to 75,000 DWT at 30 dry cargo (13 west and 17 east) and 3 liquid cargo (POL and non-POL) handling berths. There are also two privately-operated container terminals: Karachi International Container Terminal (KICT) and Pakistan International Container Terminal (PICT). Both terminals can

handle up to Post-Panamax ships with six gantry cranes. The port reports handling about 1,600 ships, 1-2 million TEU, and 39 million tons total of cargo annually, but this is well below capacity as Karachi Port Trust (the port authority) reports only about 45% berth occupancy. Total capacity for liquid cargo is 14 million tons and for dry cargo is 12 million tons.<sup>198</sup>

The approach to the port is via an 11.5km long, 12.2m deep channel. The port provides shipside and dock facilities for heavy lift, container and bulk handling, break bulk, and liquid cargo by a quay heavy-lift crane (1x40 tons), floating cranes (2x100 tons), and shore-based equipment. The port maintains four barges (3 general and 1 dangerous goods) for over side discharging to facilitate inter-wharf movement. Open cargo storage area is about 450,824 square meters of plinth, and covered cargo storage area is about 101,403 square meters. There is a new 100,000 square meter coal yard and a 329,753 square meter Thule Produce Yard to facilitate export cargo handling and empty containers.



There are substantial road and rail links that serve the port's hinterland.<sup>199</sup>

Development plans foresee a deepening of the approach channel to 16.5m depth to accommodate deep draft vessels at all tides, computerization of port operations, establishment of a third container terminal, and deep-draft berths at the harbor mouth.<sup>200</sup>

Karachi Port Trust  
KPT Head Office Building  
Eduljee Dishaw Road  
Karachi-74000  
Pakistan  
Tel: +99214315 & 99214310  
Fax: +92-021-9263020  
Web: [www.kpt.gov.pk](http://www.kpt.gov.pk)

### **Port Qasim**

Access to the port is via a 49km long channel marked by channel buoys for vessels up to 13m draught. Pilotage is compulsory for all vessels. Pilots board and disembark 1.5nm SW of the Fairway Light buoy (24° 33.16'N 67° 02.91' E) except during southwest monsoons when the pilot will disembark in a sheltered area. The port's operational complex consists of terminals that specialize in liquids (petroleum, gas, and others), bulk, chemicals, iron, coal, grains, and containers. There is ongoing expansion of the port's industrial partners via a new thermal power plant, automobile manufacturer, refineries, and other factories.

Port Qasim Bin Qasim Town  
Karachi, Sindh  
Tel: +92-021-99272111  
Web: [www.pqa.gov.pk](http://www.pqa.gov.pk)

### **Gwadar Port**

Construction at Gwadar began in 2002 as part of a China-Pakistan friendship campaign to build large infrastructure projects. In 2015, it was rolled under the umbrella of China's Belt and Road Initiative (BRI) and the China-Pakistan Economic Corridor (CPEC) concept. The development was intended both to propel development in Pakistan's Balochistan province and to facilitate trade for land-locked Central

Asian states.<sup>201</sup> Lackluster performance under Singapore's PSA International saw Pakistan's government shift the management contract to China Overseas Port Holdings Limited in 2013.<sup>202</sup> In latter 2020, the government approved use of Gwadar for transshipment of cargo to Afghanistan in hopes of attracting fresh business that would also justify the expansion of the port by 3 more berths.<sup>203</sup>

The port facilities include three multi-purpose berths (each 200m), one RO-RO facility, and one service berth (100m). The port has the capacity to handle 50,000 DWT bulk carriers at 12.5-meter maximum depth. Throughout the port, the maximum draught is 14.4m at the outer channel, 13.8m at the inner channel and turning basin, and 14.5m alongside. There is a 595m (diameter) turning Basin. The total port area is 64,000 square meters. The container stacking area covers 48,278 square meters, and the reefer cargo space has 400 connection points. Additional space includes: empty container stacking area (6,875 square meters), storage yard (28,669 square meters), transit shed (3,750 square meters), and hazardous cargo storage yard (1,800 square meters).<sup>204</sup>

Gwadar Port Authority  
Pak-China Friendship Avenue  
Gwadar, Balochistan  
KARACHI-75620  
PAKISTAN  
Tel: +92-86- 9200408  
Fax: +92-86-9200405  
Web: [www.gawadarport.gov.pk](http://www.gawadarport.gov.pk)

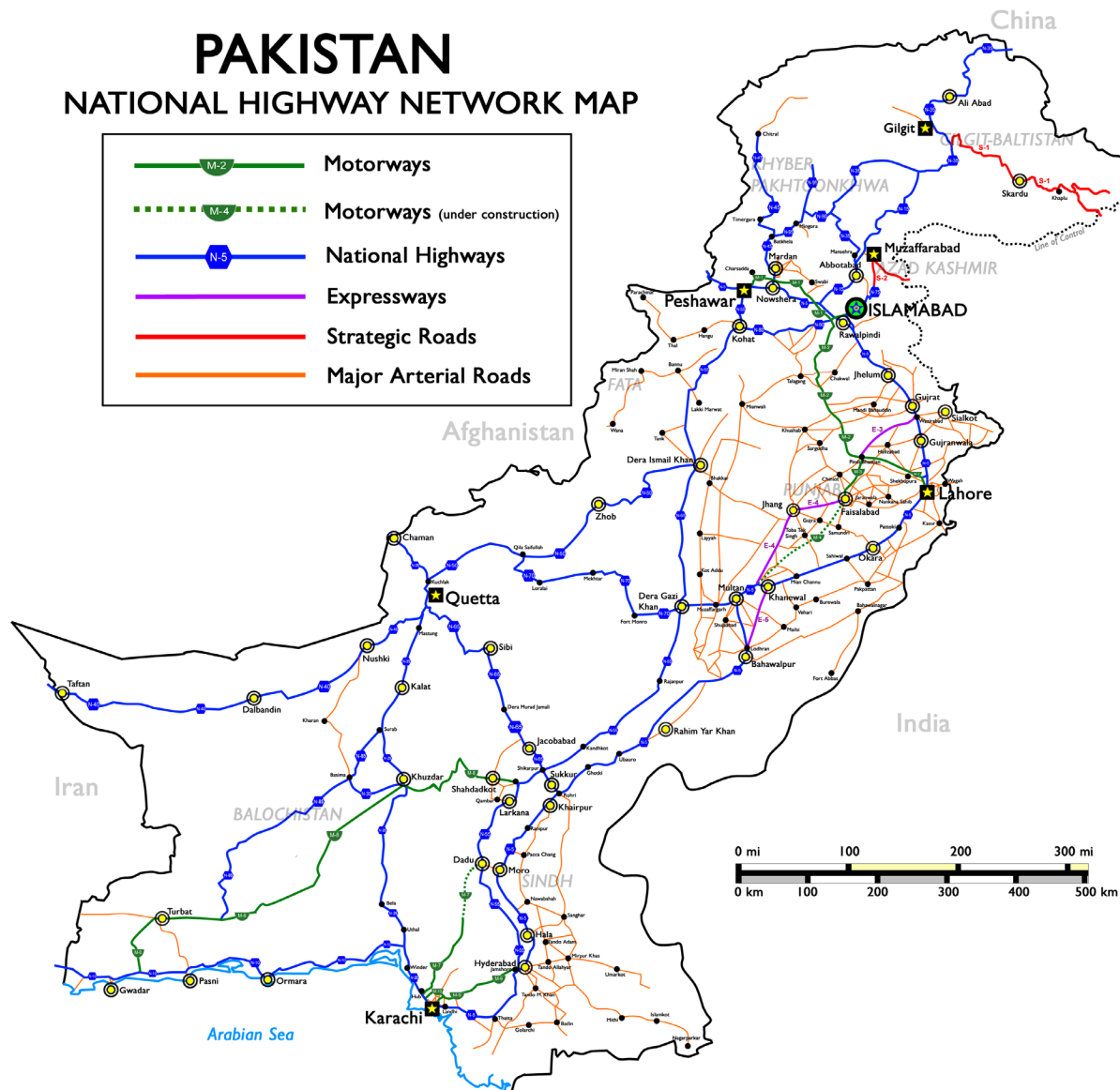
### **Roads**

The country has 264,775km of roads, 185,063km of which are paved, and 708km of which are expressway.<sup>205</sup> Interurban passenger and freight transport is primarily via road; 94% of all passenger kilometers (pkm) and 98% of freight ton kilometers (tkm) are overland, and 80% is via the National Highway Network. Urban transport, too, is dominated by the road sector. Rural accessibility remains low, with only 53% of the rural population living within 2 km of an all-weather road.<sup>206</sup>

The National Highway Authority (NHA) under the Ministry of Communication is tasked with oversight and management of the country’s national and strategic roadways. The present NHA network comprises of 39 national highways, motorways, expressway, and strategic roads. The current length of this network is 12,131km. As of 2019, NHA had 41 projects in progress or recently completed. It had completed three segments of the Pakistan Motorway network: M-1 (Peshawar-Islamabad), M-2 (Islamabad-Lahore) and M-4 (Pindi Bhattian-Faisalabad). Construction was ongoing on M-4 (Faisalabad- Khanewal-Multan) and M-9 (Karachi-Hyderabad).<sup>207</sup> Figure 9 shows the

National Highway network managed by NHA.<sup>208</sup>

The National Highway N-5 extends over 1,700km and connects Karachi with Peshawar while N-55 connects Hyderabad with Peshawar over 1,265km. The latter is the busiest freight route of the country. Despite the country’s reliance on roads or all commerce, transit times are slow, and repair (vehicles and road surfaces) is poor. Many freight transporters overload their vehicles; thus, travel time is slow, averaging 20-25 km/h and taking 3-4 days from Arabian Sea ports and the country’s north, a journey of 1,400-1,800km. Despite this slow transit time, roads remain a faster route than rail where the same 1,800km journey can take 21-28 days.<sup>209</sup>



**Figure 9: Pakistan’s National Highway Network**

## Railways

There are an estimated 7,791km of rail serving the country. Pakistan Railways (PR) is the state-owned monopoly that owns and operates the railways and rolling stock. Most of the rolling stock is aging and requires up-grading while many of the networks 14,000+ bridges are a century old.<sup>210</sup> Rail transport accounts for only 5% of pkm and 2% of all tkm.<sup>211</sup> As part of the government's Vision 2025, PR plans to grow its share of internal transport to 20%.<sup>212</sup> Figure 10 shows the present and planned rail network.<sup>213</sup>

As part of the China-Pakistan Economic Corridor (CPEC), the project to upgrade the Karachi-Peshawar Railway, also known as Main Line 1 (ML-1) remains controversial. As planned, the 1,872km of track would be upgraded and doubled to allow passenger trains to travel at up to 160km/h and freight trains at speeds of up to 120km/h. The project would include a digitized signaling and control system as well as new construction to separate the grade to improve safety. ML-1 would run from Karachi via Hyderabad, Nawabshah, Rohri, Rahimyar Khan, Bahawalpur, Khanewal, Sahiwal, Lahore, Gujranwala, and Rawalpindi, and terminate in Peshawar.<sup>214</sup> Work on the first phase of the project, 527km between Peshawar, Rawalpindi, and Lahore, is currently scheduled to begin in January 2021 and be completed in 2024. The second package, scheduled for completion between January 2022 and December 2026, involves upgrading 521km of track between Lahore and Hyderabad. The third package will upgrade 740km track along the Rawalpindi – Peshawar and Hyderabad – Multan lines. Various agencies involved in approval of CPEC projects have approved ML-1, but Pakistan has sought a reduced US\$2.7bn loan from China to support the construction rather than the entire US\$7.2bn thought to be required.<sup>215</sup> Pakistan Railways appears to be one of the driving forces in slowing progress and even shrinking the project's scope out of an assessment that capacity will be underutilized and amidst intra-Pakistani disputes over who would bear responsibility for the loan.<sup>216</sup>

## Waterways

Pakistan has an elaborate canal system and several navigable rivers, but it does not utilize these resources for large-scale transport of people or cargo. Inland waterway transport can be a valuable addition to the transportation of rural and industrial freight as is currently being piloted in Punjab province between Attock and Daudkhel.<sup>217</sup> Despite such pilot programs, Pakistan's focus for its inland waters remains firmly on securing supplies for irrigation and thirsty cities. Planned measures include increasing water storage via reservoirs, improving flood management, decreasing pollution, decreasing water waste, regulating the withdrawal of groundwater, and strengthening and capacity-building of water resource institutions. Major dams and reservoirs are the dominant type of construction for the Indus and other river systems and would pose a challenge to any national expansion of waterway use for transport.<sup>218</sup>

## Schools

In 2010, Article 25-A of the Constitution legislated free and compulsory education for children ages 5-16 (up through Grade 10).<sup>219</sup> Education service delivery up to Grade 12 (roughly 16 years of age) is primarily the responsibility of provincial and area governments. The formal primary and secondary education system runs from one year of pre-primary (*Katchi*) for 3–4-year-old children through Grade 12. According to the National Education Policy (NEP) 2009, the *Katchi* program must have a separate teacher and a separate room. However, due to inadequate resources, there are no separate teachers for *Katchi* grades in most public schools and, thus, no formal *Katchi* class is taught in most public schools. The primary level consists of 5 years of schooling (Grades 1-5); the middle level spans 3 years (Grades 6–8). Lower secondary or high school covers Grades 9–10, and after each of the two years students take a Secondary Schools Certificate public board examination known as “matriculation.” In the public system, Grades

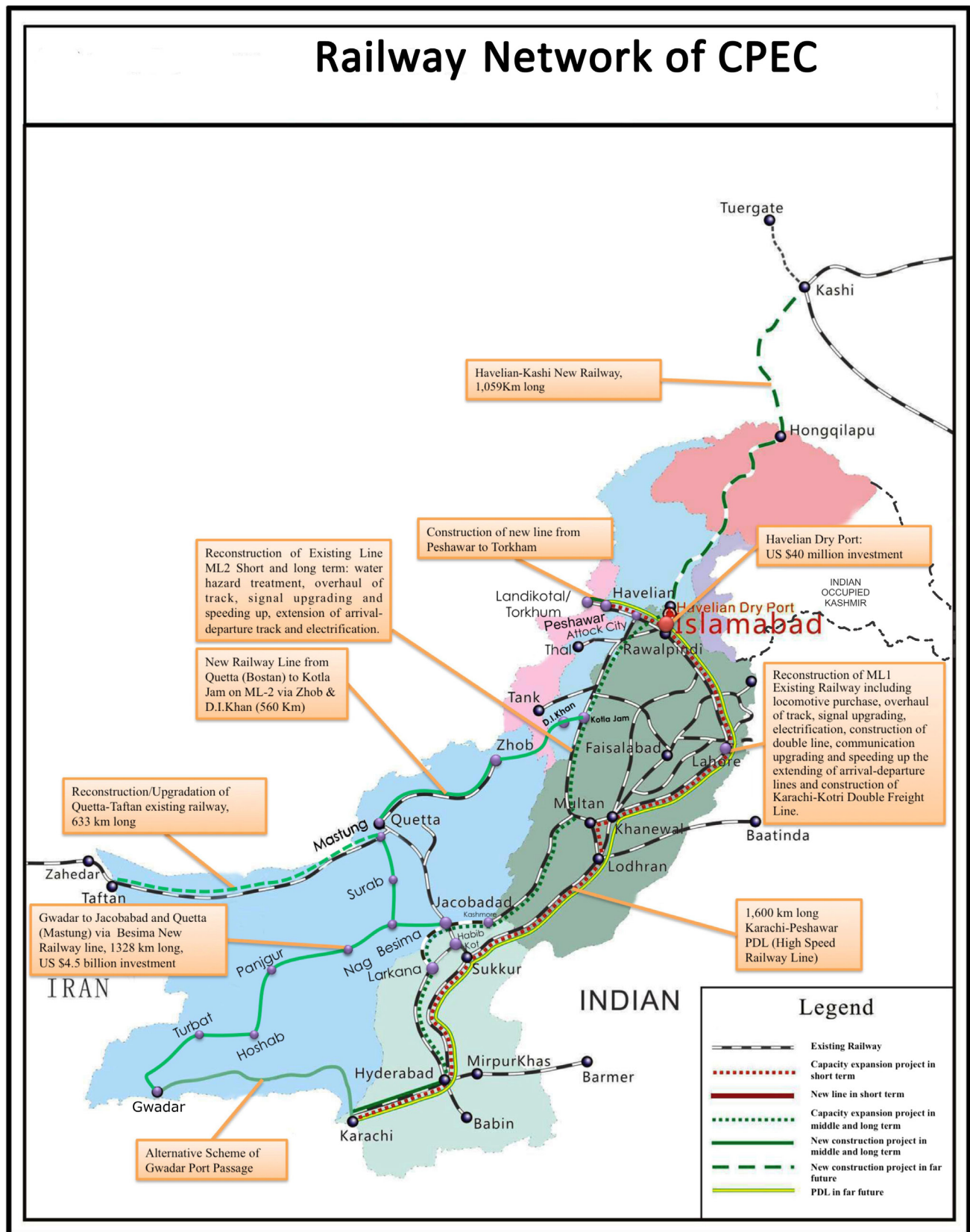


Figure 10: Pakistan’s Present and Planned Rail Network Based on CPEC Planning

11–12 are offered either in higher secondary schools or in intermediate colleges. Students take a Higher Secondary School Certificate board examination in both grades 11 and 12.<sup>220</sup>

While there are more than 70 languages spoken in Pakistan, including the provincial languages Punjabi, Pashto, Sindhi, and Baloch, the country's national language is Urdu and official language is English. English has been the main language of instruction at elementary and secondary levels since colonial times and remains the predominant language of instruction in private schools. Urdu has increasingly become the language of instruction in public schools. Depending on the location, regional languages may be used, particularly in elementary education. The language of instruction in higher education is mostly English, which has become the language of the country's elite institutions, including government and the military.<sup>221</sup>

The public sector dominates education with more than 164,000 institutions serving 21.6 million students as of the 2016-2017 school year. Private education does have a 31% share in terms of the number of educational institutions and a 35% share in enrollment nationally. Indeed, the share of private school enrollment in urban areas is about 60%. The private sector ranges from low-cost private schools to high-cost elite schools and includes stand-alone, franchises, schools funded by provincial education foundation subsidies, and no-fee schools run by philanthropists and nongovernment organizations (NGO). The private sector, however, is not regulated in a structured way.<sup>222</sup>

Islamic religious education has played and continues to play a prominent role. Originally relatively small in number (less than 200 at independence) with a mission to educate religious leaders, *madrassahs* have grown to a number conservatively estimated at over 30,000 with estimated enrollment ranging from 1.8 million to 3.5 million. Three key factors are thought to have driven this growth: a lack of public schools in rural areas, the influx of Afghan and other refugees, who are often excluded from the formal education system, and funding and

support from other countries, including Saudi Arabia and Iran. Ongoing efforts to “mainstream” Islamic education and bring religious seminaries under greater government control constitute a challenge, but *madrassah* students were expected to start sitting for federal board examinations and study the national curriculum by 2020.

Pakistan has one of the highest numbers of out-of-school children worldwide; approximately 22.7 million Pakistani children ages 5-16 or 44% of this age group does not participate in education. This situation is exacerbated by inequalities based on sex, geography, and socioeconomic status. Gender disparities are rampant with boys outnumbering girls at every stage of education. Human Rights Watch reported that 32% of girls of elementary school age are out of school, compared with 21% of boys. By grade six, only 41% of girls participate in education, compared with 51% of boys. And by grade nine, merely 13% of young women are still enrolled in school. The causes of gender disparities include safety concerns, particularly in rural areas where students walk to school and there are concerns about sexual assault. Moreover, some gender inequity can be linked to child marriage and a culture that has historically undervalued the education of young women. Poverty also plays a major role. Families, particularly those in rural areas, often cannot afford the costs related to education. Girls are frequently kept at home to cook and do housework so that both parents can work.

Socioeconomic disparities also have a big impact on educational outcomes, including vast gaps in access to education and overall educational attainment. While literacy rates in cities like Lahore, Islamabad, and Karachi are close to 75%, these rates can be as low as 9% in areas of Balochistan. Whereas 65% of fifth graders in Punjab province were able to read English sentences in 2018, only 34% of fifth graders in Balochistan were able to do the same. The percentage of out-of-school children in the vast Balochistan - with a small population spread over a large area where there is not a school within walking distance for many students -

stands at 70%. Conversely, in the urban and more affluent Islamabad Capital Territory, 12% of children are not in school.<sup>223</sup>

USAID is a partner in Pakistan's education sector in an effort to increase access for out-of-school children and to improve the quality of education. During the COVID-19 outbreak, USAID reached over 5.9 million Pakistani children through various technologies to share resources, boost literacy across radio networks, and disseminate health and instructional materials. In addition to providing emergency education to children affected by disaster or conflict, USAID has several programs. One is a partnership with the Government of Pakistan, private sector, and community representatives to address barriers that keep students from enrolling and staying in school. Second is a partnership with Pakistan's Higher Education Commission to develop two professional teaching degree programs; as a result, Associate's and Bachelor's degrees in Education are now offered in 110 universities and teacher training colleges across the country. Third, USAID helped pioneer a public-private partnership program where Education Management Organizations (EMO) work with reputable private sector organizations to improve the operations of public schools and enhance students' learning achievements. Finally, USAID helps Pakistani universities increase access to and improve the quality of their degree programs.<sup>224</sup>

With USAID, which led the development of an implementation framework for the Sindh Non-Formal Education (NFE) Policy, UNICEF technical assistance supported a comprehensive costing model aiming to bring 600,000 out-of-school children and adolescents to school in five years. Punjab's first-ever Non-Formal Education Policy was finalized with a corresponding social behavior change communication strategy for enrollment of out-of-school children; Khyber Pakhtunkhwa's first such policy was endorsed in 2019. These contribute to ensuring that children excluded from education have a pathway to learn and develop skills through alternative learning programs (ALP), especially for over-age adolescent girls and boys. The first batch

of ALP students in Balochistan completed the three-year program with a 98.6% pass rate on the government Grade 5 test.<sup>225</sup>

## Disaster Risk Reduction in the Education Sector

The Prime Minister approved the Pakistan School Safety Framework (PSSF) in March 2018;<sup>226</sup> it was formulated by the Gender and Child Cell (GCC) of the NDMA with the support of UNICEF. PSSF is intended to provide policy guidance and to set a standard for the implementation of Comprehensive School Safety at national, provincial, district, and school levels. It is also intended to guide school safety initiatives, infrastructural development, and the formulation of School Safety Plans (SSP) and Standard Operating Procedures (SOP), and to contribute to building awareness across the school community about disaster prevention and disaster risk reduction. It promotes use of practical exercises, mock evacuation drills, inclusion of disaster risk reduction in the curriculum and in extra-curricular activities, and development of soft skills enabling schools to be prepared and to save lives in case of an emergency.

Part of the PSSF is that all schools are expected to develop an SSP informed by a school risk assessment. The SSP will include comprehensive response mechanisms against foreseen threats from different hazards as well as SOPs; they should put in place response skills, provisions, and organizations to counter all hazard threats. The school risk assessment would reflect assessments by structural safety experts and security advisers (police), and it would be analyzed by stakeholders to include: school management, teachers, parents, students, and members of the local community. School Safety Committees (SSC) are foreseen to oversee implementation of training of staff and students on how to respond to hazards and development of response skills; Figure 11 suggests a structure for the SSC.<sup>227</sup>

The SSP will include a school risk, vulnerability, resource, and capacity map that includes details of all physical structures

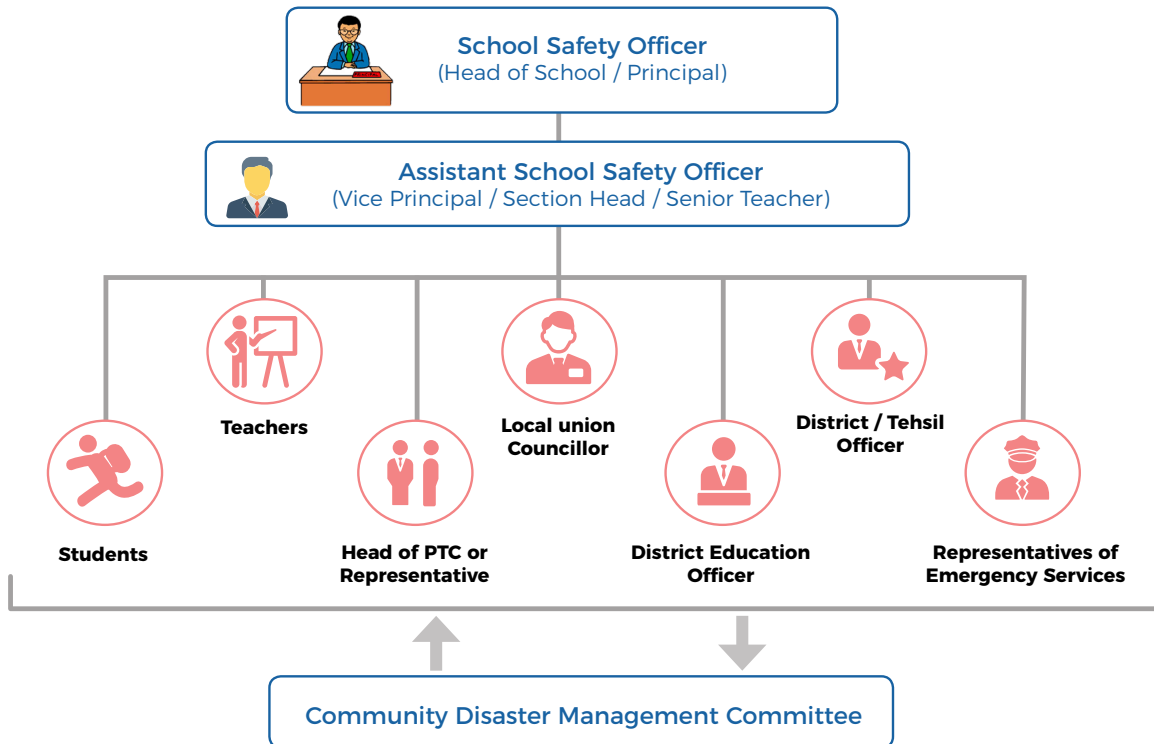


Figure 11: Suggested School Safety Committee Structure

on the school premises such as buildings, classrooms, and laboratories as well as places where emergency equipment and materials are stored, evacuation pathways, safe places, and assembly points. The PSSF also stipulates that all schools must have an education continuity plan for Education in Emergencies (EiE). This plan should be able to be put into action within 72 hours of any natural or manmade disaster occurring. On the issue of practical training, PSSF requires mock drills to be carried out at least once every three months, especially before the onset of monsoon season or winter (rain and snow), and it recommends a mixture of announced and unannounced drills. The local community and relevant government departments can be involved; for example, the involvement of the fire brigade/rescue 1122 and paramedics may be arranged. Photo 3 shows students in Khyber Pakhtunkhwa practicing an earthquake drill during UNICEF/USAID-backed training.<sup>228</sup>

NDMA’s PSSF views school disaster response as an important and influential contributor to, and leader in, community disaster management,



Photo 3: Middle School Students Perform Earthquake Drill in Swat, Khyber Pakhtunkhwa.

disaster awareness raising, and disaster risk reduction. In building connections with the community, the school can engage parents and community members in disaster management planning and implementation. SSC deliberations and decision-making are expected to consider how to involve the community and how to make the school a hub for community disaster risk reduction special events, meetings, presentations, displays, and exhibitions. Thus, there is an expectation that the SSC forges links with the Community Disaster Management Committee (CDMC) so that their respective plans and processes dovetail.<sup>229</sup>

## Communications

Article 19 of Pakistan’s constitution establishes freedom of speech and freedom of the press as fundamental rights, although they are subject to several broad restrictions, including for “the interest of the glory of Islam or the integrity, security, or defense of Pakistan or any part thereof, friendly relations with foreign States, public order, decency, or morality, or in relation to contempt of court, or commission of or incitement to an offence.”<sup>230</sup>

Although Pakistan’s modern communications infrastructure reaches at least 90% of the national territory, there are areas where low literacy rates and the high cost of purchasing technology work against the spread of news and information. In some areas, radio remains the best means to reach the population although mobile-cellular communications, including SMS/MMS, may also be crucial. Through its Vision 2025 strategy, Pakistan aims to transition to a knowledge-based economy, and digitization of the country’s communications, information, and education sectors will be part of this process.

### Telephones

- Fixed-line subscriptions: 2,607,495 (1.14 per 100 inhabitants)
- Mobile subscriptions: 174,702,132 (76.38 per 100 inhabitants)

The telecommunications sector has seen increased investment in mobile-cellular networks and a concomitant decline in fixed-line subscriptions. The national network consists of microwave radio relay, coaxial cable, fiber-optic cable, cellular, and satellite networks. 4G mobile services are broadly available, but 5G is not expected before 2030. The mobile broadband market is strong and has a dominant position over fixed broadband sector. In recent years, mobile-cellular subscribership has skyrocketed; as of 2019, more than 90% of Pakistanis lived in areas with mobile phone coverage, and fiber-optic networks are expanding throughout the country to increase broadband access. International service is via SEA-ME-WE-3, -4, -5, AAE-1, IMEWE, Orient Express, PEACE Cable, and TW1 submarine cable systems. There are three satellite earth stations - Intelsat (1 Atlantic Ocean and 2 Indian Ocean) as well as three operational international gateway exchanges (1 at Karachi and 2 at Islamabad). Microwave radio relay connects Pakistan to neighboring countries.<sup>231</sup>

Pakistan’s telecom market struggled for a long time with the transition from a state-owned monopoly to a deregulated, competitive structure. More recently, telecom companies have built not only retail customer service but also data centers as part of strategies to build a digital Pakistan; top players include Telenor, Zong, and Ufone. The struggling fixed-line market is dominated by Pakistan Telecommunications Company Ltd (PTCL). The only other provider with a significant customer base is National Telecom Corporation (NTC), a state-owned incumbent. The country’s mobile operators are all fighting for a larger share of the market, and prices have subsequently fallen steadily. There are now five mobile service providers; Jazz, Telenor, Zong, and Ufone operate nationwide while state-owned SCOM operates only in Azad Kashmir and Gilgit-Baltistan. No provider has won 50% of the market, and market consolidation is expected as operating margins come under pressure. In 2019 the Pakistan Telecommunication Authority (PTA) published guidelines for issuing temporary



5G authorization to service providers, vendors, and research organizations. Zong announced that it was the first to successfully test 5G in Pakistan, at its headquarters in Islamabad where it generated download speeds greater than 1 gigabit per second (Gbps).<sup>232</sup>

Affordability is the biggest barrier to expansion of the mobile market. A 2019 survey found that 57% of phone owners do not use the mobile internet because of cost. Additionally, 42% of non-users said the cost of mobile services is too high. Costs of mobile ownership and usage can account for 10% of average annual income in Pakistan, increasing to over 20% for the poorest fifth of the population. Other barriers to mobile internet usage include literacy issues – both in the traditional sense (reading and writing) and in terms of digital knowledge – as well as concerns over security and privacy, and the lack of availability of content that is relevant or in the local language.<sup>233</sup>

### **Internet Access**

As of December 2020, Pakistan counted about 76.3 million internet users, roughly 34% of the population.<sup>234</sup> Broadband penetration remains somewhat low with fixed-line uptake at 1 per 100 inhabitants and mobile-cellular at 76 per 100.<sup>235</sup> There were an estimated 46 million social media users (20% of the population) as of January 2021 an increase of 9 million (+24%) between 2020 and 2021.<sup>236</sup>

The state exerts considerable influence over the internet backbone. The predominantly state-owned Pakistan Telecommunication Company Ltd (PTCL) controls the country's largest internet exchange point, Pakistan Internet Exchange (PIE), which has three main nodes - in Karachi, Islamabad, and Lahore - and 42 smaller nodes nationwide. There is a combination of private and publicly run service providers. The Pakistan Telecommunication Authority (PTA), the government regulator, exerts significant control over internet and mobile providers through hefty licensing fees and various bureaucratic processes. According to licensing information published by PTA, in 2020, there were 11 licensed wireless

local loop operators, 16 long-distance and international operators, and 21 operational fixed local loop operators.

The Inclusive Internet Index 2020, that scores countries' online environments by availability, affordability, relevance, and readiness, ranked Pakistan 76 of 100 countries, an improvement from 2019, but Pakistan posts particularly low performances on the affordability and relevance indicators. The speed-testing company Ookla ranked Pakistan's mobile-internet download speed, 17 megabits per second (Mbps) in July 2020, at 112 of 138 countries surveyed, and its fixed-broadband speed of 9.4 Mbps at 159 out of 174 countries surveyed. Infrastructural limitations are acute in rural areas. Damaged or inadequate infrastructure also periodically disrupts access. Power outages are a serious problem that limit connectivity.

There are serious inequalities in access to information and communications technology (ICT) based on geographic location, gender, and socioeconomic status. Parts of western Pakistan lack internet access, in many cases due to underdevelopment or ongoing conflict. There have been some government initiatives to provide access to remote areas, including through new mobile hotspots and expanded broadband access. However, Pakistan's poor record of protecting user privacy makes some users reluctant to use the hotspots, and development projects are sometimes abandoned due to a lack of funding.

COVID-19 has exacerbated the digital divide for many users in the country as people with limited internet access were less able to get information about the virus or obtain other services online. In March 2020, in order to try to ease some inequities, based on its powers under sections 4(1)(C) and section 6(F) of the Pakistan Telecommunication (Reorganisation) Act 1996, PTA directed that fixed-line operators provide student and work-from-home packages of 2 Mbps (40gigabyte data limit) for less than Rs600 (<US\$4) per month. The government also deployed several tech-related measures. It began using a track-and-trace system originally

developed by the Inter-Services Intelligence for tackling terrorism. The program, which is largely not transparent and lacks judicial oversight, is reported to combine personal call-monitoring mechanisms and geofence tracking that knows when a person leaves a given geographic location. Information collected through these efforts is reportedly being shared with other government authorities such as the health department, local police, and provincial governments. Separately, in March 2020, the PTA confirmed that it used mobile-tower tracking in order to identify phones of people who could have been exposed to the virus, and to send them a “CoronaAlert” text message. Further, the government’s contact-tracing application Covid-19 Gov PK, which employs geolocation technology, has prompted alarm from civil society groups that have voiced privacy and surveillance concerns.

Requirements that users link their internet and mobile connections to their national identity card limit anonymous use of the internet. Unregistered phones have been subject to disconnection. Increasingly stringent security measures mean that users must register fingerprints along with other identifying information when applying for broadband internet packages and mobile service.<sup>237</sup>

The 2016 Prevention of Electronic Crimes Act gives the executive-controlled Pakistan Telecommunication Authority (PTA) unchecked powers to censor material on the internet. The level of investment in tracking and blocking of sites is typically justified by a professed intention to prevent dissemination of blasphemous and pornographic content.<sup>238</sup> Authorities frequently block content critical of Islam or the military, sites that host pornography or nudity, and sites related to or offering circumvention and privacy tools, among other political and social content. PTA figures showed that between 2016 and 2019, 900,000 Uniform Resource Locators (URL) were blocked, including for blasphemy, pornography, and content viewed as antagonistic to the state, judiciary, or armed forces. The National Counter Terrorism Authority was reported to have blocked 2,273 websites over “hate material,”

another 1,943 sites over “hate speeches,” and 68 sites over links to terrorism.” PTA also directs social media platforms and content hosts to remove content it deems in violation with law.<sup>239</sup>

### **Mass Media**

The mass media is government regulated, and there is one dominant, state-owned TV broadcaster, Pakistan Television Corporation (PTV), which operates a network of eight channels.<sup>240</sup> Television is the dominant medium for news/information and entertainment across the country. There are no private, terrestrially-broadcast stations, but there are dozens of private channels that most viewers watch via cable,<sup>241</sup> and an estimated 69 foreign satellite channels are operational. The state-owned radio network operates more than 30 stations alongside some 200 commercially licensed, privately owned radio stations that provide music and talk shows as they are prohibited from broadcasting their own news.<sup>242</sup> There are also scores of unlicensed FM stations said to operate in the tribal areas of Khyber Pakhtunkhwa.<sup>243</sup>

Pakistan has, over the past two decades, boasted a relatively vibrant media sector that presents a range of news and opinions. However, both the civilian authorities and military have acted in recent years to curtail media freedom. A range of instruments have been used, including the traditional approach of withdrawing government advertising from critical publications, as well as the more recent approach of fines and temporary bans imposed by the Pakistan Electronic Media Regulatory Authority (PEMRA). Authorities are also believed to rely on “troll farms,” which are directed to harass out-of-line commentators on the web.<sup>244</sup>

The Committee to Protect Journalists reports 61 journalists killed for their work in Pakistan over the decades; some 41 of those occurred during a peak of violence linked to the Afghanistan conflict between 2007 and 2013.<sup>245</sup> Reporters without Borders characterizes Pakistan as one of the world’s deadliest countries for journalists with intelligence agents and members of banned militant organizations posing “serious

threats” to reporters. The government is reported to use legal and constitutional powers to curb press freedom, and the law on blasphemy has been used against journalists. The broadcasting regulator can halt the carriage of foreign TV channels via cable, and the most frequently targeted channels are Indian or Afghan ones.<sup>246</sup>

► **Press**

- Daily Jang - Karachi-based, Urdu-language; largest-circulation daily (<https://jang.com.pk/>)
- Dawn - Karachi-based, largest-circulation English-language daily (<https://www.dawn.com/>)
- The News - English-language daily (<https://www.thenews.com.pk/>)
- The Nation - Lahore-based, English-language daily (<https://nation.com.pk/>)
- The Frontier Post - Peshawar-based, English-language (<https://thefrontierpost.com/>)
- Daily Ausaf - Islamabad-based, Urdu-language daily (<https://dailyausaf.com/>)
- Daily Times - English-language, publishes in Lahore and Karachi (<https://dailytimes.com.pk/>)
- Pakistan Observer - Islamabad-based, English-language daily (<https://pakobserver.net/>)
- Business Recorder – Karachi-based, English-language, financial daily (<https://www.brecorder.com/>)
- Pakistan & Gulf Economist – Karachi-based, English-language business weekly (<https://www.pakistangulfeconomist.com/>)
- The Friday Times - Lahore-based, English-language weekly (<https://www.thefridaytimes.com/>)
- The Express Tribune –Karachi-based, English-language daily (<https://tribune.com.pk/>)

► **Broadcast**

- Pakistan Television Corporation Ltd - state TV; operates: PTV Home, PTV Sports, PTV World, PTV Global, PTV National, Baloch-language PTV Bolan, PTV News (<https://ptv.com.pk/>)
- Geo TV - leading private satellite broadcaster, based in Dubai; Urdu- and English-language programming (<https://www.geo.tv/>)
- ARY Digital - private, via satellite; mostly Urdu-language programming (<https://arydigital.tv/>)
- Dunya News TV - private, via satellite; Lahore-based (<https://dunyanews.tv/>)
- Dawn News - private satellite broadcaster, owned by Herald group; Urdu- and English-language news (<https://www.dawnnews.tv/>)
- ATV - semi-private, terrestrial network w/ Urdu-language programming
- Aaj TV - private satellite broadcaster, owned by Business Recorder group; English- and Urdu-language programming (<https://www.aaj.tv/>)
- Indus TV - private, via satellite; services include Indus Vision, Indus News, and entertainment channels (<https://indus.news/>)
- Radio Pakistan - state-run, operates 25 stations nationwide, an external service, and entertainment-based FM 101, aimed at younger listeners (<https://radio.gov.pk/>)
- Azad Kashmir Radio - state-run, for Pakistani-administered Kashmir
- Mast FM 103 - private, music (<http://mast103.com/>)
- FM 100 - private, music-based (<http://fm100pakistan.com/>)

► **News Agency**

- Associated Press of Pakistan (APP) - state-funded<sup>247</sup>
- International wire services (AFP, AP, and Reuters) keep offices in the country and employ locals as well as foreign reporters and photographers.

## Post

Pakistan Post is the country's official postal service provider. It reaches all parts of the country via 13,000 post offices with home delivery to 20 million private residences and business offices. Like some other national postal services, Pakistan Post also operates as a savings bank, life insurance provider, tax collector, and payment center for electricity, water, gas, and telephone bills. The Post operates domestic and international letter and parcel services.<sup>248</sup>

International parcel services (UPS, FedEx, DHL, etc.) do serve Pakistan, and there are dozens of small courier companies operating in Pakistan's cities.

## Utilities

For decades, Pakistan struggled to produce sufficient electric power to meet demand even as large areas of the country were not connected to the power grid. Similarly, extending safe drinking water and sanitation throughout the country has been a slow, expensive task that continues into the present. Pillar IV of the country's Vision 2025 strategy lays out goals that seek to integrate policy and execution in expanding energy, water, and food security in the face of climate change.

Vision 2025 lays out the following goals:

- Energy: double power generation to over 45,000 MW and increase electricity access to over 90% of the population, reduce average cost per unit by over 25% by improving generation mix and reducing distribution losses, increase percentage of indigenous sources of power generation to over 50%, and increase use of energy efficient appliances/products.
- Water: increase storage capacity to 90 days, improve efficiency of use in agriculture by 20%, and ensure access to clean drinking water for all Pakistanis<sup>249</sup>

## Power

According to Pakistan's National Electric Power Regulatory Authority's (NEPRA) 2017 State of the Industry report, the country needed

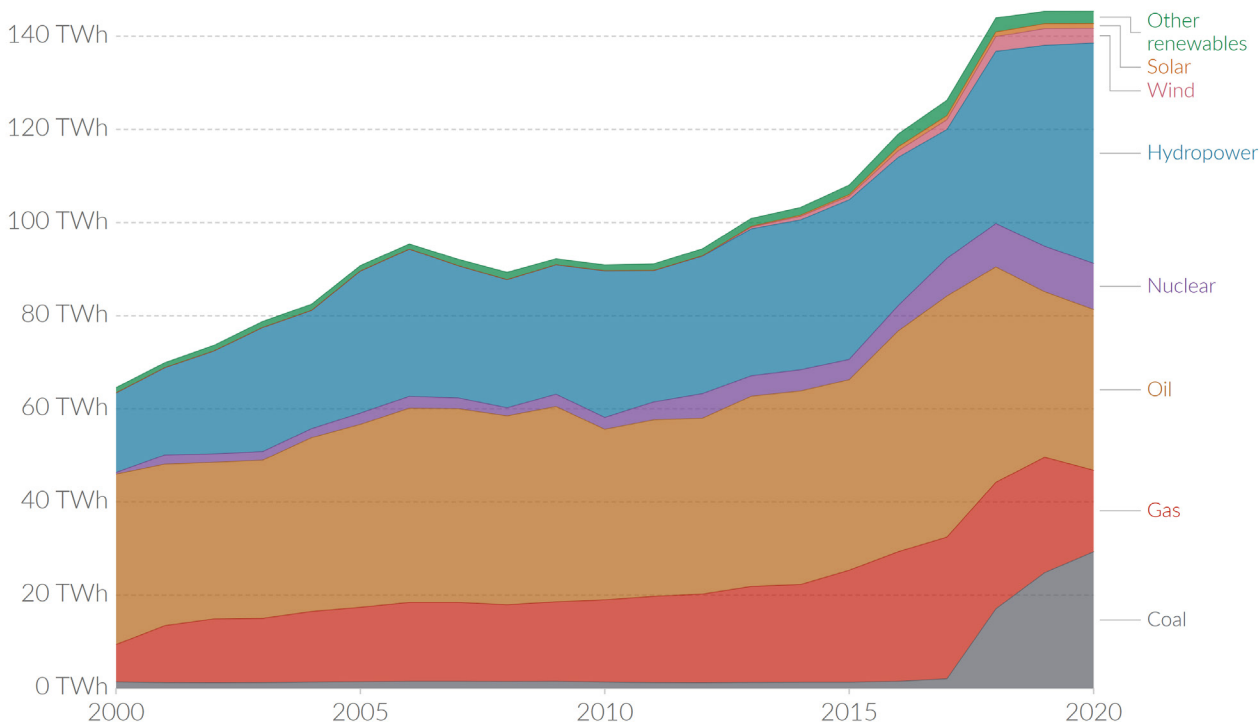
to reduce its dependence on imported fossil fuels, increase use of renewable energy, diversify fuel resources, and secure its fuel supply. Between that report and 2020, total generation capacity – the maximum power output across all energy sources in the country – rose significantly as the nation made an effort to meet growing demand,<sup>250</sup> and electrification had reached an estimated 79% of Pakistanis by 2019.<sup>251</sup>

Pakistan's indigenous energy resources consist of fossil fuels (coal, gas, and oil), uranium, and renewables (hydropower, wind, solar, biomass, etc.). The country has minimal oil reserves – 540 million barrels.<sup>252</sup> Oil production is sufficient to meet about 20% of domestic oil needs, and the remaining demand is met by imported crude and other oil products. Natural gas reserves are also limited and decreasing, and the Government has scrambled to develop new exploratory wells to try to increase national production capacity while also seeking short-term and long-term alternatives such as import of liquefied natural gas (LNG) and piped gas.<sup>253</sup> Although power generation based on imported LNG is cheaper than oil and diesel, Pakistan is still subject to fluctuating fossil fuel prices if it replaces oil-based generation with LNG and coal.<sup>254</sup> In recent years, Pakistan has opted to import coal for generating electricity, but more recently, the domestic Thar coal reserve has begun to feed electricity generation plants.<sup>255</sup> With oil-/diesel-fired generation being replaced newer LNG- and coal-fired power, Pakistan is still largely dependent on thermal power, which currently contributes almost two-thirds of capacity and 70% of electric power generation, with much of the fuel imported. Almost all the rest of Pakistan's power generation is made up with hydro and, to a lesser extent, nuclear power.<sup>256</sup> Figure 12 charts the types of energy input used in Pakistan's electricity production.<sup>257</sup>

Pakistan is around 60,000 MW, and nearly 14% (7,320MW) is currently exploited. Hydropower potential is concentrated in the northern, mountainous region, far from load centers. The high investment cost for installation of hydro-plants, development of an electricity transmission network, and resettlement of

## Electricity production by source, Pakistan

Our World in Data



Source: Our World in Data based on BP Statistical Review of World Energy & Ember (2021)  
 Note: 'Other renewables' includes biomass and waste, geothermal, wave and tidal.

OurWorldInData.org/energy • CC BY

**Figure 12: Electricity Production, by Source**

affected populations are among the obstacles to full-capacity hydropower exploitation. During 2017–18, hydropower provided 21.2% of total electricity. Some hydropower projects, ranging from medium to micro, are under construction, and the capacities of some existing hydropower projects are being extended.<sup>258</sup>

A number of hydropower plants have been begun, completed, or commissioned in the past five years. For example, in 2016, 56.6 MW came online in Khyber Pakhtunkhwa (KPK) via major projects while some 1,000 micro hydropower (<100MW) projects were also installed as part of a KPK Government-led initiative with Asian Development Bank support to support rural, off-grid communities. Numerous projects are under planning and construction in the private sector, overseen by the Private Power & Infrastructure Board, including Karot (720 MW), Suki (870 MW), and Kohala (1,124 MW), all part of the China–Pakistan Economic Corridor (CPEC). The run-of-river Patrind hydropower project is

being led by Korea’s Star Hydro Power, K-water, and Daewoo Engineering & Construction Company. Current public sector projects overseen by the Water & Power Development Authority (WAPDA) include Golen Gol (106 MW), Neelum-Jhelum (969 MW), Dasu (4,320 MW), and the extension of Tarbela. Construction on the fourth extension of the 3,478 MW Tarbela hydropower plant would see this world’s largest earth-filled dam have an installed capacity to 4,888 MW. A future fifth extension could add a further 1,140 MW in capacity.<sup>259</sup> Meanwhile, Dasu and the Diamer-Bhasha dams together are billed as having 9,500MW potential generating capacity, sufficient to push the country toward the Vision 2025 goal of rebalancing power inputs to make them more cost-effective and more reliable.<sup>260</sup> Dasu is on schedule to begin generating 2,160MW when it comes online in latter 2024 or early 2025.<sup>261</sup> Conversely, Diamer-Bhasha, first proposed in 1980, has been beset with problems; construction began only in July

2020 with a preliminary completion date of 2028.<sup>262</sup>

A November 2018 ‘Regional Risks for Doing Business’ report by the World Economic Forum found that “water crises” are the number one business risk in Pakistan. The National Electric Power Regulatory Authority (NEPRA) noted in its 2017 State of the Industry Report that hydro generation decreased due to water availability issues including the release of significant quantities of water from reservoirs for agricultural irrigation. October 2018 saw hydro power output drop 44% compared to the prior month due to seasonal and water management issues. As the globe experiences further extremes in weather and with hydrological patterns expected to be less easy to predict, competition for water use may well escalate to the point where hydropower is increasingly unreliable.<sup>263</sup>

Nuclear power generation contributed 7.5% to total electricity generation in 2017–18. The country has six operational nuclear power plants with a cumulative generating capacity of 2,332

Megawatts electric (MWe) (operating) and 1,100 MWe under construction as of March 2021.

The Karachi 3 reactor may come online as early as latter 2022.<sup>264</sup> Table 2 details the country’s reactors’ type, capacity, and start date. (Note: Chashma is 260km southwest of Islamabad.)<sup>265</sup>

Renewables made up just 5.1% of installed capacity 2017/18. An estimated 1.3 GW of wind and solar were installed in Pakistan by June 2018, with another 300 MW of bagasse-fueled generation already online. To date, all of Pakistan’s wind power development has been in the Gharo-Keti Bandar corridor in the south of the country which has a theoretical potential of around 50 GW of wind energy. This corridor combines good wind resources with relative proximity to load centers and national grid connectivity. Pakistan also has good solar radiation resources, particularly in the south and southwestern parts of the country. In southeast Pakistan, Sindh Province has initiated its’ Sindh Solar Energy program (SSEP) that will see utility-scale, distributed, and residential solar installed,

Reactor Name	Alternative Name	Model	Reactor Type	Net Capacity (MWe)	Construction Start	First Grid Connection
CHASNUPP-1	Chashma Nuclear Power Plant 1	CNP-300	PWR	300	1993-08	2000-06
CHASNUPP-2	Chashma Nuclear Power Plant 2	CNP-300	PWR	300	2005-12	2011-03
Chashma Nuclear Power Plant Unit 3	Chashma Nuclear Power Plant 3	CNP-300	PWR	315	2011-05	2016-10
Chashma Nuclear Power Plant Unit 4	Chashma Nuclear Power Plant 4	CNP-300	PWR	313	2011-12	2017-06
K-2	Karachi 2	HPR1000	PWR	1,014	2015-08	2021-03
Karachi Nuclear Power Plant	Karachi 1	CANDU-137 MW	PHWR	90	1966-08	1971-10

**Table 2: Reactors Operating in Pakistan**

including up to 400 MW of capacity in solar parks.<sup>266</sup>

Historically, the power sector of Pakistan has been under the ownership of two public utilities: the Water and Power Development Authority (WAPDA) and Karachi Electric Supply Corporation (KESC). KESC was responsible for generation, transmission, and distribution for Karachi city and its surrounding areas, while WAPDA was responsible for the remaining electricity supply systems. To improve the performance of power sector, the National Electric Power Regulatory Authority (NEPRA) was established in 1997 as an independent regulator. Following this, the Power Wing of WAPDA was unbundled into four Generation Companies (GENCO), ten Distribution Companies, and one National Transmission and Dispatch Company. KESC was privatized and rebranded “K-Electric.” The Private Power and Infrastructure Board was established to facilitate private investment in the power sector. The Alternative Energy Development Board was created to oversee development of renewable energy resources. Development of nuclear power remains the responsibility of the Pakistan Atomic Energy Commission (PAEC).

The Ministry of Energy (Power Division) handles all issues related to electricity generation, transmission, distribution, and pricing. There are four public sector power generation companies; Jamshoro Power Co. Ltd (GENCO-I) has two plants with a combined generation capacity of 1,024 MW; Central Power Generation Co. Ltd. (GENCO-II), with a total generation capacity of 2,402 MW, also has two generation plants; Northern Power Generation Co. (GENCO-III), with a capacity of 2,061 MW, includes four generation plants; and, finally, Lakhra Power Generation Co. Ltd. (GENCO-IV) has only one coal powered plant at Lakhra with 150 MW capacity. WAPDA is still responsible for planning and execution of large hydropower projects. At present, WAPDA operates at 8,341 MW hydropower capacity. Pakistan Atomic Energy Commission (PAEC) is responsible for planning, implementation, operation, and maintenance of

nuclear power plants.

National Transmission and Dispatch Company is responsible for constructing, operating, and maintaining electricity transmission infrastructure, which comprises transmission lines of 220 kV and 500 kV, and grid stations linking all power plants of the country. It also provides services to the distribution companies in the design and construction of 132 kV transmission lines and grid stations. There are currently eleven electricity distribution companies operating in the country. Peshawar Electric Supply Company, Islamabad Electric Supply Company, Gujranwala Electric Power Company, Lahore Electric Supply Company, Faisalabad Electric Supply Company, Multan Electric Power Company, Hyderabad Electric Supply Company, Quetta Electric Supply Company, Sukkur Electric Power Company, Tribal Areas Electricity Supply Company Ltd, and K-Electric. All except K-Electric are public entities.<sup>267</sup>

## Water and Sanitation

Pakistan is a water-stressed country and, during 2020, was classified as “water scarce” by an International Monetary Fund report.<sup>268</sup> Rising demand is a major stressor on the Indus River system, which supplies 180 billion cubic meters of water annually. The river system itself is sustained by glaciers in the Hindukush-Karakoram ranges, which are receding amidst ongoing climate change. Some 75% of annual Indus supplies occur during the summer monsoon months, and any flow that is not used goes to the sea due to inadequate storage capacity. The Vision 2025 goals see construction of new reservoirs in an effort to even out supply year-round for agricultural, industrial, and domestic consumption. With approximately 95% of water allocated to agriculture and rural areas, distribution, usage (and re-use), and storage are fraught. Political problems have traditionally stalled promotion of water efficient crops and more efficient irrigation. Beyond surface water, groundwater is recharged by the stressed Indus system but is increasingly threatened by pollution

and uncontrolled and unregulated pumping of sub-surface water that is causing a rapid retreat of the sub-surface water table and saltwater intrusion.<sup>269</sup>

The country has made significant progress in improving access to water and sanitation in recent decades, yet 17 million people (6% of the population) rely on unimproved drinking water sources, and more than two in five people do not have access to modern sewerage.<sup>270</sup> Disasters - earthquakes, floods, droughts, and internal displacement due to conflict - often leave hundreds of thousands of affected people in temporary need of water and sanitation support. Sustainable access to water, sanitation, and hygiene in health centers and schools remains a challenge especially for girls who lack adequate facilities for period hygiene. The effects of climate change and rapid urbanization are already contributing to challenges in accessing safe water and sanitation,<sup>271</sup> and long-term challenges loom as groundwater is depleted, pollution worsens, and an additional 100 million people will require water by 2050.<sup>272</sup>

In an effort to manage the country's water resources, in 2018, the government published the National Water Policy (NWP) that, among other things, established the National Water Council. The Council, headed by the Prime Minister, is intended to coordinate water policy and strategy; plan, coordinate, and review development and management projects; promote stakeholder participation in management; and review progress in controlling pollution. The Secretariat of the Council is within the Ministry of Water Resources (MoWR).<sup>273</sup>

A majority of Pakistan's population depends on a water source outside the home such as collecting their water from a tap or well. National water testing in major cities by Pakistan Council of Research in Water Resources (PCRWR) in 2017 deemed 69% of samples unfit for drinking with some locations having almost all sources deemed unsafe. The culprits are consistent:

bacteria and coliform from surface runoff and sewage disposal. Groundwater is contaminated by the open surface flow of untreated sewage, rural wells do not have source protection, and waste from septic tanks seeps into underground water tanks. There are also fundamental deficiencies in the water treatment and distribution systems, according to PCRWR.<sup>274</sup>

Access to improved water and latrines has risen significantly across Pakistan in the last 15 years, largely due to self-provision, e.g., privately bored hand and mechanized pumps and construction of household latrines. The public sector provides virtually no piped water or sanitation in rural areas. Most urban and rural water is supplied from groundwater, with over 50% of village households accessing drinking water from hand-pumps. In saline groundwater areas, irrigation canals are the main source of municipal water. Poorer districts are more likely to rely on hand-pumps than better off districts. The combination of hand-pumps and pit latrines increases the risk of water contamination due to seepage of human excreta into the water source.

Vision 2025 commits the government to increasing the proportion of the population with access to improved sanitation to 90%. Pakistan did achieve the 2015 Millennium Development Goal for sanitation, reducing by half the proportion of people without sustainable access to basic sanitation; this included increasing rural access to sanitation to 67% in 2015 from 23% in 1991. However, this success masks disparities between rural and urban areas. The World Bank and Junaid state that 21% of people in rural areas practice open defecation. The rural-urban gap also includes access to solid waste management services; an estimated 57% of households in urban areas and 6% in rural areas have access to a solid waste collection. In addition to a rural-urban disparity, there are also wealth differentials in terms of access to sanitation: 13% of the poorest Pakistanis have access to improved sanitation compared to 80% of the richest.<sup>275</sup>



# HEALTH

Pakistan has significantly improved health care access and quality over the past three decades, but it still ranks 154th out of 195 countries in accessibility and quality of healthcare. Pakistan's Health Access Quality (HAQ) index increased from 26.8 in 1990 to 37.6 in 2016 (on a scale where 1 is the worst performance and 100 is the best), according to a study published in *The Lancet*.<sup>276</sup>

Pakistan is facing high rates of hepatitis B and C, tuberculosis, and malaria infection. Rising Human Immunodeficiency Virus (HIV) infection trends are of concern, especially considering low estimated antiretroviral therapy coverage and high rates of untested blood transfusions. Drug-resistant tuberculosis is estimated at 4.3% among new cases and 19.0% among previously treated cases. Vaccine preventable diseases and new emerging infections call for strengthening disease surveillance and response systems. Progress has been made against polio, though it remains endemic and of concern. Noncommunicable diseases along with injuries and mental health issues make up half of the burden of disease. Injuries account for more than 11% of the total burden of disease and are likely to rise with increasing road traffic, urbanization, and conflict.

Disability due to blindness or other causes is relatively high, with limited services for people with disabilities. Maternal deaths continue due to preventable causes such as sepsis and hemorrhage, and rates of neonatal mortality remain high. In young children, diarrhea and respiratory illness are major causes of death. The estimated prevalence of malnutrition conditions in children under 5 years of age is: 31.6% underweight, 10.5% wasting, 3.3% severe wasting, 45.0% stunting, and 4.8% overweight.

Figure 13 shows the improvement in longevity since 1990 and forecasts continued improvement in the coming decades.<sup>277</sup>

Figure 14 shows the decline in child mortality rates in the last two decades.<sup>278</sup>

## Health Care System Structure

The health system was devolved to eight federal units (provinces and administrative areas) via the 18th constitutional amendment of 2010. Pakistan's health system incorporates both public and private sectors. A large government infrastructure consists of primary and secondary health facilities serving rural and semi-urban areas, and of large teaching hospitals serving urban areas. The large private medical sector is widely used. NGOs and the philanthropic sector deliver mostly preventive services. Complementary, alternative, and traditional systems of healing are also popular.<sup>279</sup>

The private sector serves an estimated 70% of the population while the public sector serves about 30%. Private healthcare institutions outperform their public counterparts in terms of overall quality of care and patient satisfaction. Most private health facilities are in urban areas and are generally better equipped with modern diagnostic equipment. Approximately 27% of the population, mostly government employees and members of armed forces, receives full healthcare coverage while the remaining 73% of the population pays out-of-pocket for care.<sup>280</sup> Within the public sector, healthcare is provided at federal, provincial, and district levels through a network of rural health centers, basic health units (BHU), and allied medical professionals. National health infrastructure is comprised of 1,279 hospitals, 5,527 BHUs, 747 maternity and child health centers, and 1,400 tuberculosis centers. While Pakistan's health infrastructure is extensive, challenges include high population growth, uneven distribution of health professionals, insufficient workforce, inadequate funding, and limited access to quality healthcare services.<sup>281</sup>

## How long do people live, and how will that change?

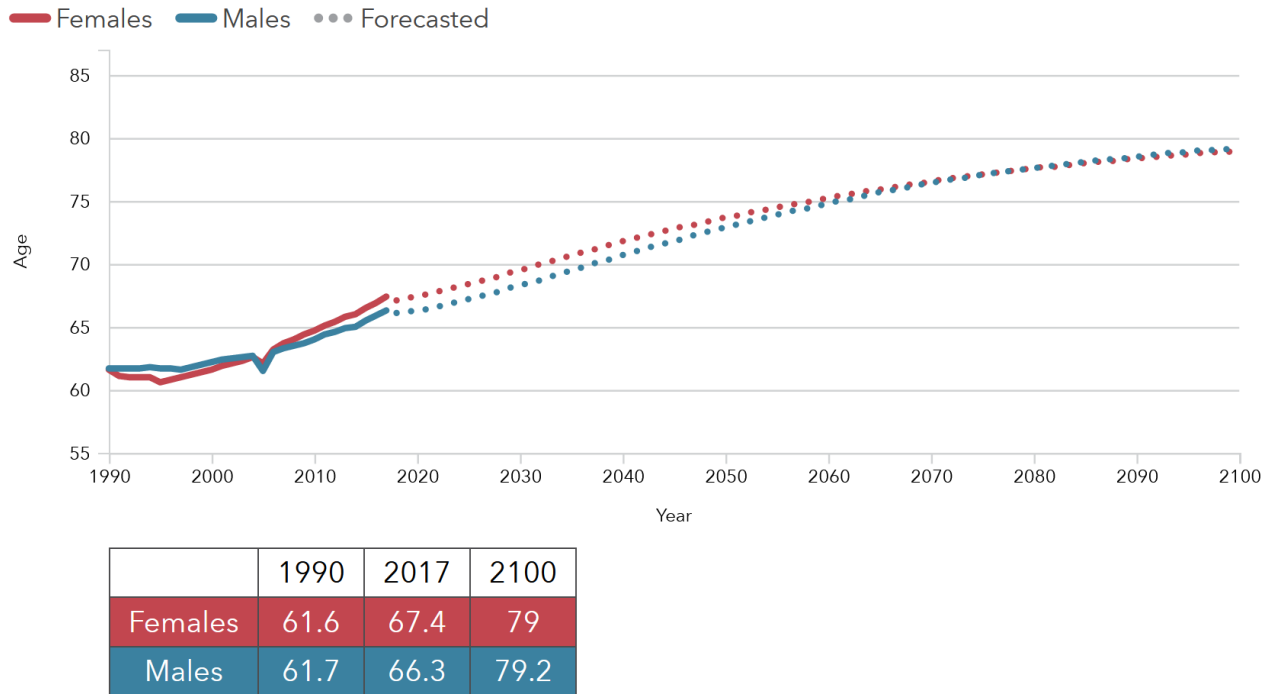


Figure 13: Life Expectancy at Birth, 1990–2100

## What is the mortality trend in the under-5 and under-1 age groups?

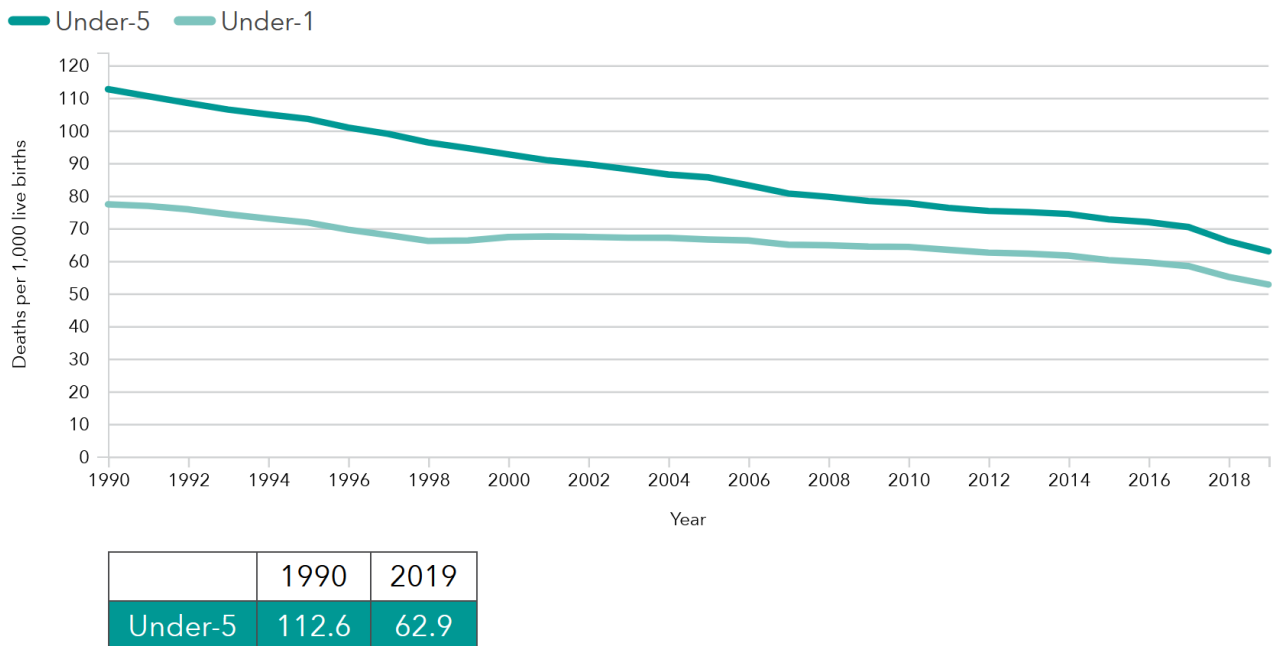


Figure 14: Child Mortality, 1990-2019

The number of Pakistani doctors practicing abroad is often viewed as a factor exacerbating the challenge of the low doctor-to-population ratio, which is one doctor for every 1,764 persons. At least one doctor for every 500 persons would be considered adequate.<sup>282</sup> There are an estimated 175,600 doctors registered in Pakistan. While data is limited regarding Pakistani physicians working out of the country, research has identified two groups of physicians leaving the country:

1. doctors going abroad for postgraduate training and residency; and
2. doctors going abroad for better career incentives and monetary benefits as well as to avoid a deteriorating law and order situation and rising hostility towards doctors.<sup>283</sup>

Some female doctors have reportedly stopped practicing due to family and social pressure.

The Prime Minister's Health Insurance Programme aims to cover secondary and tertiary care for about 2.5 million people in poverty in the initial phase of the program in 24 districts. The National Health Vision 2016-2025 strives to provide a responsive national direction to confront various health challenges, keeping Universal Health Coverage as its ultimate goal. The principal values include: good governance, innovation and transformation, equity and pro-poor approach, responsiveness, transparency and accountability, and integration and cross sectoral synergies.<sup>284</sup>

## Health Strategies and Surveillance

Table 3 shows Pakistan's strategic health priorities and focus areas, based on the World Health Organization (WHO)-Pakistan Country Cooperation Strategy (2011-2017).<sup>285</sup>

Pakistan's Vision 2025 aims to improve spending in the health sector to 3% of GDP.<sup>286</sup> Additionally, the 11th Five Year Plan (2013-2018) aspired to improve the health and well-being of the population in accordance with Vision 2025.<sup>287</sup>

## Communicable Diseases

Pakistan is burdened with a number of communicable diseases. While polio, malaria, tuberculosis, HIV, and COVID-19 are expanded on below, Pakistan also faces the spread of other communicable diseases. Hepatitis A and E are highly transmissible through contaminated food and water. Meanwhile, other vector-borne diseases present in the country include dengue, yellow fever, Crimean-Congo hemorrhagic fever, and chikungunya.

### *Hepatitis B and C*

Hepatitis B and C are endemic in Pakistan, which has one of the highest burdens of chronic hepatitis B and C in the world. Pakistan correspondingly experiences high morbidity and mortality due to liver cancer and failure. Viral hepatitis infections have been on the rise in recent years. According to 2019 data, approximately 15 million people were infected with hepatitis B or C in Pakistan (5 and 10 million people, respectively).<sup>288</sup> This is an increase from 2007-2008, when a study found approximately 13 million people infected with hepatitis B or C, extrapolated from a 7.6% infection rate in the 47,000-subject study population across all provinces (2.5% incidence rate of hepatitis B and 4.8% of hepatitis C). Research indicates injecting drug users have the highest prevalence of hepatitis B and C in the country. Treatment is costly, which poses a particular burden on developing countries. The course of treatment is also lengthy, averaging six months. Low completion rates indicate challenges with follow-up and documentation. Therefore, studies have recommended more focus on preventive measures.<sup>289</sup>

In July 2019, the government announced Prime Minister Imran Khan's plan to eliminate viral hepatitis B and C infections in Pakistan by 2030. The plan aims to provide leadership and coordination to provincial programs in increasing prevention, testing, and treatment services. Hepatitis B and C are transmissible through blood contact and contaminated equipment.

Strategic Priorities	Main Focus Areas for WHO Cooperation
<b>STRATEGIC PRIORITY 1: Health policy and system development</b>	The WHO will support improvements in policymaking and governance through policy assessment and analysis and review the health system with a view to outline gaps and propose solutions as part of the national health policy/strategy. Pakistan will also work to improve service delivery, access, and equity through development of an integrated framework for the provision of comprehensive quality and equitable health care to the population. In addition, WHO will support the Prime Minister’s Health Insurance Programme and advocate for more adequate budget allocations for health (aiming at a minimum of 4% of GDP by 2017). Pakistan should be given opportunity to increase external resources to support critical aspects of health sector reform at provincial level and promote coordinated approaches and effective use in view of the devolution process. Developing public–private partnership and managing human resources for health, developing an integrated health information system, and promoting and supporting applied research are other components to enhance health policy and system development in Pakistan.
<b>STRATEGIC PRIORITY 2: Communicable disease control</b>	Disease surveillance and early warning systems will be supported for the detection and timely control of communicable diseases including polio, tuberculosis, malaria, HIV/AIDS, leishmaniasis, hepatitis, acute watery diarrhea, acute respiratory infection, malaria, dengue fever, and Crimean–Congo hemorrhagic fever. Support will also be provided for improving routine immunization through collaboration with partners like GAVI, the Vaccine Alliance.
<b>STRATEGIC PRIORITY 3: Improving the health of women and children</b>	WHO will support the provincial health departments in improving mother, newborn, and child health/reproductive health in collaboration with other stakeholders and UN sister agencies. Promoting safe motherhood, family planning, prevention and control of sexually transmitted infections, reduction of neonatal and peri-natal mortality, and implementation of provincial plans on reducing maternal and neonatal health are among major interventions that will be supported by WHO.
<b>STRATEGIC PRIORITY 4: Noncommunicable diseases and mental health</b>	Support development of national noncommunicable disease strategy to minimize negative impacts of risk factors, advocate multisectoral public policies, strengthen partnership, advocate public private partnership, and accelerate implementation of the provisions of the WHO Framework Convention on Tobacco Control. Efforts will be made to integrate mental health and substance abuse into primary health care services.
<b>STRATEGIC PRIORITY 5: Addressing the social determinants of health (SDH)</b>	The WHO will assist Government on SDH through promoting healthy environments with priority given to access to safe water and sanitation and to the healthy city program initiative. WHO will also advocate for gender equity and equality including sex-disaggregated health data and information.
<b>STRATEGIC PRIORITY 6: Emergency preparedness and response and disaster risk management</b>	WHO supports national and provincial governments for implementation of emergency preparedness and response plans, guidelines, and relevant standard operating procedures. Strengthening partnerships and harmonization with interested and potential partners and donors, conducting hazard mapping and vulnerability health assessments at district and selected health facilities, developing and regularly updating the health emergency management information system, and assisting in updating the health sector contingency plan are among WHO contribution in the coming years.
<b>STRATEGIC PRIORITY 7: Partnerships, resource mobilization and coordination</b>	WHO will develop a resource mobilization strategy for WHO Pakistan, support the health sector in resource mobilization, and develop and regularly update an information system for donors and health partners with the aim of supporting external assistance in the form of data, surveys, studies, and reports. Partnership with donors will be improved through better coordination processes and, as lead, the WHO will use the health cluster approach to improve the coordination system within the health sector.

Table 3: WHO Pakistan Country Cooperation Strategic Agenda (2011–2017)

### **Polio**

Pakistan is one of two countries in the world, along with Afghanistan, where polio remains endemic. Pakistan is affected by ongoing endemic transmission of two types of poliovirus. In 2020, 84 cases of wild poliovirus type 1 (WPV1) and 135 cases of circulating vaccine-derived poliovirus type 2 (cVDPV2) were reported nationwide.<sup>290</sup> The 84 cases of WPV1 in 2020 mark a decrease from 111 cases in 2019. Between 1 January and 12 May 2021, there had been one case of WPV1 and six cases of cVDPV2 in Pakistan.<sup>291</sup> But there is concern over increased risk of transmission, particularly given the rising incidence of WPV1 globally since 2019, including in neighboring Afghanistan where the 56 cases of WPV1 in 2020 were more than double the previous year. Transmission persists in the core reservoirs of Karachi and Quetta in Pakistan, as well as across the border in southern Afghanistan. As of February 2021, the WHO deemed the risk of international spread of WPV1 the highest since 2014. The number of cases of cVDPV2 globally is also higher than the previous year, with evidence of exportation from Pakistan to Afghanistan, and from Afghanistan to Pakistan.<sup>292</sup> Prior to 2019, Pakistan had been close to eradicating polio, with several months of zero cases. But the resurgence in 2019 was driven by rising mistrust and misinformation about vaccine safety. In response, the 2020 National Emergency Action Plan (NEAP) for Polio Eradication in Pakistan outlines several innovations, including increasing the focus of the Emergency Operations Centre on communications, addressing community resistance, and integrating polio immunization throughout development projects related to maternal and child health, nutrition, and water, sanitation, and hygiene (WASH).<sup>293</sup> The COVID-19 pandemic has increased the challenge to consistently immunizing people against polio.

### **Malaria**

Pakistan is considered a moderate malaria-endemic country, and malaria is one of the country's six priority communicable diseases.<sup>294</sup>

Approximately 60% of Pakistan's population live in malaria-endemic regions. The highest number of cases is usually reported after the monsoon season, which runs from August to November. With one million estimated and 300,000 confirmed cases reported each year, Pakistan has been grouped with Afghanistan, Somalia, Sudan, and Yemen as the countries that account for more than 95% of the total regional malaria burden. In 2018, a total of 374,513 confirmed malaria cases were reported from health facilities across Pakistan to the federal directorate. Of the cases reported in 2018, 34.5% (129,085) were reported from Sindh Province, 31.0% (115,995) from Khyber Pakhtunkhwa, followed by 17.6% (65,853) from Tribal Districts, 16.4% (61,510) from Balochistan, 0.5% (1,875) from Punjab, and 0.1% (195) from Azad Jammu Kashmir. Among the reported cases were 84.0% (314,574) *Plasmodium Vivax*, followed by 14.9% (55,639) *Plasmodium Falciparum*, and 1.1% (4,300) mixed cases. *P. falciparum* is the most dangerous of the five species of human malaria parasites.<sup>295</sup>

Various malaria control activities have been carried out in Pakistan since the 1950s, with one of the most ambitious programs historically being the Malaria Education Campaign spearheaded by USAID since 1961. Starting in the 1970s, malarial control programs began to be decentralized from the federal level to the provincial and district level over several decades. In 2011, the Federal Ministry of Health and attached departments, including the Directorate of Malaria Control, were devolved by constitutional amendment. Under the administrative control of the Ministry of Inter-Provincial Coordination, the Directorate of Malaria Control continues to act as principal recipient for globally funded health initiatives, liaise with international agencies, and provide technical and material resources to the provinces to support disease control strategies and disease surveillance.<sup>296</sup>

### **Tuberculosis**

Tuberculosis (TB), caused by mycobacterium tuberculosis, is endemic in Pakistan, with

rural areas especially hard hit.<sup>297</sup> Pakistan is ranked as the nation with the fifth highest daily TB contraction rate in the world. It has an “estimated 510,000 new TB cases emerging each year,” accounting for 61% of TB in the eastern Mediterranean region.<sup>298</sup> In 2018 an estimated 565,800 people in Pakistan developed TB, which includes approximately 3,800 people co-infected with HIV.<sup>299</sup> Of the 565,800 people, 369,548 people were notified as having TB in 2018, leaving a large gap of 200,000 people not receiving treatment and at greater risk for transmitting to others. There were 44,000 TB deaths in 2018, including 1,300 deaths among people with HIV.<sup>300</sup>

Pakistan ranks sixth in the world for drug resistant TB, with an estimated 27,000 drug resistant TB cases each year. The global rise of drug-resistant TB is a major concern, and it is often due to incomplete antibiotic treatment. Multi-drug resistant Tuberculosis (MDR TB) is not treatable with at least isoniazid and rifampin, the two most potent TB drugs. Extensively drug resistant TB (XDR TB) is a rare type of MDR TB that is additionally resistant to any fluoroquinolone and at least one of three injectable second-line drugs (i.e., amikacin, kanamycin, or capreomycin).<sup>301</sup>

Challenges to reducing TB infection overall in Pakistan include stigmatization, the relatively high cost of treatment compared to the average monthly salary, and unregulated reporting in the private health sector. However, Pakistan has been making consistent progress in fighting TB. The number of TB deaths has declined from approximately 53,000 in 2000 to about 45,000 in 2018. Also, from 2000 through 2018, the rate of notifications for new and relapsed cases increased from less than 10 per 100,000 population to more than 150 per 100,000 population.<sup>302</sup> Organizations working to reduce TB in Pakistan include the National TB Control Program, which re-launched in 2001 after TB became a national emergency in the country. The COVID-19 pandemic has also complicated the fight against TB, as social distancing regulations made it more challenging for people

to be diagnosed and treated for TB.

TB has a global presence and often spreads in overcrowded conditions. The majority of people with TB (90-95%) have a latent infection and do not exhibit symptoms. Persons with active TB have symptoms including coughing (sometimes with blood), chest pain, weakness, lack of appetite, weight loss, swollen lymph glands, fever, chills, and night sweats. If untreated, an active TB infection can be fatal. TB treatment involves taking antibiotics for at least 6 months.

### **HIV**

Pakistan is increasingly addressing human immunodeficiency virus (HIV) infections, which leads to acquired immunodeficiency syndrome (AIDS) in late stages of infection when not comprehensively treated. The death rate from HIV/AIDS in Pakistan increased from 0.62 per 100,000 people in 2005 to 2.79 per 100,000 people in 2017. New infections of HIV/AIDS rose from 3,052 in 2005 to 14,911 in 2017, and the number of people living with HIV similarly went from 12,890 in 2005 to 94,090 in 2017.<sup>303</sup> The country has high rates of unscreened blood transfusions and low rates of treatment.<sup>304</sup> Only 21% of people infected with HIV were aware of their status, according to a 2021 report. Of an estimated 190,000 HIV-positive people in the country, only 12% receive treatment.<sup>305</sup> A significant, high-profile cluster was reported in 2019 in Ratodero, a town in Sindh province, where approximately 1,000 people had been affected.<sup>306</sup> In a rare situation where the vast majority of the infected were children with non-infected parents, the source was traced to at least one pediatric doctor reusing syringes.<sup>307</sup> While it is illegal to reuse syringes, the practice is not uncommon to save money, and there is poor oversight particularly in the private health sector. The Pakistan AIDS strategy focuses on allocating limited resources to increase interventions with higher impact and value such as HIV testing and counselling (HTC) and treatment, aiming for high effectiveness in reducing new infections, especially among key populations.<sup>308</sup>

## Coronavirus Disease (COVID-19)

As of 14 May 2021, Pakistan had 873,220 total confirmed COVID-19 cases (including 73,398 active), with 19,384 deaths (2.2% fatality rate), and 780,438 recoveries (89.4% recovery rate). Regarding the COVID-19 vaccine, 3,836,291 doses had been administered, with 964,227 Pakistanis fully vaccinated and 1,966,837 partially vaccinated as of 14 May 2021.<sup>309</sup>

Figure 15 shows the history of new daily COVID-19 cases in Pakistan, from 25 February 2020 to 17 May 2021.<sup>310</sup> In the table, the time series reveals three waves when daily new case numbers spiked – in June 2020, November/December 2020, and March/April 2021. The first two COVID-19 cases in Pakistan were announced on 26 February 2020, both in persons who arrived in Pakistan from Iran.<sup>311</sup> The highest number of daily COVID-19 cases occurred on 14 June 2020 with 12,073 new cases, and the second highest on 6 May 2021 with 8,495 new cases that day.

In response to the COVID-19 pandemic, Pakistan has established coordination structures at all levels. The government constituted a high-level National Coordination Committee chaired by the Prime Minister. The Committee comprises all relevant Federal Ministers, Chief Ministers, and Provincial Health Departments, and is responsible for overall coordination of COVID-19 response in the country. A National Command and Control Centre was

established for coordination between the federal and provincial levels of government. At provincial levels, Task Forces chaired by Chief Ministers have formed. In response to local transmission, the government strengthened disease surveillance at community-level health facilities using existing surveillance mechanisms, including polio surveillance officers. The National Disaster Management Authority (NDMA), with Provincial Disaster Management Authorities (PDMA), is the lead operational agency for overall COVID-19 response. The Ministry of Foreign Affairs is supporting in coordination of international assistance.<sup>312</sup>

The UN is responding to the COVID-19 pandemic in Pakistan with a two-fold approach. One is an immediate WHO-led health response to suppress transmission of the virus. The second is a socio-economic response to address the social and economic dimensions of the crisis, with a range of UN agencies and programs participating.<sup>313</sup>

The WHO is the health cluster lead. It has assisted with revision of Pakistan's COVID-19 National Action Plan and supported the creation of the National Operational Cell at the Ministry of Health. WHO supported rapid assessments and provided technical support for SOPs, protocols and passenger screening at airports, land crossings, and the Karachi seaport, alongside logistical support, equipment, and supplies. WHO also provided guidance

on protocols and procedures for testing and laboratory work and helped assess quarantine and health facilities.

WFP supported Pakistan's NDMA and PDMA to bridge capacity gaps and assist with nutrition and logistics aspects of the COVID-19 health response. WFP partnered with NDMA to co-chair

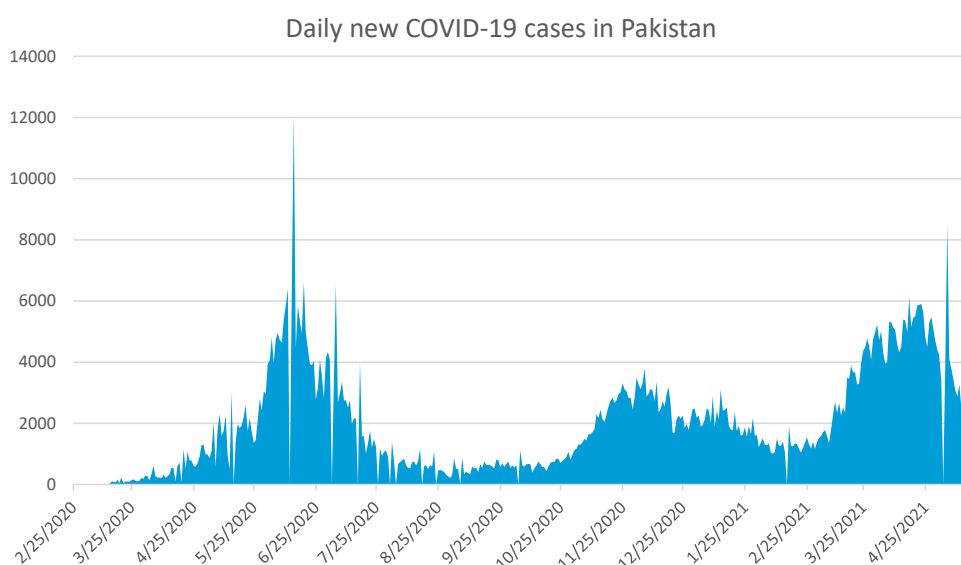


Figure 15: Daily New COVID-19 Cases, February 2020 - May 2021

the Logistics/Supply Chain Working Group. WFP has provided logistics support, including installing mobile storage units (MSU) and heavy duty, ultra-low medical grade freezers for storing COVID-19 testing kits.

UNICEF supported a range of coordination, planning, and monitoring mechanisms on risk communication and community engagement (RCCE), water, sanitation, and hygiene (WASH), infection prevention and control (IPC), health, nutrition, and education. Mobile vans, rickshaws, and mobile floats were used in 17 high risk districts to disseminate COVID-19 prevention messages, with additional support from the Polio teams, reaching 15.9 million people at risk. As of March 2021, UNICEF supported 2,798 health sites, providing nutrition services where 38,005 children had been admitted for severe acute malnutrition treatment, benefiting more than one million people with continuity of primary healthcare services, and reaching 140,306 individuals with psychosocial services through trained social workforce professionals.<sup>314</sup>

UNHCR partnered with the Pakistan Post to provide cash distribution for the social protection of the most vulnerable refugee families, a program concluded in December 2020. It mirrored the Government's Ehsaas emergency cash program, where vulnerable families receive Rs.12,000 (approximately \$77) to cover a 4-month period. Cash assistance was disbursed to at least 72,000 families in 55 districts across Pakistan.<sup>315</sup> UNHCR also translated government materials into Pashtu and Dari and supported disseminating COVID-19 information to refugees.

UN Women supported a gender analysis of the impact assessment and humanitarian response plans. UN Women developed Gender-Responsive Planning Guidelines with the Khyber Pakhtunkhwa (KPK) Labour Department and the Punjab Labour and Human Resource Department to help meet the needs of women and girls. It supported the development of gender-sensitive SOPs for quarantine centers. The agency supported national and provincial partners to strengthen response helplines on gender-based violence. It helped Pakistan's

Ombudsperson offices contextualize the COVID-19 response for working women. UN Women also helped train police in Quetta, Balochistan, on the increase in gender-based violence during lockdown and the need for a prompt, sensitive police response.

UNDP engaged with parliamentarians and Sustainable Development Goals (SDG) Task Forces to support cross-party messaging for vulnerable groups. It partnered with UNICEF and UNFPA on a Youth COVID-19 Awareness Campaign, and advanced strategic communication with madaris/madrassas to raise awareness of COVID-19. UNDP assisted the Ministry of Health to develop a digital system to identify COVID-19 patients.

UNFPA assisted the Ministry of Health and the NDMA with human resource support and a telemedicine platform to enable young women doctors to work from home.<sup>316</sup>

## Non-Communicable Diseases

The world has experienced a shift in disease burden toward noncommunicable diseases (NCD), which represent an emerging global health threat. NCDs – especially heart disease, cancer, chronic respiratory disease, and diabetes – are the leading cause of death worldwide, exceeding all communicable disease deaths combined. NCDs kill 41 million people each year, equivalent to 71% of all deaths worldwide.<sup>317</sup>

This NCD trend can also be seen in Pakistan, where premature mortality due to NCDs since 2000 has steadily increased.<sup>318</sup> NCDs now account for an estimated 58% of all deaths in Pakistan.<sup>319</sup> Figure 16 shows the top 10 causes of deaths in 2009 and 2019.<sup>320</sup> NCDs account for 6 of the top 10 causes of death. In the last decade, diabetes increased 45%, chronic kidney disease increased 32%, ischemic heart disease increased 29%, stroke increased 19%, cirrhosis of the liver increased 19%, and chronic obstructive pulmonary disease (COPD) increased 11%. Pakistan is ranked seventh in the world for diabetes prevalence. One in four adults over 18 years of age is hypertensive, a condition often



exacerbated by society-wide, elevated smoking levels.

Pakistan also has a significant amount of expertise regarding NCDs. Pakistan's Dr. Sania Nishtar was selected to head the High-level Global Commission on Noncommunicable Diseases, established by the WHO in 2017. As a physician, civil society leader, and former Federal Minister in the Government of Pakistan, she had long advocated globally for action against NCDs.<sup>321</sup> Pakistan was one of the first developing countries to come up with a comprehensive National Action Plan to address NCDs in 2004.<sup>322</sup> Among the seven strategic health priorities Pakistan laid out in its country cooperation strategy with the WHO, the fourth strategic priority directly addresses NCDs and mental health. Focus areas for NCD action center on advocating for multi-sectoral public policies, strengthening partnerships, and integrating mental health and substance abuse into primary health care services.<sup>323</sup>

## Training for Health Professionals

Pakistan has approximately 242,099 medical doctors, or 11.18 medical doctors per 10,000 population, per 2019 data. Approximately 46% of Pakistan's medical doctors are female.<sup>324</sup>

In 2020, there were 169 medical and dental colleges recognized by the Pakistan Medical and Dental Council.<sup>325</sup> The majority are in the private sector, reflecting the considerable growth of medical and dental colleges in the private sector in Pakistan over the past decade. The growth of the private sector was accompanied by concern regarding inconsistent standards in curricula and assessment in the for-profit school sector.<sup>326</sup> In 2019, Saudi Arabia rejected Pakistan's postgraduate degree program, the Master of Surgery and Doctor of Medicine (MS/MD). The Saudi Ministry of Health claimed it lacked a structured training program. This disqualifies Pakistan-trained doctors from Saudi Arabia's eligibility list of the highest paid tier of medical jobs in the country. Following Saudi Arabia, Qatar, the United Arab Emirates, and Bahrain also made similar moves.<sup>327</sup>

As with education globally, the COVID-19 pandemic has brought additional challenges to health and medical training in Pakistan. Before the pandemic, few medical schools actively conducted teaching online, and many colleges do not have a dedicated information technology (IT) department. Challenges include lack of faculty training and institutional support, internet connectivity issues, maintaining student engagement, online assessments, and problems with understanding the unique dynamics of online education.<sup>328</sup>

## What causes the most deaths?

- Communicable, maternal, neonatal, and nutritional diseases
- Non-communicable diseases
- Injuries

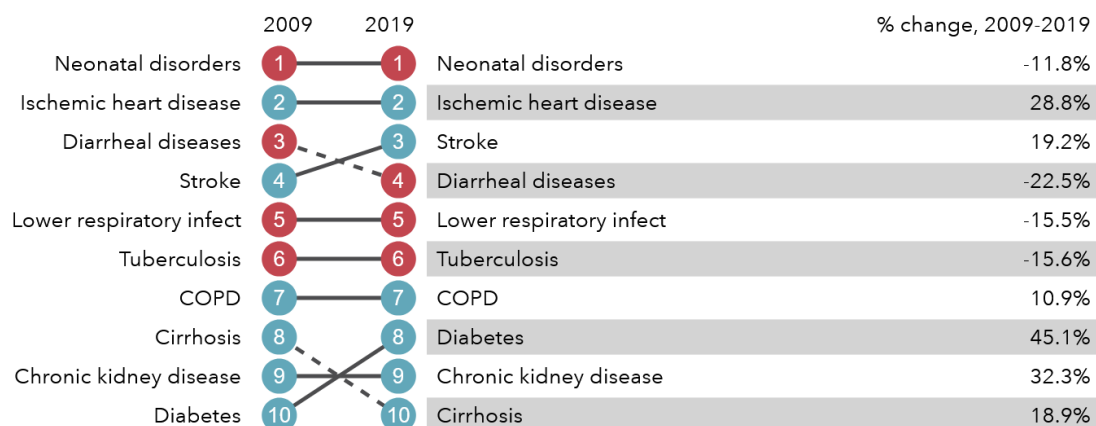


Figure 16: Top 10 Causes of Total Number of Deaths, 2019, and % Change, 2009–2019

# WOMEN, PEACE, AND SECURITY

Pakistan has adopted several international commitments to gender equality and women's rights, including the Universal Declaration of Human Rights, Beijing Platform for Action, the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), and the Sustainable Development Goals (SDG). Only 49.1% of indicators needed to monitor the SDGs from a gender perspective were available as of December 2020, with gaps in key areas, particularly violence against women.<sup>329</sup>

National commitments include a National Policy for Development and Empowerment of Women, Protection against Harassment of Women at Workplace Act, Criminal Law (Amendment) (Offences in the name or pretext of Honour) Act, Criminal Law (Amendment) (Offences Relating to Rape), and a National Plan of Action on Human Rights. As of April 2021, Pakistan is not one of the 92 countries that has established a National Action Plan for the Implementation of UN Security Council Resolution 1325 on Women, Peace, and Security (WPS).<sup>330</sup>

Women from marginalized social classes are often only able to work from home as part of the informal sector of the economy. Women comprise 60% (12 million) of the estimated 20 million Home-Based Workers (HBW) in Pakistan, and account for 65% of the US\$2.8 billion (Rs.400 billion) that HBWs contribute to Pakistan's economy. Most HBWs receive low wages and do not have access to legal protection and social security.<sup>331</sup>

There is an increasingly visible women's movement, as recently seen during the 4th Aurat (Women's) March on 8 March 2021 for International Women's Day.<sup>332</sup> Thousands of women rallied in Karachi, Lahore, Islamabad, and other cities across Pakistan in the annual demonstration for gender equality.<sup>333</sup> In 2020, the Aurat March was met with stone-throwing counter-protests from the religious extremist group "Haya March" (Urdu for modesty march).<sup>334</sup>

The Global Gender Gap Index measures gender-based gaps across four social dimensions – Economic Participation and Opportunity; Educational Attainment; Health and Survival; and Political Empowerment. Originally conceived in 2006 with a stable methodology, the Global Gender Gap Index allows tracking progress over time as well as cross-country comparisons. Scores are measured on a 0 to 1 scale, reflecting the fraction of the gender gap that has been closed, with 1 representing gender parity. The 2021 report covers 156 countries, with Pakistan ranked 153 out of 156 countries, receiving a general score of .556 overall. While the overall score decreased very slightly from 2020, -.007, it has increased since 2006, rising .013 in the past 15 years. In 2021, Pakistan's highest scores are in the social dimensions of health and education. For the Health and Survival sub-index, Pakistan scored .944, ranking 153/156. In the Educational Attainment sub-index, it scored .811, ranking 144/156. In Economic Participation and Opportunity, Pakistan's score was .316, ranking 152/156, and in Political Empowerment the country scored .154, with a rank of 98/156. On average, a Pakistani woman's income is 16.3% of a man's income. Women do not have equal access to justice, ownership of land and non-financial assets, or inheritance rights. On a more positive note, there are signs of improvement in the share of women who are in professional and technical roles (25.3%, up from 23.4% in the previous edition of the index). Women's representation among parliamentarians (20.2%) and ministers (10.7%) remains low. However, with 4.7 years (in the last 50) with a woman as head of state, Pakistan is one of the top 33 countries in the world on this indicator.<sup>335</sup>

A separate, newer index is the Women, Peace, and Security (WPS) Index, which has comparable rankings for Pakistan (164 out of 167 countries, with a general score of .460 on a scale of 0 to 1), though does note a sign of progress with women reporting feeling safer walking in their community at night.<sup>336</sup>

# CONCLUSION

Pakistan faces a range of natural hazards that pose increasing challenges, which are exacerbated by climate change. Ranked fifth among countries most affected by extreme weather events, Pakistan grapples with droughts, floods, heat waves, and earthquakes. Pakistan has also been evaluated as one of the most water-stressed countries in the world,<sup>337</sup> and was recently categorized as a water scarce country.<sup>338</sup> The drought of 1998-2002 is considered the worst drought in 50 years, and the country has again experienced prolonged drought since 2013. At the other extreme, Pakistan also deals with frequent floods, particularly when the monsoon season brings extreme rains. The 2010 floods were the single worst flooding event that Pakistan experienced for how widespread it was, affecting 20 million people nationwide.<sup>339</sup> Recently, 2020 floods came amid the heaviest rainfall ever recorded for Sindh's provincial capital of Karachi since records starting being kept nearly 90 years ago.<sup>340</sup> In 2015, Pakistan experienced its deadliest heat wave on record.<sup>341</sup> Subsequent heat waves have been hotter and longer than usual, particularly challenging urban living.<sup>342</sup> Earthquakes also pose a high-risk hazard, with the 2005 Kashmir earthquake notable as the single most deadly earthquake to have ever struck Pakistan, involving a substantial international response and including significant civil-military coordination.

In addition to these regular hazards, the COVID-19 pandemic has posed additional challenges to Pakistan, as it has globally. The COVID-19 pandemic spread to Pakistan in February 2020 with the first case in Karachi. Sindh and Punjab provinces have reported the highest number of cases.<sup>343</sup> Over 886,000 people

have reportedly been infected as of 19 May 2021. Since the first two cases were detected in late February 2020, some 19,800 people have lost their lives,<sup>344</sup> while the spread of the disease reached over 105 out of 158 districts across Pakistan.<sup>345</sup>

The aftermath of the 2005 Kashmir earthquake had a pivotal influence on the development of a comprehensive institutional Disaster Management (DM) framework that could better coordinate domestic DM efforts at differing levels as well as international assistance. In 2007, the National Disaster Management Authority (NDMA) was established as the lead agency for DN at the federal level, coordinating with provincial- and district-level agencies. Pakistan's armed forces have long been closely involved in responding to disasters in the country. This role was formalized with the 2010 National Disaster Management Act, which allowed the NDMA to call upon security forces to assist in DM.

Pakistan's institutional development of its DM and disaster risk reduction capacities will be of benefit going into the future. How lessons learned from the ongoing COVID-19 response will be incorporated will be worth watching. Climate change is likely to keep exacerbating the impacts of natural hazards globally, as reflected in the many record-breaking disaster events Pakistan has dealt with in the last two decades. The U.S. has historically provided foreign disaster relief to Pakistan upon request and is working to continually improve international cooperation with Pakistan bilaterally and multilaterally. This paves the way for better international disaster assistance when needed and improved security cooperation overall.

# APPENDICES

## DoD DMHA Engagements in the Past Five Years (2017-2021)

The list below describes the DMHA-adjacent engagements that the U.S. DoD, combatant and component commands, and individual units have had with Pakistan in the last five years. Most are generally focused on promoting security and stability and improving communication among participating forces. **Note:** From January 2018 through January 2020, Pakistan's access to U.S.-funded and -run military and security education and training programs was suspended.<sup>346</sup> In addition, the COVID-19 pandemic disrupted any face-to-face meetings.

### *AMAN-2021*

The AMAN biennial, multinational maritime exercise organized by the Pakistan Navy ran 11-16 February 2021 in the Arabian Sea. This iteration included participants from 45 countries, including the U.S., Russia, China, and Turkey. The Aman exercise series focuses on collaborative maritime security.<sup>347</sup>

### *International Maritime Exercise (IMX) 2019*

International Maritime Exercise 2019 (IMX 19), a multinational exercise featuring assets and personnel from more than 50 partner nations and seven international organizations, ran 21 October - 14 November 2019. Guided-missile cruiser USS Normandy (CG60) conducted Maritime Security Operations (MSO) training with members of the Pakistani Navy during IMX 19.<sup>348</sup> IMX 19 events focused on maintaining regional security and stability, freedom of navigation, and the free flow of commerce in this region, which roughly corresponds with the U.S. 5th Fleet area of operations; it spanned a zone from the Suez Canal to the Bab-al-Mandeb, through the Strait of Hormuz and into the Northern Arabian Gulf. The exercise consisted of four phases: staff training, table-top

and classroom exercises, fleet training exercise (FTX), and force redeployment. This iteration of IMX was the sixth of its kind, the first being conducted in 2012.<sup>349</sup>

### *Regional Cooperation 2019*

U.S. Central Command (USCENTCOM), with support from the Massachusetts Army National Guard, sponsored exercise Regional Cooperation 2019 (RC19) as an opportunity to work with coalition partners in Central and South Asia (CASA). RC19 was hosted by Tajikistan and ran 5-16 August 2019 with 200 participants from the militaries of the U.S., Mongolia, Uzbekistan, and an observer from Pakistan. The RC series is the only USCENTCOM-sponsored exercise held in Central and South Asia. It has been held annually since 2001 and is a unique opportunity to cooperate with those countries in a military environment.<sup>350</sup>

### *AMAN-2019*

Pakistan conducted the sixth AMAN biennial multinational naval exercise 8-12 February 2019. The drill aims to promote cooperation among regional and extra-regional navies to ensure security in the Indian Ocean. AMAN-19 involved 46 countries as well as international warships and observers. AMAN-19 was held as Pakistan intensified focus on maritime security, during which period, it has left the Combined Maritime Force (CMF) framework to establish its own Regional Maritime Security Patrol (RMSP).<sup>351</sup>

### *Regional Cooperation 2017*

More than 200 participants from five nations participated in the annual, multinational command-post exercise, Regional Cooperation 2017, in Dushanbe, Tajikistan, 12-21 July 2017. Hosted by Tajikistan's Ministry of Defense, the exercise afforded participants the opportunity to conduct a command post exercise that focuses on counterterrorism, border security,

and peacekeeping operations. During RC 17, service members from U.S. Central Command trained alongside the armed forces of Tajikistan, Kyrgyzstan, Pakistan, and Mongolia. The annual Regional Cooperation exercise series is targeted at promoting cooperation and interoperability between nations, enhancing the responsiveness between multinational organizations, and building functional capacity to address mutual security concerns.<sup>352</sup>

### **AMAN-2017**

U.S. Naval and Coast Guard forces joined military counterparts from Pakistan and more than 35 other countries in the AMAN 17 exercises in Karachi, Pakistan, 10-14 February 2017. AMAN 17 is a Pakistani-led, multilateral exercise held biennially in Karachi and in the North Arabian Sea. The USS Comstock, an amphibious dock landing ship, took part in the exercise that focuses on enhancing maritime cooperation with multilateral partners. Skills gained during the exercise are pertinent in the Arabian Sea, Gulf of Aden, and Gulf of Oman. U.S. security assistance to Pakistan has improved Pakistan's ability to participate in maritime security operations and to fight against militants.<sup>353</sup>

## **International/Foreign Relations**

Pakistan is situated in a strategic geopolitical location along major maritime and land-based transit routes between energy resources in Central Asia and the Middle East and dense population centers in South and East Asia. Pakistan is close to China, Turkey, Russia, and the Gulf Arab States. One of the biggest tensions in Pakistan's international relations lies with India.

As part of China's Belt and Road Initiative (BRI) – a global infrastructure development strategy spanning some 70 countries across Asia, Africa, and Europe – the signature initiative in Pakistan is the China-Pakistan Economic Corridor (CPEC).<sup>354</sup> CPEC has faced

challenges and is considerably scaled back from initial reports of US\$46-100 billion, but it is still significant with about US\$25 billion invested in projects that are completed or progressing. The first phase of CPEC focused on physical infrastructure, with an energy package adding at least 14,000 MW to the national grid as well as transportation infrastructure development, including upgrading the ML-1 railway line between Karachi and Peshawar. The second phase envisioned several special economic zones (SEZ) as its centerpiece, though the process has been slow with SEZs progressing as smaller pilot projects due to opposition from Pakistani business. Lower profile, but significant, is China's investment in Pakistan's digital infrastructure – including new Huawei fiber-optic cables, “safe city” projects involving large surveillance architecture, remote-sensing satellites, and even Pakistan's involvement in China's BeiDou satellite navigation system.<sup>355</sup> Factors that shrunk the CPEC include Pakistan's economic challenges, particularly during the COVID-19 pandemic, leading Pakistan to attempt renegotiating payment terms. China and Pakistan are not just economically close, but they also have close military ties, participating in exercises together.<sup>356</sup> Notably, Sea Guardians is their annual joint naval exercise, conducted alternately in Pakistan or China since 2014.<sup>357</sup>

Pakistan is also growing closer to Russia, which is increasingly supplying military gear to Pakistan. Historical ties were not always close, especially given Soviet Union support to India in the 1971 India-Pakistan conflict and Soviet intervention in Afghanistan. However, Russia's foreign minister visited Pakistan for the first time in nine years in April 2021. Russia is also building a gas pipeline between the Pakistani cities of Lahore in the east and Karachi on the southern coast. Pakistan announced it will buy five million doses of the Russian-made COVID-19 Sputnik V vaccine, and the government has been vocal about its desire to eventually manufacture Sputnik V in Pakistan. Pakistan also expressed interest in Russian assistance to update its railway and energy

sectors.<sup>358</sup>

The biggest tension among Pakistan's foreign relations is with India, as the two countries have fought four wars with each other, most involving the disputed territory of Kashmir. Kashmir today remains divided between Indian and Pakistani zones, which are marked by a cease-fire line formalized in 1972 as the Line of Control. Both nations gained independence on 15 August 1947, when British India was partitioned along sectarian lines, with Muslim-majority areas designated for Pakistan and non-Muslim areas for India. Partition saw 17 million people fleeing their homes and head for the country that matched their religions, and the process was marred by violence that left more than one million people dead.<sup>359</sup> Before the end of 1947, the first India-Pakistan war erupted over Kashmir. That conflict officially ended on 1 January 1949, with a UN-arranged ceasefire, the establishment of a UN peacekeeping force, and a recommendation that a referendum on the accession of Kashmir to India be held as agreed earlier. However, more than 70 years later, the referendum has not been held,<sup>360</sup> and the UN mission remains – the United Nations Military Observer Group in India and Pakistan (UNMOGIP), now the second-oldest UN peacekeeping mission in history.<sup>361</sup> Three other conflicts have been fought between Pakistan and India, with the 1965 and 1999 conflicts also involving Kashmir. Uniquely, the war in 1971 was not about Kashmir but was related to the civil conflict between East Pakistan and West Pakistan. India intervened with a military assault into East Pakistan; by the end of 1971, East Pakistan became the independent country of Bangladesh. The rivalry between Pakistan and India was again highlighted to the world in 1998, when first India then Pakistan became nuclear powers. Neither country signed the Nuclear Nonproliferation Treaty, joined only by Israel and North Korea as non-treaty nuclear powers. Both countries maintain nuclear arsenals to this day, Pakistan with an estimated 130 to 140 weapons and India with 120 to 130. Global concerns remain high over a serious military confrontation

between the nuclear-armed neighbors India and Pakistan, especially as conflict increased in Kashmir from 2016-2018, during which time dozens of people were killed and thousands were displaced. In 2019, India deployed thousands of additional troops to Kashmir, and the Indian government changed its constitution to remove the special status of Jammu and Kashmir. India-administered Kashmir has been under lockdown, with thousands of people detained and telecommunications interrupted for two years. One of the effects of poor Pakistan-India relations is a less unified and robust South Asian Association of Regional Cooperation (SAARC). The 19<sup>th</sup> SAARC summit, originally to be held in Pakistan in November 2017, was called off after India pulled out, followed by Bangladesh, Afghanistan, and Bhutan.<sup>362</sup> The boycotting countries cited Pakistan's alleged role in enabling terrorist groups, following a 2016 attack by Jaish-e-Mohammad (JEM) on an Indian army camp near Uri in Indian-controlled Kashmir, which killed at least 17 soldiers.<sup>363</sup>

International concerns have been increasing over terrorist groups based in Pakistan territory. In February 2019, JEM claimed an attack on Indian forces in Indian-controlled Kashmir. It was the deadliest attack in Kashmir in three decades and killed at least forty soldiers. India claimed retaliation two weeks later with air strikes against a reputed terrorist training camp in Pakistan. Pakistan in turn retaliated with air strikes in Indian-administered Kashmir. This was followed by an air fight in which Pakistan shot down two Indian military aircraft and captured an Indian pilot, who was released two days later.<sup>364</sup>

The U.S. and Pakistan work together on various issues including counterterrorism, Afghanistan stabilization efforts, energy, trade, and investment. Pakistan became an increasingly significant non-NATO ally of the U.S. in counterterrorism efforts, though the relationship faces challenges regarding terrorist groups that base themselves in Pakistan territory. This includes the Afghan Taliban, with some leaders based in Quetta, capital of Balochistan

province; Tehrik-e-Taliban Pakistan, a coalition of most Taliban groups in Pakistan with a stated aim of attacking the Pakistani state; the Haqqani Network, another Taliban faction focused on Afghanistan; and Lashkar-e-Taiba (LeT), which primarily targets India in Kashmir and elsewhere. Pakistan banned LeT in 2002, but reports that it is still allowed to operate underscore doubts about the extent to which U.S. and Pakistani interests align with certain counterterrorism efforts.<sup>365</sup> In January 2018, the U.S. suspended security assistance to Pakistan, with narrow exceptions, over the perceived failure of the Pakistani government to act against terrorist groups in its territory.<sup>366</sup> But the economic relationship between the two countries remains significant. The U.S. has been a large source of foreign direct investment in Pakistan and remains Pakistan's largest export market. Trade relations continue to grow, supported by U.S. government efforts to fund reciprocal trade delegations, business conferences, technical assistance, and business outreach.<sup>367</sup>

Pakistan's top trading partners are the United States (US\$3.8 billion, 16% of total Pakistani exports), China (\$1.8 billion, 7.7%), United Kingdom (\$1.7 billion, 7.3%), Afghanistan (\$1.4 billion, 5.7%), and Germany (\$1.3 billion, 5.5%). Other significant trading partners include United Arab Emirates, Netherlands, Spain, Bangladesh, Italy, Belgium, France, India, Sri Lanka, and Saudi Arabia.<sup>368</sup>

## Participation in International Organizations

Pakistan participates in the following international organizations:

Asian Development Bank (ADB), ASEAN Regional Forum (ARF), Association of Southeast Asian Nations (ASEAN) (dialogue partner), Commonwealth (C), Conference on Interaction and Confidence Building Measures in Asia (CICA), Colombo Plan (CP), D-8 Organization for Economic Cooperation (D-8), Economic Cooperation Organization (ECO), Food and

Agriculture Organization of the United Nations (FAO), Group of 11 (G-11), Group of 24 (G-24), Group of 77 (G-77), International Atomic Energy Agency (IAEA), International Bank for Reconstruction and Development (IBRD), International Civil Aviation Organization (ICAO), International Chamber of Commerce (ICC-national committees), Institute of Catastrophe Risk Management (ICRM), International Development Association (IDA), Islamic Development Bank (IDB), International Fund for Agricultural Development (IFAD), International Finance Corporation (IFC), International Federation of Red Cross and Red Crescent Societies (IFRC), International Hydrographic Organization (IHO), International Labour Organization (ILO), International Monetary Fund (IMF), International Maritime Organization (IMO), International Mobile Satellite Organization (IMSO), International Criminal Police Organization (INTERPOL), International Olympic Committee (IOC), UN International Organization for Migration (IOM), Inter-Parliamentary Union (IPU), International Organization for Standardization (ISO), International Telecommunications Satellite Organization (ITSO), International Telecommunications Union (ITU), International Trade Union Confederation (ITUC-NGOs), Multilateral Investment Guarantee Agency (MIGA), Non-Aligned Movement (NAM), Organization of American States (observer), Organization of Islamic Cooperation (OIC), Organisation for the Prohibition of Chemical Weapons (OPCW), Permanent Court of Arbitration (PCA), South Asian Association for Regional Cooperation (SAARC), South Asia Cooperative Environment Programme (SACEP), The Shanghai Cooperation Organisation (SCO-observer), United Nations (UN), United Nations Conference on Trade and Development (UNCTAD), UN Educational, Scientific, and Cultural Organization (UNESCO), United Nations High Commissioner for Refugees (UNHCR), UN Industrial Development Organization (UNIDO), World Tourism Organization (UNWTO), Universal Postal Union

(UPU), World Customs Organization (WCO), World Federation of Trade Unions (WFTU NGOs), World Health Organization (WHO), World Intellectual Property Organization (WIPO), World Meteorological Organization (WMO), World Trade Organization (WTO).<sup>369</sup>

UN peacekeeping missions to which Pakistan is contributing personnel and the number of personnel, as of January 2021:

- United Nations Mission for the Referendum in Western Sahara (MINURSO) - 13
- United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA) – 1,252
- United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) - 153
- United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) – 1,978
- United Nations–African Union Mission in Darfur (UNAMID) – 1,074
- United Nations Peacekeeping Force in Cyprus (UNFICYP) - 6
- United Nations Interim Security Force for Abyei (UNISFA) - 1
- United Nations Mission in the Republic of South Sudan (UNMISS) - 283
- United Nations Support Office in Somalia (UNSOS) - 1<sup>370</sup>

## Force Protection/Pre-Deployment Information

The following information is provided for pre-deployment planning and preparations. Visit [www.travel.state.gov](http://www.travel.state.gov) prior to deployments for further up-to-date information. DoD personnel must review the Foreign Clearance Guide (FCG) for travel to Pakistan ([www.fcg.pentagon.mil](http://www.fcg.pentagon.mil)). All official travel and personal travel for active-duty personnel must be submitted through an APACS request. Contact information for the Defense Attaché Office can be found in the FCG if you have additional questions.

The following information is taken directly from the U.S. Department of State – Bureau

of Consular Affairs' Country Information for Pakistan.<sup>371</sup>

## Passport/Visa

To enter Pakistan, foreign visitors must have a valid passport and valid Pakistani visa. Foreign citizens who also hold Pakistani nationality must also have a National Identity Card for Overseas Pakistanis (NICOP). Visas must be obtained at the nearest Pakistani Embassy or a Consulate prior to initiating travel to Pakistan. The U.S. Embassy and Consulates in Pakistan cannot assist with Pakistani visa issues. Visit the Embassy of Pakistan website (<http://embassyofpakistanusa.org/>) for the most current visa information. Persons who overstay or violate the terms of a visa may be detained, arrested, fined, and/or imprisoned. For further details see the Ministry of Interior website (<https://dgip.gov.pk/Files/Visa.aspx>) or call +92-51-920-7290.

All U.S. government employees and immediate family members must follow appropriate procedures for official and personal travel to Pakistan. All official U.S. government travel requests must be submitted via the normal country clearance process and will be limited to mission-critical travel only. U.S. government employees wishing to conduct unofficial travel to Pakistan must contact the appropriate office in their home agency to determine whether there are any limitations or restrictions. U.S. citizens are advised to keep copies of their U.S. passport data pages, Pakistani visas/ID cards, and Pakistani immigration entry stamp at all times. It is possible and advisable to download all of these documents to a mobile device for cases of emergency.

Foreigners wishing to travel to several areas must obtain advance permission from local or federal authorities. These areas include: Province of Khyber Pakhtunkhwa (KPK), various districts in Azad Jammu Kashmir, and the Province of Balochistan.

Note that conditions can change rapidly in a country at any time. To receive updated Travel Advisories and Alerts for the countries you choose, sign up at [step.state.gov](http://step.state.gov).



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**Safety and Security**

Despite improvements in the security situation, terrorist attacks remain frequent in Pakistan. Extremist groups within Pakistan continue to seek opportunities to attack locations where foreigners - especially Westerners - are known to congregate or visit, including government facilities and public locations, such as schools and universities, shopping malls, markets, hotels, clubs and restaurants, places of worship, transportation hubs/stations, minority neighborhoods, and outdoor recreation areas. Terrorists also target Pakistani officials, government facilities, religious minorities and facilities including Sufi shrines, and they regularly resort to kidnapping for ransom. Attacks have included armed assaults on heavily guarded sites, including Pakistani military installations and airports. Other actions include but are not limited to suicide operations, bombings (including vehicle-borne explosives and improvised explosive devices), assassinations, carjacking, and assaults. The Government of Pakistan maintains heightened security measures, particularly in major cities, and these measures can vary from day to day.

Demonstrations, political rallies, or large religious gatherings intended to be peaceful can become confrontational and possibly escalate into violence. U.S. Embassy and Consulate personnel are routinely instructed to avoid areas of any demonstration. During demonstrations or periods of civil unrest, the Pakistani government has in the past disabled cellular telephone and internet service making it difficult for individuals to contact each other or the U.S. Embassy or Consulates.

Celebratory gunfire may occur at any time but is most likely to occur during wedding

celebrations, which are frequent from October to May and on holidays. Although the likelihood of being struck is remote, falling rounds can cause injury or death.

The U.S. Embassy recommends visitors limit the frequency of travel and minimize the duration of trips to public markets, restaurants, and other public locations. It advises against the use of public transportation in Pakistan. The U.S. Embassy and Consulate prohibit personnel from using public transportation or taxi services. Official visitors are not authorized to stay overnight in local hotels anywhere in the country, except in exceptional circumstances. Depending on ongoing security assessments, the U.S. Embassy and Consulates sometimes place areas such as tourist attractions, hotels, markets, shopping malls, and restaurants off-limits to official personnel.

Threats to civil aviation in Pakistan are not limited to attacks in which militants target airports. The U.S. government is aware of narcotics smuggled onto flights from Pakistan, which may indicate broader security vulnerabilities at Pakistani airports.

Men and women are advised to dress conservatively, with arms and legs covered, and to avoid walking alone. Urban crime can be organized or opportunistic and conducted by individuals or groups. It can include fraud, theft, robbery, carjacking, rape, assault, and burglary. Incidents of crime and levels of violence are higher in low-income residential and congested commercial areas but are seen in wealthier areas as well. Pickpocketing and theft are common on buses and trains at all hours of the day.

In case of assault, flee to a safe area and report the situation to local authorities by going directly to a police station or dialing 15. U.S. citizen victims of crime should first report the offense to local police by dialing 15 and then contact the nearest U.S. Embassy or Consulate. Police responsiveness varies widely, and crimes often go unsolved or unprosecuted. Dual U.S.-Pakistani nationals may not be recognized as U.S. citizens by local authorities. Local authorities are responsible for investigating and prosecuting crime committed in Pakistan.<sup>372</sup>

## Emergency Contact Information

U.S. Citizens should call the Embassy as soon as is practical in the event of an arrest, death, hospitalization, or other emergency involving a U.S. citizen. In an emergency, Embassy personnel can assist in talking with medical personnel, police, or other officials on behalf of the U.S. citizen and his or her family.

To reach the U.S. Embassy call +92-51-201-4000 or +92-51-201-5000 during regular hours. The emergency number is: +92-51-201-4000.

## Currency Information

The Pakistan Rupee is the unit of currency used in Pakistan; in prices, it is symbolized “Rs.” In currency conversion, it is symbolized “PKR.”<sup>373</sup>

## Travel Health Information

*The CDC provides guidance that all travelers to Pakistan should be up to date on routine vaccinations. The following are additional recommendations for travel to Pakistan. The information in Table 4 is taken directly from the CDC website under the Travelers Health Section (<https://wwwnc.cdc.gov/travel/destinations/list/>).*

Health Alerts for Pakistan: As of April 2021, there are health risk alerts and notices for Pakistan related to COVID-19 and polio. The levels of COVID-19 transmission in Pakistan are Very High, and the CDC advises that travelers should avoid all travel to Pakistan due to the pandemic. Polio outbreaks have also been reported in Pakistan, and the CDC recommends that travelers practice enhanced precautions related to halting polio infection.<sup>374</sup>

The following actions you can take to stay healthy and safe on your trip include:

### ***Eat and Drink Safely***

Unclean food and water can cause travelers’ diarrhea and other diseases. Reduce your risk by sticking to safe food and water habits.

#### **Eat**

- Food that is cooked and served hot
- Hard-cooked eggs
- Fruits and vegetables, you have washed in clean water or peeled yourself
- Pasteurized dairy products

#### **Don’t Eat**

- Food served at room temperature
- Food from street vendors
- Raw or soft-cooked (runny) eggs
- Raw or undercooked (rare) meat or fish
- Unwashed or unpeeled raw fruits and vegetables
- Unpasteurized dairy products
- “Bushmeat” (monkeys, bats, or other wild game)

#### **Drink**

- Bottled water that is sealed
- Water that has been disinfected
- Ice made with bottled or disinfected water
- Carbonated drinks
- Hot coffee or tea
- Pasteurized milk

#### **Don’t Drink**

- Tap or well water
- Ice made with tap or well water
- Drinks made with tap or well water (such as reconstituted juice)
- Unpasteurized milk

### ***Take Medicine***

Talk with your doctor about taking prescription or over-the-counter drugs with you on your trip in case you get sick. If you are going to a high-risk area, fill your malaria prescription before you leave, and take enough with you for the entire length of your trip. Follow your doctor’s instructions for taking the pills as some need to be started before you leave.

### ***Prevent Bug Bites***

- Bugs (like mosquitoes, ticks, and fleas) can spread a number of diseases in Pakistan. Many of these diseases cannot be prevented with a vaccine or medicine. You can reduce your risk by taking steps to prevent bug bites (i.e., wearing protective clothing, using a bed net and bug repellent) which can be found at: <https://wwwnc.cdc.gov/travel/destinations/list/>

Vaccines for disease	Recommendations
Routine vaccines	Make sure you are up to date on routine vaccines before every trip. These vaccines include the MMR vaccine, diphtheria-tetanus-pertussis vaccine, varicella (chickenpox) vaccine, polio vaccine, and your yearly flu shot.
Hepatitis A	Recommended for unvaccinated travelers one year old or older going to Pakistan. Infants 6 to 11 months old should also be vaccinated against Hepatitis A. The dose does not count toward the routine 2-dose series. Travelers allergic to a vaccine component or who are younger than 6 months should receive a single dose of immune globulin, which provides effective protection for up to 2 months depending on dosage given. Unvaccinated travelers who are over 40 years old, immunocompromised, or have chronic medical conditions planning to depart to a risk area in less than 2 weeks should get the initial dose of vaccine and at the same appointment receive immune globulin.
Hepatitis B	Recommended for unvaccinated travelers of all ages to Pakistan.
Japanese Encephalitis	Recommended for travelers who <ul style="list-style-type: none"> <li>• Are moving to an area with Japanese encephalitis to live</li> <li>• Spend long periods of time, such as a month or more, in areas with Japanese encephalitis</li> <li>• Frequently travel to areas with Japanese encephalitis</li> </ul> Consider vaccination for travelers <ul style="list-style-type: none"> <li>• Spending less than a month in areas with Japanese encephalitis but will be doing activities that increase risk of infection, such as visiting rural areas, hiking, or camping, or staying in places without air conditioning, screens, or bed nets</li> <li>• Going to areas with Japanese encephalitis who are uncertain of their activities or how long they will be there</li> </ul> Not recommended for travelers planning short-term travel to urban areas or travel to areas with no clear Japanese encephalitis season.
Malaria	CDC recommends that travelers going to certain areas of Pakistan take prescription medicine to prevent malaria. Depending on the medicine you take, you will need to start taking this medicine multiple days before your trip, as well as during and after your trip. Talk to your doctor about which malaria medication you should take.
Measles	Infants 6 to 11 months old traveling internationally should get 1 dose of measles-mumps-rubella (MMR) vaccine before travel. This dose does not count as part of the routine childhood vaccination series.
Polio	A single lifetime booster dose of Inactivated Polio Vaccine (IPV) is recommended for adults who received the routine polio vaccination series as children; the routine series is recommended for unvaccinated or incompletely vaccinated children and adults and those with unknown vaccination status.
Rabies	Rabid dogs are commonly found in Pakistan. If you are bitten or scratched by a dog or other mammal while in Pakistan, there may be limited or no rabies treatment available. Consider rabies vaccination before your trip if your activities mean you will be around dogs or wildlife. Travelers more likely to encounter rabid animals include <ul style="list-style-type: none"> <li>• Campers, adventure travelers, or cave explorers (spelunkers)</li> <li>• Veterinarians, animal handlers, field biologists, or laboratory workers handling animal specimens</li> <li>• Visitors to rural areas</li> </ul> Since children are more likely to be bitten or scratched by a dog or other animals, consider rabies vaccination for children traveling to Pakistan.
Typhoid	Recommended for most travelers, especially those who are staying with friends or relatives; visiting smaller cities, villages, or rural areas where exposure might occur through food or water; or prone to “adventurous eating.” A significant proportion of Salmonella Typhi strains found in Pakistan are extensively drug resistant but remain susceptible to azithromycin and carbapenems.
Yellow Fever	Required if traveling from a country with risk of yellow fever virus transmission and $\geq 1$ year of age. <b>Note:</b> Yellow fever vaccine availability in the U.S. is currently limited. If you need to be vaccinated before your trip, you may need to travel some distance and schedule your appointment well in advance. Find the clinic nearest you.

Table 4: CDC Travel Health Information for the Pakistan

## Sendai Framework

The Sendai Framework is the global blueprint and fifteen-year plan to build the world's resilience to natural disasters.<sup>375</sup> The information in this section is sourced directly from the Sendai Framework. The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear targets and four priorities for action to prevent new and to reduce existing disaster risks:

### *The Seven Global Targets include:*

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015.
- Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015.
- Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.
- Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.<sup>376</sup>

### *The Four Priorities of Action include:*

- Understanding disaster risk;
- Strengthening disaster risk governance to manage disaster risk;
- Investing in disaster reduction for resilience; and
- Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation, and reconstruction.

The Sendai Framework aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries by 2030. It was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan, in 2015.<sup>377</sup> The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters.<sup>378</sup> Figure 17 shows the Sendai DRR Framework.<sup>379</sup>

Pakistan reported having a national database for collecting disaster losses in a 2017 Sendai Framework Data Readiness Review Report.<sup>380</sup> Pakistan policies with linkages to the Sendai Framework for Disaster Risk Reduction as of 2019 include:<sup>381</sup>

- National Disaster Management Plan Implementation Road Map (2016-2030)
- National Environmental Policy (2005)
- National Disaster Management Plan (2012- 2022)
- National Disaster Risk Reduction Policy (2013)
- National Flood Protection Plan (2015-2025)
- The National Action Plan for the Implementation of the Bangkok Principles on Health Aspects of the SFDRR (2017)
- National Disaster Risk Reduction Policy (mentions the need for improved, risk-informed land-use planning (2013)

# Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

## Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

## Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

## Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

## Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030
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Figure 17: UN Sendai Framework for Disaster Risk Reduction, 2015-2030

## HFA Country Progress Report

The Hyogo Framework for Action (HFA) was adopted as a guideline to reduce vulnerabilities to natural hazards. The HFA assists participating countries to become more resilient and to better manage the hazards that threaten their development. The most recent levels of progress results published from Pakistan are from 2013-2015 and are represented in Figure 18 and Table 5. Table 6 provides an overview of the overall challenges and the future outlook statement from the HFA report. The 2015 Report is the most recent HFA report available for Pakistan. The information in this section is sourced directly from the HFA Country Progress Report.<sup>382</sup>

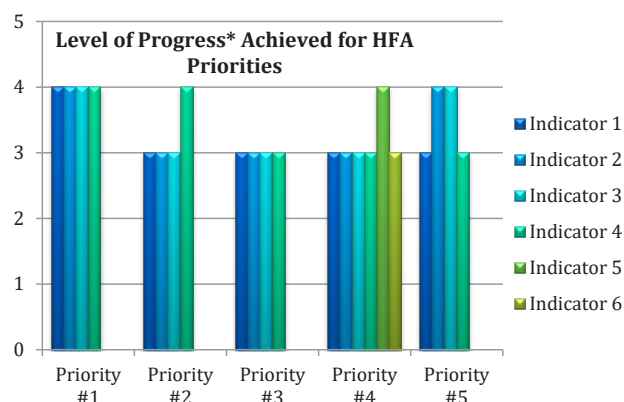


Figure 18: Pakistan - HFA Level of Progress Achieved

Priority for Action #1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.		
Core Indicator*	Indicator Description	Level of progress Achieved*
1	National policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels.	4
2	Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels.	4
3	Community participation and decentralization is ensured through the delegation of authority and resources to local levels.	4
4	A national multi sectoral platform for disaster risk reduction is functioning.	4
Priority for Action #2: Identify, assess and monitor disaster risks and enhance early warning.		
1	National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.	3
2	Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities.	3
3	Early warning systems are in place for all major hazards, with outreach to communities.	3
4	National and local risk assessments take account of regional / trans-boundary risks, with a view to regional cooperation on risk reduction.	4
Priority for Action #3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels		
1	Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems, etc.).	3
2	School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices.	3
3	Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.	3
4	Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.	3

Table 5: Pakistan - National Progress Report on the Implementation of the HFA

<b>Priority for Action #4: Reduce the underlying risk factors.</b>		
1	Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.	3
2	Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.	3
3	Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities.	3
4	Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.	3
5	Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes.	4
6	Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.	3
<b>Priority for Action #5: Strengthen disaster preparedness for effective response at all levels.</b>		
1	Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.	3
2	Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programs.	4
3	Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.	4
4	Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews.	3

Table Notes:

\*Level of Progress:

1 – Minor progress with few signs of forward action in plans or policy

2 – Some progress, but without systematic policy and/ or institutional commitment

3 – Institutional commitment attained, but achievements are neither comprehensive nor substantial

4 – Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

5 – Comprehensive achievement with sustained commitment and capacities at all levels

**Table 5: Pakistan - National Progress Report on the Implementation of the HFA (cont.)**

<b>Future Outlook Area 1: The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.</b>	
<p>Challenges:</p>	<p>Political will and continuity in policies is key for the successful implementation of National Policies and Strategies on DRR. The major challenge for the development practitioners in the field of DRR would be to secure consistent support from the National Government to treat DRR as a prioritized item on the agenda list of its national priorities.</p> <p>The second major challenge is the scarcity of resources for the implementation of short term as well as long term development programs in the field of DRR, as envisaged under the National DRR Policy. The Government is faced with a crunch situation emanating from regional as well as international politico-economic factors. The unstable economic situation leaves the Government with little fiscal space to spare reasonable funds for DRR programs.</p> <p>The third major challenge is the lack of capacities on account of trained human resources and modern technology at all levels for planning and subsequent execution of DRR policies and programs. The existing disaster management system envisages developed and decentralized responsibilities for disaster management. Therefore, the Provincial Governments need to exhibit firm and consistent commitment, on account of allocation of resources and other administrative measures, to operationalize the institutional arrangements at the Provincial and District levels.</p> <p>Although a paradigm shift has occurred through adoption of prevention, mitigation, and preparedness approach instead of emphasis on traditional emergency and response oriented approach, the implementing partners at the Government and Community level suffer from lack of awareness about such unprecedented change.</p> <p>Availability of accurate and easily accessible data encompassing different aspects of disasters and hazard assessment is key for objective decision making. However, no such data is currently available in a centralized and digitalized form.</p>
<p>Future Outlook Statement:</p>	<p>The Government has already put in place legal and institutional arrangements, at the federal, provincial, and district levels. The National Disaster Management Commission (NDMC) has been established as the apex policy making institution on Disaster Management, while National Disaster Management Authority (NDMA) has been operationalized as its secretariat. Similarly, Provincial/Regional Disaster Management Commissions and District Management Authorities have been notified at the respective levels.</p> <p>The National Disaster Risk Management Framework remained under implementation focusing on nine identified priority areas by all stakeholders. The recently formulated National DRR policy shall guide all stakeholders in future for implementation of DRR initiatives.</p> <p>The research/development and training capacities will be enhanced with establishment of National Institute of Disaster Management (NIDM) which has already been operationalized. The Government has allotted the requisite land in Islamabad and infrastructure development is likely to be commenced in near future.</p> <p>The National Working Group on Mainstreaming DRR into the Development Policies is working to integrate DRR into Development policies and projects. It is expected that in near future all development policies and programs will be designed with DRR elements inherently built in as a matter of policy. It is also expected that Disaster Impact Assessment (DIA) of all development projects will be conducted in future.</p> <p>The NDMA has also formulated a 10-year National Disaster Management Plan with the assistance of Japan International Cooperation Agency (JICA) identifying the short-, medium-, and long-term priority action programs. Human Resource Development and enhancing early warning capacities are its important components. All these initiatives are likely to strengthen the existing institutional capacities in disaster management.</p>

**Table 6: HFA Country Progress Report Future Outlook Areas, Pakistan**



<b>Future Outlook Area 2: The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.</b>	
<b>Challenges:</b>	<p>A paradigm shift has occurred through enactment of the National Disaster Management Act 2010, and implementation of National Disaster Risk Management Framework, and formulation of National Disaster Risk Reduction Policy, whereby emphasis has been laid on disaster risk reduction rather than emergency response. However, the lack of awareness, capacities, and resources remains the main stumbling block in this paradigm shift.</p> <p>The second major challenge is the dependency syndrome of the local institutions and communities in dealing with local disasters. By tradition, the local institutions and communities always look up towards the Provincial and Federal Governments for disaster management interventions. As a result, the process of decentralization of responsibilities for disaster management down to local and community levels under the new disaster management system is being impeded by the institutional incapacities at the local levels.</p> <p>The third major challenge is lack of awareness amongst the institutions and communities to take disaster risk reduction as an integral part of sustainable development. Consequently, DRR mainstreaming does not get prioritized. Availability of resources for implementation of DRR Policies and Strategies is crucial. However, lack of resources makes it difficult for the Government to earmark substantial funds for DRR activities.</p>
<b>Future Outlook Statement:</b>	<p>In line with the priorities for action under the HFA, ten priority areas of interventions have been identified under the National Disaster Management Plan to evolve a comprehensive disaster management system. The NDMA being the lead federal agency in the field of disaster management is implementing a range of DRR initiatives in collaboration with partner international agencies in the priority areas. The Government aims to achieve the following milestones in future:</p> <ol style="list-style-type: none"> <li>i. Strengthening of Provincial and Regional Disaster Management Authorities and District Authorities.</li> <li>ii. Availability of substantial funds in National Disaster Management Fund and Provincial Disaster Management Funds for carrying out DRR activities.</li> <li>iii. Undertaking detailed hazard and risk assessment and preparing Hazard Atlas of Pakistan.</li> <li>iv. Integration of DRR into all public sector development planning.</li> <li>v. Introduction of Disaster Impact Assessments (DIA) of all public sector development projects.</li> <li>vi. Community Based structural and nonstructural mitigation intervention particularly in hazard prone areas.</li> <li>vii. Development of human resources in DRR through training, knowledge enhancement, and awareness raising of public and private sector stakeholders as well as communities.</li> <li>viii. Development and up grading of early warning systems for earthquakes, flash floods, droughts, cyclones, and tsunamis.</li> <li>ix. Establishment of additional USAR teams in Balochistan, Khyber Pakhtunkhwa, and Gilgit Baltistan.</li> <li>x. Raising dedicated National Disaster Response Force.</li> <li>xi. Networking and organizing youth and volunteers into a Corps of Volunteers for disaster management.</li> <li>xii. Disaster Safety net (Disaster insurance mechanism) for hazard prone and vulnerable communities.</li> <li>xiii. Research Projects on climate change impacts and adaptation to climate change with special focus on GLOF, Flood, and Drought mitigation.</li> <li>xiv. Land use planning.</li> </ol>

**Table 6: HFA Country Progress Report Future Outlook Areas, Pakistan (cont.)**

<b>Future Outlook Area 3: The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programs in the reconstruction of affected communities.</b>	
<p>Challenges:</p>	<p>The major challenge on this area is the realization of theory into practice. The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response, and recovery programs in the reconstruction of affected communities, which usually face random neglect due to the financial incapacities of the end beneficiaries, i.e., affected communities. Those affected are reluctant to observe building codes/designs and often refuse to relocate from vulnerable areas thus exacerbating the underlying risks in the reconstruction process.</p> <p>Besides emergency preparedness, response and recovery programs can only be initiated and implemented through institutions with required capacities. However, such capacities are still in its evolution stages. As a result, the implementation of DRR programs at the local level in the reconstruction of affected communities, as per required standards, face serious difficulties.</p>
<p>Future Outlook Statement:</p>	<p>In areas affected by recent floods, special emphasis has been laid on incorporating the element of DRR into all rehabilitation and reconstruction projects, implemented by both the government and donor and humanitarian communities. The NDMA in collaboration with the UN and humanitarian community made sure that the DRR working group / cluster activated to look into mainstreaming DRR into all projects and activities as a cross cutting theme delivers its stated objectives. These measures led to safer reconstruction practices, promote a culture of safety, and enhanced resilience of communities against future disasters.</p> <p>The Earthquake Reconstruction and Rehabilitation Authority (ERRA) has been assigned by the Government of Pakistan to implement the reconstruction programs in the areas effected by Earthquake 2005. ERRA has integrated the principles of DRR into recovery and rehabilitation projects.</p> <p>The ERRA's programs have been particularly successful in promoting earthquake safer construction in housing, education, health, and land development sectors. As the post disaster reconstruction programs in the earthquake affected areas of Khyber Pakhtunkhwa (KPK) and Azad Jammu and Kashmir (AJ&amp;K) are nearing completion, the local capacities on account of emergency preparedness, response, and recovery to deal with future disasters have also been increased.</p> <p>Due to the implementation of a range of DRR initiatives in affected areas a culture of resilience to disasters has already taken root and is reflected in safer construction, community awareness about disasters, and other DRR initiatives being taken by the local governments and community based organizations. However, the sustenance of such initiatives is dependent upon consistent support by the local government through allocation of dedicated resources and capacity building of local authorities in the field of DRR.</p>

**Table 6: HFA Country Progress Report Future Outlook Areas, Pakistan (cont.)**

## Country Profile

*The information in the Country Profile section is sourced directly from the CIA World Fact book for Pakistan. Additional numbers on country comparison to the world can be found by going directly to the CIA website (<https://www.cia.gov>). It discusses topics including geography, people and society, government, economy, energy, communications, military and security, transportation, terrorism, and transnational issues.<sup>383</sup>*

### INTRODUCTION

#### Background

The Indus Valley civilization, one of the oldest in the world and dating back at least 5,000 years, spread over much of what is presently Pakistan. During the second millennium BCE, remnants of this culture fused with the migrating Indo-Aryan peoples. The area underwent successive invasions in subsequent centuries from the Persians, Greeks, Scythians, Arabs (who brought Islam), Afghans, and Turks. The Mughal Empire flourished in the 16th and 17th centuries; the British came to dominate the region in the 18th century. 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 limited conflict - in 1947-48, 1965, and 1999 respectively - over the disputed Kashmir territory. A third war between these countries in 1971 - in which India assisted an indigenous movement reacting to the marginalization of Bengalis in Pakistani politics - resulted in East Pakistan becoming the separate nation of Bangladesh.

In response to Indian nuclear weapons testing, Pakistan conducted its own tests in mid-1998. 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 believed to be based in Pakistan. Imran Khan took office as Prime Minister in 2018 after the Pakistan Tehreek-e-Insaaf (PTI) party won a plurality

of seats in the July 2018 general elections. Pakistan has been engaged in a decades-long armed conflict with militant groups that target government institutions and civilians, including the Tehreek-e-Taliban Pakistan (TTP) and other militant networks.

### GEOGRAPHY

#### Location

Southern Asia, bordering the Arabian Sea, between India on the east and Iran and Afghanistan on the west and China in the north

#### Geographic coordinates

30°00 N, 70°00 E

#### Map references

Asia

#### Area

total: 796,095 square kilometers (sq km)

land: 770,875 sq km

water: 25,220 sq km

country comparison to the world: 37

#### Area - comparative

slightly more than five times the size of Georgia; slightly less than twice the size of California

#### Land boundaries

total: 7,257 kilometers (km)

border countries (4): Afghanistan 2670 km, China 438 km, India 3190 km, Iran 959 km

Coastline

1,046 km

#### Maritime claims

territorial sea: 12 nautical miles (nm)

contiguous zone: 24 nm

exclusive economic zone: 200 nm

continental shelf: 200 nm or to the edge of the continental margin

## **Climate**

mostly hot, dry desert; temperate in northwest; arctic in north

## **Terrain**

divided into three major geographic areas: the northern highlands, the Indus River plain in the center and east, and the Balochistan Plateau in the south and west

## **Elevation**

mean elevation: 900 meters (m)

lowest point: Arabian Sea 0 m

highest point: K2 (Mt. Godwin-Austen) 8,611 m

## **Natural resources**

arable land, extensive natural gas reserves, limited petroleum, poor quality coal, iron ore, copper, salt, limestone

## **Land use**

agricultural land: 35.2% (2018 est.)

arable land: 27.6% (2018 est.)

permanent crops: 1.1% (2018 est.)

permanent pasture: 6.5% (2018 est.)

forest: 2.1% (2018 est.)

other: 62.7% (2018 est.)

## **Irrigated land**

202,000 sq km (2012)

## **Population distribution**

the Indus River and its tributaries attract most of the settlement, with Punjab province the most densely populated

## **Natural hazards**

frequent earthquakes, occasionally severe especially in north and west; flooding along the Indus after heavy rains (July and August)

## **Geography - Note**

Pakistan controls the Khyber and Bolan Passes, traditional invasion routes between Central Asia and the Indian Subcontinent

## **PEOPLE AND SOCIETY**

### **Population**

238,181,034 (July 2021 est.)

Note: Provisional results of Pakistan's 2017 national census estimate the total population to be 207,774,000.

country comparison to the world: 5

### **Nationality**

noun: Pakistani(s)

adjective: Pakistani

Ethnic groups

Punjabi 44.7%, Pashtun (Pathan) 15.4%, Sindhi 14.1%, Saraiki 8.4%, Muhajirs 7.6%, Balochi 3.6%, other 6.3%

### **Languages**

Punjabi 48%, Sindhi 12%, Saraiki (a Punjabi variant) 10%, Pashto (alternate name, Pashtu) 8%, Urdu (official) 8%, Balochi 3%, Hindko 2%, Brahui 1%, English (official; lingua franca of Pakistani elite and most government ministries), Burushaski, and other 8%

### **Religions**

Muslim (official) 96.4% (Sunni 85-90%, Shia 10-15%), other (includes Christian and Hindu) 3.6% (2010 est.)

### **Age structure**

0-14 years: 36.01% (male 42,923,925/female 41,149,694)

15-24 years: 19.3% (male 23,119,205/female 21,952,976)

25-54 years: 34.7% (male 41,589,381/female 39,442,046)

55-64 years: 5.55% (male 6,526,656/female 6,423,993)

65 years and over: 4.44% (male 4,802,165/female 5,570,595) (2020 est.)

### **Dependency ratios**

total dependency ratio: 64.4

youth dependency ratio: 57.2

elderly dependency ratio: 7.1

potential support ratio: 14 (2020 est.)

**Median age**

total: 22 years  
 male: 21.9 years  
 female: 22.1 years (2020 est.)  
 country comparison to the world: 180

**Population growth rate**

1.99% (2021 est.)  
 country comparison to the world: 42

**Birth rate**

26.95 births/1,000 population (2021 est.)  
 country comparison to the world: 40

**Death rate**

6.1 deaths/1,000 population (2021 est.)  
 country comparison to the world: 151

**Net migration rate**

-0.92 migrant(s)/1,000 population (2021 est.)  
 country comparison to the world: 140  
 Population distribution  
 the Indus River and its tributaries attract most  
 of the settlement, with Punjab province the most  
 densely populated

**Urbanization**

urban population: 37.2% of total population  
 (2020)  
 rate of urbanization: 2.53% annual rate of change  
 (2015-20 est.)  
 Major urban areas - population  
 16.459 million Karachi, 13.095 million Lahore,  
 3.542 million Faisalabad, 2.281 million  
 Rawalpindi, 2.290 million Gujranwala, 1.164  
 million ISLAMABAD (capital) (2021)

**Sex ratio**

at birth: 1.05 male(s)/female  
 0-14 years: 1.04 male(s)/female  
 15-24 years: 1.05 male(s)/female  
 25-54 years: 1.05 male(s)/female  
 55-64 years: 1.02 male(s)/female  
 65 years and over: 0.86 male(s)/female  
 total population: 1.04 male(s)/female (2020 est.)

**Mother's mean age at first birth**

23.6 years (2017/18 est.)  
 Note: median age at first birth among women  
 25-29

**Maternal mortality rate**

140 deaths/100,000 live births (2017 est.)  
 country comparison to the world: 61

**Infant mortality rate**

total: 55.26 deaths/1,000 live births  
 male: 59.58 deaths/1,000 live births  
 female: 50.73 deaths/1,000 live births (2021 est.)  
 country comparison to the world: 18

**Life expectancy at birth**

total population: 69.37 years  
 male: 67.34 years  
 female: 71.5 years (2021 est.)  
 country comparison to the world: 176

**Total fertility rate**

3.53 children born/woman (2021 est.)  
 country comparison to the world: 38  
 Contraceptive prevalence rate  
 34.2% (2017/18)

**Drinking water source**

*improved*: urban: 94.2% of population  
 rural: 89.9% of population  
 total: 91.5% of population  
*unimproved*: urban: 5.8% of population  
 rural: 10.1% of population  
 total: 8.5% of population (2017 est.)

**Current Health Expenditure**

3.2% (2018)

**Physician density**

0.98 physicians/1,000 population (2018)

**Hospital bed density**

0.6 beds/1,000 population (2017)

## Sanitation facility access

*improved*: urban: 82.5% of population  
rural: 62.9% of population  
total: 70.1% of population  
*unimproved*: urban: 17.5% of population  
rural: 37.1% of population  
total: 29.9% of population (2017 est.)

## HIV/AIDS - adult prevalence rate

0.1% (2019 est.)  
country comparison to the world: 130

## HIV/AIDS - people living with HIV/AIDS

190,000 (2019 est.)  
country comparison to the world: 32

## HIV/AIDS - deaths

6,800 (2019 est.)  
country comparison to the world: 22

## Major infectious diseases

*degree of risk*: high (2020)  
*food or waterborne diseases*: bacterial diarrhea, hepatitis A and E, and typhoid fever  
*vector-borne diseases*: dengue fever and malaria  
*animal contact diseases*: rabies  
Note: Widespread, ongoing transmission of COVID-19 is occurring throughout Pakistan; as of 24 January 2021, Pakistan had reported a total of 530,818 cases (240.3 cumulative cases per 100,000 population) with 5.1 cumulative deaths per 100,000 population

## Obesity - adult prevalence rate

8.6% (2016)  
country comparison to the world: 150

## Children under the age of 5 years underweight

23.1% (2018)  
country comparison to the world: 15

## Education expenditures

2.9% of GDP (2017)  
country comparison to the world: 137

## Literacy

definition: age 15 and over can read and write  
total population: 59.1%  
male: 71.1%  
female: 46.5% (2015)

## School life expectancy (primary to tertiary education)

total: 8 years  
male: 9 years  
female: 8 years (2018)

## Unemployment, youth ages 15-24

total: 7.8%  
male: 8.2%  
female: 6.8% (2018 est.)  
country comparison to the world: 145

## GOVERNMENT

### Country name

*conventional long form*: Islamic Republic of Pakistan  
*conventional short form*: Pakistan  
*local long form*: Jamhuryat Islami Pakistan  
*local short form*: Pakistan  
*former*: West Pakistan  
*etymology*: the word “pak” means “pure” in Persian or Pashto, while the Persian suffix “-stan” means “place of” or “country,” so the word Pakistan literally means “Land of the Pure”

### Government type

federal parliamentary republic

### Capital

*name*: Islamabad  
*geographic coordinates*: 33 41 N, 73 03 E  
*time difference*: UTC+5 (10 hours ahead of Washington, DC, during Standard Time)  
*etymology*: derived from two words: “Islam,” an Urdu word referring to the religion of Islam, and “-abad,” a Persian suffix indicating an “inhabited place” or “city,” to render the meaning “City of Islam”

**Administrative divisions**

4 provinces, 2 Pakistan-administered areas\*, and 1 capital territory\*\*; Azad Kashmir\*, Balochistan, Gilgit-Baltistan\*, Islamabad Capital Territory\*\*, Khyber Pakhtunkhwa, Punjab, Sindh

**Independence**

14 August 1947 (from British India)

**National holiday**

Pakistan Day (also referred to as Pakistan Resolution Day or Republic Day), 23 March (1940)

Note: Commemorates both the adoption of the Lahore Resolution by the All-India Muslim League during its 22-24 March 1940 session, which called for the creation of independent Muslim states, and the adoption of the first constitution of Pakistan on 23 March 1956 during the transition to the Islamic Republic of Pakistan

**Constitution**

*history*: several previous; latest endorsed 12 April 1973, passed 19 April 1973, entered into force 14 August 1973 (suspended and restored several times)

*amendments*: proposed by the Senate or by the National Assembly; passage requires at least two-thirds majority vote of both houses; amended many times, last in 2018

**Legal system**

common law system with Islamic law influence  
International law organization participation  
accepts compulsory ICJ jurisdiction with reservations; non-party state to the ICC

**Citizenship**

*citizenship by birth*: yes

*citizenship by descent only*: at least one parent must be a citizen of Pakistan

*dual citizenship recognized*: yes, but limited to select countries

*residency requirement for naturalization*: 4 out of the previous 7 years and including the 12 months preceding application

**Suffrage**

18 years of age; universal

Note: There are joint electorates and reserved parliamentary seats for women and non-Muslims

**Executive branch**

*chief of state*: President Arif ALVI (since 9 September 2018)

*head of government*: Prime Minister Imran KHAN (since 18 August 2018)

*cabinet*: Cabinet appointed by the president upon the advice of the prime minister

*elections/appointments*: president indirectly elected by the Electoral College consisting of members of the Senate, National Assembly, and provincial assemblies for a 5-year term (limited to 2 consecutive terms); election last held on 4 September 2018 (next to be held in 2023); prime minister elected by the National Assembly on 17 August 2018

*election results*: Arif ALVI elected president; Electoral College vote - Arif ALVI (PTI) 352, Fazl-ur-REHMAN (MMA) 184, Aitzaz AHSAN (PPP) 124; Imran KHAN elected prime minister; National Assembly vote - Imran KHAN (PTI) 176, Shehbaz SHARIF (PML-N) 96

**Legislative branch**

*description*: bicameral Parliament or Majlis-e-Shoora consists of:

Senate (104 seats; members indirectly elected by the 4 provincial assemblies and the territories' representatives by proportional representation vote; members serve 6-year terms with one-half of the membership renewed every 3 years); note - the byelection scheduled for 15 April 2020 has been postponed due to the COVID-19 pandemic  
National Assembly (342 seats; 272 members directly elected in single-seat constituencies by simple majority vote and 70 members - 60 women and 10 non-Muslims - directly elected by proportional representation vote; all members serve 5-year terms)

*elections*: Senate - last held on 3 March 2018 (next to be held in March 2021)

National Assembly - last held on 25 July 2018 (next to be held on 25 July 2023)

*election results: Senate* - percent of vote by party - NA; seats by party as of December 2019 - PPP 19, PML-N 16, PTI 14, MQM-P 5, JUI-F 4, BAP 2, JI 2, PkMAP 2, ANP 1, BNP 1, PML-F 1, other 7, independent 30

*National Assembly* - percent of votes by party NA; seats by party as of December 2019 - PTI 156, PML-N 84, PPP 55, MMA 16, MQM-P 7, BAP 5, PML-Q 5, BNP 4, GDA 3, AML 1, ANP 1, JWP 1, independent 4

## **Judicial branch**

*highest courts:* Supreme Court of Pakistan (consists of the chief justice and 16 judges)

*judge selection and term of office:* justices nominated by an 8-member parliamentary committee upon the recommendation of the Judicial Commission, a 9-member body of judges and other judicial professionals, and appointed by the president; justices can serve until age 65

*subordinate courts:* High Courts; Federal Shariat Court; provincial and district civil and criminal courts; specialized courts for issues, such as taxation, banking, and customs

## **Political parties and leaders**

Awami National Party or ANP [Asfandyar Wali KHAN]

Awami Muslim League or AML [Sheikh Rashid AHMED]

Balochistan National Party-Awami or BNP-A [Mir Israr Ullah ZEHRI]

Balochistan National Party-Mengal or BNP-M [Sardar Akhtar Jan MENGAL]

Grand Democratic Alliance or GDA (alliance of several parties)

Jamhoori Wattan Party or JWP [Shahzain BUGTI]

Jamaat-i Islami or JI [Sirajul HAQ]

Jamiat-i Ulema-i Islam Fazl-ur Rehman or JUI-F [Fazlur REHMAN]

Muttahida Quami Movement-London or MQM-L [Altaf HUSSAIN] (MQM split into two factions in 2016)

Muttahida Quami Movement-Pakistan or MQM-P [Dr. Khalid Maqbool SIDDIQUI] (MQM split into two factions in 2016)

Muttahida Majlis-e-Amal or MMA [Fazl-ur-REHMAN] (alliance of several parties)

National Party or NP [Mir Hasil Khan BIZENJO]

Pakhtunkhwa Milli Awami Party or PMAP or PkMAP [Mahmood Khan ACHAKZAI]

Pakistan Muslim League-Functional or PML-F [Pir PAGARO or Syed Shah Mardan SHAH-II]

Pakistan Muslim League-Nawaz or PML-N [Shehbaz SHARIF]

Pakistan Muslim League – Quaid-e-Azam Group or PML-Q [Chaudhry Shujaat HUSSAIN]

Pakistan Peoples Party or PPP [Bilawal BHUTTO ZARDARI, Asif Ali ZARDARI]

Pakistan Tehrik-e Insaaf or PTI (Pakistan Movement for Justice) [Imran KHAN]

Pak Sarzameen Party or PSP [Mustafa KAMAL]

Quami Watan Party or QWP [Aftab Ahmed Khan SHERPAO]

## **International organization participation**

ADB, ARF, ASEAN (dialogue partner), C, CICA, CP, D-8, ECO, FAO, G-11, G-24, G-77, IAEA, IBRD, ICAO, ICC (national committees), ICRM, IDA, IDB, IFAD, IFC, IFRCS, IHO, ILO, IMF, IMO, IMSO, Interpol, IOC, IOM, IPU, ISO, ITSO, ITU, ITUC (NGOs), MIGA, MINURSO, MONUSCO, NAM, OAS (observer), OIC, OPCW, PCA, SAARC, SACEP, SCO (observer), UN, UNAMID, UNCTAD, UNESCO, UNHCR, UNIDO, UNMIL, UNOCI, UNWTO, UPU, WCO, WFTU (NGOs), WHO, WIPO, WMO, WTO

## **Diplomatic representation in the US**

*chief of mission:* Ambassador Asad Majeed KHAN (since 11 January 2019)

*chancery:* 3517 International Court NW, Washington, DC 20008

*Tel:* [1] (202) 243-6500

*FAX:* [1] (202) 686-1534

*consulate(s) general:* Chicago, Houston, Los Angeles, New York

*consulate(s):* Louisville (KY), San Francisco



**Diplomatic representation from the US**

*chief of mission:* Ambassador (vacant); Charge d'Affaires Ambassador Paul W. JONES (since 24 September 2018)

*Tel:* [92] 51-201-4000

*embassy:* Diplomatic Enclave, Ramna 5, Islamabad

*mailing address:* 8100 Islamabad Place, Washington, DC 20521-8100

*FAX:* [92] 51-227-6427

*consulate(s) general:* Karachi, Lahore, Peshawar

*Flag description*

green with a vertical white band (symbolizing the role of religious minorities) on the hoist side; a large white crescent and star are centered in the green field; the crescent, star, and color green are traditional symbols of Islam

*National symbol(s)*

five-pointed star between the horns of a waxing crescent moon, jasmine; national colors: green, white

**National anthem**

*name:* “Qaumi Tarana” (National Anthem)

*lyrics/music:* Abu-Al-Asar Hafeez

JULLANDHURI/Ahmed Ghulamali CHAGLA

*Note:* adopted 1954; also known as “Pak sarzamin shad bad” (Blessed Be the Sacred Land)

**ECONOMY****Economic overview**

Decades of internal political disputes and low levels of foreign investment have led to underdevelopment in Pakistan. Pakistan has a large English-speaking population, with English-language skills less prevalent outside urban centers. Despite some progress in recent years in both security and energy, a challenging security environment, electricity shortages, and a burdensome investment climate have traditionally deterred investors. Agriculture accounts for one-fifth of output and two-fifths of employment. Textiles and apparel account for more than half of Pakistan's export earnings; Pakistan's failure to diversify its exports has left the country vulnerable to shifts in world demand. Pakistan's gross domestic product

(GDP) growth has gradually increased since 2012 and was 5.3% in 2017. Official unemployment was 6% in 2017, but this fails to capture the true picture, because much of the economy is informal and underemployment remains high. Human development continues to lag behind most of the region.

In 2013, Pakistan embarked on a \$6.3 billion IMF Extended Fund Facility, which focused on reducing energy shortages, stabilizing public finances, increasing revenue collection, and improving its balance of payments position. The program concluded in September 2016. Although Pakistan missed several structural reform criteria, it restored macroeconomic stability, improved its credit rating, and boosted growth. The Pakistani rupee has remained relatively stable against the US dollar since 2015, though it declined about 10% between November 2017 and March 2018. Balance of payments concerns have reemerged, however, as a result of a significant increase in imports and weak export and remittance growth.

Pakistan must continue to address several longstanding issues, including expanding investment in education, healthcare, and sanitation; adapting to the effects of climate change and natural disasters; improving the country's business environment; and widening the country's tax base. Given demographic challenges, Pakistan's leadership will be pressed to implement economic reforms, promote further development of the energy sector, and attract foreign investment to support sufficient economic growth necessary to employ its growing and rapidly urbanizing population, much of which is under the age of 25.

In an effort to boost development, Pakistan and China are implementing the “China-Pakistan Economic Corridor” (CPEC) with \$60 billion in investments targeted towards energy and other infrastructure projects. Pakistan believes CPEC investments will enable growth rates of over 6% of GDP by laying the groundwork for increased exports. CPEC-related obligations, however, have raised IMF concern about Pakistan's capital outflows and external financing needs over the medium term.

## Real GDP growth rate

5.4% (2017 est.)

4.6% (2016 est.)

4.1% (2015 est.)

Note: data are for fiscal years

country comparison to the world: 36

## Inflation rate (consumer prices)

9.3% (2019 est.)

5.2% (2018 est.)

4.2% (2017 est.)

country comparison to the world: 208

## Credit ratings

Fitch rating: B- (2018)

Moody's rating: B3 (2015)

Standard & Poor's rating: B- (2019)

## Real GDP (purchasing power parity)

\$1,015,796,000,000 (2019 est.)

\$1,005,850,000,000 (2018 est.)

\$950.381 billion (2017 est.)

Note: data are in 2017 dollars; data are for fiscal years

country comparison to the world: 25

GDP (official exchange rate)

\$253.183 billion (2019 est.)

## Real GDP per capita

\$4,690 (2019 est.)

\$4,740 (2018 est.)

\$4,571 (2017 est.)

Note: data are in 2010 dollars

country comparison to the world: 178

## Gross national saving

12.3% of GDP (2019 est.)

12.2% of GDP (2018 est.)

13% of GDP (2017 est.)

Note: data are for fiscal years

country comparison to the world: 160

## GDP - composition, by sector of origin

agriculture: 24.4% (2016 est.)

industry: 19.1% (2016 est.)

services: 56.5% (2017 est.)

## GDP - composition, by end use

household consumption: 82% (2017 est.)

government consumption: 11.3% (2017 est.)

investment in fixed capital: 14.5% (2017 est.)

investment in inventories: 1.6% (2017 est.)

exports of goods and services: 8.2% (2017 est.)

imports of goods and services: -17.6% (2017 est.)

Ease of Doing Business Index scores

89.3 (2020)

Agricultural products

sugar cane, buffalo milk, wheat, milk, rice, maize,

potatoes, cotton, fruit, mangoes/guavas

Industries

textiles and apparel, food processing,

pharmaceuticals, surgical instruments,

construction materials, paper products, fertilizer,

shrimp

## Industrial production growth rate

5.4% (2017 est.)

country comparison to the world: 53

## Labor force

61.71 million (2017 est.)

Note: extensive export of labor, mostly to the

Middle East, and use of child labor

country comparison to the world: 9

## Labor force - by occupation

agriculture: 42.3%

industry: 22.6%

services: 35.1% (FY2015 est.)

## Unemployment rate

6% (2017 est.)

6% (2016 est.)

Note: Pakistan has substantial underemployment

country comparison to the world: 97

Population below poverty line

29.5% (FY2013 est.)

## Gini Index coefficient - distribution of family income

33.5 (2015 est.)

30.9 (FY2011)

country comparison to the world: 127

**Household income or consumption by percentage share**

lowest 10%: 4%

highest 10%: 26.1% (FY2013)

**Budget**

revenues: 46.81 billion (2017 est.)

expenditures: 64.49 billion (2017 est.)

Note: data are for fiscal years

**Taxes and other revenues**

15.4% (of GDP) (2017 est.)

country comparison to the world: 190

**Budget surplus (+) or deficit (-)**

-5.8% (of GDP) (2017 est.)

country comparison to the world: 178

**Public debt**

67% of GDP (2017 est.)

67.6% of GDP (2016 est.)

country comparison to the world: 56

Fiscal year

1 July - 30 June

**Current account balance**

-\$7.143 billion (2019 est.)

-\$19.482 billion (2018 est.)

country comparison to the world: 188

**Exports**

\$31.517 billion (2019 est.)

\$27.604 billion (2018 est.)

\$25.613 billion (2017 est.)

country comparison to the world: 69

Exports - partners

US 17.7%, UK 7.7%, China 6%, Germany 5.8%, Afghanistan 5.2%, UAE 4.5%, Spain 4.1% (2017)

Exports - commodities

textiles (garments, bed linen, cotton cloth, yarn), rice, leather goods, sporting goods, chemicals, manufactures, surgical instruments, carpets, and rugs

**Imports**

\$42.27 billion (2019 est.)

\$51.602 billion (2018 est.)

\$47.165 billion (2017 est.)

country comparison to the world: 66

Imports - partners

China 27.4%, UAE 13.7%, US 4.9%, Indonesia 4.3%, Saudi Arabia 4.2% (2017)

Imports - commodities

petroleum, petroleum products, machinery, plastics, transportation equipment, edible oils, paper and paperboard, iron and steel, tea

**Reserves of foreign exchange and gold**

\$18.46 billion (31 December 2017 est.)

\$22.05 billion (31 December 2016 est.)

country comparison to the world: 62

**Debt - external**

\$107.527 billion (2019 est.)

\$95.671 billion (2018 est.)

country comparison to the world: 53

**Exchange rates**

Pakistani rupees (PKR) per US dollar -

160.425 (2020 est.)

155.04 (2019 est.)

138.8 (2018 est.)

102.769 (2014 est.)

101.1 (2013 est.)

**ENERGY****Electricity access**

electrification - total population: 79% (2019)

electrification - urban areas: 91% (2019)

electrification - rural areas: 72% (2019)

**Electricity - production**

109.7 billion kilowatt hours (kWh) (2016 est.)

country comparison to the world: 32

**Electricity - consumption**

92.33 billion kWh (2016 est.)

country comparison to the world: 34

### **Electricity - exports**

0 kWh (2016 est.)

country comparison to the world: 182

### **Electricity - imports**

490 million kWh (2016 est.)

country comparison to the world: 80

### **Electricity - installed generating capacity**

26.9 million kW (2016 est.)

country comparison to the world: 35

### **Electricity - from fossil fuels**

62% of total installed capacity (2016 est.)

country comparison to the world: 124

### **Electricity - from nuclear fuels**

5% of total installed capacity (2017 est.)

country comparison to the world: 22

### **Electricity - from hydroelectric plants**

27% of total installed capacity (2017 est.)

country comparison to the world: 74

### **Electricity - from other renewable sources**

7% of total installed capacity (2017 est.)

country comparison to the world: 94

### **Crude oil - production**

90,000 barrels per day (bbl/day) (2018 est.)

country comparison to the world: 45

### **Crude oil - exports**

13,150 bbl/day (2015 est.)

country comparison to the world: 58

### **Crude oil - imports**

168,200 bbl/day (2015 est.)

country comparison to the world: 34

### **Crude oil - proved reserves**

332.2 million bbl (1 January 2018 est.)

country comparison to the world: 52

### **Refined petroleum products - production**

291,200 bbl/day (2015 est.)

country comparison to the world: 43

### **Refined petroleum products - consumption**

557,000 bbl/day (2016 est.)

country comparison to the world: 33

### **Refined petroleum products - exports**

25,510 bbl/day (2015 est.)

country comparison to the world: 68

### **Refined petroleum products - imports**

264,500 bbl/day (2015 est.)

country comparison to the world: 27

### **Natural gas - production**

39.05 billion cubic meters (cu m) (2017 est.)

country comparison to the world: 21

### **Natural gas - consumption**

45.05 billion cu m (2017 est.)

country comparison to the world: 20

### **Natural gas - exports**

0 cu m (2017 est.)

country comparison to the world: 165

### **Natural gas - imports**

6.003 billion cu m (2017 est.)

country comparison to the world: 32

### **Natural gas - proved reserves**

588.8 billion cu m (1 January 2018 est.)

country comparison to the world: 30

### **Carbon dioxide emissions from consumption of energy**

179.5 million metric tons (Mt) (2017 est.)

country comparison to the world: 33

## **COMMUNICATIONS**

### **Telephones - fixed lines**

total subscriptions: 2,607,495

subscriptions per 100 inhabitants: 1.14 (2019 est.)

country comparison to the world: 49

**Telephones - mobile cellular**

total subscriptions: 174,702,132  
 subscriptions per 100 inhabitants: 76.38 (2019 est.)  
 country comparison to the world: 9

**Telecommunication systems**

*general assessment:* the telecommunications infrastructure is improving, with investments in mobile-cellular networks increasing, fixed-line subscriptions declining; system consists of microwave radio relay, coaxial cable, fiber-optic cable, cellular, and satellite networks; 4G mobile services broadly available; 5G not before 2030; mobile platform and mobile broadband doing well and dominate over fixed broadband sector (2020)

*domestic:* mobile-cellular subscribership has skyrocketed; more than 90% of Pakistanis live within areas that have cell phone coverage; fiber-optic networks are being constructed throughout the country to increase broadband access, though broadband penetration in Pakistan is still relatively low; fixed-line 1 per 100 and mobile-cellular 76 per 100 persons (2019)

*international:* country code - 92; landing points for the SEA-ME-WE-3, -4, -5, AAE-1, IMEWE, Orient Express, PEACE Cable, and TW1 submarine cable systems that provide links to Europe, Africa, the Middle East, Asia, Southeast Asia, and Australia; satellite earth stations - 3 Intelsat (1 Atlantic Ocean and 2 Indian Ocean); 3 operational international gateway exchanges (1 at Karachi and 2 at Islamabad); microwave radio relay to neighboring countries (2019)

Note: the COVID-19 outbreak is negatively impacting telecommunications production and supply chains globally; consumer spending on telecom devices and services has also slowed due to the pandemic's effect on economies worldwide; overall progress towards improvements in all facets of the telecom industry - mobile, fixed-line, broadband, submarine cable and satellite - has moderated

**Broadcast media**

media is government regulated; 1 dominant state-owned TV broadcaster, Pakistan Television Corporation (PTV), operates a network consisting of 8 channels; private TV broadcasters are permitted; to date 69 foreign satellite channels are operational; the state-owned radio network operates more than 30 stations; nearly 200 commercially licensed, privately owned radio stations provide programming mostly limited to music and talk shows (2019)

**Internet country code**

.pk

**Internet users**

total: 34,734,689  
 percent of population: 15.51% (July 2018 est.)  
 country comparison to the world: 22

**Broadband - fixed subscriptions**

total: 1,811,365  
 subscriptions per 100 inhabitants: 1 (2018 est.)  
 country comparison to the world: 57

**TRANSPORTATION****National air transport system**

number of registered air carriers: 5 (2020)  
 inventory of registered aircraft operated by air carriers: 52  
 annual passenger traffic on registered air carriers: 6,880,637 (2018)  
 annual freight traffic on registered air carriers: 217.53 million mt-km (2018)  
 Civil aircraft registration country code prefix AP (2016)

**Airports**

total: 151 (2013)  
 country comparison to the world: 35

**Airports - with paved runways**

total: 108 (2017)  
 over 3,047 m: 15 (2017)

2,438 to 3,047 m: 20 (2017)  
1,524 to 2,437 m: 43 (2017)  
914 to 1,523 m: 20 (2017)  
under 914 m: 10 (2017)

### **Airports - with unpaved runways**

total: 43 (2013)  
2,438 to 3,047 m: 1 (2013)  
1,524 to 2,437 m: 9 (2013)  
914 to 1,523 m: 9 (2013)  
under 914 m: 24 (2013)  
Heliports  
23 (2013)  
Pipelines  
12,984 km gas, 3,470 km oil, 1,170 km refined  
products (2019)

### **Railways**

total: 11,881 km (2019)  
narrow gauge: 389 km 1.000-m gauge (2019)  
broad gauge: 11,492 km 1.676-m gauge (293 km  
electrified) (2019)  
country comparison to the world: 22

### **Roadways**

total: 263,775 km (2019)  
paved: 185,063 km (includes 708 km of  
expressways) (2019)  
unpaved: 78,712 km (2019)  
country comparison to the world: 22

### **Merchant marine**

total: 57  
by type: bulk carrier 5, oil tanker 7, other 45  
(2020)  
country comparison to the world: 114

### **Ports and terminals**

major seaport(s): Karachi, Port Muhammad Bin  
Qasim  
container port(s) (TEUs): Karachi (2,224,000)  
(2017)  
LNG terminal(s) (import): Port Qasim

## **MILITARY AND SECURITY**

Military and security forces

Pakistan Army (includes National Guard),  
Pakistan Navy (includes marines, Maritime  
Security Agency), Pakistan Air Force (Pakistan  
Fizaia); Ministry of Interior paramilitary forces:  
Frontier Corps, Pakistan Rangers (2021)

Note: The National Guard is a paramilitary force  
and one of the Army's reserve forces, along with  
the Pakistan Army Reserve, the Frontier Corps,  
and the Pakistan Rangers

### **Military expenditures**

4% of GDP (2019)  
4.1% of GDP (2018)  
3.8% of GDP (2017)  
3.6% of GDP (2016)  
3.6% of GDP (2015)  
country comparison to the world: 13

### **Military and security service personnel strengths**

estimates of the size of the Pakistan military's  
active force vary; approximately 650,000 active  
personnel (560,000 Army; 30,000 Navy; 60,000  
Air Force) (2020)

### **Military equipment inventories and acquisitions**

the Pakistan military inventory includes a broad  
mix of equipment, primarily from China, France,  
Ukraine, the UK, and the US; since 2010, China  
and the US are the leading suppliers of arms  
to Pakistan; Pakistan also has a large domestic  
defense industry (2020)

### **Military deployments**

1,230 Central African Republic (MINUSCA);  
1,950 Democratic Republic of the Congo  
(MONUSCO); 140 Mali (MINUSMA); 900  
Sudan (UNAMID) (2020)

### **Military service age and obligation**

16-23 years of age for voluntary military service;  
soldiers cannot be deployed for combat until  
age 18; women serve in all three armed forces;  
reserve obligation to age 45 for enlisted men, age  
50 for officers (2019)

### Military - Note

The military has carried out three coups since Pakistan's independence in 1947 and remains politically active

### TERRORISM

#### Terrorist group(s)

Haqqani Network; Harakat ul-Jihad-i-Islami; Harakat ul-Mujahidin; Hizbul Mujahideen; Indian Mujahideen; Islamic State of Iraq and ash-Sham-Khorasan; Islamic State of ash-Sham – India; Islamic State of ash-Sham – Pakistan; Islamic Movement of Uzbekistan; Jaish-e-Mohammed; Jaysh al Adl (Jundallah); Lashkar i Jhangvi; Lashkar-e Tayyiba; Tehrik-e-Taliban Pakistan; al-Qa'ida; al-Qa'ida in the Indian Subcontinent (2019)

### TRANSNATIONAL ISSUES

#### **Disputes - international**

Various talks and confidence-building measures cautiously have begun to defuse tensions over Kashmir, particularly since the October 2005 earthquake in the region; Kashmir nevertheless remains the site of the world's largest and most militarized territorial dispute with portions under the de facto administration of China (Aksai Chin), India (Jammu and Kashmir), and Pakistan (Azad Kashmir and Northern Areas); UN Military Observer Group in India and Pakistan has maintained a small group of peacekeepers since 1949; India does not recognize Pakistan's ceding historic Kashmir lands to China in 1964; India and Pakistan have maintained their 2004 cease-fire in Kashmir and initiated discussions on defusing the armed standoff in the Siachen glacier region; Pakistan protests India's fencing the highly militarized Line of Control and construction of the Baglihar Dam on the Chenab River in Jammu and Kashmir, which is part of the larger dispute on water sharing of the Indus River and its tributaries; to defuse tensions and prepare for discussions on a maritime boundary, India and Pakistan seek technical resolution of the disputed boundary in Sir Creek estuary at the mouth of

the Rann of Kutch in the Arabian Sea; Pakistani maps continue to show the Junagadh claim in India's Gujarat State; since 2002, with UN assistance, Pakistan has repatriated 3.8 million Afghan refugees, leaving about 2.6 million; Pakistan has sent troops across and built fences along some remote tribal areas of its treaty-defined Durand Line border with Afghanistan, which serve as bases for foreign terrorists and other illegal activities; Afghan, Coalition, and Pakistan military meet periodically to clarify the alignment of the boundary on the ground and on maps

#### **Refugees and internally displaced persons**

*refugees* (country of origin): 2.58-2.68 million (1.4 million registered, 1.18-1.28 million undocumented) (Afghanistan) (2017)

*IDPs*: 106,000 (primarily those who remain displaced by counter-terrorism and counter-insurgency operations and violent conflict between armed non-state groups in the Federally Administered Tribal Areas and Khyber-Pakhtunkhwa Province; more than 1 million displaced in northern Waziristan in 2014; individuals also have been displaced by repeated monsoon floods) (2019)

#### **Trafficking in persons**

*current situation*: Pakistan is a source, transit, and destination country for men, women, and children subjected to forced labor and sex trafficking; the largest human trafficking problem is bonded labor in agriculture, brickmaking and, to a lesser extent, fishing, mining and carpet-making; children are bought, sold, rented, and placed in forced begging rings, domestic service, small shops, brick-making factories, or prostitution; militant groups also force children to spy, fight, or die as suicide bombers, kidnapping the children or getting them from poor parents through sale or coercion; women and girls are forced into prostitution or marriages; Pakistani adults migrate to the Gulf States and African and European states for low-skilled jobs and sometimes become victims of forced labor, debt bondage, or prostitution;

foreign adults and children, particularly from Afghanistan, Bangladesh, and Sri Lanka, may be subject to forced labor, and foreign women may be sex trafficked in Pakistan, with refugees and ethnic minorities being most vulnerable

*tier rating:* Tier 2 Watch List – Pakistan does not fully comply with the minimum standards for the elimination of trafficking; however, it is making significant efforts to do so; the government lacks political will and capacity to fully address human trafficking, as evidenced by ineffective law enforcement efforts, official complicity, penalization of victims, and the continued conflation of migrant smuggling and human trafficking by many officials; not all forms of trafficking are prohibited; an anti-trafficking bill drafted in 2013 to address gaps in existing legislation remains pending, and a national action plan drafted in 2014 is not finalized; feudal landlords and brick kiln owners use their political influence to protect their involvement in bonded labor, while some police personnel have taken bribes to ignore prostitution that may have included sex trafficking; authorities began to use standard procedures for the identification and referral of trafficking victims, but it is not clear how widely these methods were practiced; in other instances, police were reluctant to assist NGOs with rescues and even punished victims for crimes committed as a direct result of being trafficked (2015)

### **Illicit drugs**

significant transit area for Afghan drugs, including heroin, opium, morphine, and hashish, bound for Iran, Western markets, the Gulf States, Africa, and Asia; financial crimes related to drug trafficking, terrorism, corruption, and smuggling remain problems; opium poppy cultivation estimated to be 930 hectares in 2015; federal and provincial authorities continue to conduct anti-poppy campaigns that utilizes forced eradication, fines, and arrests



## Acronyms and Abbreviations

°C	Degrees Celsius
°F	Degrees Fahrenheit
A&F	Administration and Finance
ADB	Asian Development Bank
AJ&K	Azad Jammu and Kashmir
ALP	Alternative learning program
APACS	Aircraft and Personnel Automated Clearance System (U.S. DoD)
APAN	All Partners Access Network
APP	Associated Press of Pakistan
ARF	ASEAN Regional Forum
ASEAN	Association of Southeast Asian Nations
BCE	Before Common Era
BHA	Bureau for Humanitarian Assistance (of U.S. Government)
BHU	Basic health unit
BRI	Belt and Road Initiative (China)
CASA	Central and South Asia
CBDRM	Community-Based Disaster Risk Management
CDC	Centers for Disease Control and Prevention (U.S. Government)
CDMC	Community Disaster Management Committee
CE	Common Era
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CFE-DM	Center for Excellence in Disaster Management and Humanitarian Assistance (of the U.S. Department of Defense)
Changi RHCC	Changi Regional HADR Coordination Centre
CICA	Conference on Interaction and Confidence Building Measures in Asia
CMF	Combined Maritime Force
COPD	Chronic Obstructive Pulmonary Disease
COVID-19	Coronavirus Disease 2019
CPEC	China-Pakistan Economic Corridor
CRPD	Convention on the Rights of Persons with Disabilities
cVDPV2	Circulating vaccine-derived poliovirus type 2
DDMA	District Disaster Management Authority
DEET	N,N-Diethyl-3-methylbenzamide
DIA	Disaster Impact Assessment
DIRC	Disaster Information Resource Centre
DKI-APCSS	Daniel K. Inouye Asia-Pacific Center for Security Studies (of the U.S. Department of Defense)
DMA	Disaster Management Authority
DoD	Department of Defense
DRM	disaster risk management

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DRR	disaster risk reduction
DWT	deadweight tonnage
ECO	Economic Cooperation Organization
EMO	Education Management Organizations
EMOPS	Emergency Operations System
EOC	Emergency Operations Center
EiE	Education in Emergencies
ERRA	Earthquake Reconstruction and Rehabilitation Authority
FAO	Food and Agriculture Organization (of the UN)
FCG	Foreign Clearance Guide (U.S. DoD)
FDI	Foreign Direct Investment
ft	feet
FEWS-Pakistan	Flood Early Warning System of Pakistan
FFD	Flood Forecasting Division
FTX	fleet training exercise
GATT	General Agreement on Tariffs and Trade
Gbps	gigabit per second
GBV	Gender-Based Violence
GCC	Gender and Child Cell
GDACS	Global Disaster Alert and Coordination System
GDP	Gross Domestic Product
GENCO	Generation Companies
GDP	gross domestic product
GIDM	Gujarat Institute of Disaster Management (India)
GLOF	Glacial Lake Outburst Flood
GPS	Global Positioning System
GRI	Global Risk Index
GW	Gigawatt
gWh	gigawatt hours
HA	Humanitarian Assistance
HADR	Humanitarian Assistance and Disaster Response
HAQ	Health Access Quality (Index)
HBW	Home-Based Worker
HCT	Humanitarian Country Team
HDX	Humanitarian Data Exchange
HF	High Frequency
HFA	Hyogo Framework for Action
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
HRDP	Human Resource Development Plan
HTC	HIV testing and counselling

IAEA	International Atomic Energy Agency
IASC	Inter-Agency Standing Committee
IATA	International Air Transport Association
IBRD	International Bank for Reconstruction and Development
ICAO	International Civil Aviation Organization
ICC	International Chamber of Commerce
ICRC	International Committee of the Red Cross
ICRM	Institute of Catastrophe Risk Management
ICT	information and communication technology
IDA	International Development Association
IDB	Islamic Development Bank
IDP	Internally Displaced Person
IFAD	International Fund for Agricultural Development
IFAS	Integrated Flood Analysis System
IFC	International Finance Corporation
IFRC / IFRCs	International Federation of Red Cross and Red Crescent Societies
IGO	International Governmental Organization
IHO	International Hydrographic Organization
ILO	International Labour Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
IMSO	International Mobile Satellite Organization
IMX	International Maritime Exercise
INFORM	Index for Risk Management
INGO	international non-governmental organization
INTERPOL	International Criminal Police Organization
IOC	International Olympic Committee
IOM	International Organization on Migration
IOTIC	Indian Ocean Tsunami Information Center
IOTWS	Indian Ocean Tsunami Warning and Mitigation System
IPC	Infection Prevention and Control
IPU	Inter-Parliamentary Union
IPV	Inactive Polio Vaccine
IS	information sharing
ISO	International Organization on Standardization
IT	Information technology
ITSO	International Telecommunications Satellite Organization
ITU	International Telecommunications Union
ITUC	International Trade Union Confederation
IU	Interim Unit

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JEM	Jaish-i-Mohammed
JICA	Japan International Cooperation Agency
KESC	Karachi Electric Supply Corporation
KICT	Karachi International Container Terminal
km	kilometer(s)
km/h	Kilometers per hour
KPK	Khyber Pakhtunkhwa
kV	kilovolt
kWh	kilowatt hours
kWp	kilowatts peak
LeT	Lashkar-e-Taiba
LNG	Liquid natural gas
m	meter(s)
MBCS	Meteor-burst Based Communication System
Mbps	megabits per second
MDR TB	Multi-drug Resistant Tuberculosis
MHVRA	Multi Hazards Vulnerability Risk Assessment
MIGA	Multilateral Investment Guarantee Agency
MIRA	Multi-Sector Initial Rapid Needs Assessment
ML-1	Main Line 1 (of Pakistan Railways)
MMR	Measles, Mumps and Rubella
mmscfd	million standard cubic feet per day
MMS	Multimedia message service (via mobile phone)
MoCC	Ministry of Climate Change
MoWR	Ministry of Water Resources
MQM-P	Muttahida Qaumi Movement-Pakistan
MS/MD	Master of Surgery and Doctor of Medicine
MSO	Maritime Security Operations
MSU	Mobile Storage Unit
MW	megawatt
MWe	megawatts electric
MWp	megawatts-peak
NAM	Non-Aligned Movement
NCD	Non-Communicable Disease
NDM (Act)	National Disaster Management Act (2010)
NDMA	National Disaster Management Authority
NDMC	National Disaster Management Commission OR National Drought Monitoring and Early Warning Center
NDMP	National disaster management plan
NDRMF	National Disaster Risk Management Fund

NDRP	National Disaster Response Plan
NEAP	National Emergency Action Plan (for Polio Eradication in Pakistan)
NEOC	National Emergency Operations Centre
NEOP	National emergency operational plan
NEP	National Education Policy
NEPRA	National Electric Power Regulatory Authority
NFE	Non-Formal Education
NFPP-IV	National Flood Protection Plan IV
NGO	Non-government organizations
NHA	National Highway Authority
NHN	National Humanitarian Network
NICOP	National Identity Card for Overseas Pakistanis
NIDM	National Institute of Disaster Management
NMH-EWS-P	National Multi-Hazard Early Warning System Plan
NSMC/NTWC	National Seismic Monitoring and Tsunami Warning Center
NTC	National Telecom Corporation
NWP	National Water Policy
OCHA	Office for the Coordination of Humanitarian Affairs (of the United Nations)
OIC	Organization of Islamic Cooperation
OPCW	Organization for the Prohibition of Chemical Weapons
OSOCC	On-site operations coordination center
PAEC	Pakistan Atomic Energy Commission
PCA	Permanent Court of Arbitration
PCIW	Pakistan's Commissioner for Indus Waters
PCRWR	Pakistan Council of Research in Water Resources
PDC	Pacific Disaster Center
PDM	Pakistan Democratic Movement
PDMA	Provincial Disaster Management Authority
PEMRA	Pakistan Electronic Media Regulatory Authority
PHF	Pakistan Humanitarian Forum
PIA	Pakistan International Airlines
PICT	Pakistan International Container Terminal
PIE	Pakistan Internet Exchange
pkm	passenger kilometers
PKR	Pakistan Rupee (also Rs)
PM	Prime Minister
PMD	Pakistan Meteorological Department
PML-N	Pakistan Muslim League-Nawaz
PML-Q	Pakistan Muslim League-Quaid
PMO	Prime Minister's Office
PPP	Pakistan Peoples Party

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PR	Pakistan Railways
PRCS	Pakistan Red Crescent Society
PSSF	Pakistan School Safety Framework
PTA	Pakistan Telecommunication Authority
PTCL	Pakistan Telecommunications Company Ltd
PTI	Pakistan Tehreek-e-Insaf
PTV	Pakistan Television Corporation
QICT	Qasim International Container Terminal
RC	Regional Cooperation (USCENTCOM exercise series)
RCCE	Risk Communication and Community Engagement
RMSP	Regional Maritime Security Patrol
ROAP	Regional Office for Asia and the Pacific (of UN OCHA)
Rs	Pakistan Rupee
RTU	Remote Terminal Unit
SAARC	South Asian Association for Regional Cooperation
SACEP	South Asia Cooperative Environment Programme
SAPT	South Asia Port Terminal
SAR	Search and Rescue
SARS-CoV-2	Severe Acute Respiratory Syndrome – Coronavirus – 2
SCO	Shanghai Cooperation Organization
SDG	Sustainable Development Goal
SDH	Social determinant of health
SDMC	SAARC Disaster Management Centre
SERT	Surge Emergency Response Teams
SEZ	Special Economic Zone
SMRC	SAARC Meteorological Research Centre
SMS	Short message service (text message)
SOP	Standard Operating Procedure
SSC	School Safety Committees
SSEP	Sindh Solar Energy program
SSP	School Safety Plan
STEP	Special Talent Exchange Program
TB	Tuberculosis
TEU	twenty-foot equivalent units
tkm	freight ton kilometers
UAV	Unmanned aerial vehicle
UISS	Unclassified Information Sharing Service
UN	United Nations
UNCT	United Nations Country Team
UNCTAD	United Nations Conference on Trade and Development

UNDP	United Nations Development Programme
UNDRR	United Nations Office of Disaster Risk Reduction
UNDSS	United Nations Department of Safety and Security
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
UNIDO	United Nations Industrial Development Organization
UNISDR	United Nations International Strategy for Disaster Risk Reduction (now UNDRR)
UNMOGIP	United Nations Military Observation Group in India and Pakistan
UNODC	United Nations Office on Drugs and Crime
UNOPS	United Nations Office for Project Services
UNWTO	United Nations World Tourism Organization
UPU	Universal Postal Union
URL	Uniform Resource Locators
U.S.	United States
USAID	United States Agency for International Development
USAR	Urban search and rescue
USCENTCOM	U.S. Central Command (DoD)
USG	United States Government
VHF	Very High Frequency
WAPDA	Water and Power Development Authority
WASH	Water, sanitation, and hygiene
WCO	World Customs Organization
WFP	World Food Programme
WFTU	World Federation of Trade Unions
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WMO	World Meteorological Organization
WPS	Women, Peace, and Security
WPV1	Wild Poliovirus type 1
WTO	World Trade Organization
XDR TB	Extensively drug-resistant tuberculosis

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