CFE-DM

CENTER FOR EXCELLENCE

IN DISASTER MANAGEMENT & HUMANITARIAN ASSISTANCE

WWW.CFE-DMHA.ORG



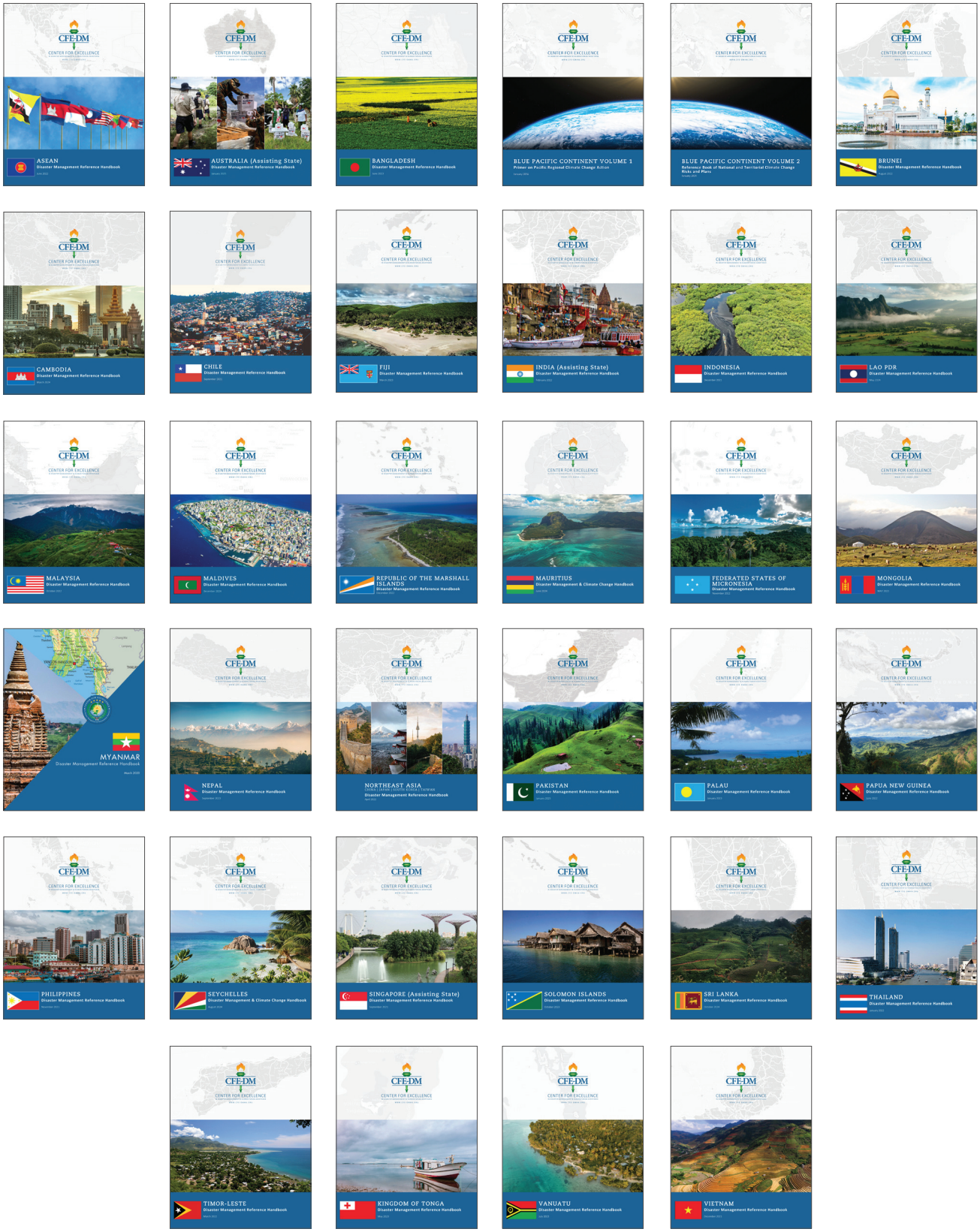
PAKISTAN

Disaster Management Reference Handbook

January 2025

Disaster Management Reference Handbook Series

Download books at https://www.cfe-dmha.org/Publications/Disaster-Management-Reference-Handbooks



Acknowledgements

Front Cover

Balakot, Pakistan by Muhammad Khubaib Sarfraz on Unsplash.com. https://unsplash.com/photos/green-mountains-hkWB8PN_8MU

Disclaimer

This handbook has been prepared in good faith based on resources available at the time of publication. Information was gathered from the public domain, from local and government sources, as well as from subject matter experts. Where possible, a link to the original electronic source is provided in the endnote (reference) section at the end of the document. While making every attempt to ensure the information is relevant and accurate, the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) does not guarantee or warrant the accuracy, reliability, completeness, or currency of the information in this publication. Each handbook is a working document and will be updated periodically as new and significant information becomes available. We hope that you find these handbooks informative, relevant, reliable, and useful in understanding disaster management and response. We welcome and appreciate your feedback to improve this document and help fill any gaps to enhance its future utility. For feedback, comments, or to request a printed copy please email cfe.dmha.fct@pacom.mil. Please visit our website to download copies of this publication and other products (https://www.cfe-dmha.org). All parts of this publication may be reproduced, stored in retrieval systems, and transmitted by any means without the written permission of the publisher.

ISBN 978-1-955429-61-0

Table of Contents

Acknowledgements **3**

Letter from the Director **7**

About the Center for Excellence in Disaster Management & Humanitarian Assistance **8**

Executive Summary **9**

Country Overview **10**

History 10

Culture and Demographics 11

Ethnic Makeup 12

Key Population Centers 12

Language 13

Religion 13

Vulnerable Groups 13

Economics 18

Government 19

Environment 20

Geography 20

Borders 21

Climate 22

Disaster Overview **23**

Climate Change 23

Hazards 26

History of Natural Disasters 28

Country Risk 33

INFORM Risk Profile 34

World Risk Report 36

Organizational Structure for Disaster Management **38**

Lead Government Agencies in Disaster Response 38

Disaster Relief and Emergency Response 42

Armed Forces Role in Disaster Relief 44

Disaster Management Partners 45

The International Red Cross and Red Crescent Movement 47

U.S. Government Agencies in Pakistan 48

Laws, Policies, and Plans on Disaster Management 51

Disaster Management Communications 54

Early Warning Systems 55
Information Sharing 56
Infrastructure 62
Transport 62
Airports 63
Seaports 64
Roads 66
Railways 66
Waterways 67
Schools 67
Disaster Risk Reduction in the Education Sector 69
Communications 72
Utilities 76
Power 76
Water and Sanitation 78
Health 79
Health Care System Structure 79
Health Strategies and Surveillance 80
Communicable Diseases 82
Non-Communicable Diseases 84
Training for Health Professionals 84
Women, Peace and Security 86
Conclusion 89
Appendices 90
DoD DMHA Engagements in the Past Five Years (FY 2019-2024) 90
International/Foreign Relations 91
Participation in International Organizations 93
Force Protection/Pre-Deployment Information 94
Passport/Visa 94
Safety and Security 95
Emergency Contact Information 97
Currency Information 97
Travel Health Information 97
Sendai Framework 101
Country Profile 115
Acronyms and Abbreviations 131
Endnotes 136

Figures

Figure 1: Poverty Rates, by District in 2004, 2012, and 2019-2020 16
Figure 2: Employment by Sex, as a Share of All Employment Across Sectors 19
Figure 3: Map of Pakistan 21
Figure 4: Average Temperatures and Precipitation, Pakistan (1991-2020) 22
Figure 5: Natural Disasters in Pakistan (2000-2024) 23
Figure 6: Natural Hazard Events in Pakistan, by Year, Hazard Type, and Human Cost (1980-2020) 26
Figure 7: Pakistan Flood Hazard Map 1970-2020. 27
Figure 8: Pakistan Total COVID-19 Cases, Weekly 31
Figure 9: INFORM Risk Index, Pakistan (2025) 35
Figure 10: World Risk Report Classification Matrix 37
Figure 11: National Disaster Management Agencies and Stakeholders 39
Figure 12: Organization of the NDMA 39
Figure 13: Meteorological Service Organization Struture 55
Figure 14: CAREC Corridors 63
Figure 15: Railways Map of Pakistan 68
Figure 16: Access to Electric Grid, by Province 76
Figure 17: Top 10 Causes of Death, Pakistan (2011-2021) 79
Figure 18: Organizational Structure of Ministry of National Health 80
Figure 19: PHS Human Resources (2017-2021) 84
Figure 20: Pakistan Metrics in the WPS Index 2023/24 88
Figure 21: UN Sendai Framework for Disaster Risk Reduction 2015-2030 102
Figure 22: Population Pyramid, Pakistan (2023) 117

Photos

Photo 1: Pakistani Woman Peacekeeper Greets Congolese Children 87
Photo 2: CENTCOM's X Post for Inspired Gambit 2023 90

Tables

Table 1: Climate Phenomena and Potential Impacts of Climate Change 25
Table 2: Codes and Runway Lengths for Pakistan's Main Airports 64
Table 3: CDC Travel Health Information for Vaccine- and Prophylaxis-Preventable Diseases in Pakistan 98
Table 4: CDC Travel Health Information for Non-Vaccine-Preventable Diseases in Pakistan 99

Letter from the Director

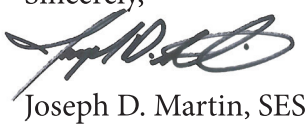
Pakistan continues to demonstrate its commitment to building robust disaster management systems despite frequent emergencies that put strain on its human, financial, and material resources. From catastrophic earthquakes to devastating floods, the country consistently confronts complex challenges requiring innovative solutions, collaboration, and a steadfast determination to protect people, property, and infrastructure.

Over the past two decades, Pakistan has not only developed institutional frameworks to mitigate risk and respond to emergencies but has also deepened its engagement with international partners. These partnerships—whether global, regional, or bilateral—have facilitated knowledge sharing, capacity building, and coordinated responses to crises. Pakistan's disaster preparedness follows a multi-layered approach, integrating community-based initiatives with national, provincial, and district-level coordination. This framework is bolstered by the involvement of the armed forces, which play a critical role in ensuring swift and effective emergency responses.

The United States and Pakistan share a history of collaboration in disaster management, rooted in mutual respect and a shared goal of building safer, more resilient communities. Through joint exercises, training, and multilateral engagements, both countries continue to strengthen their capacity to respond to crises—whether within Pakistan or beyond its borders. As climate change impacts result in more frequent and severe disasters, this partnership becomes even more critical.

This Pakistan Disaster Management Reference Handbook offers insights into Pakistan's disaster management structures, policies, and vulnerabilities, providing a foundation for understanding the opportunities and challenges ahead. It is intended to provide a baseline of understanding of the Pakistan context for planners or responders preparing for a disaster response or training event alongside Pakistani stakeholders. It is our hope that this resource not only informs readers, but also fuels commitment to fostering resilience, strengthening cooperation, and advancing our shared ability to respond to the unpredictable.

Sincerely,



Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization comprised of nearly 30 subject matter experts that provide academic research, civil-military coordination training, and operational insights to support decision making before, during, and after crises. The Center is designed to bridge understanding between humanitarians, civilian, and military responders. CFE-DM partners with a diverse group of governmental and nongovernmental actors, as well as academic institutions to increase collaborations and capabilities in humanitarian assistance and disaster response. While maintaining a global mandate, the Indo-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice. The Center is a direct reporting unit to U.S. Indo-Pacific Command (USINDOPACOM) and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

Vision

Resilient Joint Forces, Allies, and Partners that are fully prepared to respond across the spectrum of humanitarian crises.

Mission

CFE-DM builds crisis response capacity in US 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 in a changing climate environment.

Contact Information

Center for Excellence in Disaster Management and Humanitarian Assistance
456 Hornet Ave
JBPHH, HI 96860-3503
Telephone: +1 (808) 472-0518
https://www.cfe-dmha.org

EXECUTIVE SUMMARY

Located on the northern shore of the Arabian Sea and extending northward to the Hindu Kush and Karakoram mountains, Pakistan encompasses 796,095 square kilometers (km^2; 307,374 square miles, mi^2) of diverse geography, geology, and climate. Home to 241.5 million people, Pakistan faces frequent natural and anthropogenic hazards, including floods, earthquakes, storms, landslides, and rockfalls. Major events such as the 2005 Kashmir earthquake and 2010 nationwide flooding drove the initial stages of reform in the national disaster management (DM) legal and institutional structure. Since then, the country has developed a more holistic system, led by the National Disaster Management Authority (NDMA), which not only leads disaster response but also promotes preparedness and disaster risk reduction (DRR).

Pakistan employs a three-tier DM system – national, provincial, and district – to coordinate emergency services and allocate resources while ensuring that each jurisdiction can prioritize the services best suited to it. With the NDMA as the national lead agency, there are Provincial Disaster Management Authorities (PDMA) in each of the four provinces – Balochistan, Khyber Pakhtunkhwa (KP), Punjab, and Sindh. Azad Jammu and Kashmir (AJK) uses a "state" DM authority (SDMA), and Gilgit-Baltistan has the Gilgit-Baltistan Disaster Management Authority (GBDMA). Below this level, District Disaster Management Authorities (DDMA) handle local disaster risk management (DRM) and mobilize resources during emergencies.

Pakistan has many years of experience calling for, receiving, and managing international assistance, and it has published guidelines for how and where international humanitarians or partner governments or militaries may deliver assistance. During a disaster response, the NDMA integrates representatives from various levels of government, as well as from the military, non-governmental organizations (NGO), and United Nations (UN) system agencies to coordinate response and relief operations. The NDMA's National Disaster Response Plan (NDRP) outlines emergency protocols, from activating emergency operations centers (EOC) to public notifications and stockpiling relief items. The NDMA can call on the national armed forces when civilian capacities are overwhelmed and coordinates international assistance when domestic capacity is overwhelmed.

Since 2012, Pakistan has maintained a National Climate Change Policy (NCCP), updated in 2021, with the Ministry of Climate Change and Environmental Coordination (MoCC) leading federal climate initiatives and serving as the focal point for international agreements, including the United Nations Framework Convention on Climate Change (UNFCCC). As of the writing of this handbook, climate action is not fully integrated into the DM system, but many stakeholders' work encompasses both DRR and action to address the impacts of climate change.

Numerous international agencies, NGOs, and resident UN agencies collaborate with the government on DRR and community-based programs. Key national NGO federations are the Pakistan Humanitarian Forum (PHF) and National Humanitarian Network (NHN), both of which are active in advocating for the interests of their members on the national and international scenes to ensure strong capacity and sustained coordination across DM activities. In addition, the government's bilateral relationships, including with the United States (U.S.) and European and Asian countries, enhance Pakistan's capacity to mitigate disaster impacts, reduce human and economic losses, and build resilience in the face of worsening hazards.

COUNTRY OVERVIEW

In addition to having a multi-ethnic and multi-cultural population, Pakistan's geography and climactic zones vary widely. The state has a federal structure with an historically strong central government but increasingly devolved powers and responsibilities being taken up by the provinces. The economy is diverse, with a large services sector, although the labor force remains heavily concentrated in agricultural work and, frequently, informal jobs.

History

South Asia, including the territory of modern Pakistan, was home to some of the world's earliest known civilizations. Evidence points to the development of urbanized communities in the Indus River Valley during the period 2300-1750 BCE. The best-known settlements of this era are Harappa and Mohenjo-Daro, in modern Pakistan's Punjab and Sindh provinces, respectively.[1] After about 1000 BCE, the semi-independent kingdom of Gandhara rose in the region surrounding what is today Peshawar, in Khyber Pakhtunkhwa. Alexander the Great defeated Gandhara in 326 BCE, but Greek rule did not survive. Instead, the Mauryan Empire conquered Gandhara and ruled there 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.[2]

Although Europeans had reached the subcontinent in 1498, the area remained under the rule of the Mughal Empire (1526-1858) until internal factionalism prevented the Mughals from resisting European dominance. During the 17th century, Dutch, English, and French traders had established trading outposts that would eventually serve not only as transshipment points but also as 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 one dominated by Hindus. 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. 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, Britain's House of Commons passed the India Independence Act, which created two independent dominions, and 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 India. From the ratification of the 1956 constitution through 1970, tensions between West and East Pakistan grew, and armed violence and military coups rocked the central government. Pakistan's first "one person, one vote" general election was held on 7 December 1970, but an accommodation between the respective victors in East and West could not be found, and after the inauguration of the National Assembly was postponed, civil disobedience erupted in East Pakistan. After talks broke down in March 1971, civil war pitted the Pakistani Army against India-backed separatists in what would become Bangladesh. Pakistani forces surrendered in December. At news of the defeat, demonstrations also erupted in the West and resulted in the resignation of the government there.

The 1970s saw efforts to revitalize a stagnant economy, seek a peace settlement with India, and build regional and global trade links. The third constitution – which, with amendments, remains in force – was promulgated on 14 August 1973. However, after 1977 general elections, the government of Zulfiqar Ali Bhutto restricted the freedom of political assembly, and a mass protest movement immediately arose. The army intervened, and General Mohammad Zia ul-Haq took control and proclaimed martial law during a period that would see Bhutto tried and executed. After the 1985 election, Zia ended martial law, and both Pakistan Muslim League (PML) and Pakistan Peoples Party (PPP) resumed activity, the latter under the leadership of Bhutto's daughter, Benazir. After Zia and 29 other people were killed in an explosion aboard Zia's airplane in August 1988 an election gave PPP a plurality, and Benazir Bhutto was sworn in as Prime Minister on 1 December 1988.[3]

Between 1988 and 1999, PPP's Benazir Bhutto and Muslim League's Nawaz Sharif alternated in the position of Prime Minister, with both confronting allegations of incompetence and corruption and encountering pressure from the armed forces. Both Benazir and Nawaz spent time in exile for periods between 1999 and 2007. In October 1999, General Pervez Musharraf seized power. During his tenure, he publicly backed the U.S. campaign against the Taliban and al-Qaeda in Afghanistan, and he took steps to curb religious extremism at home while trying to improve ties with India. In latter 2007, both Benazir and Nawaz returned from exile as Musharraf moved toward a controversial victory in presidential elections. Amidst campaigning that December, Benazir Bhutto 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. Elections in 2013 brought Nawaz Sharif back to power, but 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, Pakistan Tehreek-e-Insaf (PTI), won general elections.[4] PTI's tenure in government saw ups and downs in terms of international relations, security, and trade relationships. In April 2022, Khan was ousted in a vote of no confidence in the Parliament. PML led a new government, but its rule continued to be marked by economic, political, and diplomatic challenges.[5] The country headed back to the polls in early 2024, and PML's Shebhaz Sharif – Nawaz' brother – returned to the post of Prime Minister.[6]

Culture and Demographics

Pakistan is a multi-ethnic, multi-cultural society with strong traditions of family that continue to inform socio-economic and political activity even as they evolve within the context of increasing urbanization. Conventions of public behavior and dress reflect relatively conservative roots in agricultural communities and Islam, although the urban communities and groups of artists tend to move toward mystic and even liberal ways of living. Each region of the country has distinct cultural roots that add variety to music, clothing, pottery, décor, metal- and woodwork, architecture, and needlework. Moreover, while Islamic holidays are

the largest national celebrations, local seasonal and agricultural festivals are key markers in community calendars.[7]

According to the Seventh Population and Housing Census (2023), Pakistan is home to 241.5 million people, an increase of 2.55% over the 2017 census exercise.[8] There are more than 132.4 million Pakistanis considered of prime working age, with some 97.5 million under age 15 years and 13.6 million people 60 years of age or older.[9] Between 2000 and 2019, the population grew at a rate of 2.4% per year, whereas the working age population grew at an average rate of 2.8% per year in the same period.[10]

Ethnic Makeup

Pakistan's people represent numerous ethnicities. The largest group is Punjabi (39%), followed by Pashtun (18%), Sindhi (15%), Saraiki (12%), Urdu (7%), Baloch (3%), and various other ethnic minority groups.[11] Many of these ethnic groups have sub-groups that identify strongly at the sub-group level. For example, Arains, Rajputs, and Jats are all Punjabis but regard themselves as ethnically distinct.

The Punjabi belong to the Indo-Aryan ethnic group and the people primarily live in the Punjab region of Pakistan and Northern India. Historically, the Punjab Province in Pakistan and the Punjab State in India were the ancestral homelands of the Punjabi people.[12] The Pashtuns are the second largest ethnic group in Pakistan and the largest ethnic group in neighboring Afghanistan. The Pashtun people share the Pashto language, which is a member of the Indo-Iranian language family, and the code of Pashtunwali, which sets standards for individual and communal behavior.[13] The Sindhi are native to Pakistan's Sindh Province, which was historically influenced by Islam. After Pakistan's independence in 1947, many Sindhis migrated to India. The Sindhis in Pakistan are mainly Muslims, Hindus, and Sikhs, and Sindhi culture is heavily influenced by Islam. Saraiki is a subgroup of the Punjabi people native to central Pakistan. The majority of the Saraiki people adhere to Islam, although a minority adhere to Christianity. Saraiki culture has been greatly influenced by the Punjabis.[14] The Mujahir are Muslims who fled from India to Pakistan after the partition in 1947 and their descendants, most of whom are settled in Karachi and other large urban centers in Pakistan. While the term Muhajir, or Mohajir, initially referred broadly to anyone who relocated to Pakistan during Partition, over time it came to refer particularly to Urdu-speaking migrants who relocated to Karachi and did not integrate with the local population in Sindh province.[15] The Baloch people are comprised of several tribes speaking the Balochi language and in Pakistan are roughly divided into two groups, the Sulaimi and the Makrani. Some 70% of Baloch people are in Pakistan's Balochistan Province with the remainder primarily in neighboring areas of Iran and Afghanistan.[16]

Key Population Centers

As of 2021, slightly more than 36% of Pakistan's people lived in urban areas, according to the World Bank,[17] and by 2023, the census found 93.75 million "urban" residents.[18] The country has seen a steady 2.7% annual increase in the number of urban residents since 2000, and the World Bank assessed in 2024 that urban areas would be home to some 55% of the population by 2034.[19] As of 2023, the most populous cities were Karachi (17.236 million people), Lahore (13.979 million people), Faisalabad (3.711 million people), Gujranwala (2.415 million people), Peshawar (2.412 million people), and Islamabad (1.232 million people).[20]

Official population density estimates from 2023 indicate that the overall population density is 303 people per km^2 (786 people per mi^2).[21] However, other assessments, based on labeling as "urban" any area with more than 1,000 residents per square mile indicate that key areas that are generally considered "rural" are actually much more densely populated and have earned the label "ruralopolis." Some of these areas are eastern Punjab Province, the outskirts of Peshawar (KP), and the area encompassed by the cities of Karachi, Hyderabad, and Thatta,

all in Sindh Province. If these ruralopolises are included, the country's urbanization rate rises to more than 60%.[22]

Language

More than 70 languages are spoken in Pakistan as first languages. The official languages are Urdu and English. Urdu is the national language and lingua franca understood by 80% of the people, though it is the first language of only an estimated 7% of the population. Urdu is widely used in government and educational institutions. When Pakistan gained independence in 1947, Urdu was chosen as a unifying language to serve as a neutral bridge among diverse ethnic groups. Urdu is not indigenous to Pakistan and is the youngest of the country's languages, having originated during the Mughal period during the early 16th to mid-18th century. It has Indo-European roots and shares grammatical similarities with Hindi but uses a script of Persian-Arabic origin.[23]

English is the co-official language, due to the legacy of British colonial rule. It is particularly used within the urban elite and is important in administration, business, and education. Although only a small portion of the population use English as a first language, it is a key medium of instruction in schools and universities and facilitates upward mobility and international business.

Most other principal languages have a strong regional focus, though some may be distributed across provinces where administrative boundaries did not take into account ethno-linguistic regions. Punjabi is spoken by approximately half of Pakistanis, primarily by Punjabis who speak it as a first language. Pashto, an Iranian language spoken by 15-18% of the population, is prevalent in Khyber Pakhtunkhwa and northern Balochistan and is the official language of neighboring Afghanistan. Sindhi is spoken by 14.57% of Pakistanis, mainly in Sindh province. It has roots in Sanskrit with Arabic influences and features six major dialects. Saraiki is spoken by an estimated 12% of the population, mainly in southern Punjab, and is closely related to Punjabi. Other languages include Balochi, Hindko, Brahui, Kashmiri.[24] Pakistan has many other minority languages that are spoken by minority communities in the country, some of which are spoken by only a few hundred people and are considered endangered languages.[25]

Religion

More than 96% of the people of Pakistan observe Islam.[26] Among Pakistani Muslims, more than 80% adhere to Sunni Islam, the religion's major branch. Shia Islam is followed by more than 10% of Pakistani Muslims. Sufiism, a mystic body of religious practice within Islam, is a popular influence on Pakistani Sunni Muslims. Most Pakistani Sunnis belong to the Ḥanafiyyah school, which is one of four major schools or subsects of Islamic jurisprudence. The Deoband and Barelwi schools, two popular reform movements founded in northern India, are also widespread. The Wahhābī movement of Islam, founded in central Arabia, in what is now Saudi Arabia, has gained influence in Pakistan, particularly among the tribal Pashtuns in the regions bordering Afghanistan. This influence, often linked to certain extremist groups, grew significantly following Saudi Arabia's support to Pakistan after the Soviet invasion of Afghanistan in 1979. As Pakistan grappled with the influx of Afghan refugees in its border areas, Saudi Arabia's assistance, such as funding and constructing religious schools, helped establish Wahhābī teachings in the country.[27]

Approximately 2% of Pakistanis are Hindu, with the majority living in Sindh Province. Christians comprise less than 2% of Pakistan's population. Other minority religious beliefs include Aḥmadiyyah – a small Islamic sect – Sikhism, Bahá'í, Zoroastrianism, Kalash, and Jainism.[28]

Vulnerable Groups

Under its National Policy Guidelines on Vulnerable Groups in Disasters, the NDMA Gender and Child Cell (GCC) uses the UN Office of Disaster Risk Reduction (UNDRR) definition of vulnerability: "the conditions

determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards."[29] It further emphasizes that vulnerability may not be visible to people within a society because the systems and processes that create vulnerability may be deeply rooted in the community and cultural structures of that society. In general, the GCC focuses on aspects of societal groups that limit their access to resources or intensify their needs, be they discrimination, physical ability, financial status, or educational level.

Based on national and international norms, NDMA highlights vulnerable segments of Pakistani society as women, children, persons living with disabilities, older people, marginalized and remote communities, and minority religious groups.[30] An overarching vulnerable group is people living in poverty, as poverty frequently correlates with rural residents, informal settlement residents, people without stable employment, and people suffering social isolation. There is a high potential for both disasters and climate change to increase inequalities in education, health, and economic productivity. Extreme climate events impede access to basic health and education services, give rise to malnutrition and life-threatening diseases, and diminish the productivity of the labor force, thereby reducing incomes and financial stability. An exacerbating factor is that these groups often lack a voice in decision-making processes that would allow their groups' needs to be considered in planning for DM or climate change adaptation (CCA).[31]

The Disaster Management Act of 2010 mandates NDMA to develop guidelines and standard operating procedures (SOP) for an adequate response to disasters with a special focus on the needs and concerns of vulnerable groups. NDMA established the GCC in 2010 to promote child-centered policies and procedures. Since its inception, the GCC has contributed to the development of several key initiatives, including the SOP on Separated, Unaccompanied, and Missing Children in Disasters and the National Policy Guidelines for Vulnerable Groups. It has also produced an atlas of disaggregated data on vulnerable groups and created gender maps to identify organizations working on behalf of women.[32] The National Policy Guidelines on Vulnerable Groups in Disasters was published in 2014. It promotes participation of women, men, older persons, and persons with disabilities in all phases of disasters, from disaster planning and preparedness to disaster response and recovery. More importantly, it is intended to ensure collection and availability of disaggregated data on children, women, older persons, and persons with disabilities (specifying type of disability) and promote a system of relief distribution that is accessible to all vulnerable groups. Based on the policy, there is a designated GCC focal person in each relevant line department for gender mainstreaming in disasters and to provide training.[33]

Elders

The 2023 census counted more than 12 million Pakistanis over the age of 60 years. Of the national total, people over 60 years of age make up less than 5% of the population. Among the elder cohort, approximately half are the heads of their own household, and another one-third are the spouses of the head of household. An estimated 3.2 million elder Pakistanis live with one of their children. Some 8.2 million Pakistanis over the age of 60 years lives in an area considered rural.[34] In all provinces and regions, elder males outnumber elder females, and only when the data are fully disaggregated to urban and rural communities do two areas where elder females outnumber elder males – i.e., rural areas of Punjab and Sindh.[35] Of people over 60 years of age, more than 8.5 million were living with one or more disabilities. Of these older adults living with disabilities, some 3.3 million lived in an urban area. Difficulty walking is, by far, the most common limitation among elders (2.4 million people), but more than 1 million elders self-identify with limitations of sight, hearing,

memory, or self-care.[36]

In the wake of the 2022 floods, assessments of the needs of older people revealed that Pakistan's elders were suffering disproportional impacts. In a survey of elders affected by the flooding, international NGO HelpAge International found that 87% of them had a health condition but only 51% had access to health care. A combination of damaged health facilities, disruptions to transport routes that serve health facilities, and a lack of resources to purchase medicines or care were key aspects of the plight of affected elders. Meanwhile, some 85% of surveyed affected elders in Sindh province indicated that they had no shelter, 78% did not have sufficient food, 59% had no access to clean drinking water, 63% struggled to reach toilet facilities, and 62% struggled to reach bathing facilities; all of these circumstances exacerbated the health impacts of the disaster as they promoted exposure to diseases and potential injuries just as these people were at their weakest.[37]

Given the linkages between age and disability status, elders living with disabilities are more common than people in other age cohorts living with disabilities. In the wake of the 2022 floods, at least one-third of affected elders were living with at least one disability, and two-thirds said they were unable to reach aid distribution points and were going without items such as glasses or walking sticks that were lost in the disaster. Meanwhile, 61% of surveyed elders said they were borrowing money to get by; nearly 40% expressed fear that family members might abuse or exploit them because of financial difficulties even though 78% of elders affected by 2022 floods were caring for three or more children, presumably children related to them.[38]

People Living in Poverty

Pakistan made immense strides against poverty between 2000 and 2015, with the poverty rate dropping from over 64% to below 25%.[39] During this period, over 48 million Pakistanis rose out of extreme poverty, which is defined as living on US$1.90 or less per person per day. Extreme poverty was nearly eliminated, while poverty at the lower middle-income line (US$3.20 per person per day) also saw a 40% decline and stood at just more than 34% in 2018.[40] Overall, poverty reduction slowed after 2015 and went into reverse after the onset of the Coronavirus Disease 2019 (COVID-19) pandemic. As of 2024, the rate of people living below the minimum living standard typical of a lower middle-income country stood at above 40%. Amidst high food and energy costs and persistent inflation, poor households continue to deplete any savings they may have accumulated and have no opportunity to replenish savings. Moreover, wages are not rising, and household debt among poorer households could rise over the short- to medium-term.[41] In addition, significant geographical inequalities remain. Rural poverty in 2018 exceeded 43%, a proportion twice as high as urban poverty. Figure 1 shows the World Bank's district-level analysis of poverty rates in the country in 2004, 2012, and 2019-2020.[42]

The poor and landless have the least capacity to respond to hazard events. Differences in land distribution and ownership structures in rural areas are significant factors in the incidence of poverty. Poor and landless families tend to have homes in flood-prone areas adjacent to main villages, and their homes are also more commonly built of kacha (mud and straw) or other semi-solid materials that are low-cost and easily available. Such homes are more vulnerable to hydro-meteorological and geologic hazards and can collapse or be swept away. Affected families may not have the resources to rebuild.[43]

People Living with Disabilities

In the 2023 census, more than 7.4 million people self-identified as living with one or more disabilities, and a total of 23.2 million self-identified as living with a functional limitation. Males outnumbered females in both categories, and rural residents outnumbered urban residents.[44] This figure aligns more closely to widely accepted estimates, which range from 3 to 27 million, following decades of severe underreporting. Even as recently as

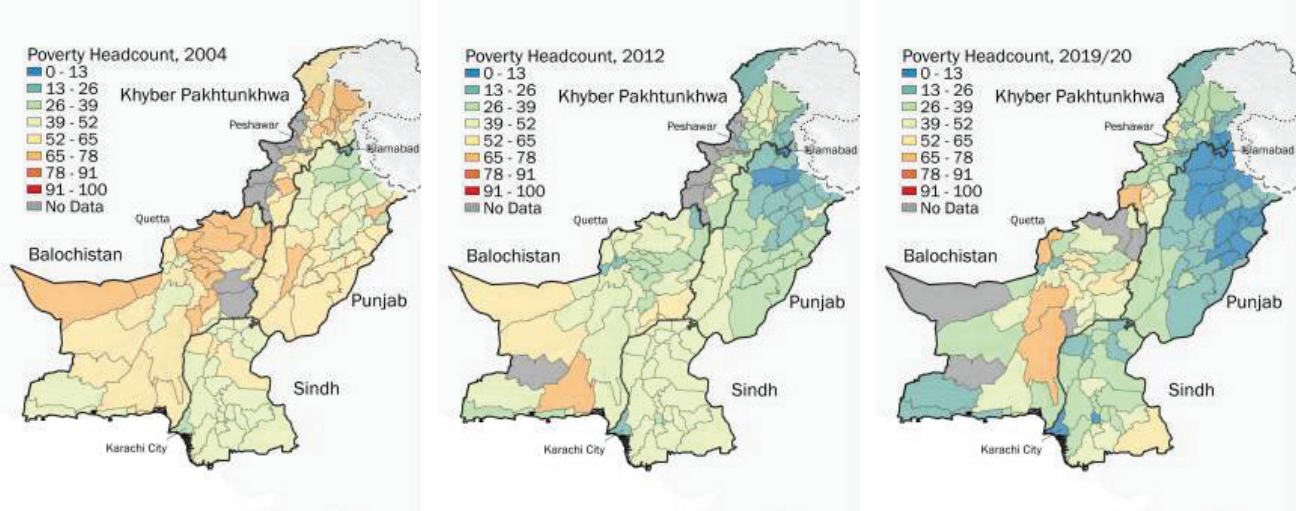


Figure 1: Poverty Rates, by District in 2004, 2012, and 2019-2020

2017, reports stated that fewer than 1 million Pakistanis self-identified as living with a disability.[45] This disparity between official count and suspected numbers is believed to stem from persistent social stigma, leading individuals to hide their disabilities or families to isolate members living with disabilities. The treatment of people living with disabilities is often fueled by pity and based on medicalization, welfare, and charity rather than integration and rights. Historically, classifications of disabilities in the country focused on physical, mobility–related disabilities, with some inclusion of sight and hearing limitations. However, nearly all programs omitted developmental or intellectual impairments, an omission that may partly explain the gap between census-counted people living with disabilities and estimates.[46] The 2023 census' inclusion of mobility, sight, hearing, communication, memory, and self-care categories of disability or limitation may have begun to rectify some of the shortcomings in the country's data on the share of the population living with disabilities.[47]

The country ratified the Convention on the Rights of Persons with Disabilities (CRPD) in 2011.[48] At the federal level, it requires that 2% of employees at public and private enterprises be people living with disabilities, and at the provincial level, this requirement ranges 3-5%. However, successive studies have found that these rules go largely unenforced, and 71% of people living with disabilities were unemployed as of 2023. In 2020, the Supreme Court ruled that federal and provincial governments had to take steps to ensure equal participation of people with disabilities in accordance with the CRPD.[49]

Under the Policy Guidelines for Vulnerable Groups in Disasters, NDMA's GCC laid out policies, institutional capacities, and community involvement needs for integrating people living with disabilities into DRR. They include SOPs for evacuation, rescue, and relief operations, stockpiling items needed specifically by people living with disabilities, training focal points in agencies, integrating caregivers into planning, and designing early warning systems to reach people with particular disabilities. Additional considerations for response, recovery, and rehabilitation operations cover systems to prevent abuse or exploitation of people living with disabilities, ensuring that shelter facilities are accessible, and including livelihoods rehabilitation projects that integrate people living with disabilities in post-disaster programs.[50]

Women and Girls

Social and religious traditions inform gender roles, and women are viewed as homemakers rather than breadwinners. Thus, the country continues to see a low female labor force participation rate.[51] As of 2023, an estimated 23% of women were active in the labor force, and only approximately 30% were in employment,

education, or training. This level stands in stark contrast to the 81% of Pakistani men who participate in the labor force.[52] This lack of female participation translates into a lack of steady income for women who remain dependent on male family members. Without formal income and often lacking proper documentation, women face substantial barriers to accessing formal banking systems. Women across the country lack the resources to build resilience. In 2021, the gender gap in bank account ownership stood at 32% (i.e., there is a 32-percentage-point gap between the percent of women who have accounts and the percent of men who have accounts), and observers expect the gap to worsen, reaching 42% by 2030. More than three of every four Pakistani women are unbanked.[53]

In periods of emergencies or during climate change-induced instability, women and girls often face a higher burden of work to ensure household needs are addressed; an example is increased time spent collecting water or fuel. Moreover, girls from affected households are often married off earlier to ease financial burdens, and girls from poor families are 22% less likely to attend school compared to boys from poor families. As a result of these factors, the literacy rate of adult Pakistani women is only 46% compared to 69% of adult Pakistani men.[54] With fewer educational, livelihoods, and political participation opportunities, women are not only unable to marshal the resources to withstand shocks, but they are not integrated into the institutions that plan and execute parts of the DM cycle. However, under the NDMA's guidelines for vulnerable groups, the GCC laid out ways to redress this shortcoming. It called for a gender balance on assessment teams, development of a database and network of professional women with special skills useful in DRR and disaster response, registration of female-headed households, training specifically for women in communities that confront hazards, training for gender-aware camp or shelter management, referral systems for gender-based violence, inclusion of women's networks in early warning systems, and inclusion of women for their perspective in designing shelter and rehabilitation projects.[55] By ensuring that decisionmakers hear a female voice on DRR, women's health, culture, safety, and work needs, policymakers and community leaders can contribute to better outcomes for women in the aftermath a disaster.

Youth and Children

The stunting rate of children under the age of 5 years stands at 38% and affects Pakistanis of all income brackets.[56] Child growth is an internationally accepted outcome reflecting child nutritional status. Child stunting refers to a child who is too short for his or her age and is the result of chronic or recurrent malnutrition.[57] The level of stunting in Pakistan is directly linked to the near absence of in-home water treatment of any type in much of the country. This lack of treatment results in a 60-75% increase in bacterial contamination of water used in homes. Consumption of bacteria-contaminated water causes many children to suffer from chronic digestive ailments, which, in turn, lead to malnutrition. The adverse health outcomes are especially evident in the persistence of stunting, which has broader economic impacts, including reduced educational attainment, lifelong health challenges due to compromised immune systems, and attendant cognitive deficits that significantly impact lifetime earnings.[58]

An estimated two-thirds of Pakistan's population are younger than 30 years of age, and approximately 30% of the population is younger than 10 years of age. An estimated 2.1 million young people (ages 15-24 years) enter the labor force every year, but they lack key skills due to deficiencies in the education system, including shortages of school facilities, available student placements, teachers, and learning materials.[59] Educational attainment rates are low nationally and across all income groups. An estimated 22.9 million children ages 5-16 years, 44% of the age group, remain out of school or training. The majority of those absent from the system are girls and young women.[60]

Disasters both increase pre-existing

vulnerabilities among children and youth and subject more of them to abusive and exploitative situations. Therefore, practices that promote child protection need to be integrated into a country's DM planning and policies. The SOP on Separated, Unaccompanied, and Missing Children in Disasters was published in 2014 in recognition by the NDMA GCC that DM in the country did not focus on child protection and that specialized guidelines were needed to address the complexities and magnitude of child protection challenges. Among the principles of the SOP are that the opinions of children and youth should be included in formulating DM policies and plans for how to address children's needs before, during, and after a disaster. The SOP also includes lists of actions that community DM practitioners can take to reduce the rate of harm experienced by children during emergencies. However, it does not lay out measurable targets for including the voices of youth in DRR or CCA programs.[61]

Economics

Taken as a share of Gross Domestic Product (GDP), the services sector dominates Pakistan's economy. Services account for more than 50% of GDP, agriculture for approximately 24%, and industry for less than 20%.[62] A history of statist economic activity continues to play out, especially as state-owned enterprises (SOE) enjoy dominant positions in energy, insurance, and road construction and transport. Overall, more than 200 SOEs collectively account for more than 10% of GDP but employ fewer than 500,000 people. Agriculture and services both employ an estimated 40% of the workforce, and the country continues to have a massive informal employment sector. A labor force survey found that, of the 15.7 million jobs generated outside the agricultural sector between 2001 and 2017, 75% were informal jobs. As of the 2017 Labor Force Survey, 80% of individuals working in the private sector were self-employed or working in micro-enterprises without contract or other formal protections.[63]

Growth and investment are volatile in the country. Russia and Ukraine are key sources of food and energy inputs, and the on-going war in Ukraine has disrupted Pakistan's purchases of these inputs. Consequently, consumer prices on most goods have skyrocketed, and after the devastation wrought by flooding in 2022, the year 2023 saw the Pakistani economy wither. In 2023, GDP shrank by 0.2% year-on-year after 2022 had seen GDP grow by 6.2%[64] and 2021 had seen 5.8% growth.[65] One key productive sector to experience slower growth, though not losses, was agriculture. In 2023, agricultural revenues grew at half the rate of 2022, with cotton and rice output actually declining in real terms. Industrial contributions to GDP declined, rather than simply growing more slowly. A scarcity of inputs linked to the Russian invasion of Ukraine was already a challenge, but domestic import controls, political instability, and economic uncertainty added to obstacles. As a result, industrial production contracted by 3.8% year-on-year from 2022 to 2023. The drags on agricultural and industrial production contributed to stagnating services, which only produced growth of 0.1% year-on-year, while 2022 had seen services sector growth of 6.7%. The Asian Development Bank (ADB) forecasts that, pending economic reform and barring additional hydro-meteorological shocks, GDP could rebound somewhat in 2024, to 1.9%, but only really show strength in 2025 if private sector investment ticks back upward and if 2024 elections produce a more stable political environment.[66]

Pakistan's top trading partners are People's Republic of China (PRC), the European Union (EU), the U.S., and the United Arab Emirates (UAE). Growth in export markets for Pakistani products is seen mostly in Europe and the Americas, while Asia and the Middle East are key sources of imports.[67] Exports account for less than 10% of GDP, and export commodities are highly concentrated, with cotton and cotton goods being the leading commodities. Agricultural products that go to neighbors in the region account for approximately 20% of exports. Another 60% of exports are made up

of textiles and apparel, more than 80% of which are cotton fabrics.[68] Pakistan's imports are highly concentrated, with an estimated 50% of imports coming from PRC, Saudi Arabia, the UAE, and Indonesia.[69]

Non-agricultural work opportunities in recent decades have seen the labor force grow, diversify, urbanize, and globalize. This expansion not only saw poverty rates drop, but it also saw Pakistani workers overseas begin to send home life-changing amounts of money.[70] It must be noted that this transformation has been mostly a male phenomenon. Urban, services-sector jobs and overseas work have mostly gone to male workers who are more mobile, better educated, and already in the formal workforce, contrary to Pakistani females. Figure 2 illustrates the most recent estimates of the relationship between sex and employment across economic sectors.[71] The COVID-19 pandemic disrupted this activity, including the ability of Pakistanis to depart for or remain overseas for work. However, this facet of the economy recovered swiftly, and Pakistani workers overseas are once again critical to the economy. The State Bank of Pakistan reports that remittances from Pakistanis working overseas totaled US$2.4 billion in January 2024, a 26.2% increase over the same time in 2023. Pakistani workers are concentrated in Saudi Arabia, the UAE, the United Kingdom (UK), and the U.S.[72]

The World Bank assesses that government fiscal and trade policies, failures to promote modern agricultural practices, statist tendencies in industry, and broadly unsustainable energy-sector activity indicate that any economy-wide growth still will fail to produce socio-economic opportunity or improve the lives of most Pakistanis. As of 2023-2024, an estimated 40% of the population – more than 94 million people – lived in poverty, defined as earning US$3.65 or less per person per day.[73]

Government

The current constitution of the Islamic Republic of Pakistan initially came into force in 1973. It has been suspended, reinstated, and amended several times.[74] The most recent amendments were made in 2018.[75]

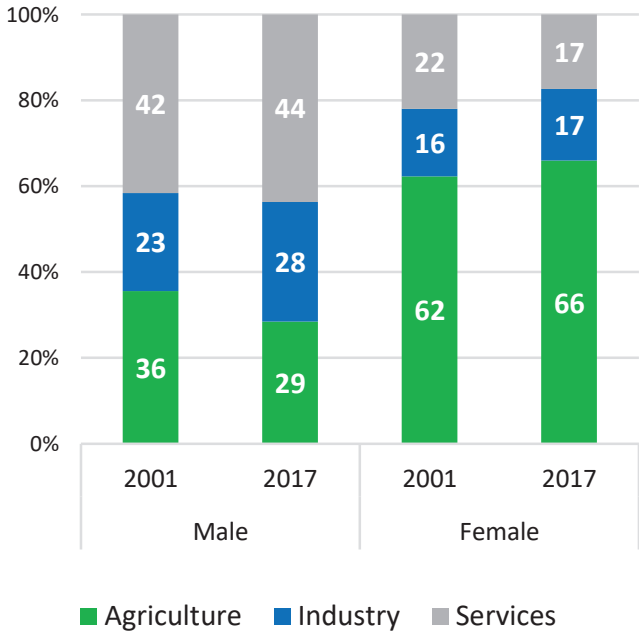


Figure 2: Employment by Sex, as a Share of All Employment Across Sectors

The country is a federal parliamentary republic. The President is head of state, and the Prime Minister is head of government. There is a bicameral legislature at the federal level.[76] The President is selected by an electoral college made up of the two houses of the federal parliament and the four provincial assemblies. Although the Presidency is largely ceremonial, the position does have some powers in emergencies, and the President chairs the National Security Council.[77] The President serves for a five-year term with a two-term limit.[78] The Prime Minister heads the cabinet of ministers and oversees the work of the federal government. After a general election, the party or parties that can command a majority of the National Assembly selects the Prime Minister to form the government; that government can represent a coalition of parties with seats in the Assembly. The bicameral Parliament includes a Senate (upper house) and National Assembly (lower house). The Senate consists of 96 seats. Each of the four Provincial Assemblies selects 23 Senators, while four seats represent the capital, Islamabad. The National Assembly has 336 seats, 266 of which are filled by direct, first-past-the post, popular vote. The remaining 70 Assembly seats are reserved for women (60) and non-

Muslim minorities (10), and these seats are filled by proportional representation among parties that won seats in the Assembly.[79] Senators serve six-year terms with half of seats being up for re-election every three years. Assembly members serve five-year terms.[80] The Judicial Commission for judicial appointments and promotions is dominated by the chief justices of the Supreme Court and high courts.[81]

The Supreme Court is the highest court, and it has the authority to interpret the Constitution and declare a law unconstitutional if it violates principles of Islam. The Supreme Court has appellate authority over criminal cases and may advise the government on legal matters. Below the Supreme Court are High Courts, which are the highest provincial-level criminal courts, and which oversee the activities of lower courts. The lower levels of courts include district courts, magistrate courts, and session courts. The district courts are the lowest tier, and they handle civil and criminal cases. In each district, there is a Court of Sessions Judge and a Court of Magistrates, the latter of which has the authority to hear criminal matters. Sessions Judges adjudicate issues involving the application of Islamic laws and crimes that carry the death penalty. Magistrates adjudicate crimes that are not capital.[82]

The country is divided into four provinces, two autonomous regions, and the capital territory.[83] These divisions are made for political administration and reflect historic and cultural differences. Balochistan, KP, Punjab, and Sindh Provinces are divided into divisions, districts, and subdistricts (tehsils).[84] Provincial and local governments oversee critical infrastructure and public services, land-use management, planning, and development.[85] The district is the key administrative level for local activity. The deputy commissioner oversees all branches of government but shares power with the elected chairman of the district council.[86] District councils and metropolitan corporations have significant responsibilities, often jointly with either provincial government – e.g., for policing, education, health care, roads, and local economic development – or with lower-level governments – e.g., for water and sanitation, cultural activities, and environmental protection.[87] The Islamabad Capital Territory and Gilgit-Baltistan administrative area are administered by the provincial governments. Azad Kashmir, an administrative area, is administered directly by the central government.[88]

Environment

Pakistan stretches from the coast of the Arabian Sea north to the Hindu Kush and Karakoram mountain ranges. It is home to diverse climate zones, topographies, and ecosystems, and it is traversed from north to south by the Indus River system. Figure 3 shows a map of Pakistan.[89]

Geography

Pakistan lies between 23° 35' and 37° 5' North latitude and 60° 50' and 77° 50' East longitude.[90] It has a total area of 796,095 km^2 (307,374 mi^2), only 3% of which is covered by water.[91] Located on the western side of the Indo-Gangetic Plain that makes up most of the sub-continent, Pakistan is divided roughly into five geographic regions: 1) the Himalaya and Karakoram ranges; 2) the Hindu Kush and western ranges; 3) the Balochistan plateau; 4) the sub-montane plateau of Potwar, the Salt Range, the trans-Indus plain, and Sialkot; and 5) the Indus River plain.

In the far north, the Himalaya and Karakoram ranges sit above 4,000 meters (m; 13,000 feet, ft) in elevation, and four of the peaks within Pakistan reach higher than 8,000 m (26,000 ft). Key rivers, including the Indus, flow into Pakistan from these mountains. These ranges also affect Pakistan's weather and water cycle. They intercept the southern monsoon and collect rain and snow, and the melting snow and glaciers feed the rivers. Also in the far north, the Hindu Kush and its subsidiary ranges reach very high elevations. They are drier than the eastern ranges, but a few rivers do flow from them. Their lower and more southerly reaches are covered in cedar and pine forests with some grasslands. The western ranges extend far south along the



Figure 3: Map of Pakistan

border with Afghanistan to about Quetta before reaching the Balochistan plateau. This plateau is a tableland mostly enclosed by mountains with hilly areas and desert. The plateau is separated from the Arabian Sea coast, known as the Makran Coast, by the Makran coastal ranges, the southern faces of which loom over a coastal plain of mud flats and sandstone ridges. The sub-montane plateaus mostly stand above 350 m (1,200 ft) in elevation and can reach higher than 1,500 m (5,000 ft). They stretch south from the northern mountains and lie across the upper reaches of the Indus and Jhelum Rivers, and they comprise hills and fertile valleys that gradually slope southward into basins and ravines. Finally, the Indus River plain covers some 518,000 km^2 (200,000 mi ^{2}) with a gentle slope from north to south. The upper Indus plain is piedmont and is drained by the Indus and its tributaries, the Jhelum, Chenab, Ravi, Beas, and Sutlej Rivers. In the lower plain, the Indus forms a single large river, flowing across an almost flat region until it reaches its delta and spreads into distributaries across the deltaic plain. To the southeast of that point is the Rann of Kutch, which is an expanse of saline marsh.[92]

Borders

Pakistan shares 7,257 km (4,509 mi) of land borders with Afghanistan (2,670 km; 1,659 mi), PRC (438 km; 272 mi), India (3,190 km; 1,982 mi), and Iran (959 km; 595 mi). It has 1,046 km (650 mi) of coastline on the Arabian Sea.[93]

There is a key border dispute pitting Pakistan against India, both of which claim areas of Kashmir. The 1972 Simla Agreement established the Line of Control (LOC), which is a provisional military control line dividing the

disputed territory into administrative zones. After a period of heightened tensions, Pakistan recommitted to the LOC, but in 1999, Pakistani troops crossed the line and triggered the Kargil War, which ended in a cease-fire in 2003. Since then, both sides have regularly exchanged fire across the LOC and blame each other for cease-fire violations. In February 2021, another period of heightened tensions led to a fresh cease-fire that held until mid-2023. Although various parties have attempted to mediate the dispute, there is little sign of a substantive process that would resolve either the status of Kashmir or the border.[94]

An additional dispute pits Pakistan against Afghanistan. Since 1947, successive Afghanistan governments have rejected the status of the colonial-era boundary known as the Durand Line as an international frontier. In addition to the rejection of colonial power, the dispute also hinges on the fact that Pakistan and Afghanistan demarcate the Durand Line differently, and Pakistani efforts to erect fencing along portions of it have seen armed clashes.[95]

Climate

Most of Pakistan has a temperate climate, but there are sub-tropical areas. The climate varies widely due to diverse topography between north and south. In general, coastal areas and the Indus River Valley are dry and hot, and it gets colder as one moves northward. Inter-annual rainfall varies widely, but most of the country receives little annual precipitation. The country experiences four seasons: a cool, dry winter from December to February; a hot, dry spring from March through May; the summer southwest monsoon, occurring from June to September; and the retreating monsoon from October to November.[96]

Nationally, the mean annual temperature is 20°C (68°F). However, the average temperature in southern and central regions is higher at 24°C (75°F), whereas northern and northwestern regions have a somewhat lower average of 18°C (64°F).[97] The country regularly experiences average monthly maximum temperatures of 27°C (80.6°F), and it is not uncommon for temperatures to reach 36°C (96.8°F) in June.[98]

Annual precipitation also varies spatially, with 60% of the country's land area receiving annual precipitation below 250 millimeters (mm; 9.8 in), 24% receiving 250-500 mm (9.8-19.7 in), and the northern highlands receiving 1000–1500 mm (39.4-59 inches). The southwest summer monsoon (July to September) brings 140.8 mm (5.5 in) of rainfall on average, whereas winter sees an average of 72 mm (2.8 in) of snowfall over the Greater Himalayas and northern Balochistan.[99] The El Niño Southern Oscillation (ENSO) has a significant effect, with El Niño periods of the cycle causing temperature and rainfall anomalies in Pakistan.[100]

Figure 4 shows the monthly average minimum, average, and maximum air temperatures and precipitation for Pakistan for the period 1991-2020.[101]

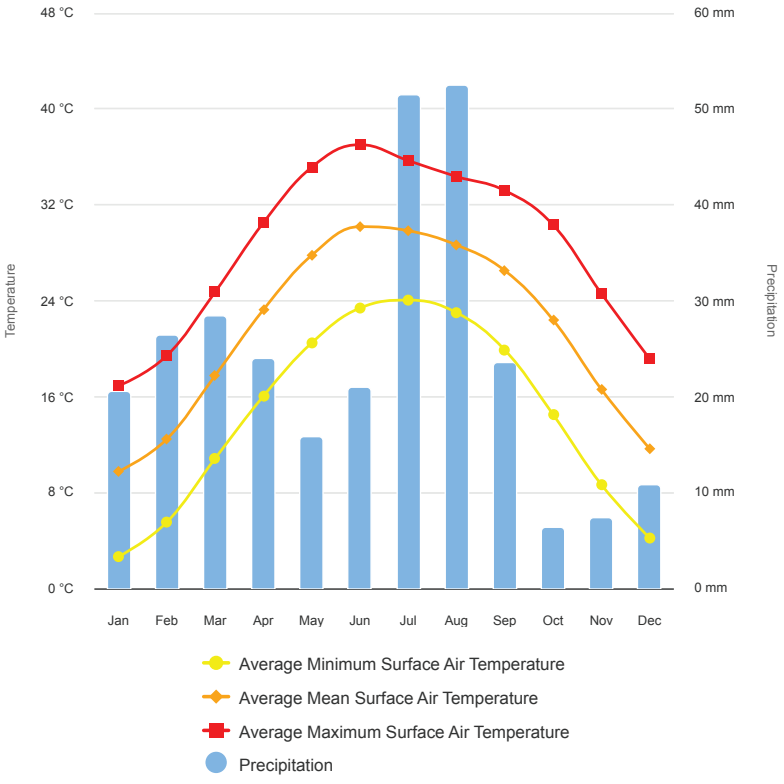


Figure 4: Average Temperatures and Precipitation, Pakistan (1991-2020)

DISASTER OVERVIEW

Pakistan faces various natural and anthropogenic hazards. The country is exposed to:

- Geophysical hazards – earthquake and tsunami
- Hydrological hazards – flooding, landslide, and avalanche
- Meteorological hazards – storm, cyclone, extreme temperature, and dust storm
- Climatological hazards – drought and glacial lake outburst flood (GLOF)
- Biological hazards – epidemic disease and pest infestation
- Anthropogenic or technological hazards – industrial accident, oil spill, marine accident, structure fire, and building collapse

Figure 5 shows a chart of the most frequently occurring hazard events for the period 2000-2024, based on the EM-DAT, the international disaster database, which catalogues disaster events at the level of human and economic losses. EM-DAT includes events that meet one of four criteria: 10 fatalities, 100 affected people, declaration of a state of emergency, or a call for international assistance.[102]

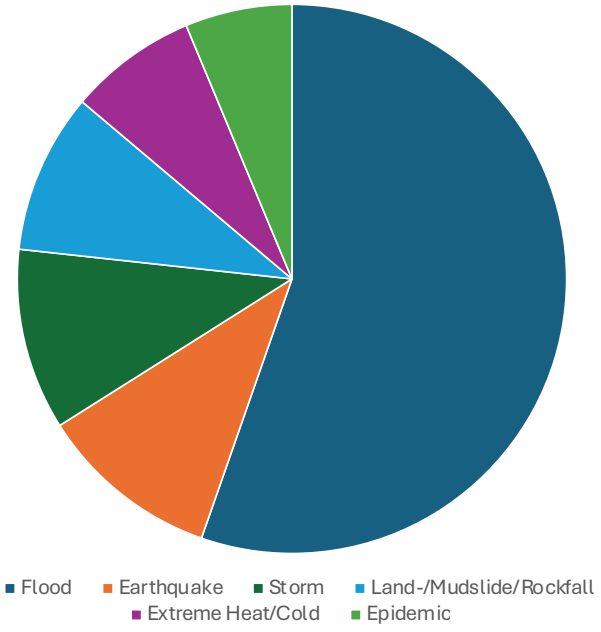


Figure 5: Natural Disasters in Pakistan (2000-2024)

Pakistan experiences major hazard events on an annual basis, and the compounding impacts of climate change are potentially catastrophic. In its National Adaptation Plan (NAP), the country notes that "heat stress and extreme weather impacts threaten the very fabric of livelihoods and human potential. The nation teeters on the brink of a water scarcity threshold, while rising sea levels in the Indus Delta relentlessly accelerate the salinization of precious inland waters… the projected recession of the Hindu Kush-Karakoram-Himalayan glaciers heightens the haunting threat of glacial lake outburst floods. If current trends continue, large swathes of the country could become uninhabitable, and the most vulnerable segments, such as the marginalized and the landless population, would be on the frontlines of the devastation."[103]

Climate Change

In the 2022 University of Notre Dame Global Adaptation Initiative (ND-GAIN) index, Pakistan ranked 149th out of 187 countries. It had a total index score of 40.3 on a scale of 0 to 100. A score of 0 indicates high vulnerability to climate disruption and a lack of readiness to take CCA actions, while a score of 100 reflects lower vulnerability and a high capacity to adapt.[104] The ND-GAIN index is crafted to show a country's current vulnerability to climate disruption and to assess a country's readiness to leverage private and public sector investment for CCA action. The Index score is calculated using more than 40 core indicators to measure vulnerability and readiness of measured countries from 1995 to the present. The scores and underlying indicator data can inform decision-making on resilient logistics chains, capital investment, policy, and community engagement within the context of climate change. The ND-GAIN framework breaks the measure of vulnerability into exposure, sensitivity, and adaptive capacity across sectors of health, food, ecosystems, habitats, water, and infrastructure, and the measure

of readiness is broken down into economic, governance, and social components.[105]

Pakistan's ranking and score suggest a country with great vulnerabilities and challenges as well as low readiness even though there is an urgent need to act on issues of climate change and resilience. For comparison, the country that nets the best ranking (1 of 187 countries) is Norway with a total index score of 74.7, meaning that the country is well-positioned in terms of both vulnerability and readiness to address the few challenges it is confronting. Within the region, Pakistan's ranking (149) and score (40.3) compares unfavorably with Iran (rank 84; score 50.6) and India (rank 105; score 47.1) but favorable with Bangladesh (rank 173; score 36.0) and Afghanistan (rank 181; score 33.2).

Of note, since the ND-GAIN Index first started in 1995, Pakistan's overall ranking and scores on each aspect of adaptation readiness have worsened – especially in the case of vulnerability, which has significantly worsened. This decline reflects the steadily increasing pace of hazard exacerbation hanging over the country. Key vulnerabilities include falling crop yields and a lack of medical staff, whereas key readiness gaps include the country's inability to control corruption and its gaps in education and innovation.[106]

The adverse impacts of climate change on Pakistan's natural and human capital are expected to be severe. The World Bank points out that, since 1990, climate-related disasters have caused significant loss of life and enough damage to contribute to a reversal of Pakistan's development gains. Of note, between 1992 and 2021, climate- and weather-related disasters in Pakistan resulted in a total of US$29.3 billion of economic losses, equivalent to more than 11% of GDP. Coming impacts on society from additional changes are expected to include falling crop yields, rising pollution, worsening human health, and declining hydropower production.[107]

Due to Pakistan's varied geographic and climatic zones, each area of the country confronts differing challenges linked to climate change. Northern areas are expected to see continued changes in glaciers and, therefore, GLOFs; much of Sindh and Balochistan will see longer dry periods; and coastal areas can expect more intense cyclonic activity.[108] In general, models predict that the country will face warming at a rate considerably above the global average. Some expected results of this warming are:

- A significant probability of ever more climatic variability and extreme events
- Reduced availability of water and more severe, more frequent, and longer droughts
- Swifter melting of the Himalaya, Hindu Kush, and Karakorum glaciers
- Changes in the flow of the Indus River system
- Ocean encroachment on coastal settlements and infrastructure[109]

The country is already a low-greenhouse gas (GHG) emitter. Consequently, GHG mitigation is not the primary focus of planning; instead, the emphasis is on adaptation to withstand climate impacts.[110] The country is experiencing biodiversity loss and ecosystem destruction as heat and water stress alter land, forests, and animal life. In addition to polluted air, rivers, wetlands, and aquifers, these heat and water stresses carry the risk of multiple public health hazards. Moreover, frequent heavy rains combined with longer dry spells are driving extreme cycles of flooding and drought, while rising sea levels threaten coastal areas. Table 1 provides some trends and projections for key climate-linked phenomena and lays out some potential impacts of climate change.[111]

Of note, in projections on climate-related hazards and phenomena, the range of average temperature increase is based on the Representative Concentration Pathways (RCP). RCPs describe possible trajectories for carbon dioxide emissions and the resulting atmospheric concentration. There are four commonly used RCPs (2.6, 4.5, 6.0, and 8.5), which were developed based on their end-of-century "radiative forcing" – a measure of the combined effect of greenhouse gases, aerosols, and other factors that can influence climate to trap additional heat.[112] RCP2.6 is the most

optimistic scenario and indicates a 2.6 watts per meter squared (W/m^2) forcing increase relative to pre-industrial conditions. RCP8.5 is the most pessimistic of the four scenarios and indicates an 8.5 W/m_2 forcing increase. RCP2.6 projects a global temperature rise of 1.0°C (1.8°F) above the 1986–2005 baseline by 2100, while RCP8.5 projects a global temperature rise of 3.6°C (6.5°F).[113]

The country's NAP lays out the most likely impacts of climate change under various RCPs. They include:

- By 2050, annual expected damage from riverine floods to surge by 47% (RCP 4.5) or 49% (RCP 8.5)
- By 2050, the percentage of the population exposed to heatwaves each year to increase by 32% (RCP 4.5) or 36% (RCP 8.5)
- Labor productivity to decline because of escalating heat stress with falls of 7% (RCP 4.5) or 10% (RCP 8.5)
- The agriculture sector sees increased pressure on food production and access; by 2050, the annual mean wheat yield is expected to decline by 1% (RCP 4.5) or 2.5% (RCP 8.5)
- Precipitation changes and declining water availability damage riverine ecology, impair water security, and affect hydropower production
- Sea level rise contributes to salinization of soils and coastal erosion, inundation of fisheries and aquaculture, and longer-term collapse of natural systems
- Air and water pollution aggravate health problems of people, especially those living in vulnerable areas[114]

Pakistan's updated Nationally Determined Contributions (NDC; 2021) seeks to ensure that national efforts to address climate change are inclusive, innovative, and whole-of-society. The NDCs and other policies and programs emphasize adaptation over mitigation, although mitigation does receive some attention. The high-priority adaptation actions include:

- Recharge Pakistan Program of reducing flood risk and enhancing water recharge at six sites in the Indus Basin, with the intention of building the resilience of 10 million people and strengthening vulnerable ecosystems)
- Ten Billion Tree Tsunami Program (TBTTP) to build and restore natural capital, sequester

Hazard / Phenomenon	Trend	Projection	Potential Impacts
Cyclones	Seven tropical cyclones between 1900 and 2020 with 2.6 million people affected	More frequent and intense storms	More frequent and expensive damage to coastal infrastructure; disrupted coastal livelihoods
Heat	Mean increase of 0.63°C (1.1°F) over 100 years; increase of 0.39°C (0.7°F) in decadal mean for 1981-2005 (twice as fast as global rise during that period)	Increase of 1.4–3.7°C (2.5-6.6°F) by 2060; increase of 6.0°C (10.8°F) by 2090; rise in number of days over 35°C (95°F) to rise to at least nine and perhaps 39 days annually; greater temperature increase during winter and in northern areas; rise in frequency and severity of extreme heatwaves	Urban heat islands; higher demand for water; reduced crop and livestock productivity; forest degradation and increasing wildfire risk; increased vector- and water-borne disease incidence; glacier retreats bring more frequent GLOFs
Precipitation	High inter-annual variability; 25% increase in mean precipitation between 1901 and 2000; increase in extreme rainfall events since 1960; significant regional variation, with coastal belt seeing 10-15% decrease since 1960	High uncertainty; increased rainfall from January to June and decreased rainfall from July to September; increased rainfall over the Upper Indus Basin and decreased rainfall in the Lower Indus Basin	Increase in incidence of water-borne diseases; more frequent riverine and flash floods; more frequent drought in some areas
Sea level	Indus Delta water levels rising	Increase of 30–80 centimeters (11.8-31.5 inches) by 2100	Salinization of inland waters; coastal erosion; submergence of communities; storm surge inundates coastal areas
Sea temperature	Average Arabian Sea surface temperature rose by 2°C (3.6°F) over two years		More common formation of stronger cyclones

Table 1: Climate Phenomena and Potential Impacts of Climate Change

carbon, and improve livelihoods
- Expanding protected areas from 12% of Pakistan's geographical area to 15% by 2023

For mitigation, Pakistan committed to unconditionally reducing its overall emissions by 15% by 2030 and to reducing emissions by an additional 35%, conditional on the availability of climate finance. High-priority mitigation measures include:

- Expanding renewable energy
- Greening transport, mostly by promoting electric vehicle uptake
- Reducing dependence on coal[115]

Hazards

Pakistan is exposed to a wide range of hydrometeorological, geophysical, and biological hazards, including earthquakes, floods, tsunamis, cyclones and storms, droughts, GLOFs, landslides, avalanches, and epidemics.[116] Figure 6 depicts natural hazard events in Pakistan by year and the total people impacted.[117]

Flooding and Landslides, including GLOFs

Pakistan is one of South Asia's most flood-prone countries. It has high exposure to various types of flooding. Riverine floods in the Indus River Basin, storm floods, GLOFs, and flash flooding associated with cyclonic activity all regularly affect the country.[118] The Indus River Basin is a flood-prone area, especially in July and August, with floodplains often inundated along major rivers – Indus, Jhelum, Chenab, Ravi, Sutlej, and Kabul. The riverine floods are particularly severe in Punjab and Sindh Provinces, which have experienced exceptional flood damage on an almost yearly basis in recent years. Flooding particularly affects agriculture, not only by damaging standing crops but also by hampering crop planting when flooded areas do not drain and dry out in time. Since 2010, Pakistan has witnessed flooding virtually every year, and these events have resulted in massive losses of life and property and affected millions of people. In 2010, floods resulted in the deaths of more than 1,700 people and more than US$9 billion in damages;[119] in all, more than 20 million people were affected.[120] Floods in the summer of 2022 were particularly devastating, leading to the deaths of more than 1,700 people and causing more than US$30 billion in damages and economic losses.[121] At the height of the 2022 flooding, one-third of the country was under water, 33 million people were affected, and nearly 8 million people were reportedly displaced. More than half of all the districts in the country were declared "calamity-hit," with the majority located in Sindh, Balochistan, and KP Provinces. The most vulnerable groups of people were especially affected, as children comprised one-third of flooding fatalities and households living in poverty were disproportionately affected.[122]

Despite Pakistan increasingly investing in DRM following the 2010 floods, the scale of recent flooding has been unprecedented and exacerbated by climate change.[123] Climate change is expected to continue increasing the frequency and magnitude of precipitation events in Pakistan, including monsoon rains, which contribute to flooding.[124] Figure 7 shows a flood

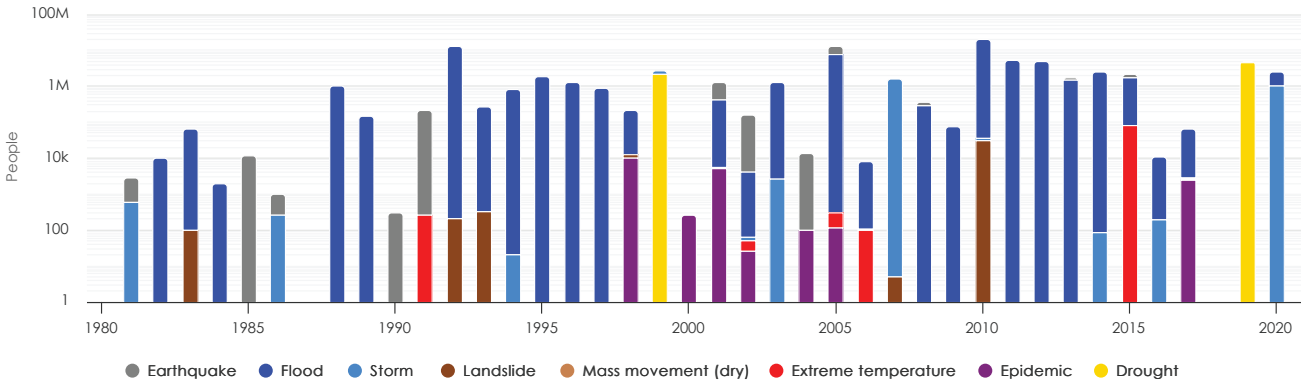


Figure 6: Natural Hazard Events in Pakistan, by Year, Hazard Type, and Human Cost (1980-2020)

hazard map for Pakistan that covers the years 1970 to 2020.[125]

Cyclones

Tropical cyclones primarily hit the coastline of Pakistan's Sindh Province but not coastal areas of Balochistan Province. Significant cyclones affected Pakistan in 1993, 1999, 2007, 2010, 2014, 2019, 2021, and 2023, [126] though severe storms are not limited to those years.[127] Cyclones have caused severe damage to low-lying coastal areas, including significant fatalities and property destruction, particularly in the coastal districts of Gwadar (Balochistan), Badin (Sindh), and Thatta (Sindh).[128] In addition to strong winds, tropical cyclones also bring heavy rains, flooding, and storm surge.

A 2021 study found that between 2001 and 2019, compared to the previous two decades, the frequency of cyclones increased 52% and the duration of the storms' impacts increased 80% in the Arabian Sea, which is bounded by India, Pakistan, the Arabian Peninsula, and Somalia. Very severe cyclones increased almost threefold during the same period in the Arabian Sea.[129] This intensification is closely linked to rising ocean temperatures and increased moisture due to global warming.

Earthquakes

Pakistan is prone to frequent earthquakes, with northern and western regions particularly exposed. In October 2005, Pakistan experienced the region's most destructive earthquake in decades when a quake of magnitude 7.6 struck the Kashmir region, where it killed at least 79,000 people and destroyed more than 32,000

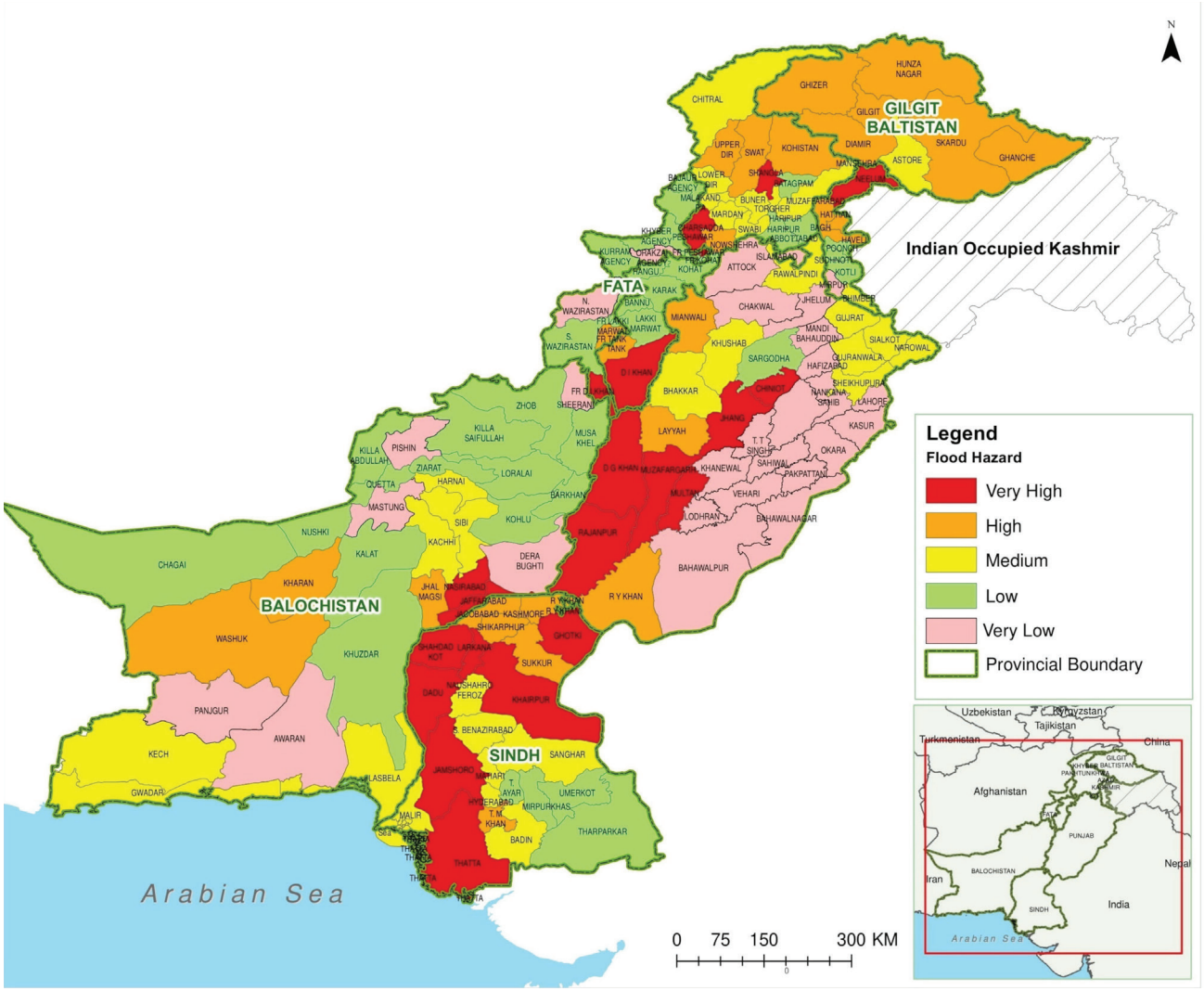


Figure 7: Pakistan Flood Hazard Map 1970-2020.

buildings, primarily in Pakistan-administered Kashmir.[130] Other significant earthquakes include one of magnitude 8.1 that struck the Hindu Kush region in October 2015; that quake killed hundreds in Pakistan and Afghanistan. A quake of magnitude 7.7 that struck the Awaran region of Balochistan Province in September 2013 killed at least 386 people, injured hundreds more, and damaged more than 46,000 houses.[131]

The northern part of Pakistan is particularly prone to seismic activity with a higher frequency of earthquakes in the Hindu Kush region. Major known earthquake faults include the main Karakoram Thrust, Riasi Thrust, Salt Range Thrust, Bannu Fault, Quetta-Chiltan Fault, Allah Bund Fault, Hoshab Fault, and the Makran Coastal Fault, though other faults are present throughout the country.[132] The earthquake exposure risk of populations in seismically-active remote, mountainous areas is often exacerbated by building materials deemed vulnerable to earthquakes, including adobe or mud wall, rubble stone masonry, and concrete frames built without quality materials or seismic design. Dhajji structures performed well in the 2005 earthquake, as they are wooden-framed structures with the spaces between braces filled with mud masonry or dry stone.[133]

Drought

Drought has particularly affected areas across Pakistan's southern and eastern regions. Approximately 60% of the country is categorized as semi-arid to dry, experiencing low rainfall and severe temperature fluctuations, most notably in Balochistan, Sindh, and the southern portion of Punjab. The most vulnerable regions endure a two- or three-year drought each decade. While Pakistan's large canal network helps mitigate some drought effects, drought has a greater impact on places without irrigation networks, such as Balochistan Province. Almost half of Balochistan receives less than 125 mm (4.9 in) of rain per year, and the remaining areas receive little more than 250 mm (9.8 in) of rain.[134] Droughts are also common and severe and can last for years in the Thar desert, which covers the eastern section of Pakistan's Sindh Province and extends into India. Climate change is expected to increase the frequency and magnitude of extreme heat events in Pakistan.[135]

History of Natural Disasters

The following is a summary of disasters that have affected Pakistan in the past 10 years.

July-October 2024 – Floods and Landslides

The 2024 monsoon season in Pakistan caused extensive damage across multiple provinces, primarily Sindh, Balochistan, and KP. From July through October, heavy rains, flash floods, and landslides caused damage and casualties. Reports indicate that the combination of events led to 368 deaths, over 700 injuries, and displacement of more than 143,000 people. Extensive infrastructure damage included the destruction of 78,608 homes, over 500 km (310 mi) of roads, and 40 bridges. Educational disruptions impacted approximately 230,000 children, with numerous schools damaged or converted into shelters. Key responders included Pakistan's NDMA and PDMAs, the Pakistan Red Crescent Society (PRCS), and many local and international humanitarian organizations. Ongoing challenges include shelter, clean water, medical supplies, and livelihood restoration. Long-term impacts of these flooding and landslides events include loss of agricultural land, disrupted education, and increased vulnerability of affected communities.[136]

February 2024 – Floods

Heavy rains and strong winds began on 27 February 2024. The heavy weather affected Gwadar and other areas of Balochistan Province. The downpour caused flooding, particularly in Gwadar, Jewani, and Ormara, where high waters damaged infrastructure, displaced residents, and prompted emergency responses from government and military teams. Heavy rains continued through March and April, and there were reports of floods, landslides, and

hailstorms across KP, Balochistan, Punjab, and Gilgit Baltistan. Over 5,800 homes and 464 schools were damaged alongside widespread infrastructure destruction. At least 117 people died, and 139 people were injured. Relief efforts, including evacuation, rescue, and water decontamination, were organized by PDMAs and NDMA. Long-term impacts include disrupted education, loss of livestock, and widespread displacement affecting 1.5 million people, with flood risks persisting.[137]

July 2023 – Floods

Heavy monsoon rains began in April 2023, and, by summer, rivers were overflowing and causing flash floods. Most affected areas were in Balochistan, where lives were lost and infrastructure damaged, but KP also saw landslides, damaged property and crops, and the loss of some human lives.[138] In mid-July, NDMA reported that the early monsoon season had already brought deadly rainstorms. By 10 July, 86 people had been reported dead, 151 people were injured, and nearly 100 homes had been damaged. Lahore reported upwards of 200 mm (7.9 in) of rain in these first two weeks of the monsoon, a 30-year high, and significant urban flooding resulted.[139] These floods came amidst the on-going response to 2022's historic flooding, which had also impacted Balochistan; the province was still grappling with food insecurity and public health challenges when the fresh flooding struck.[140]

March 2023 – Earthquake

A 6.8-magnitude earthquake rocked the Hindu Kush mountains in March 2023. Although the epicenter was in Afghanistan, aftershocks were felt across most parts of Pakistan, and most damage in the country was concentrated in KP. The earthquake resulted in 11 deaths, including two children and three women, and 79 individuals injured, including 13 children and 32 women. Moreover, 172 houses were fully or partially damaged, seven schools were partially damaged, and 19 head of livestock were lost.[141]

July-September 2022 – Floods

Record breaking monsoon rains contributed to flooding, landslides, and GLOFs across Pakistan from July to September 2022. In October, the Government of Pakistan, ADB, EU, United Nations Development Programme (UNDP), and World Bank published a Post Disaster Needs Assessment (PDNA) of the disaster to provide an assessment of damage, loss, and cascading macroeconomic and human impacts of the floods. Approximately 33 million people were affected, with over 1,600 reported fatalities and at least 7.9 million people displaced. Sindh, Balochistan, and KP were the hardest-hit provinces, with massive damage to homes, infrastructure, and agriculture. The impacts on people were severe, with many losing household income, livelihoods, and assets.

The PDNA estimated total damages of US$14.9 billion and economic losses of US$15.2 billion. As a result, poverty in Pakistan was projected to increase by 3.7-4%, an increase that would translate into an additional 8.4-9.1 million people falling into poverty. Over 60% of the economic losses were in the agricultural sector, with 1.1 million head of livestock lost and 9.4 million acres of cropland flooded. Rising food prices from poor harvests and shortages compounded food insecurity. Losses in agriculture also weighed heavily on other industries, such as the textile sector which was impacted by cotton losses. Additionally, the crisis posed long-term threats to human capital, with heightened risks of disease, food scarcity, school closures, and learning losses, particularly for vulnerable populations. In May 2023, the United Nations Children's Fund (UNICEF) was still reporting wide-spread malnutrition among children in affected districts even as the national food and nutrition market remained disrupted and impacted by inflation. These enduring socioeconomic impacts illustrate how large-scale disasters compound challenges to Pakistan's efforts to strengthen its disaster recovery framework and build a resilient society prepared to withstand future crises.[142]

October 2021 – Dengue Outbreak

Pakistan experiences recurring outbreaks of dengue fever, with cases reported year-round across the country. However, there was a significant outbreak in 2021, with 48,906 cases and 183 deaths reported between January and November. Islamabad and Rawalpindi were especially hard-hit during the latter half of the year, and the rising caseload placed immense strain on the healthcare system, which was already burdened by the COVID-19 pandemic. Anti-dengue efforts were ramped up, and larval surveillance and health education played a key role in controlling the outbreak. While winter generally sees reduced dengue transmission because cooler temperatures can slow the mosquitoes' life cycle and slow virus replication, sporadic cases continued to be reported into mid-December 2021.[143]

October 2021 – Earthquake

On 7 October 2021, a 5.9-magnitude earthquake struck Hernai District in Balochistan. It was followed by a 4.9-magnitude aftershock, and together, the tremors caused widespread destruction, particularly to mud houses, which collapsed. At least 20 people, mostly children, were killed, and at least 300 more people were injured. The Balochistan PDMA declared a state of emergency in Harnai, where over 100 homes and 11 schools were completely destroyed, and more than 5,000 homes were deemed uninhabitable. The area also experienced landslides, which complicated rescue efforts because they cut off access to the remote area. Over 63,000 people were affected, and emergency relief efforts focused on providing shelter, food, blankets, and water, sanitation, and hygiene (WASH) support.[144]

2020-2021 – Drought, Locust Infestation, Floods, and Pandemic

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 have experienced 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.

August-September 2020 – Floods and Landslide

Severe monsoon rains during August and September 2020 resulted in urban flooding. A reported 409 people were killed and 402 injured across several districts, with areas of Sindh Province being the hardest hit. The flood wiped out the region's staple crops and disproportionately affected women who work as farm laborers. Food insecurity was 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.

2020-2022 – COVID-19

During the COVID-19 pandemic, Pakistan reported more than 1.5 million cases of the disease and over 30,600 deaths linked to the virus. The country's health authorities administered the first doses of COVID-19 vaccine in February 2021 and cumulatively administered more than 340 million doses for a total vaccination rate of 64% of the population having received at least the full primary series and 24% having received at least one booster. Figure 8 shows the country's epidemic curve, which showed high peaks in June 2020, May 2021, and March 2022 as variants began to sweep over the country.[145]

The country's response to the pandemic was decentralized as federal leaders sought to avoid a lockdown for economic reasons but provincial leaders in charge of public health took different tacks. Although educational institutions shuttered in mid-March, mosques and religious gatherings continued to operate

as normal[146] until late March when government ordered mosque leaders to limit the size of congregations.[147] As early as late February 2020, the KP provincial authorities had declared an emergency, and on 23 March, Sindh provincial authorities declared a full lockdown. Balochistan and Punjab followed soon afterward. In cooperation with the National Health Service, provincial authorities established task forces and designated hospitals as central testing and treatment spaces.[148] However, in early April, the government stopped enforcing limits on religious activities ahead of Ramadan, which began in late April.[149] Along with federal authorities' decision on mosques, it allowed a restart on some industries and, by 9 May, it had declared an end to the lockdown. After observation of Eid ul-Fitr (23-24 May), the number of COVID-19 cases and deaths sky-rocketed. By the first week of June, the test positivity rate was 23%, and hospitals had reached capacity. In response, the federal government launched a "smart" lockdown that would apply to specific locations where cases rates were elevated. This plan did allow provincial authorities more flexibility in enforcing targeted lockdowns, but without adequate testing, application was somewhat ad hoc.

From a management perspective, the federal government convened a National Coordination Committee (NCC) and formed a National Command and Operations Center (NCOC) to oversee operations during the emergency. The NCC included federal ministers, military leaders, and provincial ministers. The NCOC primarily comprised representatives from the federal Interior Ministry and the military. Early in the pandemic, the central government established economic and humanitarian relief programs, creating a cash transfer program for the country's poor. It also cut interest rates, provided tax refunds, released funding for emergency food supplies and electricity bills, and reduced fuel prices. Moreover, it created some emergency work schemes.[150]

Beyond the direct human health costs of the pandemic, Pakistan's economy was badly hit by the early stages of lockdown and illness. Between the first and second quarters (January-March and April-June) of 2020, households that relied on remittances from family members working overseas saw a 25-35% drop in household income even as many of these overseas laborers had to return home, a shift that meant both lost income and greater household expenses because more members were present.[151] An ADB report from 2022 highlighted that reductions in household income were frequently accompanied by food insecurity and that the proportion of women experiencing greater limits on their ability to access sufficient food skyrocketed.[152] Late in 2021, the Government had recognized the increasing food insecurity, especially among vulnerable groups, and had joined the World Food Programme (WFP) in launching supplementary nutrition programs linked to the national social safety net, the Benazir Income Support Programme (BISP). The newer "Ehsaas Nashonuma" was slated to

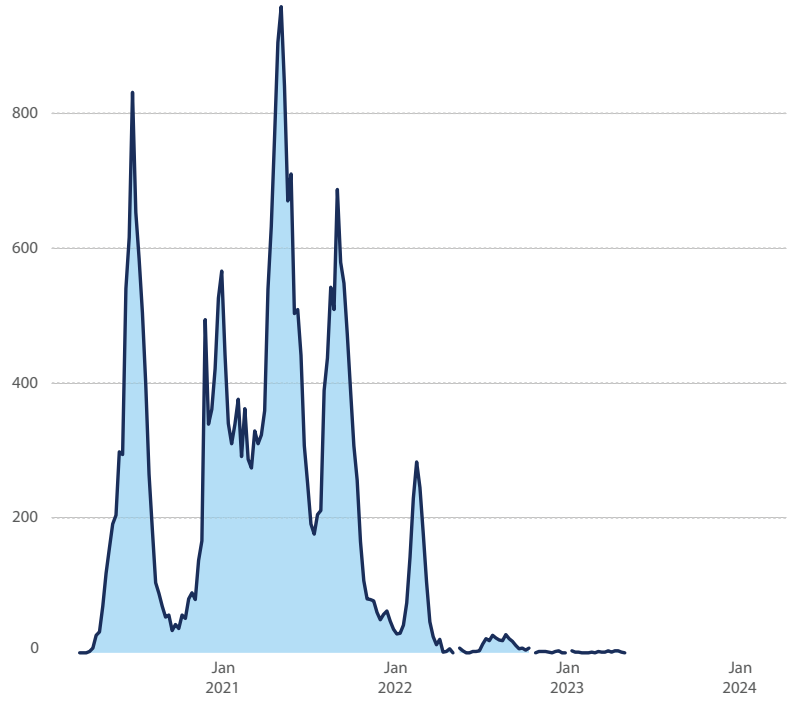


Figure 8: Pakistan Total COVID-19 Cases, Weekly

run through at least 2024 and target pregnant and breastfeeding women and children ages 6-24 months. Additional provincial programs moved both food and cash to vulnerable groups in hopes of supporting households that required cash for food, school fees, or shelter.[153]

January 2020 – Winter Storms

In January 2020, heavy rains, snow, flash floods, avalanches, and landslides occurred across parts of AJK and Balochistan. At least 107 people lost their lives, and authorities in both AJK and Balochistan declared states of emergency after significant infrastructure damage and blocked roads cut off affected areas. Around 1 million people endured extreme cold, as temperatures dropped to -16°C (3.2°F) in some areas, and many residents were confined to their homes and unable to work. The disaster disrupted daily life, halted economic activities like farming and livestock rearing, and required substantial relief efforts to restore accessibility and aid affected communities.[154]

September 2019 – Earthquake

On 24 September 2019, a 5.8-magnitude earthquake struck at a shallow depth of 10 km (6.2 mi) and damaged homes in Mirpur and Bhimber Districts of AJK. The quake resulted in 38 deaths and over 646 injuries with crucial electrical lines and mobile and landline telephone services disrupted. Families in the area were severely affected as over 8,500 homes were fully or partially damaged by the tremor. Recovery efforts 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.[155]

July 2019 – Floods and Landslides

Heavy rain over northeastern Pakistan triggered flash floods and landslides in mid-2019. From July to August, the death toll gradually rose to a total of 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.[156]

2018-2019 – Drought

A prolonged, widespread drought affected over 5 million people across Balochistan, Sindh, Punjab, and Gilgit-Baltistan. 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, and malnutrition rates increased to over 30%. Minimal or no rainfall persisted across the affected regions. The output of some springs and wells decreased, and some drinking water sources completely dried up. At the time, technical agencies projected a pattern of increased temperatures in the region and 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.[157]

January 2017 – Floods and Heavy Snowfalls

Heavy rain and record-breaking snowfall resulted in flooding across Balochistan over the course of 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.[158]

June 2016 – Floods and Landslides

A severe windstorm brought heavy rain to Rawalpindi, Islamabad, Peshawar, and Lahore on 1 June 2016. It 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.[159]

March-April 2016 – Floods and Landslides

In late March and early April 2016, a series of unseasonal storms left at least 262 people dead and injured 223 people. Most of the fatalities occurred in KP, 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 quickly.[160]

October 2015 – Hindu Kush Earthquake

On 26 October 2015, a 7.5-magnitude earthquake struck Badakhshan Province in Afghanistan, and there were reports of people also feeling the impact of the quake in Pakistan and India. The epicenter was in the Hindu Kush mountain range on the border between Pakistan and Afghanistan.[161] Pakistan's NDMA reported 272 deaths, 2,152 injuries, and 25,367 houses damaged across the country, with areas of KP the worst affected.[162]

April 2015 – Floods

A severe storm on 26 April 2015 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. The event was dubbed a "mini-cyclone" due to the abnormal intensity of the storm so early in the season. The heavy rains, rapidly melting snow, and runoff from glacial lakes combined to drive localized flash floods and major flooding of the Indus River. Over 285,000 people were affected, with 238 people reportedly killed and 232 people injured. The Pakistan Army and Government responded to the immediate needs of affected populations. They evacuated more than 1 million people and moved them to relief camps.[163]

September 2014 – Floods

In early September 2014, flash floods affected Punjab, Gilgit-Baltistan, and AJK. 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 1 million acres. A reported 367 people died in the floods. However, the total does not take into account knock-on health effects resulting from the floods. 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.[164]

2014-2017 – Drought

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 had to travel an average of 17 km (10.6 mi) to access health facilities. As drought conditions eventually improved, a joint UN observation mission took place in Tharparkar, Umarkot, and Sanghar Districts, and findings stated that the situation could quickly deteriorate into a "humanitarian emergency" if needs were not met and if 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.[165]

Country Risk

Risk calculation takes into account exposure to hazards, vulnerability, and coping capacity. Addressing all of these elements is important in reducing and mitigating disaster risk. Various indices emphasize structural or institutional risk while others emphasize hazards or losses (human and economic). Regardless of emphasis, disaster risk calculations use some form of the equation:

$$\textit{Disaster Risk} = (\textit{Hazard} \times \textit{Vulnerability}) / \textit{Capacity}$$[166]

Taken from the UNDRR glossary, definitions will help clarify this formula:

- Capacity - The combination of strengths, attributes, and resources available within an organization, community, or society to manage and reduce disaster risks and strengthen resilience.
- Disaster risk - The potential loss of life, injury, or destroyed or damaged assets, which could occur to a system, society, or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability, and capacity.
- Hazard - A process, phenomenon, or human activity that may cause loss of life, injury, or other health impacts, property damage, social and economic disruption, or environmental degradation.
- Vulnerability - The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.[167]

In general, the goal of indexing risk is to inform decision makers and DRR and CCA practitioners of the level of risk to and underlying capacity of the target community. The various risk calculation models support proactive crisis management frameworks and are helpful for prioritizing allocation of resources and for coordinating actions focused on anticipating, mitigating, and preparing for humanitarian emergencies.

INFORM Risk Profile

INFORM is a collaboration of the Inter-Agency Standing Committee (IASC) Reference Group on Risk, Early Warning, and Preparedness with the European Commission. It is a multi-stakeholder forum for developing shared, quantitative analysis relevant to humanitarian crises and disasters. The Joint Research Center of the European Commission is the scientific lead. There are three operational dashboards – i.e., INFORM Risk, INFORM Severity, and INFORM Climate Change.

- INFORM Risk is an open-source risk assessment for humanitarian crises and disasters. It can support decisions about prevention, preparedness, and response.
- INFORM Severity is a way to measure and compare the severity of humanitarian crises and disasters globally. It can help develop a shared understanding of crisis severity and ensure all those affected get the help they need.
- INFORM Climate Change is an upgraded INFORM Risk Index that includes climate and socio-economic projections with results intended to inform policy choices across climate mitigation, climate adaptation, disaster risk reduction, sustainable development, and humanitarian assistance.[168]

The **INFORM** Risk Index measures the risk of humanitarian crises and disasters in 191 countries. The INFORM model is based on the standard dimensions of risk: Hazards and Exposure, Vulnerability, and Lack of Coping Capacity. The first dimension measures the natural and anthropogenic 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.[169]

The INFORM 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 risk and 10 the highest) for each of the dimensions, categories, and components of risk, as well as an overall risk score.[170] The higher the score the more at-risk a country is. In the 2025 INFORM Risk Index, Pakistan had an overall risk score of 6.4/10, which INFORM categorizes as the "High" risk class and lands Pakistan as the 20th most at-risk country in the Index. The Hazards and Exposure dimension score takes into account a

combination of both natural and anthropogenic hazards, and Pakistan rated 8.7/10 or 4th most at-risk of 191 countries. In the Hazards and Exposure dimension, exposure to Conflict was the hazard with the highest rating with a score of 10/10, and exposure to Earthquake (natural) was the second highest hazard ranking at 9.2/10. The Vulnerability dimension includes categories for both Socio-Economic factors and Vulnerable Groups; in total, the Vulnerability score was 5.8/10 or 37th of 191. Under this dimension, Development and Deprivation (socio-economic) was the element with the highest score – 7.9/10 – and it was followed by Uprooted People (vulnerable groups), which scored 7.7/10 as a factor of Vulnerability. The Lack of Coping Capacity dimension integrates both Institutional and Infrastructural elements; as a whole, the Lack of Coping Capacity score for Pakistan was 5.3/10 or 57th of 191. Under this dimension, the highest scores for Pakistan were Government (institutional) at 6.7/10 and Communication (infrastructure) at 5.5/10.[171] Figure 9 shows the INFORM Risk dashboard for Pakistan for 2025.[172]

Based on 2022 baseline assessments and projections of climate change influences on major hazards, the **INFORM Climate Change** tool suggests that, by 2050, under the highest emissions scenarios and worst-case socio-economic pathways, Pakistan's Exposure to Hazards, Vulnerabilities, and Lack of Coping Capacity could marginally improve. Much of this is down to changes in the Hazards and Exposures categories, where the risk of Conflict is assessed as lessened even as exposure to most natural hazards remains high or rises. Under the same, worst-case pathways, the INFORM tool assesses that Pakistan may confront even less risk by the end of the 21st century; changes to the monsoon and cyclone tracks in the region appear to have significant influence over this assessment. At the same time, under less strict emissions mitigation and less pro-social socio-economic policies, Pakistan can be expected to confront similar Hazard exposures and experience similar vulnerabilities and coping capacity challenges by 2050 and 2080.[173] This index examines the country's potential experience under two RCPs – 4.5 and 8.5 – and it projects out to the years 2050 and 2080. The RCPs are used to describe the amount of GHGs in the atmosphere at a specific point and allow modelers to consider emissions scenarios and their impacts out to the year 2100. The most commonly used RCPs for international modelling are RCPs 2.6, 4.5, 6.0, and 8.5. RCP 4.5 is an intermediate pathway where emissions are limited but not stringently and result in a surface temperate rise of 1.1-2.6°C (1.98-4.68°F) by 2100. RCP 8.0 is one of the pathways that considers almost no limitations of greenhouse gas emissions, and most projections expect it to lead to a surface temperature rise of 2.6-4.8°C (4.68-8.64°F) by 2100.[174]

The INFORM Severity Index measures the severity of humanitarian crises against a common scale at the global level. The concept is based on three dimensions: impact of the crisis, conditions of people affected, and complexity of the crisis. The model is divided into levels to

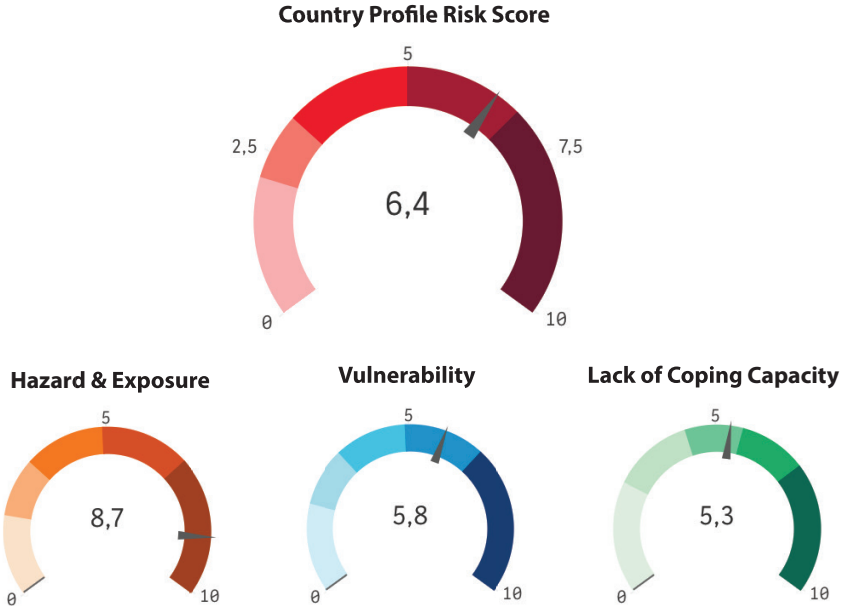


Figure 9: INFORM Risk Index, Pakistan (2025)

give insight into each of the dimensions. The primary INFORM Severity score is formulated by asking which of the world's humanitarian crises have the highest severity and what is the level of severity to allow responders and analysts to compare among crises. The answers to these questions are aggregated from many categories and components, each reflecting a different dimension of the phenomenon, and their values answer which underlying factors determine the severity of a crisis. If data is continuously collected, the time series will show when an event met the criteria of a crisis, how the crisis evolved, and when it phased out.

INFORM Severity adopted the following definitions:

- Humanitarian crisis is an event or series of events that causes harm to the physical, mental, social, and economic well-being of a large group of people, exceeds their ability to cope using their own resources, and how complex it is to fill such gaps by the humanitarian responders.
- Severity of humanitarian crisis is an extent of outcomes, in terms of distribution of people affected by the severity of conditions they confront within the crisis, generated by the impact of a crisis and worsened by how complex it is to deliver humanitarian response in the operational environment.
- Measure of crisis severity summarizes a range of quantitative information about severity of humanitarian crisis and presents it in numerical and/or categorical scale to be easily used in decision making.

Therefore, INFORM Severity envisages three dimensions of crisis severity:

- Impact of the crisis - The scope of its geographical and human effects
- Conditions of people affected - Information about the distribution of people affected by the severity of condition, and
- Complexity of the crisis - Factors that affect its mitigation or resolution.

The on-going, complex crisis related to conflict and displacement in Pakistan is measured in the INFORM Severity Index. All scores are on a scale of 1-5 wherein 1 is the least severe and 5 is the most severe. As of September 2024, Pakistan netted a total Severity Index of 3.8, which means a Severity Category of 4, or "High," but the event showed a "Decreasing" trend over the previous three months. The Impact Score was 4.0 with a geographic score of 5.0 and human impact score of 3.2; all of these scores take into account the affected area (100% of the country), people affected (94.4 million or 40% of the population), and people "in-need," "displaced," or "killed" (20.5 million, 3.6 million, and 1,150, respectively.[175] Over the course of more than five years of this complex crisis, eruptions of political violence, policies that forced additional human migration, and natural disasters have fueled food insecurity, public health crises, and macro-economic instability. This index makes no predictions for a resolution of the crisis, but it assesses that recent trends have been toward improvement.

World Risk Report

The World Risk Report by Bündnis Entwicklung Hilft strives to raise awareness of disaster risk among the global public and political decision-makers and to provide practitioners with data to promote faster orientation to complex situations – i.e., societies experiencing disasters. This effort stems from the perception that disaster risks are not solely determined by the occurrence, intensity, or duration of extreme events. Social factors, political conditions, and economic structures play an important role in turning these events into crises. Thus, this index is based on the assumption that every society can take precautions – e.g., effective disaster preparedness and management – to reduce the impact of extreme events and lower the risk of disasters.

The World Risk Report calculates the level of risk a country faces based on a formula of exposure to hazards and vulnerability. It provides an assessment of the risk that countries

will confront disasters but does not indicate probabilities for the emergence of disasters, nor does it forecast the timing of future disasters. This index uses 100 indicators that include risk, hazard exposure, vulnerability, and coping capacity (as defined above), and adds two others:

- Susceptibility - The disposition to suffer damage in the event of extreme natural events. Susceptibility relates to structural characteristics and frameworks of societies.
- Adaptation - A long-term process that also includes structural changes and comprises measures and strategies that address and try to deal with future negative impacts of natural hazards and climate change. Analogous to "lack of coping capacity," the lack of adaptive capacities is included in the Index.

Pakistan is one of the 10 countries that the World Risk Report considers risk hotspots – i.e., countries with climate-sensitive exposure and high to very high vulnerability. In the 2024 World Risk Report, Pakistan ranked 10 of 193 countries wherein the lower the rank, the greater risk the country faces. Pakistan's total Index score was 27.02 (on a scale of 0-100 wherein the lower the number the less risk a country faces), putting it in the "very high" risk class. The component scores were:

- Exposure: 13.11 (very high)
- Vulnerability: 55.69 (very high)
- Susceptibility: 42.64 (very high)
- Lack of Coping Capacity: 63.10 (very high)
- Lack of Adaptive Capacity: 64.18 (very high)

For comparison, many of Pakistan's neighbors in the region also rank in the "very high" risk category. In terms of most at-risk countries, India came in at 3rd, Bangladesh at 9th, Iran at 28th, and Afghanistan at 96th. Only Afghanistan was outside the "very high" group and, instead, was in the "medium" risk group. Pakistan's Exposure score, 13.11, was the median of these five countries, with scores ranging from India's 35.99 to Afghanistan's 0.25. Pakistan – like India and Bangladesh – is highly exposed to hydro-meteorological and geological hazards whereas Iran and Afghanistan have slightly less exposure to the full complement of natural hazards. In the Vulnerability dimension, Pakistan's score (55.69) was second highest of the five countries and came lower than only Afghanistan, partly in a reflection of the experiences of Afghanistan and Pakistan with multiple crises and conflicts in recent years relative to somewhat less frequent major crises, in particular in Iran (24.43). Under Susceptibility, Pakistan, again, is second worst with only Afghanistan (56.66) topping Pakistan's 42.64. Both of these countries have been unable to build resilience due to socio-economic and political crises and successive natural disasters. In the Lack of Coping Capacity dimension, Pakistan's 63.10 is also second worst of these five countries; again, Pakistan and Afghanistan (78.94) both have very high scores in this dimension of risk as there is a shortfall of formal and informal activity to reduce damage or build institutional capacity to respond to a hazard event. Finally, on the Lack of Adaptive Capacity score, Pakistan (64.18) and Afghanistan (69.60) score well above Bangladesh (48.54), India (50.49) and Iran (12.17) in a reflection of failures to undertake long-term strategies and processes to anticipate and mitigate future negative impacts of hazard events. Figure 10 shows the World Risk Report score matrix.[176]

Classification	World Risk Index	Exposure	Vulnerability	Susceptibility	Lack of Coping Capacities	Lack of Adaptive Capacities
very low	0.00 - 1.84	0.00 - 0.17	0.00 - 9.90	0.00 - 7.17	0.00 - 3.47	0.00 - 25.28
low	1.85 - 3.20	0.18 - 0.56	9.91 - 15.87	7.18 - 11.85	3.48 - 10.01	25.29 - 37.47
medium	3.21 - 5.87	0.57 - 1.76	15.88 - 24.43	11.86 - 19.31	10.02 - 12.64	37.48 - 48.04
high	5.88 - 12.88	1.77 - 7.78	24.44 - 33.01	19.32 - 34.16	12.65 - 39.05	48.05 - 59.00
very high	12.89 - 100.00	7.79 - 100.00	33.02 - 100.00	34.17 - 100.00	39.06 - 100.00	59.01 - 100.00

Figure 10: World Risk Report Classification Matrix

ORGANIZATIONAL STRUCTURE FOR DISASTER MANAGEMENT

The disaster management institutional set-up comprises three tiers. The NDMA coordinates and implements disaster management policies at the national level. The PDMA form the second tier, and the district disaster management authorities are responsible for creating plans and responding within their jurisdictions. Some city administrations have developed municipal-level hazard assessments and disaster management plans. The National Disaster Management Plan (NDMP) was formulated in 2012 and substantially revised in 2024, and the National Disaster Risk Reduction Policy dates to 2013. The NDRP was revised in 2019 to provide a multi-hazard framework for actions to take after a hazard event occurs. The NDMP's overarching principles are also strategically designed to cover various hazards and are expansive enough to integrate CCA.

Lead Government Agencies in Disaster Response

Pakistan's three-tier disaster management system—national, provincial, and district—aims to coordinate and allocate resources for effective emergency services. However, due to resource constraints at lower levels, the NDMA often leads responses, even at local levels..[177]

At the policy level, the National Disaster Management Commission (NDMC) is headed by the Prime Minister. It is the main overarching DM body, and its secretariat and executive arm is the NDMA, whose Chair acts as the Secretary of the NDMC. This structure is replicated at the provincial level with PDMCs, headed by respective Chief Ministers. The PDMCs then have their respective PDMAs as secretariats. Below this level, DDMAs have responsibility for all DRM activity within their jurisdictions and may mobilize resources at the local level to address disasters.[178] Each province – Balochistan, KP, Punjab, and Sindh – has a PDMA; AJK uses an SDMA, and Gilgit-Baltistan has the GBDMA.[179] Figure 11 shows the linkages among federal, provincial, and local authorities (green), government ministries and departments (orange), the armed forces (blue), and others (purple) for disaster management.[180]

During disasters, the NDMA coordinates response and relief efforts, integrating personnel from government, armed forces, NGOs, and UN agencies. It establishes guidelines and directs actions across all government levels to address hazard events effectively.[181] Figure 12 shows the NDMA's organizational structure.[182]

NDMA's assigned tasks are:

- Facilitate implementation of DRM strategies
- Map all hazards and conduct risk analysis on a regular basis
- Develop guidelines and standards for national and provincial stakeholders regarding roles in DRM
- Ensure DM authorities and EOCs are established at provincial, district, and municipal levels in hazard-prone areas
- Provide technical assistance to federal ministries, departments, and provincial DM authorities for DRM initiatives
- Organize training and awareness activities for stakeholders
- Collect, analyze, process, and disseminate inter-sectoral information required for all-hazards management
- Ensure appropriate regulations are available to help develop disaster response volunteer teams
- Create environment for participation of media in DRM
- Serve as lead agency for NGOs to ensure they perform to international standards
- Coordinate emergency response of the

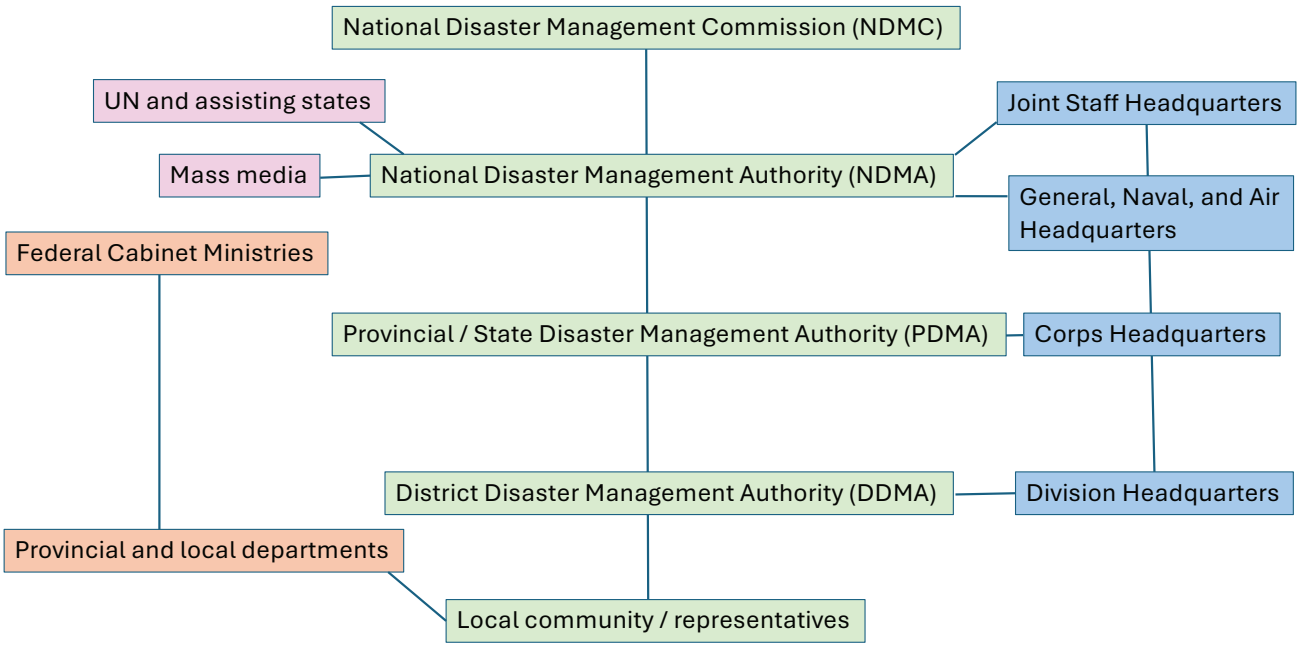


Figure 11: National Disaster Management Agencies and Stakeholders

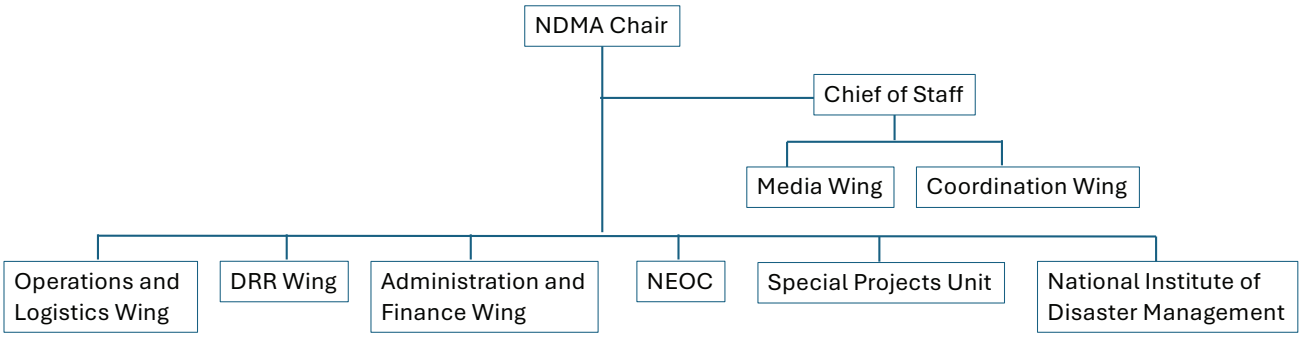


Figure 12: Organization of the NDMA

federal government in the event of a national-level disaster through the National Emergency Operations Centre (NEOC)
- Require government departments and agencies to make available any human or other resources needed for emergency response, rescue, or relief[183]

Provincial emergency operations centers (PEOC) are key nodes in the system as they issue weather advisories, outlooks, and guidelines to stakeholders for undertaking precautionary measures.[184]

PDMAs' functions are:
- Formulate the provincial DM policy
- Coordinate and monitor implementation of national-level policies and plans at the provincial level as well as implementation of the provincial plan
- Examine provincial areas vulnerable to disasters and specify prevention and mitigation measures
- Establish guidelines for preparation of DM plans by provincial departments and DDMAs
- Evaluate preparedness at all levels to respond to disasters
- Coordinate response in the event of disaster
- Give direction to provincial departments or authorities regarding actions in response to disaster
- Promote general education, awareness, and community training on DM
- Provide necessary technical assistance or give

advice to district and local authorities for effective functioning
- Advise Provincial Government on financing related to DM
- Examine construction for adherence to standard building codes
- Ensure that communication systems are in order and DM drills are conducted regularly

DDMAs' functions are:
- Prepare a disaster management plan and district response plan
- Coordinate and monitor implementation of national and provincial plans
- Ensure that district areas vulnerable to disasters are identified and measures for prevention and mitigation are taken by district and local authorities
- Ensure that guidelines for prevention, mitigation, preparedness, and response are followed across district departments and agencies
- Give direction to district and local authorities to take prevention and mitigation measures
- Formulate guidelines for preparation of DM plans by district and local governments
- Monitor implementation of DM plans
- Establish guidelines for district government departments
- Organize and coordinate specialized training for government officers, employees, and volunteer rescue workers
- Facilitate community training and awareness programs for prevention and mitigation
- Establish, maintain, review, and upgrade mechanisms for early warning and dissemination of information to the public
- Prepare, review, and update district response plans and guidelines
- Coordinate with and give guidelines to local authorities to ensure pre-disaster and post-disaster management is carried out promptly and effectively
- Review development plans with a view to provisions for disaster mitigation
- Identify buildings and places that may be used as relief centers or camps, and make arrangements for water supply and sanitation in such places
- Establish stockpiles of relief and rescue materials and ensure preparedness to make such materials available
- Provide information to provincial authorities related to DM
- Encourage involvement of NGOs and voluntary groups at the grassroots level for DM
- Ensure communication systems are in order and DM drills are conducted periodically[185]

All levels of EOCs are intended to serve as the hubs for early warning messages and for issuing public, media, and government information. They are expected to lead coordination of relief operations, including those conducted by local fire and rescue services, the Armed Forces, civil defense groups, police, ambulance services, and the PRCS. EOCs remain operational 24-hours daily 365 days-a-year, but in disasters, they are activated to add staff and operational capacity.[186]

NDMA and partner organizations regularly conduct simulation exercises, especially before the onset of the monsoon season. These drills allow the NDMA to evaluate readiness and to ensure that coordination lines among NDMA, the PDMAs, and other organizations are known and used.[187]

Additional agencies involved in DM in the country are:

The Pakistan Meteorological Department (PMD) is a key agency in DM as it is mandated to issue early warnings for all disasters. It maintains observatories and data generation and dissemination services for climate and weather, seismic activity, pollution, and flooding. It delivers aeronautical forecast and warning services for Civil Aviation, the Air Force, Army, and Navy, and it delivers the Farmers' Weather Bulletin. PMD provides regular "Climate Outlook" updates and translates the information into impact outlooks and advice for flooding or drought preparedness, makes arrangements for SMS delivery of critical warnings of earthquakes and seismic activity, collaborates with NDMA or PDMAs on a protocol for dissemination of impact outlooks and advice, verifies reception

and understanding of impact outlook messages and early warning advice, and optimizes early warning dissemination and messaging through coordination with PDMAs and DDMAs.[188]

The Federal Flood Commission (FFC) is tasked with integrated flood management at the national level. It is mainly responsible for preparing the 10-year National Flood Protection Plans and overseeing their implementation across Federal and Provincial agencies in the country.[189] The FFC is comprised of the Flood Wing, Civil Engineering Wing, Power Engineering Wing, Dams Safety Council, and Administration and Finance. The Flood Wing is tasked with scrutinizing flood control schemes, reviewing damage of flood protection works. and reviewing plans for restoration and reconstruction, improving the Flood Forecasting and Warning System, preparing a research program for flood control and protection, standardizing designs and specifications for flood protection works, and making recommendations for regulation of reservoirs for flood control.[190]

The National Institute of Disaster Management (NIDM) is NDMA's research arm. It was established in 2010 as the Authority's training branch, but it has since transitioned to do the work of a DM think tank and knowledge hub and, therefore, to provide information and data resources to decision-makers and policymakers. Its main goal is to enhance preparedness by undertaking strategic engagements and regional partnerships on research and information sharing. Annually, it conducts some 20 comprehensive training sessions that target upwards of 500 individuals. It maintains partnerships with international and national universities and think tanks to undertake collaborative research.[191]

Climate Change

Pakistan is a party to the UNFCCC and submitted its updated NDC to the UNFCCC Secretariat in 2021. The country also ratified the Paris Agreement (2015) and is a signatory of the Sendai Framework for DRR and the Global Methane Pledge. Finally, through engagement at the UNFCCC Conference of Parties (COP) in Sharm El-Sheikh, Egypt, in 2022, Pakistan helped shape what would become the Loss and Damage Fund under the UNFCCC. At home, Pakistan has kept a NCCP since 2012, and it updated the policy in 2021. The Framework for Implementation of the NCCP runs 2014-2030.

Responsibility for action to address climate change is vested in various federal and provincial government agencies. The MoCC is the federal-level focal point and the designated authority for all international agreements, including the UNFCCC and its subsidiary funding mechanisms, such as the Green Climate Fund (GCF). The MoCC has six tasks:

1. Steering the NAP process at the national level
2. Undertaking climate change research, vulnerability reduction assessments, and prioritization of climate actions
3. Developing climate information systems
4. Streamlining the planning process for the NAP, and climate-proofing the development sector
5. Mobilizing finance for CCA
6. Developing and implementing monitoring, evaluation, and verification systems

The MoCC formed the Pakistan Climate Change Council (PCCC) in 2022 to both construct policy and to monitor progress implementing policies, strategies, plans, etc. The Ministry is expected to serve as the Secretariat of a planned Expert Group of 25 technical institutions to oversee implementation of the NAP. The Expert Group is planned to incorporate various working groups on Agriculture, Forestry, and Land Use; Water Resources Management; Urban Resilience and Infrastructure; Health and Public Health Systems; DRM; and Research and Statistics.

The MoCC coordinates climate change action across all government levels, working with the Ministry of Planning, Development, and Special Initiatives (MoPD&SI) to integrate climate considerations and align federal and provincial efforts. Provincial and local governments develop region-specific CCA policies referencing the MoCC NAP. The MoCC and MoPD&SI collaborate with the Ministry of Finance

(MoF) to secure global climate financing, while provincial environmental agencies handle mitigation and adaptation measures, with some establishing dedicated climate centers to foster inter-sectoral cooperation. Some provinces, such as KP and Punjab, have launched initiatives like the Green Growth Initiative and Green Development Program to align national and private sector policies. Sindh has established a dedicated Directorate under its Environment, Climate Change, and Coastal Development Department to enhance inter-sectoral cooperation.[192]

NDMA's NDMP for 2024 emphasizes the authority's role in addressing the impacts of climate change. Under its seven strategies for DM, the NDMP includes "Climate Change Adaptation" and "Promote Climate Smart and Disaster Resilient Development" in order to reduce vulnerability, balance economic growth and long-term prosperity, and ensure long-term stability.[193]

Disaster Relief and Emergency Response

Under the NDMP, the DM mechanism has four phases that encompass the following activities:

- Mitigation – Investment in DRR and preparedness; NDMA promotes strategies and programs for structural and non-structural approaches focused on reducing damage and loss and aligned with the Sendai Framework for DRR; the NDMA GCC prepares inclusive DRR and DRM plans to ensure availability of disaggregated data and research; preparing the NEOC for operations through preparing protocols, personnel mobilization matrices, communications infrastructure, real-time monitoring of hazards, conducting regular coordination briefings and information sharing, allocating resources, conducting training and drills, and evaluating past disaster responses
- Declaration of emergency - Disaster situations of a scale within the capacity of district authorities are managed by the respective district even if provincial authorities declare an emergency. In case of a larger-scale event that overwhelms district capacities, provincial authorities declare the emergency and manage the response. In case of a disaster situation on a large scale that overwhelms the capacities of provincial authorities, the Federal Government manages the response but may request international assistance when national capacities are overwhelmed.
- Response – In case of a major disaster event, a multi-sector initial rapid assessment (MIRA) may be conducted; NDMA, with assistance from the United Nations Office for Coordination of Humanitarian Affairs (UN OCHA), developed standard MIRA guidelines, and NDMA has run national trainings for enumerators; the Cluster system is activated by UN agencies resident in the country upon request from the Government of Pakistan.
- Recovery, rehabilitation, and reconstruction – NDMA conducts post-damage needs assessments with collaboration from NEOC, the PEOCs, and other organizations; monitoring and evaluation ongoing and led by national and local authorities; includes mechanisms for financial support, compensation, and public awareness campaigns

Under the NDRP, in the pre-disaster period, NDMA or a PDMA may issue an advisory regarding an incident or situation that may grow into a disaster. During this time, the NDMA and PDMAs sustain preparedness activities even as they monitor threats and continue strategic forecasting. In the Disaster stage, immediately after impact, rapid assessments are conducted, and requests from affected areas are communicated and prioritized. In the post-disaster period, requests for assistance continue to flow and inform national activities. Each disaster is followed by a PDNA and post-response operational evaluation to document

lessons and best practices.[194]

Depending on the scale of an emergency, from most localized to most extreme:

- The DDMA may activate the district EOC (DEOC), conduct initial assessments, declare a local-level emergency, inform the PDMA about the incident and whether provincial-level support is needed, initiate relief work, and prepare a relief operation report
- The PDMA may activate the PEOC, inform and share assessments with NDMA in support of any requests for assistance, alert and inform all government departments in the area, conduct damage and loss assessments, initiate relief work, mobilize and deploy personnel and resources (e.g., for search and rescue), request financial assistance via the PDMC, coordinate local NGOs, and prepare a relief operations report
- The NDMA may activate the NEOC, alert federal ministries and departments, support provincial assessment activities, support provincial resource mobilization, provide technical support to PDMAs and DDMAs, coordinate with the Armed Forces at the federal level, initiate the process of declaring an emergency, prepare situation reports for briefing political leadership, request financial assistance via the NDMC, and coordinate international and national NGOs and other humanitarian actors
- The NDMA Chair may recommend that the federal government request international assistance, and the federal government would make such an appeal[195]

The NDRP emphasizes the need to have stockpiled some relief goods and to have plans for acquiring other commodities in an emergency, and it lays out the best practices for distribution of relief commodities.[196] The development of the Minimum Response Package (MRP) is intended to provide immediate and essential assistance to affected populations. Comprising necessities such as food, clean water, shelter, and medical aid, the MRP is designed to address urgent needs swiftly and efficiently.[197]

Each level of authority – NDMA, PDMA, DDMA – is required to maintain a stockpile of relief items that reflect the hazards and vulnerabilities of the areas under their jurisdictions. To ensure quick and appropriate responses, the MRP resources may be maintained in the following areas:

- District – Sufficient resources to supply relief items and rescue services in support of tehsils and municipal councils; these resources may be maintained in areas that are historically hazard-prone
- Provincial – Carefully-selected locations with sufficient capacity to support districts
- National – Central and regional warehouses; three are owned by NDMA (two in or near Islamabad and one in Karachi) and eight are owned and operated by the PDMAs at Humanitarian Response Facilities (HRF), with at least one in each administrative area[198]

With support from the WFP, NDMA's stockpiled resources can support 300,000 affected people.[199] Each HRF covers 3.7 hectares (9.1 acres) of land and has four climate-controlled warehouses for temperature sensitive items – e.g., ready-to-eat food and medicines. The total covered storage capacity of each HRF is 3,000 metric tons (3,300 tons), and the open storage space can store 10,000 metric tons (11,000 tons). The HRF also keeps four prefabricated offices and a reinforced, paved area to facilitate loading and parking for heavy vehicles. The HRFs are supplemented by 51 "flo-spans," which are storage areas for DDMAs equipped with a standard inventory of relief goods and backup generators.[200] Each flo-span facility is required to maintain supplies above 75% of estimated caseload, although stocking of food is required to be done more carefully due to perishability. The NDMA recommends only dry rations (e.g., rice, lentils, tea, milk powder, etc.) be maintained. Medications may only be stockpiled by exception, based on a temporary arrangement, in case of a public health emergency. The NDMA has developed a list of stockpile items that are needed from international donors and

partners, including aircraft and boats for rescue operations, field hospitals, water purification and filtration plants, pumps, and generators.[201]

Alongside the development of warehouses for relief items, the country has a standing urban search and rescue (USAR) team. The Pakistan Rescue Team, listed as DRF-Pak, holds the International Search and Rescue Advisory Group (INSARAG) classification of "medium," which it earned in 2019. The DRF-Pak has 49 personnel.[202] These classifications are overseen by the International Search and Rescue Advisory Group (INSARAG) of the UN. INSARAG External Classification provides understanding of the individual abilities of the USAR team; there are three levels of classification – i.e., Light, Medium and Heavy. The differences in classification relate to the complexity of operations, types of structures in which teams can conduct operations, minimum number of personnel, number of days a team can continuously operate on-site, number of sites at which the team can operate simultaneously, and other requirements.[203]

Armed Forces Role in Disaster Relief

The federal Ministry of Defence is responsible for defense and security policy and budgeting, for assisting civil authorities during emergencies, and for administering the Armed Forces of Pakistan.[204] As of 2024, the country is estimated to field 1.7 million people across the military services with 650,000 being on active duty. The Army is the largest force with an estimated 1.3 million personnel available for service, while the Navy fields 125,000 people, and the Air Force fields more than 78,000.[205] Additional paramilitary and "civil" armed forces may participate in disaster response. These units include the Pakistan Rangers, Frontier Corps, Frontier Constabulary, Coast Guard, Civil Defence (under the Ministry of Interior) and Pakistan Maritime Security Agency.[206]

Under the constitution, the Armed Forces of Pakistan are responsible for assisting civilian authorities in any emergency, and the NDMP characterizes the Army's role as "supportive" of civilian authorities.[207] Under the 2010 National DM Act, the NDMA is empowered to call on the Armed Forces for support in rescue, relief, recovery, and rehabilitation, and the NDMA may determine what military assets and personnel are required. Broadly, the NDMA may assign the armed forces to:

- Support DM authorities' preparation of contingency plans
- Conduct rescue, relief, and evacuation alongside civilian DM authorities
- Provide available resources and equipment – e.g., helicopters, aircraft, ships, and machinery
- Assist DM authorities is setting up camps or tent villages and in organizing medical camps, in coordination with health agencies
- Support DM authorities' conduct of assessments
- Support DM authorities' recovery and reconstruction programs and conduct recovery and reconstruction independently, as needed
- Provide security during disasters

Formal coordination mechanisms to link the civilian DM authorities and the Armed Forces exist at the national, provincial, and district levels. A DM and relief cell has been established within the Joint Staff Headquarters and at each of the service headquarters – i.e., Army, Navy, and Air Force. NDMA's operations wing coordinates the Armed Forces' work in a disaster through these cells.[208] In addition to their roles in the domestic DM mechanism, the Joint Services Headquarters and each service headquarters have the power to decide on the requirements and roles for foreign military forces' participation and coordination. The General Headquarters–Military Operations Directorate, in coordination with NDMA, has the lead role for coordinating Pakistani military rescue and relief operations in collaboration with foreign military teams. Each service contributes to development of SOPs, rules of engagement, procedures, and other coordination issues related to foreign military assistance. In particular:

- Foreign militaries providing aviation assets

must participate in the Joint Aviation Coordination Cell, constituted by NDMA with support of Joint Services Headquarters and with representatives from the Civil Aviation Authority, Pakistan Army Aviation, Pakistan Air Force, Navy Aviation, Military Operations Directorate, General Headquarters, PDMAs, WFP, and the UN Humanitarian Air Service (UNHAS)
- Foreign military contingents are centralized under an NDMA coordination and monitoring cell in particular geographic zones
- Foreign militaries coordinate with their Host (Pakistani) Military Formations for any contact with PDMAs[209]

The NDMA has identified key roles of the Army as including relief, rescue, and management of internally displaced persons (IDP), as well as provision of security in any post-disaster response. The Armed Forces are frequently the first government agency to respond to a hazard event.[210] However, the Armed Forces are also key players in DRR as they can ensure rules and regulations related to the military system and can utilize various training institutes – e.g., National Defense University or the Command and Staff College – to educate Armed Forces personnel on DRR, DM, and risk mitigation.[211]

During the COVID-19 pandemic, the government and military stood up the NCOC to serve as the top-level coordination body, bringing together civilian and military leaders. This type of coordination was critical as the country experienced shortfalls of human resources, expertise, and other resources during the pandemic, and the Armed Forces were filling gaps in funding, material, and logistics.[212]

Disaster Management Partners

If the scale of an emergency exceeds the country's own capacity for response, the Prime Minister may appeal for foreign assistance at any point that assessments indicate that national capacity is insufficient to save lives or that national capacity will soon be overwhelmed. Three main stakeholders advise the Prime Minister; they are the MoF's Economic Affairs Division, the Ministry of Foreign Affairs, and the NDMA. The NDMA and Ministry of Foreign Affairs are responsible for establishing a plan for distributing foreign donations when they arrive. The NDMA, PDMAs, and DDMAs prepare lists of relief items to be accepted and the procedures to be used when those donations arrive.[213]

Pakistan has published guidelines for foreign assistance, including by international humanitarians, during disaster response. Under these guidelines, humanitarian organizations must coordinate with the NDMA Coordination Cell in relation to all matters, especially on relief commodities that are needed or proscribed. They are expected to monitor and report progress to NDMA. All humanitarian actors may work only in the sectors and geographic areas identified, prioritized, and authorized by the Government through NDMA, and they are not expected to interact with the local population unless approved and accompanied by Government or Armed Forces personnel.[214]

The humanitarian cluster system includes clusters designated by the IASC. Each cluster has clear responsibilities for coordination. The Clusters are led by the UN Humanitarian Coordinator and the Government to support emergency response and recovery operations and to avoid duplication, strengthen partnerships, and improve the predictability and accountability of international humanitarian actions by improving prioritization and defining the roles and responsibilities of humanitarian organizations. At respective levels, the various Clusters are activated and work closely with DDMAs, PDMAs, and the NDMA to offer and receive updates and to take appropriate actions to provide relief. As of 2024, operational working groups had assumed the functions typically carried out by Clusters.[215]

United Nations

The coordination structure for major disasters in Pakistan consists of the UN Resident/

Humanitarian Coordinator (RC or HC), UN OCHA, the Humanitarian Country Team (HCT), the inter-cluster coordination mechanism at national and provincial levels, and district coordination cells in affected areas. The UNRC is the representative of the UN Secretary-General in the country and chairs the UN Country Team (UNCT), comprising the head of all UN agencies, funds, and programs present in Pakistan. The UNRC also serves as the UNHC and, in that capacity, leads the HCT, which comprises UN humanitarian agencies and international and national NGOs, with the International Federation of Red Cross and Red Crescent Societies (IFRC) and International Committee of the Red Cross (ICRC) as observers.

Across Pakistan, UN agencies play a role in various development programs, and they are stakeholders in DM, especially in the assessment, planning, coordination, response, recovery, and DRR realms. Moreover, it is a leader in convening UN and NGO players for meetings related to response, and it supports the public sector in policy development. In case of a national-scale disaster, UN agencies will activate needed clusters to integrate the government, humanitarians, and others.[216]

The NDMA and the UN Population Fund (UNFPA) have signed a memorandum of understanding (MoU) to improve provision of sexual and reproductive health services in humanitarian settings with a focus on marginalized communities.[217]

UNDP and NDMA conducted the "Building Disaster Resilience Project" to create information management systems intended to withstand major disaster events. The project first assessed information systems in Kashmore and Ghotki Districts of Sindh Province and Rajanpur and Muzaffargarh Districts of Punjab Province to identify gaps and requirements. UNDP then provided support to the officials, DDMA staff, and communities of these districts to build information coordination and exchange mechanisms.[218]

Non-Governmental Organizations

The role of NGOs has, historically, been focused on delivering material relief items to affected communities.

International NGOs operating in Pakistan are regulated through the Ministry of Interior and must have approval and an MoU with the Government to operate. At the discretion of the Ministry, non-registered international NGOs may be granted permission to assist on disaster response for a period of up to six months subject to meeting certain criteria. The PHF and NHN play a role in disaster response and the humanitarian architecture of Pakistan by acting as a forum for their members to raise issues with the Government and to share experiences and knowledge from the field. Both agencies are important contacts for donors and foreign humanitarian organizations seeking to establish partnerships and identify implementing agencies when responding to disasters.[219]

Pakistan Humanitarian Forum

The PHF is an independent national organization that advocates for the interests of international NGOs working in Pakistan. Its mandate is to foster coordination among its member NGOs and ensure those members can work constructively with stakeholders from Pakistan government agencies, UN system agencies, and other civil society groups. This coordination covers both humanitarian emergencies and the broader development sector and, as such, seeks to ensure that the two types of activity are not working at cross-purposes. As of 2023, PHF had 44 member NGOs and eight affiliate members, among them the NHN, Médecins Sans Frontières (MSF), the IFRC, and the ICRC. The PHF secretariat oversees progress on 5-year work plans.[220]

National Humanitarian Network

Established in 2010, the NHN is a 189-member network of local and national NGOs. It seeks to influence policy and build capacity, based om humanitarian values.[221] The NHN is led by an elected Chair and a national

Central Executive Committee, with provincial chapters in AJK, Balochisan, KP, Punjab, and Sindh.[222]

Pakistan Resilience Partnership (PRP) is a project co-founded by NDMA, the Asian Disaster Preparedness Center (ADPC), and NHN. It is intended to strengthen emergency response by serving as a forum for government, local organizations, the private sector, academics, and the media. Members of PRP sign on to an agreement to enhance knowledge sharing, training, and networking. The PRP National Steering Committee brought together NDMA, NHN, chambers of commerce, the Higher Education Commission, and the Press Information Department, and other members are expected to join over time.[223]

The International Red Cross and Red Crescent Movement

International Committee of the Red Cross

The 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.[224] In Pakistan, the ICRC supports the public, national authorities, and the PRCS in the event of armed violence and joins efforts in response to disasters. It also provides structural and program support to targeted district branches of the PRCS.[225]

International Federation of Red Cross and Red Crescent Societies

The 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 191 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.[226] The IFRC has had a presence in the country since 1978. The IFRC Country Delegation is headquartered in Islamabad, and it assists the national society with resource mobilization, program planning, financial management, and fundraising in addition to supporting the PRCS's emergency response activities through coordination across the International Red Cross and Red Crescent Movement.[227]

Pakistan Red Crescent Society

Founded in 1947, the PRCS was recognized by the ICRC and IFRC as a movement member in 1948.[228] The PRCS is legally constituted as an auxiliary of the federal government with a mandate to act across emergency response, health, and blood donation. It is a national society with nearly 700 staff and 5,000 volunteers working across 62 local branch offices. The national society's strategic framework for 2021-2025 identifies four priorities:

- Disaster management - Disaster response focusing on cash and voucher assistance, forecast-based financing, and emergency ambulance services across the country
- Health - Expanded blood collection network, continuity of immunization services, first aid training, community-based health services, and mobile health clinics in emergencies
- Social services - Network of food banks and shelter services
- Restoring family links and migration services - Strengthening detention services, unified restoring family links strategies, and code of conduct on data privacy[229]

The Red Crescent has established partnerships with the UNDP, United Nations High Commissioner for Refugees (UNHCR), World Health Organization (WHO), International Organization for Migration (IOM), Global Fund, Bill and Melinda Gates Foundation, the U.S. Centers for Disease Control and Prevention

(CDC), European Commission Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO), Global Road Safety Partnership, Swiss Development Cooperation, Telenor, and Zong 4G. It actively collaborates with local NGOs, including the Edhi Foundation, Chipa Welfare Association, and Saylani Welfare International Trust, all of which frequently join efforts with the PRCS in disaster response, healthcare delivery, and community support.

The national society is an active participant in all disaster responses throughout the country. They participate in regular coordination mechanisms with government authorities – e.g., NDMA, PDMAs, and DDMAs – and conduct needs assessments and relief operations in coordination with government agents. They deliver shelter, health, WASH, and cash assistance to disaster affected people, and they regularly train and build the capacity of their National Disaster Response Team. As a key partner on public health emergencies, the PRCS delivers support to primary health facilities and to vaccination programs, especially in remote and high-risk areas. As part of the IFRC's Global Climate Resilience Programme, the national society launched locally-led adaptation projects with the first phase having delivered a national climate risk assessment alongside a project to identify and socialize climate-smart practices. The second phase of the program will include development of an implementation plan.[230]

U.S. Government Agencies in Pakistan

Since 1947, the U.S. has maintained diplomatic relations with Pakistan. Ties range across security, education, energy, trade, and investment. U.S. federal government agencies present in the country include the U.S. Agency for International Development (USAID) and the Departments of Defense (DoD), Agriculture (USDA), Homeland Security (represented by the Immigrations and Customs Enforcement), Energy, and the Treasury.[231]

Through the U.S. government agencies present at the Embassy, the U.S. has delivered humanitarian assistance during past emergencies – e.g., the 2005 Kashmir earthquake and flooding in 2010, 2011, and 2022.[232] Through the framework of the bilateral "Green Alliance," Pakistani government and industry players have worked with the U.S. on renewable energy, smart agriculture, and water management. In part, this has been aimed at helping Pakistan prepare for and access global climate finance but also to develop domestic climate-oriented industrial actors that will attract international investment. In September 2024, Ambassador Blome noted U.S. involvement in Pakistan's "Recharge Pakistan" initiative to strengthen flood resilience and improve water security in the face of climate change.[233] More recently, in November 2024, the U.S.-funded Climate Smart Agriculture Activity – a five-year investment with farmers organizations, local businesses, and research institutions – launched with the goal of ensuring that Pakistan's agriculture sector stakeholders have access to technology to increase productivity and then access to markets to ensure that both producers and consumers are being served.[234]

Separately, the U.S. partners with Pakistan to strengthen the country's capacity to prevent, detect, and respond to infectious disease threats. The U.S. Government's Global Health Security investments support stronger, more resilient health systems, including training human and animal health workers, strengthening laboratories, and bolstering surveillance systems. These investments support and build on those made by the Government of Pakistan in coordination with other partners and stakeholders.[235] In concrete terms, bilateral health cooperation prepared Pakistan to weather the COVID-19 pandemic, and the U.S. donated nearly 80 million high-quality and effective U.S. vaccine doses and invested US$80 million to help Pakistan combat the pandemic while building infrastructure and resiliency for the future.[236]

USAID supports Pakistan's development vision. The USAID Pakistan Country Development Cooperation Strategy for 2023-

2028 aims to foster broad-based, climate-resilient economic growth; strengthen inclusive, democratic, and accountable governance; and promote a healthier, more educated population. It focuses on improving health and education, engaging women for inclusive economic growth, enhancing democratic systems to be more representative and accountable, and advancing and respecting the rights of all people, particularly women and vulnerable groups. Additionally, the strategy emphasizes cross-cutting priority approaches, including climate resilience and preparedness, integrating flood recovery, and conflict sensitivity. It emphasizes gender and social inclusion, youth empowerment, localization, and private-sector engagement across all development objectives.[237]

USAID's Bureau for Humanitarian Assistance (USAID/BHA) is the U.S. Government lead federal coordinator for international disaster response and humanitarian assistance. USAID/BHA requests U.S. DoD support to disaster response operations on an as-needed basis, and only in situations where the U.S. military can provide a unique capability that other first responders, including those of the host nation and international humanitarian partners, have insufficient capacity to provide. USAID/BHA responds to humanitarian crises in approximately 80 countries every year—including natural disasters, conflicts, and severe food insecurity—and fulfills its mandate of saving lives, alleviating human suffering, and reducing the physical, social, and economic impact of disasters worldwide. USAID/BHA provides funding, supplies, and expertise for the rapid and effective provision of humanitarian aid throughout the world.

USAID/BHA's staff presence, globally and at its Washington, D.C., headquarters, includes experts in the food security, nutrition, WASH, health, shelter/settlements, logistics, agriculture, economic recovery/livelihoods, livestock, DRR, climate adaptation, and humanitarian protection sectors. USAID/BHA has humanitarian advisors at all of the DoD combatant commands, Special Operations Command, and key DoD field-forward positions, as well as at the U.S. Mission to the UN in New York, the U.S. Mission to the UN and other International Organizations in Geneva, the U.S. Mission to the UN Agencies in Rome, the U.S. Mission to the European Union in Brussels, and the CDC in Atlanta, Georgia, U.S. To support disaster response globally, USAID/BHA maintains regional offices in six countries – Costa Rica, Hungary, Kenya, Senegal, South Africa, and Thailand – as well as 14 liaison offices, where regional advisors coordinate with relevant actors across their respective regions and countries. In addition to these offices, full-time USAID/BHA staff are present in 32 other countries. USAID/BHA's vast network of implementing partners includes affected communities, local and national governments, other U.S. Government entities, and international partners, including NGOs, international organizations, the international donor community, and the private sector. Relief supplies are pre-positioned primarily in implementing partners' warehouses, and in five USAID/BHA-managed warehouses around the world to enable a rapid response to any location globally.

As the lead federal coordinator for Foreign Disaster Response (FDR), USAID/BHA's annual budget reflects the U.S. Government's interest in providing needs-based assistance, and it has been as high as US$11.9 billion annually in recent years for humanitarian assistance activities. All of USAID/BHA's programs and activities are humanitarian assistance, targeting populations most vulnerable to the impacts of shocks from slow or sudden-onset emergencies. USAID/BHA's humanitarian assistance consists of two major conceptual areas, which may frequently be interlinked programmatically and strategically. The first area is humanitarian response pursuant to a Declaration of Humanitarian Need (DHN) issued by the U.S. Ambassador or Chief of Mission in the affected country based on four criteria:

1. There is evidence of significant unmet humanitarian need;
2. U.S. Government humanitarian assistance will save lives, reduce human suffering,

and mitigate the impact of humanitarian emergencies on the most vulnerable;
3. The host country requests or will accept international assistance; and
4. Responding aligns with U.S. Government interests and humanitarian objectives.

This DHN permits USAID/BHA to begin emergency response activities. Humanitarian response is characterized by urgent action, including rapid assessment of needs and provision of funding to partners to meet those needs, logistical support to local and national actors, and frequently the deployment of USAID/BHA disaster response experts or teams. The second conceptual area of USAID/BHA assistance is known as early recovery, risk reduction, and resilience (ER4) activities, which aim to improve the well-being of vulnerable people by strengthening their capacities to manage risk, to anticipate, withstand, recover from, and adapt to shocks and stresses, and to support positive, transformative change. These ER4 activities may be integrated with humanitarian response programming or may be stand-alone activities. ER4 programs and activities are cost-effective, reducing the need for future humanitarian assistance when shocks occur.

Core USAID/BHA Responsibilities During an Emergency Response

- Conducting assessments of humanitarian needs
- Developing U.S. Government response strategy
- Coordinating the operational on-ground response in support of the U.S. Ambassador
- Providing fast and effective funding to established partners (NGOs, international organizations, etc.)
- Leading official reporting on humanitarian issues and U.S. Government response activities
- Requesting support from other U.S. Government agencies as required

When civilian and host nation military response capacity is overwhelmed and the U.S. military has a unique capability, USAID/BHA may request supplemental FDR support from DoD for a limited period. These requests occur in less than 5% of all official U.S. Government responses. Interagency requests for DoD support to FDR are transmitted to the Secretary of Defense (SecDef) in an official memorandum (Executive Secretariat Memo), which is required in order to leverage such DoD support. With SecDef approval, DoD components may provide non-reimbursable foreign disaster relief support to USAID using available Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) funds. Coordination between USAID and DoD personnel is facilitated at the tactical, operational, and strategic levels by Humanitarian Assistance Advisors to the Military (HAA/M), who are USAID/BHA personnel trained to liaise with DoD counterparts and bridge gaps between the U.S. military and international humanitarian community. The DoD capabilities most commonly requested by USAID/BHA during a disaster response are logistics and airlift support rather than direct assistance to beneficiaries. USAID uses the Mission Tasking Matrix form as the formal means of tasking for DoD resources at the tactical level. OHDACA steady-state projects are distinct from FDR activities, and their implementation requires coordination with the local or regional USAID mission as well as approval by the relevant U.S. Ambassador and DoD combatant command.

The U.S. Government prioritizes civilian leadership in humanitarian operations in accordance with internationally recognized humanitarian principles, including both the leadership of our responses and engagement with partner nations. The unique socio-political context of each partner nation is a key consideration for decision makers at all levels before, during, and after the use of DoD capabilities in a disaster response scenario.

USAID's contact information includes:

V. Kate Somvongsiri, Mission Director
United States Agency for International Development
The Embassy of the United States
Diplomatic Enclave, Ramna-5
Islamabad, Federal Pakistan 54000
Tel: +92 51-201-4000
Fax: +92 51-2338071
E-mail: *pakistaninfo@usaid.gov*

USAID Contact
Diane Ray, Desk Officer
U.S. Agency for International Development
USAID Asia Bureau/SCAA
1300 Pennsylvania Avenue, NW
Washington, DC 20004 20523
Phone: 202-712-4487
E-mail: *asiapakistandesk@usaid.gov*

U.S. Mission in Pakistan
Diplomatic Enclave, Ramna 5
Islamabad, Pakistan
Tel: +92-051-201-4000
Facebook: pakistan.usembassy
X: @usembislamabad

Laws, Policies, and Plans on Disaster Management

The National Disaster Management Act established a disaster management framework at the national, provincial, and local levels; this framework, in turn, led to the creation of PDMAs and DDMAs.[238] While devastating flooding in 2010 drove legal and institutional changes to the DM structure, even more destructing flooding in 2022 pointed out lingering shortcomings, especially at the sub-national levels. Consequently, the most recent efforts to adapt the DM system focus on coordination among Pakistani stakeholders and between Pakistan and the international community, building understanding of agencies' roles and responsibilities, and strengthening public and private stakeholders' capacity for response.[239] The organizations involved continue to develop various single-hazard plans and annual contingency plans – e.g., annual monsoon contingency plans, nuclear emergency management plans, marine disaster contingency plans, etc.

On the climate change front, in 2017, the country passed its Climate Change Law. Pakistan is a party to the UNFCCC and submitted its updated NDC to the UNFCCC Secretariat in 2021. The country also ratified the Paris Agreement (2015) and is a signatory of the Sendai Framework for DRR and the Global Methane Pledge. At home, Pakistan has kept an NCCP since 2012, and it updated the policy in 2021; the Framework for Implementation of the NCCP runs 2014-2030. Finally, the government has updated laws and policies related to climate change in recent years; they include Pakistan Vision 2025, the National Clean Air Policy 2023, National Hazardous Waste Management Policy 2022, Alternative Renewable Energy Policy 2019, National Electric Vehicle Policy 2019, Agriculture Policy 2018, Climate Change Act 2017, National Water Policy 2017, Biodiversity Strategy and Action Plan 2017, and the National Forest Policy 2015.[240]

The following national plans address overall DRR and CCA coordination.

Vision 2025

Vision 2025 is Pakistan's overarching long-term development strategy with a main goal of becoming one of the world's 10 largest economies by 2047. The pillars of the strategy cover human and social capital, good governance, energy, water and food security, private sector-led inclusive economic growth, the knowledge economy, and regional connectivity through transport infrastructure. The Vision makes plain that climate-related vulnerabilities have the potential to stymie Pakistan's growth and, therefore, must be the subjects of intentional adaptation and mitigation programs.[241]

National Disaster Management Act (2010)

Parliament passed the National DM Act in 2010. It is the primary legislation for DM nationwide and established the NDMC as the top-level decision-making forum with the NDMA as the implementing DM office. The Act required NDMA to develop a long-term national DRR strategy, which became the National DRR Policy and, later, the NDMP, initially approved in 2013 with 41 strategies to achieve resilience pre-, during, and post-disaster.[242]

National Disaster Management Plan

NDMA manages the development and application of the NDMP. It is intended to be a comprehensive document that enables national and provincial authorities to prepare for and response to emergencies in a coordinated manner. The NDMP provides standard guidelines for hazard mitigation and preparedness measures and outlines emergency response procedures for government and non-government stakeholders across national, provincial, and local levels. The 2024 revision (NDMP-III) built on the previous version,[243] 2012-2023, which laid down 41 strategies to build resilience. It provided institutional and technical direction for DRM and laid out interventions for achieving resilience objectives.[244] The NDMP-III aims to achieve:

- Continuing efforts in establishing a robust DRM system with a focus on institutionalization at the grassroots level
- Analysis of natural and anthropogenic hazards, including climate change-induced hydro-meteorological hazards, to identify their likely occurrences, timing, and frequency
- Identification and prioritization of districts at risk for future project implementation, aimed at reducing the consequences of disasters and fostering resilience against both disasters and climate change
- Ensuring that the needs and concerns of vulnerable population – i.e., women, children, elderly, people living with disabilities, and other marginalized communities – are catered for in all phases and all types of disasters
- Prioritization of interventions for implementation, collaborating with counterparts to enhance disaster resilience and adapt to climate change
- Integration of DRM into future development programs while ensuring climate adaptation policies
- Adapt Anticipatory Actions to enhance preparedness and response capacities[245]

In the NDMP 2012-2023, there were 10 interventions with 118 projects set for the 10-year period of implementation. After global acceptance of the Sendai Framework for DRR to replace the Hyogo Framework, NDMA realigned the NDMP via a roadmap, which refocused work on four domains:

- A multi-hazard vulnerability risk assessment (MHVRA) of the entire country and a "risk atlas"
- Community-based disaster risk management (CBDRM)
- Capacity-building for government – training needs assessments, emergency response exercises, and other activities
- Awareness and advocacy

Under the NDMP Implementation Roadmap, a phased approach was developed, based on the vulnerability of districts. The goal was to ensure that the most vulnerable districts received immediate attention. As of the Sendai Framework Mid-Term Review (2023), of Pakistan's 157 districts, 14 had complete MHVRAs; 38 districts were listed for work in Phase 1 of the roadmap, 59 for Phase 2, and 59 for Phase 3.[246]

National Disaster Response Plan

The first NDRP was developed in 2010, and it was substantially revised in 2019 based on experiences in disasters between 2010 and the publication in 2015 of the "2030 Agenda," which includes the Sendai Framework, Sustainable Development Goals (SDG), and Paris

Agreement. The 2019 edition is considered a "multi-hazard" plan that uses a comprehensive national approach to a coordinated response. It spans the DM cycle from preparedness through response and feeds back into preparedness through lessons learned, and it specifically addresses local authorities, which are considered the responsible level of leadership for developing and improving local response plans.[247]

Host Nation Support Guidelines for Foreign Assistance to Pakistan During Disaster

The Host Nation Support Guidelines focus on actions to reduce response time. They set out guidelines for Pakistani government decisionmakers as well as for assisting countries and international organizations who may be responding to a Pakistani government appeal for assistance. They identify mandates, roles and responsibilities, processes, clearance requirements, and coordination procedures for all stakeholders.[248]

National Flood Protection Plan IV

The fourth National Flood Protection Plan (NFPP-IV) was approved in 2017, and it was updated in 2024. The FFC formulated NFPP-IV to cover a 10-year period. NFPP-IV originally envisaged saving some 779,250 hectares of land from erosion, reclamation of 154,176 hectares of land, and protection of 2.4 million hectares of land from inundation. After the devastating floods of 2022, the Prime Minister directed the update to include protection measures against flash floods and hill torrents. Among the key objectives for the update are a pivot from being a Flood Protection Plan and toward being an Integrated Flood Risk Management Plan, to cover all types of flooding and to incorporate nature-based and other non-structural solutions.[249]

National Disaster Risk Management Fund (NDRMF)

The NDRMF is a special-purpose financial vehicle for funding Sendai Framework-aligned activity and flood protection work. It was established under the National DRR Policy and was initially supported by a load from the ADB, the World Bank, and bilateral donors. Since 2016, the NDRMF has delivered DRR funding that has protected agricultural land, improved flood protection structures, retrofitted 45 public buildings for seismic hazards, delivered specialized training for first responders through CBDRM committees, constructed rainwater retention and conservation structures, stabilized landslide areas using bio-engineering techniques, installed local early warning systems for mountain communities, delivered search-and-rescue equipment to first responders, and planted seedlings.[250]

National Disaster Risk Reduction Policy

The National DRR Policy of 2013 outlined the need for DRM institutions to oversee mechanisms and frameworks to address multiple hazards and chart a path toward a system that builds resilience.[251] It promotes an anticipatory or pro-active approach to risk assessment, prevention, mitigation, and preparedness,[252] and it provides a framework for addressing natural and anthropogenic hazards. There is a policy of devolving DRR responsibility to the provincial and local levels along with some responsibility for climate change impacts.[253]

National Climate Change Policy (2021)

The NCCP was initially published in 2012 and was updated in 2021 alongside the NDCs. The policy provides a framework for addressing the range of climate-related challenges confronting the country through various action plans, programs, and projects. Overall, the NCCP lays out an approach to integrate CCA across vulnerable sectors and at all levels of government – federal, provincial, and local. The NCCP does also cover climate change mitigation although the country is considerably more active on the CCA front as opposed to mitigation.[254]

National Climate Change Policy Implementation Framework (2014-2030)

The Climate Change Division developed the Framework for Implementation for the

NCCP to promote mainstreaming of climate change concerns into decision-making in order to contribute to integrated planning and implementation of "climate-compatible development processes." The Framework for Implementation for the period 2014-2030 defines the vulnerabilities of various sectors and spells out adaptation actions to address these vulnerabilities. The sectors cover water, agriculture, forestry, coastal areas, biodiversity, health, and other vulnerable ecosystems. Moreover, it lays out linkages between climate change and disaster preparedness, institutional strengthening, and public awareness. The Framework is intended to help provinces and communities prepare local adaptation action plans and lead to the development of a NAP, National Appropriate Mitigation Action Framework, and subsequent communications under the UNFCCC.[255]

Nationally Determined Contributions

Pakistan's NDC commits the country to reduce up to 20% of its projected GHG emissions under the business-as-usual scenario by 2030, subject to availability of international grants. The mitigation commitments include improving efficiency in the electricity grid and coal-based power generation and increasing the share of renewable energy options. For adaptation, the NDC called for development of the NAP to serve as a framework for including medium- and long-term climate change concerns in national sectoral policies, strategies, and programs. The NDC estimates adaptation costs at US$2-3.8 billion annually and focuses on integrated water resources management to reduce flood risks and enhance food security as adaptation priorities for the short-term.[256] The NDC's high-priority initiatives are to promote climate-smart inputs and management practices in agriculture, improve irrigation and water management, provide nature-based solutions and protection of ecosystems and biodiversity, mitigate the impacts of extreme events through preparedness and capacity building, incorporate health and environment in climate and DRR policies, enhance the climate resilience of communities through improved outcomes in the WASH sector, promote gender equality and mainstreaming of youth and volunteering engagements, and link all interventions with the SDGs.[257]

National Adaptation Plan (2023)

The NAP provides a framework for adaptation, implemented inclusively and with collaboration across stakeholders. Moreover, it provides a path for the country to mobilize climate financing. The NAP includes an adaptation strategy alongside seven priority areas: the agriculture-water nexus, natural capital, urban resilience, human capital, DRM, and gender, youth, and social inclusion. The guiding principles of the NAP are:

1. Integration of climate adaptation across decision-making
2. Strategically consider the changing climate across generational timelines
3. Rely on scientific data and local knowledge for evidence -based decisions
4. Promote nature-based solutions for protection
5. Act locally to address risk and opportunity
6. "Leave no one behind" by prioritizing inclusivity and vulnerable groups
7. Adapt to changing conditions by thinking ahead and staying flexible
8. Address inequities by choosing actions that promote social justice
9. Coordinate and collaborate with partners
10. Build capacity and knowledge to enhance planning and understanding[258]

Disaster Management Communications

The PMD is the national hub for date, information, research, bulletins, and warnings on climate, weather, seismic activity, hydrology, oceanography, atmospheric physics, environmental pollution, and geophysics. It is a critical component across the DM cycle, as it supplies information and analysis of hazards, risk, adaptation, and mitigation. In addition to the PMD, the NDMA and PDMAs each maintain

communication links across government and civil society responders, and their respective EOCs are key nodes for communication and coordination.

Early Warning Systems

The PMD operates a network of manual and automatic weather stations to provide real-time data on conditions. It provides forecasts across the government and to the public with short- and long-term forecasts about hydro-meteorological conditions nationwide. These forecasts integrate hazard-specific bulletins and contain information on imminent risks. For example, every year, PMD issues a monsoon seasonal forecast to inform NDMA, PDMAs, and DDMAs of the potential for torrential rains to impact various parts of the country during the up-coming season. The monsoon seasonal forecast then serves as the basis for NDMA and PDMAs to develop scenario-based annual contingency plans. PMD's National Agro Meteorological Centre (NAMC) focuses on informing players in the agricultural sector of conditions that may affect agricultural yield; heat, drought, rainfall, and pest bulletins are frequently issued to farmers.[259] Figure 13 shows the organizational structure of the PMD.[260]

The NDMP incorporates a multi-hazard early warning system (EWS) and foresees upgrades to radar stations and connections among national and regional DM authorities.[261] All cities have established EWSs using alerts from DDMAs. Some cities use social media to disseminate information.[262] The Pakistan Telecommunication Authority (PTA) and telecoms system operators have partnered with NDMA to develop and trial an SMS-based component of the EWS. It was first rolled out in 2014 during floods and, based on that experience, it was enhanced for use in 2015, when it generated more than 52 million messages. During the 2015 Islamabad earthquake, the NDMA used this capability to issue 15 public service SMSs to residents of

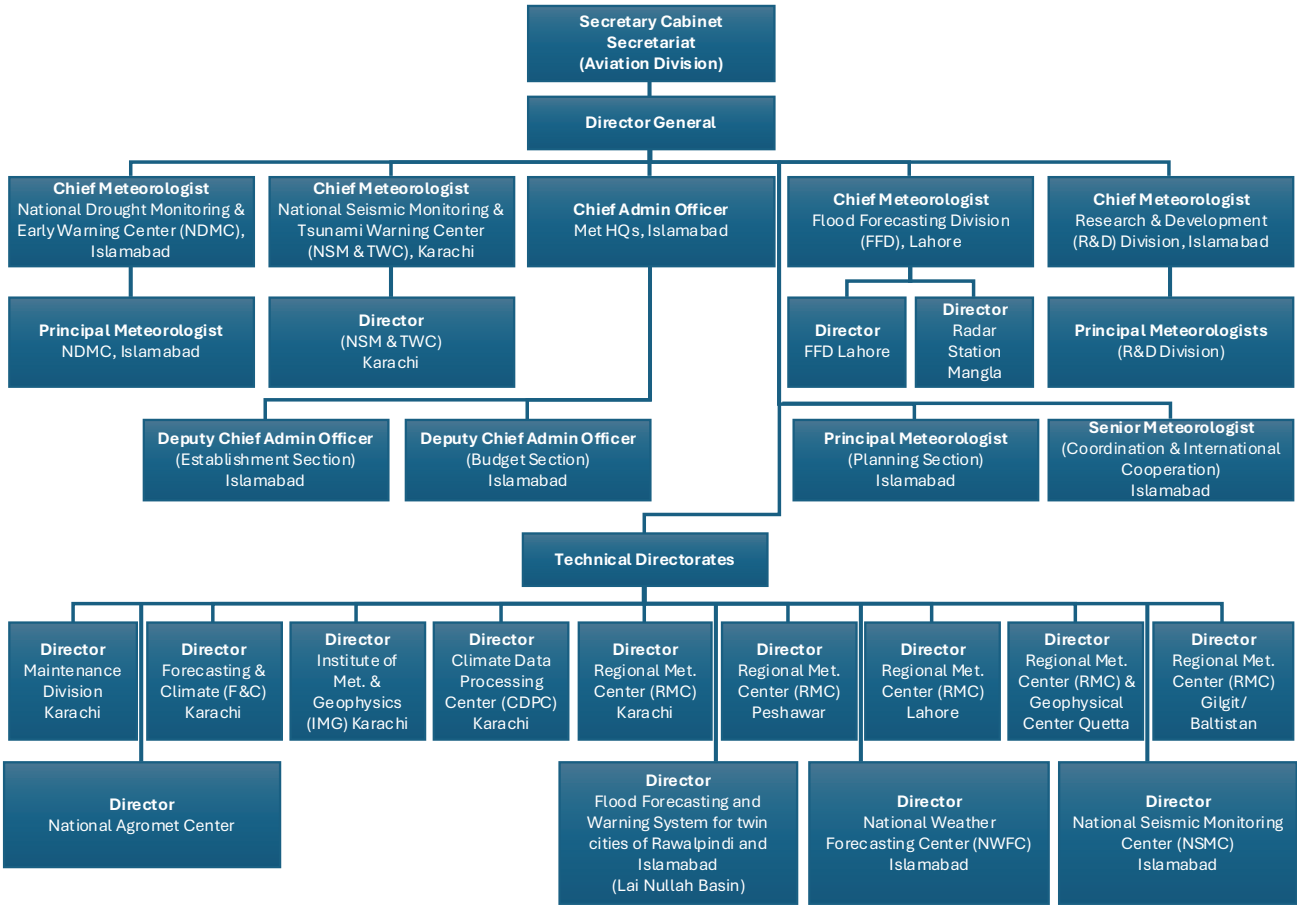


Figure 13: Meteorological Service Organization Struture

Malakand and Bajaur, two affected regions.[263]

The PMD maintains an EWS Protocol through which it provides regular "Climate Outlook" updates and translates that information into impact outlooks and advice for flooding or drought preparedness actions and agricultural system adaption actions for farmers and community members at risk of floods and drought. The Protocol relies heavily on SMS for delivery of warnings and messages, especially for earthquakes. For other delivery methods and hazards, PMD has agreements with NDMA and PDMAs on a protocol for dissemination of impact outlooks and advice for action and works to verify if impact outlook messages and early warnings advice is received, understood, and acted upon, and it identifies obstacles for taking action. PMD and the PDMAs and DDMAs coordinate for warning dissemination and messaging.[264]

PMD's National Seismic Monitoring and Tsunami Warning Centre, with offices in Islamabad and Karachi, is tasked with:

- Detection, identification, and location of earthquakes and monitoring of seismic activity
- Quick responses to queries pertaining to earthquakes and seismology
- Keeping records of seismic activity and earthquakes
- Evaluation of seismicity of the country's regions
- Producing seismic reports and publishing national seismic data
- Exchange of information pertaining to seismology with international agencies
- Assistance on seismological studies and research in related fields
- Minimization of damage due to earthquakes and associated tsunamis
- Reliable advisory service for builders, engineers, and planners
- Increasing the safety of marine and inland transportation activities
- Promotion of disaster preparedness, mitigation, and response systems through education, workshops, symposia, and discussions via mass media[265]

The Centre monitors seismic activity at 30 locations across the country. It assesses earthquake magnitude, location, and depth, but it also identifies areas of the country that may be affected. In addition, the Centre helps develop and implement building codes for earthquake-resistant construction.[266] There are five tsunami alarm systems in coastal areas. In collaboration with the UNDP, the Centre has organized tsunami evacuation drills in Karachi and Gwadar. The drills provide opportunities to rehearse response and, by doing so, aim to enhance community preparedness and awareness by fostering a sense of community and cooperation. The Centre is also working to establish a Tsunami Hazard Mitigation Committee to coordinate with the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS). Moreover, the country participates in the biennial multi-lateral Indian Ocean Wave Exercise, which tests SOPs, communication links, and community evacuation procedures.[267]

PMD's Flood Forecasting Division in Lahore is the key office for flood forecasting and issuing warnings to areas that may be affected. It gathers data from various national and international sources and produces weather and flood forecasts and warnings for onward dissemination to government and media organizations. This Flood Forecasting and Warning System is intended to identify and mitigate underlying risk and reduce vulnerability by allowing early action. PMD works closely with the Water and Power Development Authority (WAPDA) to identify and implement non-structural measures to enhance the forecasting and warning system, and there is a longer-term plan to establish regional flood forecasting centers.[268]

Information Sharing

Understanding how to overcome the information challenges that civilian and military agencies experience during a typical disaster response mission is important. Sharing information is critical since no single responding entity, NGO, international governmental organization, assisting country government,

or the host government can be the source of all the required information.[269] Collaboration, information sharing, 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. There are many resources, stakeholders, and components to consider before, during, and after a natural disaster. This section will discuss country-specific, humanitarian, regional, government, and U.S. DoD information sources.

Pakistan Information Sources

National Disaster Management Authority

The NDMA maintains various informational bulletins and warnings on its website and via social media channels. It offers guidelines for various types of emergencies; these are available in local and national languages. The NDMA maintains a mobile "Disaster Alert" app that delivers alerts, hazard projections, safety guidelines, and other public services messages to users' mobile devices; it is available for both Android and Apple devices.

NDMA Headquarters
Main Murree Road near ITP Office,
Islamabad
Tel: 051-111-157-157
NEOC Tel: 051-903-0788
WhatsApp: 0300-0881641
Fax: 051-9030727
E-mail: *info@ndma.gov.pk*
Web: *https://www.ndma.gov.pk/projection-impact-list*
Facebook: NdmaPk
X: @ndmapk

Balochistan Provincial Disaster Management Authority
Airport Road, Shaikh Manda
Quetta, Balochistan 87300
Control Room: 92-81-9241133
PEOC Tel: 081-9241122 or 9241118
Tel: 92-81-9241118
Fax: 92-81-9241126
E-mail: *dgpdmagob@gmail.com*
Web: *https://www.pdma.gob.pk/*
Facebook: PDMAQuettaBalochistan
X: @pdmabalochistan

Khyber Pakhtunkhwa Provincial Disaster Management Authority
Plot 46 A, Sector B2, Phase V
Hayatabad, Peshawar
Tel: (091) 9219635
PEOC Tel: 091-9219636
Fax: (091) 9219637
Web: *www.pdma.gov.pk*
Facebook: PDMAmediacell
X: @PDMAKP

Punjab Provincial Disaster Management Authority
5th Floor, Cricket House
Jail Rd, Shadman II Shadman 2 Shadman
Lahore, Punjab
PEOC Tel: 042-99204408 or 99203163
Web: *https://pdma.gop.pk*
Facebook: pdma.punjab
X: @pdmapunjabo

Sindh Provincial Disaster Management Authority
Plot No. 26-C, Main Khayaban-e Jami
DHA Phase-VII, Karachi
Emergency Number: 1736
Tel: 021-99332742
PEOC Tel: 021-35381810
WhatsApp: 0335-5557362
Web: *www.pdma.gos.pk*
Facebook: PDMA.Sindh

Azad Jammu and Kashmir State Disaster Management Authority
Block No. 10, First Floor (Left Wing), Opposite to
AJK Legislative Assembly,
New Civil Secretariat
Muzaffarabad, Azad Kashmir
SDMA Tel: 05822-921536 or -921643 or -921101
E-mail: *ops.sdma@gmail.com*
Web: *https://sdma.pk/*
Facebook: ajksdma

Gilgit-Baltistan Emergency Operation Centre BGDMA EOC
Tel: 05811-922030 or 920874-75
Facebook: Gilgit-Baltistan-Disaster-Management-Authority

National Institute of Disaster Management

The NIDM is the NDMA's think tank, with members representing Pakistan's academic, first responder, technical community, humanitarian, industrial, and volunteer sectors. Under its "Projections" page on its website, it carries national and global warnings, watches, and situation reports for informational and analytical purposes.

National Institute of Disaster Management
Tel: +92 51 9087112
E-mail: *ccnidm@ndma.gov.pk*
Web: *http://www.ndma.gov.pk/nidm*

Pakistan Meteorological Department

PMD's website carries up-to-date forecasts and warnings as well as seasonal bulletins.

Pakistan Meteorological Department
Headquarters Office, H-8/2
Islamabad
Tel: +92-51-9250367
E-mail: *info.cdpc@pmd.gov.pk* (Data Queries) or *nwfc@pmd.gov.pk* (Forecast Queries)
Web: *https://www.pmd.gov.pk/en/*
Facebook: PMD.GOV
X: @pmdgov

Flood Forecasting Division
46 Jail Road
Lahore 54000
Duty Tel: 04299200139 or 04299205367-70
Fax: 04299200209
E-mail: *ffdlhr@yahoo.com*
Web: *www.ffd.pmd.gov.pk*

Pakistan Red Crescent Society

Updates on the PRCS' activities and operations is available via their website or social media feeds.

Ashfaq Ahmed Road
Sector H-8/2 Islamabad
Tel: (92) (51) 925 0404
Emergency Helpline: 1030
E-mail: *info@prcs.org.pk*
Facebook: PakistanRedCrescent
X: @PRC_official
Instagram: pakistanredcrescentofficial

Humanitarian Information Sources

UN Office for the Coordination of Humanitarian Affairs 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 throughout the region in support of national governments. ROAP covers 41 countries with whom it partners 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.
E-mail: *ocha-roap@un.org*
X: OCHAAsiaPac

UN OCHA Country Office – Pakistan

OCHA Pakistan supports local and international NGOs and UN system agencies working in the country as they help Pakistan's people prepare for disaster events. The focus of support is on promoting and developing anticipatory actions and contingency plans and on marshalling funding resources. OCHA action taken in response to recent catastrophic flooding include coordination, information management, resource mobilization, and advocacy. As of 2024, OCHA has field offices in Karachi (Sindh), Quetta (Balochistan), and Peshawar (KP), all of which can be scaled up with additional resources and personnel as needed.

OCHA – Pakistan

Serena Business Complex
2nd Floor, West Wing,
Khayaban-e-Suharwardy
Islamabad, Pakistan
Tel: 051-8355704
Facebook: OCHA-Pakistan
X: @OCHAPakistan

ReliefWeb

ReliefWeb is a service of UN OCHA that consolidates information and analysis from organizations, countries, and disasters for the humanitarian community.

A subsection of ReliefWeb is ReliefWeb Response (RW Response). It aggregates operational content from other humanitarian action platforms to provide an authoritative source of information. The goal is to ensure that humanitarians can share, find, and re-use critical information quickly and efficiently.

Website: *https://reliefweb.int/*
RW Response: *https://response.reliefweb.int/*

PreventionWeb

PreventionWeb is provided by UNDRR to consolidate DRR information into an online, easy to understand platform.

Website: *https://www.preventionweb.net/*

International Federation of Red Cross and Red Crescent Societies

IFRC is the world's largest humanitarian organization, comprised of 191 National Societies, including PRCS, as well as a secretariat in Geneva, Switzerland, and over 60 delegations around the world. The IFRC Country Delegation in Pakistan is headquartered in Islamabad.

IFRC Pakistan Country Delegation

Ashfaq Ahmed Road, H-8/2
Islamabad
Tel: +92 51 9250416–7
Web: *https://media.ifrc.org/ifrc* and *https://go.ifrc.org/*

International Committee of the Red Cross

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. In Pakistan, the ICRC supports the public, national authorities, and the PRCS in the event of armed violence and joins efforts in response to disasters. It also provides structural and program support to targeted district branches of the PRCS.

Website: *https://www.icrc.org/en*
Facebook: @ICRC
Twitter: @ICRC

Global Disaster Alert and Coordination System (GDACS)

GDACS is a cooperation framework among the UN, 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 teams, national authorities, and regional and international organizations.

Website: *https://vosocc.unocha.org/*
The latest alerts can be found here: *https://www.gdacs.org/Alerts/default.aspx*
To subscribe: *https://www.gdacs.org/About/contactus.aspx*

ThinkHazard!

ThinkHazard! is a website that provides detailed information on a country. Information is provided on Pakistan regarding hazards, country assessments, projects, EWS, and other resources.

Website: *https://thinkhazard.org*

Humanitarian Country Teams

The 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, and the National Red Cross/Crescent Society. 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 Centre

Hosted by India's Gujarat Institute of Disaster Management, the South Asia Association of Regional Cooperation (SAARC) Disaster Management Centre (SDMC) is intended to delivery policy advice, technical support, capacity building services, and training for the SAARC members: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. Among the key tasks of the SDMC will be to facilitate exchanges of information and expertise to ensure effective DRM. It has begun to build an archive of resources – e.g., annual disaster reports, guidelines, and international agreements – for DM stakeholders in the region. Pakistan's NDMA Chair is the national focal point for the SDMC.

SAARC Disaster Management Centre (Interim Unit)

Gujarat Institute of Disaster Management
Campus
Village-Raysan, Gandhinagar
Gujarat, India
Tel: +91 79 23275833
Web: *https://saarc-sdmc.org/*

U.S. Government Sources

U.S. Agency for International Development

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 "USAID Newsletter," available digitally: *https://www.usaid.gov/news-information/newsletter*. More information and updates from USAID are available on Facebook (@USAID), Instagram (@uasid), X (@usaid), and YouTube (USaidVideo).

Website: *https://www.usaid.gov/*

USAID's Bureau for Humanitarian Assistance

USAID/BHA is responsible for leading and coordinating the U.S. Government response to disasters overseas. BHA works with the international population to help countries prepare for, respond to, and recover from humanitarian crises. BHA responds to an average of 75 disasters in 70 countries every year. BHA fulfils its mandate of saving lives, alleviating human suffering, and reducing the social and economic impact of disasters worldwide in partnership with USAID functional and regional bureaus and other U.S. government agencies. The U.S. DoD only responds to international disasters when requested, in support of USAID.

USAID/BHA products include situation reports and maps, which are available via email

mailing lists as well as ReliefWeb. Information products (Updates/Fact Sheets, etc.) are also available on USAID.gov (*https://www.usaid.gov/humanitarian-assistance*)

Pacific Disaster Center

Pacific Disaster Center (PDC) has trademarked an early warning and decision support system called DisasterAWARE®. DisasterAWARE® is primarily for disaster management practitioners and senior decision makers. It supports DRR 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.[270]

PDC also provides a public version, Disaster Alert, which offers open access to a world map documenting 18 hazard types.[271] Disaster Alert also has a free, early-warning app to receive customizable, maps-based, visual alerts regarding active hazards. The app offers a global notification system covering natural and man-made hazards. It is available on both iPhone and Android.[272]

Website: *https://www.pdc.org/* and *https://www.pdc.org/disasteraware/*
Emergency Operations (EMOPS) system (request account): *https://disasteraware.pdc.org*

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 by inviting military and civilian representatives of the U.S. and Asia-Pacific nations to its program of executive education and workshops.

Website: *https://dkiapcss.edu/*

The Center for Excellence in Disaster Management and Humanitarian Assistance

The CFE-DM is a U.S. DoD organization established by the U.S. Congress in 1994 and is a direct reporting unit to USINDOPACOM. 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, reduce duplication of efforts, and promote U.S. involvement in civil-military consultations and dialogues with relevant humanitarian and disaster response parties such as UN OCHA. CFE-DM provides resources and updates at its website, as well as via their Facebook (cfedmha) and X (@cfedmha) accounts.

Website: *https://www.cfe-dmha.org/*

Disaster Management Reference Handbooks are available for download at: *https://www.cfe-dmha.org/Publications/Disaster-Management-Reference-Handbooks*

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

INFRASTRUCTURE

There are at least seven central government ministries involved in Pakistan's infrastructure development, planning, and oversight. Railways, aviation, and ports have their own dedicated cabinet departments, while roads fall, along with information and communications technology (ICT), under a single ministry. In addition, there are ministries for energy and electricity and for water utilities. The The Ministry of Planning, Development, and Special Initiatives (MoPD&SI) and the MOF are also key figures in the process of strategizing, developing, and ensuring resilience of the national infrastructure.

The MoPD&SI is the central government body tasked with developing policy for economic and social growth with a focus on infrastructure and in close collaboration with the MOF. MoPD&SI is the home of the Planning Commission, which develops the country's medium-term development frameworks and public-sector development programs.[273] MoPD&SI also houses committees for climate change, ICT, and regional connectivity.[274] As an example of the Ministry's work, the MoPD&SI, along with Balochistan provincial authorities, are implementing the World Bank-funded Integrated Flood Resilience and Adaptation Project to enhance flood risk protection and mitigation among communities affected by 2022 flooding. The Project will build or rehabilitate infrastructure of the following categories: irrigation, flood control, water supply, roads, bridges, and small community facilities. Additional elements of the Projects are to improve the PMD's information capabilities, to reconstruct and restore housing in affected communities, to build small-holder agri-business in affected areas, and development of integrated watershed management in Balochistan.[275]

Elaborated in 2014, Pakistan's Vision 2025 emphasized extension of all types of infrastructure to ensure better connection among regions and promote growth across sectors.[276] Pillar IV of the Vision addresses energy and water supply and management; it promotes development of public-private collaboration to ensure production and storage while also encouraging conservation and prevention of environmental degradation under climate change scenarios. Pillar VI seeks investment in knowledge economy skills development and ICT by integrating learning into investment portfolios. Pillar VII targets improvements in the transport and communications networks to reduce transport costs, improve safety, and integrate regions beyond urban hubs.[277] Despite these national, strategic-level objectives, planning and development is managed at the provincial level. Provincial-level departments approve, monitor, and coordinate all infrastructure projects. Municipal-level authorities share some development authority and are most commonly the operators of urban systems, covering roads, water and sewerage, and solid waste.[278]

Transport

By 2025, the country seeks to have doubled the density of the road network and to have increased the share of cargo carried by rail from 4% in 2014 to 20%.[279] However, there are obstacles to achieving this goal as well as others under the Vision. The National Freight and Logistics Policy (2021) highlighted the fragmented character of the transport and logistics sectors. Additional studies find that a major stumbling block is the absence of a unified central government ministry or department responsible for creating and executing a national transport policy. Multiple federal ministries have stakes in specific transport modes and logistics issues.

- The Ministry of Communications manages road infrastructure and freight, and handles foreign and transit trade
- The Ministry of Maritimes Affairs' Department of Ports and Shipping oversees shipping services[280]
- The Aviation Division of the Cabinet

Secretariat is responsible for airports and aviation[281]
- The Ministry of Railways manages rail infrastructure and freight
- The MOF and the Interior Ministry have jurisdiction over customs and cargo clearance[282]

Pakistan is the key southeastern partner in the 11-country Central Asia Regional Economic Cooperation (CAREC) Program, the development of which is supported by the ADB and others. CAREC has attempted to develop its transport and trade corridors in a cohesive manner. Projects cover road assets, railways, air transport, policy cooperation, and capacity building on sustainable transport infrastructure in the context of climate change and technology development.[283] As of 2024, there were six CAREC corridors, as depicted in Figure 14.[284] Pakistan hosts parts of two of them. Corridor 5 runs north-south in two parallel lines, one leaving the PRC and entering Pakistan above Mansehra, and the other entering from Afghanistan into Quetta; the eastern route serves Karachi, Lahore, and Islamabad, as well as smaller cities, and the western route serves Quetta and Gwadar, as well as cities in between. Corridor 6 also uses parts of Pakistan's road and rail networks that run north south from either Quetta to Gwadar or Islamabad to Karachi; this corridor does not stretch northward into China but, rather, westward from Islamabad through Peshawar and to Kabul, Afghanistan.[285] These two rail and road corridors are considered vital to landlocked Central Asian economies seeking to boost export and import activity by sea via Pakistan's ports.[286]

Pakistan has also been a key partner in the PRC's Belt and Road Initiative (BRI). One of the BRI corridors is the China-Pakistan Economic Corridor (CPEC), set for three-phase implementation by 2030. The first US$62 billion in CPEC investment has been directed towards building roads, ports, and railways.[287]

Airports

The Pakistan Civil Aviation Authority (CCA) falls under the Cabinet Secretariat's Aviation Division and is headquartered in Karachi. Its

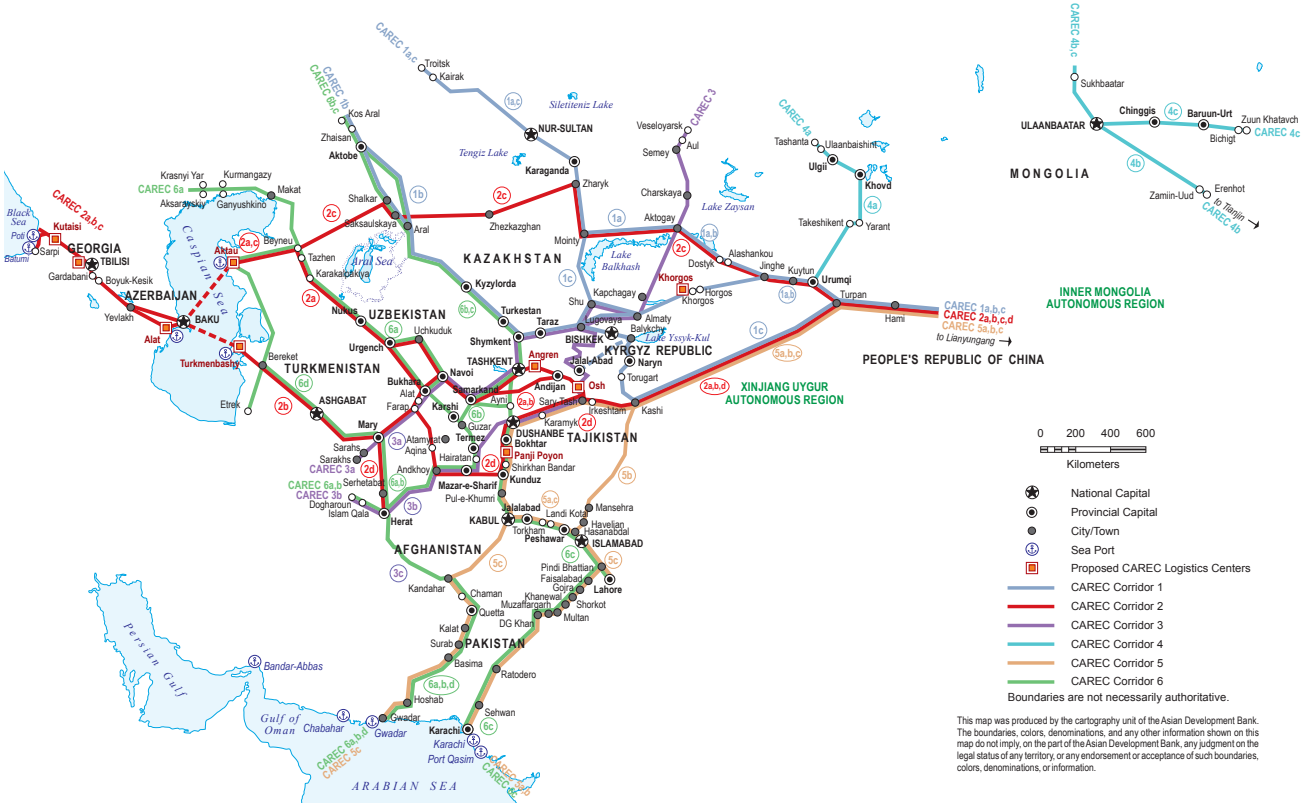


Figure 14: CAREC Corridors

main purpose is to develop the infrastructure for safe and efficient civil air transport services and to coordinate civil aviation activities. It is both the aviation sector regulator and delivers air navigation services and airport services.[288] Based on the National Aviation Policy (2019), the country expected to see a sustained rise in air traffic, and it sought to build the foundation for safety and efficiency in the sector so that it could contribute to socio-economic development. In terms of infrastructure, the objectives include encouraging private-sector investment and involvement and expansion of reach of aviation services into more rural areas.[289]

There are 46 airports available for commercial-scale operations. Of these airports, 42 are operated by the CCA. As of 2024, 13 may be used for international and domestic traffic, 11 are for domestic traffic only, and 22 allow little to no operations for various economic and structural reasons.[290]

Before the pandemic, Pakistan's airports accommodated 20 million domestic and international passengers annually. Passenger accommodation showed a 69% year-on-year drop to only 6.3 million passengers in 2020. As of 2023, passenger traffic had recovered to pre-pandemic levels. The busiest airports were Karachi (6.2 million, 2019), Islamabad (5.1 million, 2019), Lahore (4.5 million, 2019), and Peshawar (1.4 million, 2019). The country's airports also handled significant freight before the pandemic; they reported a total of 330,350 tons of cargo handled in 2019.[291] Lahore's Allama Iqbal International Airport is a major cargo hub and, after 2006 expansion, hosts a cargo village with facilities for various types of cargo, including cold storage, of up to 60,000 tons annually.[292]

Table 2 shows details of Pakistan's major airports.[293]

Seaports

Ministry of Maritime Affairs regulates and licenses the country's ports, maritime services operators, and facilities. The Ministry's Department of Ports and Shipping manages information, guidelines, and procedures related

Airport	IATA/ICAO Code	City Served	Elevation	Runway Length	Runway Surface
Allama Iqbal International Airport	LHE/OPLA	Lahore	213 m (698 ft)	36R/18L: 3,310 × 46 m (11,024 × 151 ft); 36L/18R: 2,900 × 46 m (8,999 × 151 ft)	Concrete / asphalt
Bacha Khan International Airport	PEW/OPPS	Peshawar	369 m (1,211 ft)	2,743 × 45 m (8,999 × 151 ft)	Asphalt
Benazir Bhutto International Airport	RWP/OPRN	Rawalpindi / Islamabad	514 m (1,688 ft)	3,287 × 46 m (10,784 × 150 ft)	Asphalt
Faisalabad International Airport	LYP/OPFA	Faisalabad	185 m (607 ft)	2,826 × 46 m (9,272 × 151 ft)	Concrete
Gwadar International Airport	GWD/APGD	Gwadar	29 m (96 ft)	1,512 × 23 m (4,960 × 75 ft)	Asphalt
Islamabad International Airport	ISB/OPIS	Islamabad	537 m (1,761 ft)	3,658 × 45 m (12,001 x 148 ft)	Asphalt
Jinnah International Airport	KHI/OPKC	Karachi	30 m (100 ft)	07L/25R: 3,200 × 46 m (10,499 × 151 ft); 07R/25L: 3,400 × 46 m (11,155 × 148 ft)	Concrete
Multan International Airport	MUX/OPMT	Multan	122 m (400 ft)	2,757 × 30 m (9,045 × 98 ft)	Asphalt
Quetta International Airport	UET/OPQT	Quetta	1,605 m (5,267 ft)	13R/31L: 3,648 × 30 m (11,968 × 98 ft); 13/31: 3,658 × 46 m (12,001 × 151 ft)	Asphalt
Turbat International Airport	TUK/OPTU	Turbat	121 m (400 ft)	1,829 × 30 m (6,001 × 98 ft)	Asphalt

Table 2: Codes and Runway Lengths for Pakistan's Main Airports

to the ports.[294] There are eight seaports along Pakistan's coast; they are Karachi, Gwadar, Port Muhammad Bin Qasim (hereafter, Qasim), Muhammad Ali Jinnah Naval Base, Keti Bandar, Ormara, Pasni, and Jiwani. Some 95% of maritime trade is carried out via just three of these ports – Gwadar, Karachi, and Qasim. Four public corporates and trusts operate the ports; they are the National Shipping Corporation (PNSC), Karachi Port Trust (KPT), Port Qasim Authority (PQA), and Gwadar Port Authority (GPA). PNSC is the sole national flag carrier and moves 11% of the country's cargo via 12 vessels.[295] The three main ports are connected by road and rail into all parts of the country and onward to Afghanistan and the PRC. Karachi and Qasim send and receive containerized cargo from key transshipment hubs at Colombo, Sri Lanka; Singapore; and Jebel Ali, UAE. Gwadar, which is still under development, is expected to primarily serve as an additional outlet for the PRC.[296]

Karachi Port - 24° 50' N 66° 58' E

Karachi is the country's main port. It has a total capacity of 150 metric tons (MT) per year, of which it has the capacity to handle 4.8 million twenty-foot equivalent units (TEU) of containerized cargo annually. As of 2021, it logged a total throughput of 46.9 MT, of which 2.1 million TEU of containerized cargo. The port is operated by the KPT, which reports to the Ministry of Maritime Affairs. KPT delivers all port services, purchases capital equipment, and employs the port staff and management.[297] The port can handle ships up to 75,000 deadweight tonnage (DWT). There are 30 dry cargo and three liquid cargo handling berths[298] in addition to three container terminals - Karachi International Container Terminal (KICT), Pakistan International Container Terminal (PICT), and South Asia Port Terminal Limited (SAPTL). PICT has direct links to rail, and one container train per day heads inland to deliver cargo to one of several Inland Container Terminals (ICT) near Lahore.[299] PICT is at berths 6-9 and can accommodate vessels of maximum length 305 m (1,000 ft) and maximum draft of 13 m (42 ft). KICT is at berths 26-30 and can accommodate vessels up to 305 m (1,000 ft) in length and 13 m (42 ft) draft. SAPTL is at berths SAPT 1-4 and can accommodate vessels of maximum 400 m (1,312 ft) in length and 16 m (52 ft) draft.[300]

Port Qasim - 24° N 67° E

Developed beginning in 1980 with the intention of alleviating some congestion at Karachi, Qasim is a much smaller port than Karachi; it hosts the DP World-operated Qasim International Container Terminal (QICT). The port has a total capacity of 90 MT annually, including 2 million TEU of containerized cargo annually. Its 2021 throughput totaled 49 MT, of which 1 million TEU was containerized. The port links directly to Pakistan Railways lines, and 2-3 container trainer per day depart for the trip to the ICTs around Lahore.[301] Marginal Wharves 1 and 2 are multi-purpose; each is 200 m (656 ft) in length and can handle vessels up to 225 m (738 ft) in length, 33 m (108 ft) in width, and 10 m (32 ft) draft. These wharves handle bulk, break bulk, and general cargo. There is one 10,000-m_2 (107,640 ft^2) shed and 7,800 m^2 (83,960 ft^2) of open storage. QICT has a quay length of 600 m (1,968 ft); the terminal has aa total area of 240,000 m^2 (2.6 million ft^2). The Terminal has a design capacity of 600,000 TEUs per year. There are six quay cranes, 21 Rubber-Tire Gantries, and six reach stackers, as well as a rail-mounted crane. The iron and coal berth is 279 m (915 ft) in length, is equipped with two grab unloaders, with a handling capacity of 700 tons per hour each. It can handle vessels of 55,000 tons DWT, and it is connected to the Pakistan Steel stockyard through a 4.5 km (2.8 mi) conveyor. Qasim is also home to a 9-million-ton-per-year oil terminal and a 4-million-ton-per-year liquid chemical terminal. Additional coal and liquified fuels terminals were most recently completed in 2017.[302]

Gwadar Port - 25° N 62° E

As of 2021, Gwadar had a total capacity of 5.5 MT annually but handled only 0.1 MT. The port's containerized capacity stood at 500 TEU annually but handled only 4,500 TEU.[303] The

master plan for the port, launched in 2006, foresees full development of the port's complexes over the course of 30 years.[304]

Roads

The Ministry of Communications (MOC) has responsibility for highways policy and for development of road infrastructure and transport in addition to responsibility for development and oversight of the communications industry. It also delivers postal services and promotes research and training for stakeholders in highways safety. Under the MOC fall the National Highway Authority (NHA), National Highways and Motorways Police, the National Transport Research Center, and other agencies.[305] Since the 1990s, the NHA has been responsible for all national highways in Pakistan.[306] The NHA follows policies and guidelines set down by the National Highway Council (NHC), which, by law, comprises, the Minister for Communications as the presiding member. Other members are the Secretaries of Finance, Planning, and Communications, a construction and management expert, a finance and audit expert, and the NHA chair.[307] The NHA's remit is planning, development, operation, repair, and maintenance of the highways and other designated strategic roads that may be entrusted to the NHA by the federal or a provincial government.[308]

Road transport accounts for more than 90% of both passenger and freight traffic.[309] Estimates of the national road network vary from more than 500,000 km (310,700 mi)[310] to as low as 263,000 km (163,420 mi).[311] As of 2021, there were an estimated 2,500 km (1,550 mi) of motorways and 12,000 km (7,455 mi) of national highway.[312] An additional 93,000 km (57,790 mi) are provincial highways, and the remainder are district, urban, or local roads. The national highways account for an estimated 80% of all traffic. Speed limits range from 90 km per hour (55 miles per hour) in urban areas to 110 km per hour (70 miles per hour) on rural roads, and 130 km per hour (80 miles per hour) on motorways.[313]

The national motorways – roads numbered M-1 through M-15, the Swat Expressway, and the E-35 – serve as corridors among the country's major cities.[314] The motorways are four-lane, access-controlled roads that allow long-distance transport to avoid congestion in cities and towns and to avoid the traffic of the smaller national roads – those designated as N-[number]. The M-4, a part of both the CAREC Corridors and the CPEC, provides a more efficient and safe north-south route between Islamabad and Karachi that other roads, as it diverts long-haul traffic that would otherwise travel the N-5 national highway.[315]

Pakistan's road network is heavily concentrated in the more populous eastern provinces of the country. Balochistan, despite being the largest province in terms of land area, has the lowest road density of all four provinces.[316] Punjab is home to more than 280,000 km (174,000 mi) of roadways, Sindh to more than 92,000 km (57,160 mi), and KP and Balochistan to nearly 46,000 km (28, 600 mi) each.[317]

A constant challenge to Pakistan's road transport sector has been safety and law enforcement. Road conditions have perpetually been poor because of gaps in maintenance funding, overloaded vehicles, and other road user skills shortfalls. As of 2015, the country had a death rate of 13.5 deaths caused by road collisions per 100,000 people.[318] As of 2023, there were more than 35 million registered vehicles in the country. The National Transport Research Center pointed to the fleet of freight vehicles as a key problem for road safety; its studies found that drivers are often poorly trained, the vehicles have poor fuel efficiency and are often overloaded, and most freight vehicles are not certified for cross-border transport.[319]

Railways

The Ministry of Railways (MOR) is tasked with developing the country's railways into a modern system that is integrated with the entirety of the rest of the transport network.[320] Pakistan Railways (PR) is the sole entity operating passenger and freight rail; it operates

650 stations, 461 locomotives, and 7,791 km (4,840 mi) of track, as of 2024.[321] Despite a long history of rail transport contributing to GDP, by 2016, rail accounted for only 4% of freight and 6% of passenger traffic.[322] The bulk of rail-borne cargo is coal and petroleum products.[323]

PR's mainlines (ML) have been the object of significant interest from Islamabad, which has sought to revamp them, starting with ML-1. The country decided to finance ML-1 modernization through the CPEC in 2017.[324] The ML-1 runs 1,872 km (1,163 mi) from Karachi to Lahore and then onward to Islamabad and Peshawar. Between Karachi and Lahore, the ML-1 is double-track with a design speed of 120 km per hour (75 miles per hour). Beyond Lahore, the line is single-track with a design speed of 95 km per hour (60 miles per hour); some branches are designed for lower speeds and lower axle loads than the mainline. The ML-1 between Karachi and Lahore is the main means of delivering containerized cargo from the ports at Karachi and Qasim to the inland container terminals around Lahore. As of 2021, the ML-1 capacity stood at 34 trains per day, 1,000 ton-payload per train, 22 tons axle load per wagon. Under the CPEC initiative, the goal is to increase capacity to 170 trains per day, 2,400 ton-payload per train, and 25 tons axle load per wagon.

ML-2 is not operational. It runs parallel to and west of ML-1. ML-3 runs east-west between Rohri and Quetta, and it splits at Quetta into branches, one running to Chaman, on the border with Afghanistan, and one running to Taftan, on the border with Iran. There are plans to extend ML-3 to Jalalabad, Afghanistan. An additional line is planned for Quetta-Gwadar.[325] Figure 15 shows the Pakistan Railways route map.[326]

In addition to operating the rails and rolling stock, PR is responsible for six of the country's 12 dry ports. PR's dry ports are at Lahore, Karachi, Quetta, Peshawar, Multan, and Rawalpindi. Private sector operators manage the dry ports at Sialkot, Faisalabad, the Pakistan-China border, and Quetta, and at Lahore's Thokar Niaz Beg and Prem Nagar Railway Stations.[327]

Waterways

The country has an estimated 30,000 km (18,640 mi) of navigable rivers and canals linked to the Indus River system. The river systems' waters are mostly used for irrigation, hydropower, and flood protection, all of which have traditionally taken precedence over use of the rivers for transport. Indeed, there is no legal or institutional framework for developing inland water transport. Provincial administrations have authority over the use and management of the stretches of river that are within their jurisdictions.[328]

Schools

Pillar I of Vision 2025 targets improvements in education system participation and outcomes. By 2025, the country seeks to achieve a 90% adult literacy rate not only by increasing primary school participation and completion to 100% but also by improving sex-based parity in primary and secondary school enrolment to 1:1. It is expected that improved female education system participation will translate into an increased female workforce participation rate.[329] The Ministry of Education and Professional Training is tasked with developing national education policies and reforms, setting educational standards, undertaking international cooperation and coordination on education, achieving universal literacy nationally, and managing and implementing ICT use in schools, registering private educational institutions.[330] With the federal government setting overall policy, the provinces each have an education department to implement policies and programs and manage schools.[331]

The national education system comprises 12 years of education.[332] School is free and compulsory through the age of 14 years.[333] As of 2023, there were an estimated 11.35 million students enrolled in pre-primary education, 25 million enrolled in primary education (grades 1-5), 8.75 million enrolled in middle school (grades 6-8), 4.5 million enrolled in secondary education (grade 9-10), and 2.5 million enrolled in higher-secondary education (grade 11-12).

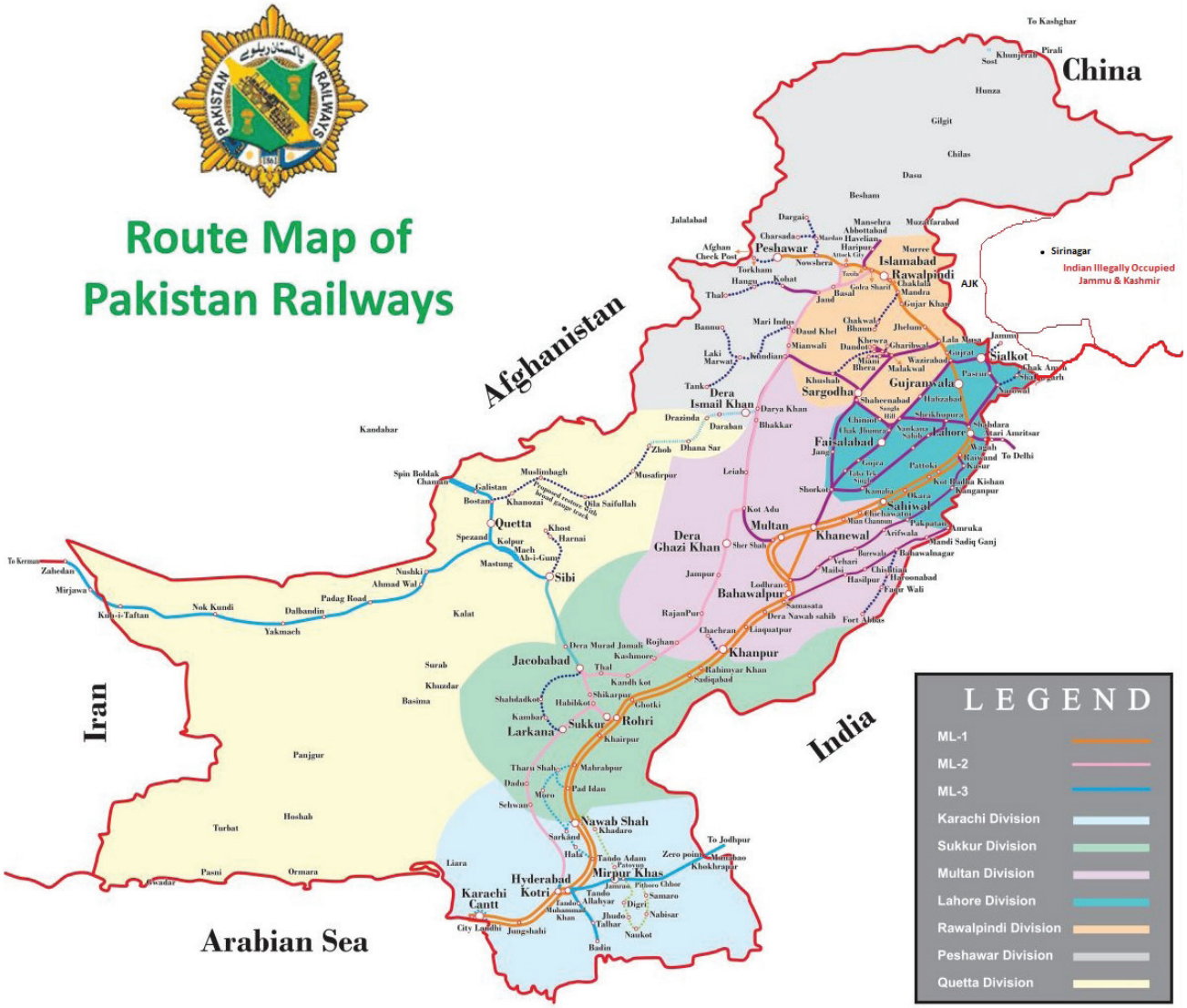


Figure 15: Railways Map of Pakistan

An additional half million students enroll in technical and vocational education, and more than 2.7 million enroll in degree-awarding colleges and universities. To serve these students, Pakistan has more than 182,000 primary schools, 46,000 middle schools, nearly 35,000 secondary schools, more than 3,700 technical and vocational institutes, and nearly 8,000 post-secondary institutions. There are more than 3,000 colleges and universities across the country.[334] Despite these numbers, UNICEF estimates that 22.8 million children aged 5-16 years (44% of the total population in this age group) are not attending school, and Pakistan has the world's second-highest number of out-of-school children (OOSC). In the 5-9 years of age group, 5 million children are not enrolled in schools. After primary school, the number of OOSC doubles, with 11.4 million adolescents between the ages of 10 and 14 years not receiving formal education. Disparities based on gender, socio-economic status, and geography are significant; in Sindh, 52% of children living in poverty are out of school, in Balochistan, 78% of girls are out of school. Nationally, nearly 10.7 million boys and 8.6 million girls are enrolled at the primary level, but these numbers drop to 3.6 million boys and 2.8 million girls at the lower secondary level.[335]

Primary school may take place in Urdu or any of the regional languages. English is introduced in secondary school.[336] English and Urdu are the

languages of instruction at the post-secondary levels. In 2023, the country introduced the Single National Curriculum (SNC) for grades 1-5, but its timeline for implementation is unclear. Under the SNC, all students, both public and private, would receive equal educational opportunities. In part, the SNC seeks to address the needs of minorities by allowing them to study their religions – e.g., Christianity, Hinduism, Sikhism, Baha'i, and Kalasha – in primary school.[337]

Disaster Risk Reduction in the Education Sector

The 2005 earthquake that struck AJK and eastern districts of KP resulted in the collapse of 8,000 schools in Pakistan's northwestern regions;[338] some estimates found that 18,000 students and 1,800 teachers were killed inside those school buildings.[339] Flooding in 2010 destroyed more than 10,000 schools across the country.[340] Beginning in March 2020 and lasting through March 2022, schools nationally were closed for a total of 64 weeks as the COVID-19 pandemic raged.[341] Then, again in 2022, flooding destroyed 19,000 schools[342] and forced the two-month closure of many others.[343] It is evident that the entire education sector is at risk of disruption from natural and anthropogenic hazards.

Among the facets of DRR in schools, the development of an education in emergencies (EIE) plan or program will allow school staff, faculty, and students in areas affected by disasters to continue to access education even during the response and recovery phases, before perhaps their traditional school buildings, supplies, and schedules can resume. For almost two decades, Pakistan's over-arching national education policy has nodded toward EIE, but the experience of the COVID-19 pandemic and 2022 flooding saw millions of school children loss educational time in a result that highlighted systemic failing to integrate EIE in a realistic manner across Pakistan.[344]

A study by the International Rescue Commission found that, in the early stage of the COVID-19 emergency, public schools had no database or mechanism to communicate with parents and students. Indeed, in some reported cases, teachers and schools had no contact with students during the whole lockdown period, and it was not until the pandemic period was well-established that provincial and federal authorities developed a strategy for alternative education and then launched programs. These solutions were heavily skewed toward Tele-School and Radio School to deliver television- and radio-based lessons for grades 1-12. Punjab had its own television-based learning program, Taleem Ghar, which also had a website and mobile app for students with digital access. Nationally, WhatsApp groups were commonly created for delivery of audio lectures and homework. The Sindh and Punjab Departments of Education partnered with Microsoft to create web-based lesson portals with content available in English, Urdu, and the local languages. Despite these developments, learners without access to technology fell behind. The PTA reported that only 1 million school-age children were able to access digital devices on a consistent basis, and UNICEF reported that 31% of children (6-13 years) and 32% of youth (14-17 years) had no access to technology. An additional challenge was a reduction of the curriculum, with English, mathematics, and sciences given primary importance for Tele-School.[345]

In 2010, the NDMA's GCC began a project in cooperation with UNICEF, PDMAs, provincial education departments, and others to develop the Pakistan School Safety Framework (PSSF), which was approved by national leaders in 2018.[346] By 2024, however, the GCC continued to work to socialize and implement the PSSF by partnering with teacher groups and schools to conduct refresher training and school drills[347] and to ensure that communities have a network of first responders, and the NDMA planned exercises around the country to integrate teachers and students in to disaster management work.[348] The PSSF's objectives are to:

- Promote a safe learning environment for students, teachers, and school staff against natural and anthropogenic hazards
- Ensure preparedness of the school

community against hazards
- Enable schools to develop a comprehensive response mechanism for hazard events
- Sensitize all stakeholders about their respective responsibilities in the realm of school safety
- Ensure child participation in building school safety and implementing DRR
- Clearly define all constituent elements of school safety in the context of Pakistan and to determine realistic standards for the adoption of meaningful DRR measures

The PSSF lays out three pillars of school safety – i.e., safe facilities, in-school disaster management, and DRR/resilience education. Each pillar includes structural and non-structural elements, which should be orchestrated and managed by School Safety Committees (SSC), which are intended to be independent bodies at each school. The process of developing a safety plan for each school in the country was expected to start with a vulnerability assessment based on the risk assessment that NDMA maintains for each district in the country. The PSSF then lays out a slate of proposed actions to meet the minimum standards of school safety expected by the GCC of the NDMA. Some of the proposed actions are related to building codes, fire safety, and refitting of older buildings, but there are also key actions related to developing the School Safety Plan, ensuring that each member of the school community understands their roles, and integrating DRR and safety into school curricula. All schools are required, as part of their School Safety Plan, to develop and practice SOPs on evacuation, drills for fire, earthquake, and security breaches, first aid, search and rescue, activating the continuity plan, and post-disaster trauma support.

The PSSF's developers recognized the potential obstacles to building and maintaining comprehensive school safety nationwide. They include financial shortfalls, a lack of specific legislation, lack of training, and human resources shortfalls. Nonetheless, the Framework laid out stakeholders' roles in socializing, implementing, and monitoring and evaluating progress on the PSSF. These roles include:

- Federal Ministry of Education and Professional Training – technical support for planning, coordination of recovery, collaboration for fund-raising, formulation of a monitoring framework for progress toward the PSSF, development of a curriculum to integrate DRR into formal lessons, and establishment of a platform for multi-stakeholder collaboration
- NDMA – availability of generic disaster management plans and SOPs, knowledge and information sharing, training for school safety and disaster management in schools, coordination with PDMAs for EIE, and development of measures of progress on safety and DRR
- PDMAs and DDMAs – knowledge and information sharing, awareness campaigns, support to education departments during emergencies, support to preparation of training materials for risk assessments, drills, and teacher training, and development of child-centered DRR guidelines
- Provincial and district governments and education departments, and owners or managers (in the case of private schools) – implementation of PSSF and plans, teacher education and training, repository of emergency-related materials, manuals, guidelines, minimum standards, and research, integrate DRR into school curricula, funding and other resources for school safety management activities, capacity-building on comprehensive school safety, and implementation of monitoring and evaluation frameworks
- Local and municipal building and public works authorities – enforce building codes for education projects, inspection of school buildings with hazards in mind, assistance to schools and evaluation teams, assistance for training for SSCs, and routine security audits of schools in at-risk areas
- Law enforcement agencies – information sharing on threats and response capacity, security for schools in disaster-affected areas,

response to security threats, and participation in recovery
- School administration – application of minimum safety and DRM standards, organization of SSC, development of safety and DRR plans, conduct of drills and exercises in school, evaluation of drills and exercises, teacher training, periodic risk assessments, leadership of staff training, dissemination of SOPs, identification of need for support for rehabilitation or recovery, self-evaluations, security checks and audits, and leadership of school as a hub for community disaster preparedness and management
- Teachers – updated knowledge of hazards and risks, instruction on risk management and DRR across school subjects, and application of child-centered approach
- Students and parents – communication of ideas and opinions on school safety and DRR with school leadership, lobbying of government officials for resources, support to children's practical learning on DRR, assistance to school risk assessments, sharing of up-dated information on disasters and DRR, coordination and collaboration with school-based disaster training, feedback to SSC, communication on children's psycho-social needs, participation in curricular and extra-curricular DRR learning opportunities, awareness of results of school safety and DRM evaluations, participation in plan implementation, and age-appropriate leadership of community awareness raising

Among the actions demanded by the PSSF for school leaders is to develop an education continuity plan that can be activated within 72 hours of the onset of a hazard event and that will detail temporary or alternative learning sites, roles, and responsibilities, emergency learning supplies, teaching methods, and a communication tree to link school managers, teachers, students, and parents. As part of this plan, the PSSF encourages school faculty and staff to develop skills to support their own and students' psycho-social well-being in the wake of a traumatic event.[349]

The provinces have developed strategies and policies for school safety, but implementation of planning and training efforts varies. As an example of provincial-level programs, KP has implemented a range of capacity-building and safety training programing to improve school children's preparedness. Such training is mandatory for children and teachers in disaster-prone areas of the province.[350] Since the 2010 floods, the province has sought to build out the safety culture within government schools; however, surveys have found that fewer than half of schools have an emergency plan, and only slightly more than half of school staffs know and understand their roles for emergency situations. Moreover, less than one-quarter of schools have included students in developing plans for student responses, even fewer have considered students with disabilities in their planning, and less than one-third have education continuity plans. Finally, while at least two-thirds of teachers were found to have first aid training, less than 15% of schools included DRR or other hazard-related topics in their curricula.[351]

Similarly to KP, Balochistan has implemented some aspects of school safety, but it has not fully integrated hazard identification, risk assessment, and DRR into the sector. A provincial government survey of schools found that most schools were without basic equipment for first aid or fire, building safety systems, or scheduled drills for emergency response. The provincial Education Sector Plan for 2020-2025 does cover responses to emergencies in general as part of aspects of child welfare, as well as under discussions of continued schooling, teacher education, curriculum, and school safety. Especially under education continuity, Balochistan Province has sought options for using ICT, but an underdeveloped communications infrastructure in the province forced the authorities to consider other options. Provincial education managers noted that, overall, the pandemic shows that schools in the province "lack[ed…] realistic continuity plans."[352]

On the issue of integrating DRR into formal curricula, the afore-mentioned Balochistan provincial Education Sector Plan noted that the federally-approved and -developed curriculum does include environmental awareness and health but that issues like floods, food insecurity, and earthquakes are not directly addressed.[353] Indeed, a 2023 survey of textbooks used across grades and subjects found that, since 2009, no substantial revisions have been made to integrate information on natural disasters or trauma management. One exception was in the "civics" education curriculum where international practices for disaster response were addressed, but the study points out that civics classes were electives at the secondary level and, therefore, do not include all students. Moreover, the current civics textbooks dated to 2006 and, thus, did not cover all current aspects of modern DRR. The same study identified opportunities to integrate DRR concepts in primary-school geography where significant space is dedicated to the geological features that pose hazards to Pakistan.[354] At the tertiary level, however, DRR has been included in various undergraduate- and graduate-level degree programs.[355]

Communications

The MOC has responsibility for development and oversight of the communications industry. It also delivers postal services via Pakistan Post.[356] The Ministry of Information Technology and Telecommunication (MoITT) is working to implement "Digital Pakistan," which focuses on enabling the digital landscape across cyber-security, artificial intelligence, data protection, and bolstering the ICT sector of the economy. The goals are to achieve targets related to export of ICT services and to add ICT professionals to the workforce.[357] Finally, the Ministry of Information and Broadcasting serves as a bridge between the Government and mass media. It is responsible for policy guidelines for state electronic media and for formulating and implementing policies, laws, rules, and the regulatory framework for print and electronic media and news agencies.[358] The main regulatory bodies are the Pakistan Electronic Media Regulatory Authority (PEMRA) and PTA.

In terms of how mass media and communications service providers would act in case of any emergency, a 2022 study found that there is no formal plan or code of conduct. PEMRA issues advisories on occasion, but it does not maintain a set of instructions for disaster coverage; it does limit the dissemination of graphic images. The active television news sector does report on disaster events, and television journalists are often among the first on the scene after they spot a social media post regarding an emergency. Moreover, in past disaster events, television news has acted as a means to highlight need among affected communities. However, when an emergency occurs outside of urban areas where television news crews can easily travel, social media has become the primary means for two-way communication between affected communities and responders.[359] Thus, the importance of mobile broadband is growing.

Telephones

As of 2024, there were an estimated 3 million fixed telephone lines in the country. At the same time, mobile telephone subscriptions numbered 193 million.[360] More than 90% of Pakistanis live in an area covered by mobile telephone service,[361] and between 2016 and 2021, access to fourth generation (4G) mobile telephone service expanded from less than 0.3% to 1.9%. However, the cost of mobile handsets is high compared to Pakistan's regional neighbors' markets. A 2021 World Bank survey found that, of the Pakistani market, less than one-quarter of mobile telephone users had a smartphone; another one-quarter used a feature phone, and the remainder used a basic mobile device without broadband capability.[362]

After more than two decades of deregulation and market competition, the country continues to see modest growth in the telephone service sector thanks to steady new adopters among the country's youth, rising uptake of mobile services, and improving infrastructure.[363] In 2024, PTA reported several dozen fixed-line operators,

licensed to operate throughout the country. There were four major mobile service providers licensed and operating; they are Pakistan Mobile Communications Limited (Jazz), CMPak Limited (Zong), Telenor Pakistan Limited, and Pakistan Telecom Mobile Limited (Ufone).[364] Jazz has approximately one-third of the market, Zong one-quarter, Telenor just less than one-quarter, and Ufone approximately 13%.[365] Nearly 95% of mobile telephone handsets in the country are Android devices, with Apple devices making up most of the remaining 5%.[366]

During the COVID-19 pandemic, mobile telephones provided the most common and easiest means for government emergency managers and citizens to share information. SMS-based public health information flowed from authorities out to the public, and authorities monitored common social media channels – accessed by most Pakistanis via their mobile telephones – for feedback or up-dates from the public.[367]

Internet Access

By the end of 2021, more than 50% of Pakistanis lived in an area served by fixed-line broadband, and there were more than 2.5 million fixed-line broadband subscriptions.[368] The overall broadband penetration rate stood at 58% in 2024.[369]

In terms of fixed-line versus mobile internet access, Pakistan is a mobile-first market; digital services are accessed primarily through mobile devices. An estimated 44% of Pakistanis use the Internet. The quality and speed of connectivity is relatively poor, with Pakistan ranking 112th of 145 countries in mobile connectivity speeds, and 159th of 175 countries in fixed connectivity speeds.[370] International speed tests in 2024 indicate that the median mobile internet connection speed stood at 16.67 megabits per second (Mbps), and the median fixed internet connection speed was 13.06 Mbps. These speeds showed sustained increases in recent years.[371] There has been only limited deployment of high-speed fiber-optic cable. Approximately 20% of Pakistan's population is not reached by a digitized telecommunications network, and an estimated 60% of people who could have access do not use the Internet. In a 2021 study, "digital literacy" was identified as the biggest driver of the usage gap. General literacy shortfalls and a lack of skills training on computers are the basic challenges in improving digital literacy, but a 2022 World Bank study also found a lack of reliable electricity and internet connectivity, alongside a lack of digital-ready workspaces stalls Internet uptake. Digital finance is also in its infancy with only 8% of the adult population using the Internet to access a bank account, pay bills, or make a purchase, and only 5% of the adult population using a mobile device to send or receive money domestically.

There are key gaps in Internet use nationally:

- 21% of males versus 12% of females use the Internet
- 28% of rural residents versus 10% of urban residents access the Internet
- 67% of university graduates versus 8% of people with on a primary-level education use the Internet[372]

A study of the gender divide in Internet access during the COVID-19 pandemic found that 60% of female respondents face restrictions in accessing the Web, and most cited either familial restrictions or cost as barriers. Meanwhile, among women and girls who do access the Internet, nearly 70% use a mobile device. However, many of these women and girls reported that, during pandemic lockdowns, their ability to access the Internet became more restricted because they were confined to areas where their families could exert pressure to not go online.[373] In schools, 44% of government high schools and 38% of private high schools have computer labs in rural areas (with internet connectivity at 33% and 35% respectively), while in urban areas, the proportion is 85% and 80% of government and private schools, respectively.[374]

The PTA is responsible for establishment, operation, and maintenance of telecommunications and has complete control of all content broadcast through telecommunication

channels. Watchdogs have reported that the government uses internet shutdowns, platform blocking, and arrests to suppress unwanted online speech. The government uses a systematic, nationwide, content-monitoring and -filtering system to restrict or block "unlawful" content, including material deemed "un-Islamic," "pornographic," or critical of the state or military forces. The PTA's Web Analysis Division is responsible for reviewing and reporting blasphemous or offensive content for removal, but the Federal Investigation Agency is responsible for criminal prosecution.[375]

Mass Media

In 2002, the government ended its monopoly over radio and television, and, since then, the mass media sector of Pakistan has grown large and diverse. Given the low literacy rates (<60% in 2019),[376] television and radio remain very important sources of information. Even so, urban areas have lively print – and print on-line – media environments. Print (including web-based) outlets publish in Urdu, English, and regional languages (e.g., Sindhi or Pashto), and the on-line side of this sub-sector is massive.[377] Radio programming also can be hyper-local and include local language content, in contrast to TV, which tends to use Urdu. Radio Pakistan delivers content in 20 local languages and 10 foreign languages.[378]

Television is the dominant source of news. As of 2021, Pakistanis could access 112 satellite TV channels, 4,060 cable operators, and 43 terrestrial channels, some coming from overseas – e.g., BBC and CNN. TV viewership neared 150 million, with about two-thirds of viewers using cable and satellite systems. At least 30 private channels exclusively broadcast news and current affairs, and the remainder are either strictly entertainment (including sports) or a mix of programming. Surveys find that, in 2021, 70% of households owned a television set, and people watched approximately 120 minutes of TV programming every day. This consumption is actually lower than surveys from 2011, likely a reflection on shifts to more on-line entertainment.[379] Even on-line, video is a key source of news, and YouTube is a key platform for Pakistan's legacy news channels to reach ever more on-line audiences.[380] State-run Pakistan Television Corporation (PTV) is the largest television network and reaches over 85% of the population due, in part, to its largest-in-the-country terrestrial television infrastructure; PTV operates nine channels.

As for radio, state-owned Pakistan Broadcasting Corporation (Radio Pakistan) has the largest radio audience in the country, and it is particularly important in rural areas. Radio Pakistan's AM/FM and shortwave stations cover 98% of the population and 80% of the country's total land area.[381] Despite this reach, the actual consumption of radio has waned as sources of audio content have diversified. Surveys indicate that rural households – especially rural women – continue to prefer radio as a medium for news and entertainment. Many women report that they either do not have access or are not permitted to access other media. Meanwhile, other audiences increasingly listen to live-streamed audio, such as news, entertainment, or podcasts.

Social media is incredibly popular, with upwards of 46 million users in the country registered across Facebook, YouTube, Snapchat, Instagram, LinkedIn, and X/Twitter. It must be noted, however, that many users may be registered on more than one platform and, therefore, may be counted twice. Most mainstream and alternative Pakistani mass media outlets maintain a social media presence, usually via Facebook. Hourly, multi-media news bulletins posted to Facebook are common across the national media sector. Meanwhile, the top 10 Pakistani X/Twitter accounts belong to politicians, journalists, and sports stars, each of whom reaches millions of Pakistanis via follows. Facebook and, to a lesser extent, TikTok and similar short video social media services are increasingly popular in areas with lower literacy rates as they require less facility with the written word. Moreover, these micro-vlogging sites promote development of community among

marginalized people – linguistic, religious, or gender/sexual minorities – who tend not to see themselves in the metropolitan-focused mainstream TV or print markets.[382]

PEMRA was established in 2002 with a stated mission of "improv[ing] the standard of information, education, and entertainment." It is the licensing authority for all private TV and radio channels and is also responsible for regulating TV and radio content through a code of conduct. PEMRA requires that no less than 90% of programming originate within Pakistan. Although this requirement has meant that the country enjoys a strong, local and national news and entertainment production capacity, it is not uncommon for global outlets to partner with local channels to develop and broadcast content.[383]

The Constitution provides for a free press, and the law permits citizens to criticize the government publicly or privately, but court decisions have interpreted the Constitution as prohibiting criticism of the military. Such criticism could result in legal, political, or commercial repercussions. Media outlets that report on topics authorities view as sensitive have been targets of retribution.[384] The country has historically had a lively mass media sphere with multiple voices and points of view, and Pakistanis are generally free to express their political opinions. However, international rights monitor Freedom House has assessed this space as having contracted in recent years as the political sphere has gotten more contentious and as violence – especially terrorism – has hit all corners of the country. The military and political parties have exerted pressure on media businesses and journalists. Journalists working for both private and state-owned outlets have been subject to enforced disappearances and have confronted assaults and intimidation while reporting. In addition, media outlets have encountered interference with distribution and broadcasting, withdrawal of government advertising, and bans on stations, shows, or specific personnel.[385] Journalists allege that PEMRA issues editorial directives to television stations and media outlets to compel them to refrain from critical reporting on state institutions or to deliver preferred narratives. Authorities also reportedly use PEMRA rules to silence broadcast media by suspending licenses, threatening to do so, or by reassigning the cable channel number of a targeted outlet without notice so that its programming is hard or impossible to find on most televisions.[386]

The 2016 Prevention of Electronic Crimes Act gives PTA the power to censor material online, and public, on-line discussions that are critical of various military or political actions have been punished by criminal charges. The military also restricts access to militancy- and insurgency-affected areas, and these limits can impede media coverage.[387] PEMRA has broad discretionary power to approve or sanction outlets that fall within its purview. Under 2023 legal changes, PEMRA received broad remit for disinformation and misinformation.[388]

Post

Pakistan Post provides general postal services nationally. It maintains some 13,000 post offices that support delivery services to 20 million addresses. It also carries out services as a bank, life insurance provider, tax collector, and payment center for utilities bill payment on behalf of various federal and provincial government agencies. The Pakistan Postal Services Management Board has overall policy oversight over the service, and management is overseen by one Postmaster General for each province and Deputy Postmasters in the divisions.[389] An estimated 67% of Pakistan Post's offices are in rural areas, and many of these branches do not return profits. Because of these losses as well as other various inefficiencies at Pakistan Post, the country has seen the development of private courier services, one of which, Tranzum Courier Service (TCS), has gained approximately 43% of market share for document and parcel delivery within the country.[390] Major international parcel delivery services – e.g., DHL, FedEx, and UPS – serve Pakistan.

Utilities

The Ministry of Energy oversees development and implementation of federal policies on energy resources and their use. The Ministry's Power Division executes Federal Government policies in the power sector.[391] It works closely with the Ministry of Water Resources (MOWR), which houses the WAPDA.[392] MOWR's Water Wing has oversight of use and management of the country's water resources, including for hydropower, dams, canals, drainage, and flood protection.[393] WAPDA is responsible for water storage and movement, hydropower projects, and research with an emphasis on operation and maintenance of hydropower dams licensed by the National Electric Power Regulatory Authority (NEPRA).[394] The ministries in charge of electric power and water have been separate only for about a decade. Previously, the Ministry of Water and Power was charged with developing and implementing overall national power and water policy and with attracting development projects and investment in the power and water sectors.[395]

Power

The electric power sector is state-dominated. Government entities generate, transmit, and distribute power nationally, and they all operate at a loss due to unrealistically low tariffs that do not meet costs.[396] The World Bank estimated in 2022 that 95% of the population has access to the electric grid,[397] but other estimates find that some 25% of the population does not have access. The difference may stem from counts of population within reach of grid connections versus counts of people capable of accessing a connection due either to cost or provision of power, as generation and transmission networks have experienced significant disruption in recent years.[398] Figure 16 shows the percentages of the population with access to the electric grid, by province, based on the Pakistan Energy Survey of 2022.[399]

The Ministry of Energy (Power Division) is the central policy arm, and it coordinates with provincial agencies responsible for electric power to achieve national policy objectives.[400] NEPRA is the federal-level regulator for the electric power sector. It is responsible for granting licenses, setting up standards and tariffs, preparing performance reports, specifying procedures for the functioning of distribution companies (DISCO), and promoting renewable energy. Given the decentralized nature of the state, however, each province has a department responsible for energy policy. These departments are most commonly tasked by the provincial government not only with planning, formulating policy, and developing strategies, but also with electricity supply.[401] Constitutionally, the provinces may develop generation, lay transmission line, distribute electric power, and set tariffs, as long as the power is intended for use within the provincial boundaries.[402] Based on these powers, the four provinces have all elaborated policies of preferring indigenous and renewable resources.[403]

In addition to the Ministry of Energy and

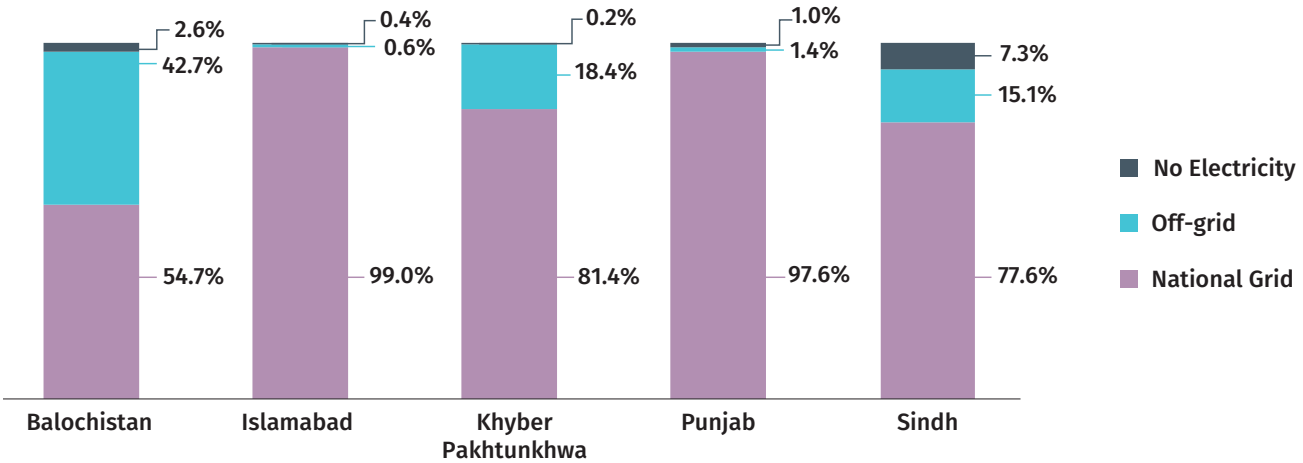


Figure 16: Access to Electric Grid, by Province

NEPRA, players in the electric power sector include:

- 10 public sector DISCOs, which provide electricity distribution services to customers in geographic areas; they operate under license from NEPRA and with boards appointed by the Ministry of Power;[404] they are Faisalabad Electric Supply Company (FESCO), Gujranwala Electric Power Company (GEPCO), Hyderabad Electric Supply Company (HESCO), Islamabad Electric Supply Company (IESCO), Lahore Electric Supply Company (LESCO), Multan Electric Power Company (MEPCO), Peshawar Electric Supply Company (PESCO), Quetta Electric Supply Company (QESCO), Sukkur Electric Power Company (SEPCO), and Tribal Areas Electric Supply Company (TESCO)
- Karachi Electric (K-Electric), which serves three cities in Sindh and three cities in Balochistan with generation, transmission, and distribution of electric power[405]
- 12 small and captive producers (equivalent to small, private DISCOs); captive producers are generation plants and transmission networks that serve single industrial or commercial spaces or customers, such as a large factory[406]
- National Transmission and Dispatch Company Limited (NTDCL), which is the sole public-sector transmission system operator under the federal government; it is licensed by NEPRA and transmits power purchased through the Central Power Procurement Agency (Guarantee) Limited (CPPA-G) from Government-owned thermal generation companies (GENCO), WAPDA, or independent power producers (IPP); it is also the system operator for generation facilities and the transmission network operator.[407]

The 10 public DISCOs and K-Electric serve almost the entire customer base.[408]

By 2025, the country targets a total of 42 gigawatts (GW) of installed power generation and an extension of electricity access to 90% of the population while also reducing the cost of electricity and improving the generation mix to exploit more domestic resources.[409] In 2013, the country began to comprehensively restructure the electric power sector to integrate more IPPs and expand generation capacity overall. The result has included the addition of more than 7 GW of generation – 1.7 GW of which was solar and wind.[410] By 2022, NEPRA reported a total installed generation capacity of 43.7 GW.[411] However, this generation capacity addition has not been matched by expansion of the distribution network, and key rural areas remain underserved. Efforts to promote small-scale independent hydropower in the north and solar home systems in the south, uptake has been slow, and there remains significant room for expansion. To reach renewable energy targets of 20% by 2025 and 30% by 2030, additional, larger-scale renewable projects will be required.[412]

The energy mix is dominated by fossil fuels, which make up 59% of electricity generation; one-quarter of electricity is generated by hydro, 7% from non-hydro renewables, and 9% from nuclear.[413] Approximately one-third of all energy inputs – mostly oil, coal, and liquified natural gas (LNG) – are imported. However, the country continues to produce natural gas, albeit at steady rather than growing levels, and the country has significant coal reserves that could be commercially exploits. Nonetheless, imported coal, oil, and LNG continue to grow as a share of the total energy market.[414] Given the fluctuating costs of oil and gas on the international market and challenges with steady power supply, an increasing number of domestic, industrial, and commercial customers are considering non-grid solar. As of 2024, there was a total of 530 megawatts (MW) of installed solar in the country, and various customer-friendly regulations are in place to allow for projects under 1 MW of capacity.[415]

Most of the country's generation is installed at 500-kilovolt (kV) or 220-kV network connections owned by NTDCL, which then feeds power from 500-/220-kV and 220-/132-kV transformers to the 132-kV network of

DISCOs.[416] The transmission network includes more than 17,300 km (10,750 mi) of lines, and the distribution network of NTDCL includes more than 374,200 km (232,500 mi) of high tension lines and more than 254,000 km (157,800 mi) of low tension lines.[417]

Water and Sanitation

Projections indicate that more than 200 million Pakistanis will face water scarcity by 2025 as a combination of overuse of groundwater and climate change-induced changes in surface water will lead to fewer resources available overall. The International Monetary Fund (IMF) reported that the country's per capita annual water availability fell from 1,500 m^3 (396,000 gal) in 2009 to 1,117 m^3 (295,000 gal) in 2021. Nearly 97% of the country's water is used for agriculture, and the remaining 3% is used for domestic, industrial, and other purposes. The country's dams are built to reserve 30 days' worth of water.[418]

Responsibilities for drinking water supply and sanitation are shared by municipal authorities and provincial service delivery entities. In general, provincial Works, Public Health, and Engineering Departments are responsible for the entities that operate these systems. Provincial authorities have often carried out their roles in planning and developing water and sanitation systems by creating specialized service delivery entities that remain under provincial control but support municipal authorities' planning and operation of these systems, especially water and wastewater.[419] For example, the Punjab Housing, Urban Development, and Public Health Department works in collaboration with Water and Sanitation Agencies (WASA) present in Lahore, Rawalpindi, Faisalabad, Multan, and Gujranwala. Each of these WASAs is responsible for planning, design, and construction of water supply, sewerage, and drainage facilities across new and rehabilitated systems, for operation and maintenance of water supply, sewerage, and drainage systems, and for billing and collection of rates, fees, and charges for services provided to consumers.[420]

As of 2020, an estimated 94% of the population had access to improved water sources. More than 96% of urban residents and more than 92% of rural residents were covered by improved drinking water sources.[421] Unsafe drinking water is a key issue across all provinces due to a combination of contaminated sources, inadequate treatment, and poor infrastructure. All cities lack sufficient sewerage and water treatment capacity, and most discharge insufficiently treated wastewater into natural water bodies.[422] In terms of sanitation, access to improved systems stood at nearly 79% in 2020 with more than 88% of urban residents and nearly 79% of rural residents having access to improved sanitation.[423] UNICEF estimates that 25 million Pakistanis may still practice open defecation.[424] Pillar I of Vision 2025 seeks to ensure that 90% of the population has access to improved sanitation by 2025.[425]

Access to improved piped water sources among urban population declined from 69% in 2000 to just 45% in 2022. Among cities, Karachi (Sindh), Lahore (Punjab), and Mardan (KP) have a robust water supply that meets nearly all of demand. Although nearly 99% of Lahore's population has access to improved drinking water, pollution is a major problem, with 48% of the population drinking water from sources contaminated with E. coli, according to provincial authorities. Meanwhile, in Karachi, nearly 99% of the population has access to improved drinking water, but non-revenue water – i.e., water that has been produced and is "lost" before it reaches the customer – is estimated to be 50%, and only 9.6% of the city's population has access to safely managed drinking water that is free from microbiological and chemical contamination, according to provincial authorities.[426]

HEALTH

Pakistan has made significant progress strengthening its health security, which involves actions and measures to prevent and respond to public health threats that could affect people nationally and globally. Pakistan continues to face high rates of infection by hepatitis B and C, tuberculosis (TB), and malaria. Rising trends of human immunodeficiency virus (HIV) infection are troublesome, especially as the country also has low rates of antiretroviral therapy coverage and high rates of unscreened blood transfusions. The country is also estimated to have the fourth highest prevalence of multidrug-resistant TB (MDR-TB) globally.[427] Pakistan is the only country where extensively drug-resistant typhoid fever regularly occurs.[428]

Vaccine preventable diseases and new emerging infections underscore a need for stronger disease surveillance and response systems. Progress has been made against polio, though it remains endemic. Non-communicable diseases (NCD), injuries, and mental health issues make up half of the burden of disease. Road traffic deaths account for more than 11% of the total burden of mortality, and these numbers 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 living with disabilities. Maternal deaths remain a challenge due to sepsis and hemorrhage, and rates of neonatal mortality remain high. In young children, diarrhea and respiratory illnesses are major causes of death.[429] Figure 17 shows the top 10 causes of death across all ages in Pakistan for the period 2011-2021.[430]

As of 2024, 40% of children aged under 5 years are stunted, 17.7% are wasted, and 28.9% are underweight, while 9.5% are overweight. Comparison of previous Pakistan Demographic Health Surveys (2012–2013) indicates some improvement in major health indicators, but the pace of progress is slow.[431]

Health Care System Structure

Pakistan's healthcare system (PHS) comprises private and public sectors. PHS faces many challenges – e.g., inadequate funding, infrastructural limitations, brain drain of health professionals, limited focus on preventive health care (PHC), and inequitable resource allocation.

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

Cause	2011 rank	2021 rank	Change in deaths per 100k, 2011-2021
COVID-19	-	1	↑ +93.4
Neonatal disorders	1	2	↓ −24.0
Ischemic heart disease	2	3	↑ +5.5
Stroke	3	4	↓ −3.0
Tuberculosis	5	5	↓ −12.7
COPD	7	6	↓ −4.1
Lower respiratory infect	4	7	↓ −19.1
Diabetes	9	8	↑ +1.4
Cirrhosis liver	8	9	↓ −2.1
Diarrheal diseases	6	10	↓ −21.2

Figure 17: Top 10 Causes of Death, Pakistan (2011-2021)

Nonetheless, Pakistan has launched its first comprehensive universal health coverage (UHC) initiative, Sehat Sahulat Program.[432]

The Ministry of National Health Services, Regulations and Coordination (NHSRC) is the federal authority for legislation and policy regarding health care and initiatives. The National Health Vision (2016-2025) lays out the NHSRC objectives as:

- Providing a unified vision to improve health while ensuring Provincial autonomy and diversity
- Building coherence between federal and Provincial efforts by consolidating progress, learning from experience, and moving towards UHC
- Facilitating synchronization across international reporting and treaties
- Ensuring coordination for regulation, information collection, surveillance, and research on improved health systems
- Creating a foundational basis for charting and implementing the SDGs in partnership with other sectors[433]

The NHSRC is divided into various departments, including the medical universities, district health offices, drug regulators, and the emergency preparedness network. Figure 18 shows the organizational structure of the Ministry.[434]

Pakistan spent 1.2% of GDP on the public health sector in 2020-2021 as compared to 1.1% in 2019-2020, not a significant increase when viewed in terms of GDP percentage and potentially a decrease in real terms given the state of the economy. The lack of sufficient investment has fueled the shortage of health infrastructure, medicines, medical equipment, and qualified healthcare professionals. Although there was an increase in staff from 2014 to 2021, this growth is not enough to meet the needs of a population growing at 2% annually. In 2021, there were 1,276 hospitals, 5,558 basic health units (BHU), 736 rural health centers (RHC), 5,802 dispensaries, 780 Maternity and Child Health Centers, and 416 TB centers.[435]

Health Strategies and Surveillance

Pakistan's government has taken several steps over the years to promote PHC. These steps include the Lady Health Workers Programme, the Expanded Programme on Immunization, the Polio Eradication Initiative (PEI), the Malaria Control Programme, Tuberculosis Control Programme, and establishment of BHUs and

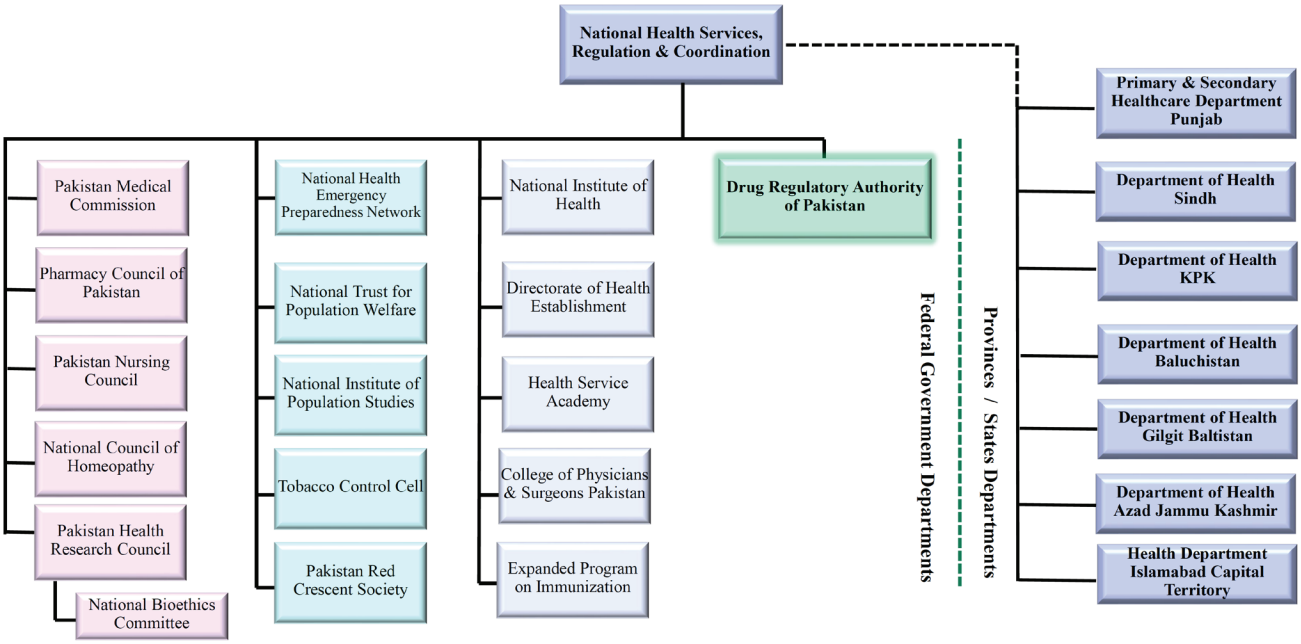


Figure 18: Organizational Structure of Ministry of National Health

RHUs.[436] In 2021, a working group comprised of NHSRC, the WHO, and provincial health authorities developed the WHO Country Cooperation Strategy (CCS) for 2021-2025. The CCS establishes a comprehensive strategic framework for the WHO to enhance its collaborative efforts in Pakistan. This framework aims to articulate WHO's medium-term vision for technical cooperation within the nation. The identified priority areas for WHO's support in Pakistan encompass:

1. Integrated control of communicable diseases
2. Prevention and control of NCDs
3. Health system strengthening
4. Promoting health through the life course
5. Emergency preparedness and humanitarian action.[437]

The country is exposed to various natural and anthropogenic hazards and experiences the adverse effects of climate change, especially extreme temperatures, landslides, salinity intrusion, and heavy rains. These impacts can trigger outbreaks of communicable diseases, mainly waterborne diseases, skin infections, and pneumonia, as well as malnutrition and injuries. They also erode health systems due to disrupted services, damaged facilities, deaths and injuries among health staff, and strained resources. A Joint External Evaluation (JEE) of the country's International Health Regulations (IHR) core capacities was carried out in 2016, and the JEE found five major cross-cutting themes where improvement was needed: continued and expanded multisectoral communication and coordination; a sufficiently funded, widely supported five-year plan; a strong active surveillance and tiered public health laboratory system; enhanced regulation, standards, and coordination mechanisms for food safety; and a national cross-sectoral approach. Considering the findings of the JEE, the first national action plan for health security was developed in 2018. The plan aims to create and maintain active collaboration between federal and provincial entities through the "One Health" approach to ensure timely preparedness and consistent and coordinated response in the event of occurrence of an event of public health concern.[438]

The National Health Vision 2016–2025 provides a responsive unified direction to overcome various health challenges, while ensuring UHC as the ultimate goal. The Vision has eight thematic pillars, agreed to by all provincial governments, and health sector strategic plans are aligned to the Vision.[439] The eight pillars are:

1. Health Financing
2. Health Service Delivery
3. Human Resource for Health
4. Health Information Systems
5. Governance
6. Essential Medicines and Technology
7. Cross-sectoral linkages
8. Global Health Responsibilities[440]

Additional strategies exist for addressing challenges of reproductive health; maternal, newborn, child, and adolescent health and nutrition; health security; and human resources. Moreover, there is a National Action Plan for the Implementation of Bangkok Principles on Health Aspects of the Sendai Framework for DRR. The Plan aims to strengthen existing systems in alignment with the NDMP and DM policy. The Plan has seven strategic objectives:

1. Promote systematic integration of health into national and sub-national DRR policies and plans, and include emergency and DRM programs in national and subnational health strategies
2. Enhance cooperation between health authorities and other relevant stakeholders to strengthen country capacity for DRM for health, the implementation of the IHR, and building resilient health systems
3. Stimulate people-centered public and private investment in emergency and DRR, including in health facilities and infrastructure
4. Integrate DRR into health education and training and strengthen capacity of health workers in DRR
5. Incorporate disaster-related mortality, morbidity, and disability data into multi-hazards EWS, health core indicators, and national risk assessments

6. Advocate for and support cross-sectoral, trans-boundary collaboration, including information sharing, and science and technology for all hazards, including biological hazards
7. Promote coherence and further development of local and national policies and strategies, legal frameworks, regulations, and institutional arrangements[441]

Communicable Diseases

Pakistan is burdened with a number of communicable diseases. In addition to diseases that are spread from human to human, Pakistan has one of the world's highest burdens of vector-borne diseases – e.g., malaria, leishmaniasis, dengue, yellow fever, Chikungunya, and Crimean-Congo hemorrhagic fever.

WHO's declaration of mpox as a Public Health Emergency of International Concern, issued on 14 August 2024, raised an alarm worldwide. With 122 countries reporting more than 99,518 confirmed cases and 208 deaths, mpox is emerging as a major global health threat. Pakistan is also witnessing the spread of this virus, with 11 confirmed cases and one death since the country's first confirmed detection in April 2023.[442] Pakistan's National Institutes of Health issued an urgent advisory, calling for intensified surveillance and enhanced diagnostic measures.[443]

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. Within Pakistan, almost 12 million people are suffering from hepatitis B or C. Each year brings about 150,000 new cases. A significant portion of individuals contract this infection within healthcare settings and are often unaware of this occurrence.[444]

Viral hepatitis, including hepatitis B and C, is a leading cause of cirrhosis and liver cancer. The modes of transmission for hepatitis B and C are similar. The viruses can be transmitted from mother to child during gestation or parturition. The culprit for transmission is frequently insufficient sterilization, which can be exacerbated by a lack of skilled practitioners or by illegal healthcare practices. Additional potential exposures come from sharing of personal items such as toothbrushes and razors, unprotected sex, and unscreened transfusions of blood products. Community exposure, including barbering, tattooing, and ear and nose piercing techniques, are also responsible for increased transmission.

Despite a national strategy for hepatitis B immunization, in 2020, only 77% of newborns received the full three-dose hepatitis B vaccines, falling short of the WHO objective of at least 90% hepatitis B vaccination. Despite adopting some preventive measures, the prevalence of hepatitis B and C and related mortality has not decreased in Pakistan. One of the key shortfalls is a lack of regular screening. Most hepatitis C screening and treatment services are offered at the tertiary care level by commercial and public healthcare providers. However, these services are expensive and therefore beyond the capacity of at-risk and marginalized populations that bear the brunt of this illness.[445]

Polio

The main objective of the PEI is a polio-free Pakistan and world. Pakistan and Afghanistan, which share borders and are considered a single epidemiologic block, are the only two remaining polio-endemic countries in the world. Overall, poliovirus continues to circulate due to poor sanitation, low immunization rates, and hygiene and water-related factors.[446] While Pakistan has yet to fully eradicate polio, there has been a major downward trend in the number of reported cases per year; the total count of wild poliovirus cases in Pakistan in 2019 was 147, compared to 84 in 2020, 1 in 2021, 20 in 2022, 6 in 2023, and 8 as of June 2024.[447] Low routine immunization coverage is an area of concern, as it leaves many children susceptible to preventable infectious diseases, especially polio.

Malaria

Malaria is a leading cause of morbidity and

mortality in Pakistan. It is one of the six priority communicable diseases posing a threat to the health of millions. With 1 million estimated and 300,000 confirmed cases each year, Pakistan has been grouped with Afghanistan, Somalia, Sudan, and Yemen, which, together, account for more than 95% of the total regional malaria burden. Malaria transmission in Pakistan has been traditionally seasonal and of unstable pattern. Intense transmission occurs in districts bordering Iran and Afghanistan and along the coastal belt in Sindh and Balochistan Provinces. Mass population movements within the country and across international borders, unpredictable climatic and weather conditions, refugees and IDPs, poor socioeconomic conditions, declining health infrastructure, resource constraints, poor access to preventive and curative services, and mounting drug and insecticide resistance in parasites and vectors, all contribute to this huge disease burden.

Efforts for effective malaria control date to 1950. In 1961, the countrywide eradication campaign was launched under the auspices of WHO and with support from UNICEF and USAID. As a result of this campaign, malaria was nearly eradicated from Pakistan, and a marked reduction in malaria cases was observed from an estimated 7 million cases in 1961 to 9,500 cases in 1967. An overall reduction from 15% to less than 0.01% was observed in the slide positivity rate. However, the relief proved to be temporary, and in 1969 malaria infections began to increase due to decreased programming toward eradication.[448]

Tuberculosis

Pakistan is ranked fifth among high-TB-burden countries worldwide, and it accounts for 61% of the TB burden in the WHO Eastern Mediterranean Region. An estimated 510,000 new TB cases emerge in the country each year, and approximately 15,000 drug-resistant TB cases are reported every year. The country is estimated to have the fourth highest prevalence of MDR-TB globally. Key reasons for emergence of drug-resistant forms of TB include delays in diagnosis; unsupervised, inappropriate, and inadequate drug regimens; poor follow-up; and lack of a social support program for high-risk populations.[449] 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.

The National Strategic Plan 2020-2023 aims to have a TB-free Pakistan with zero deaths, diseases, or poverty caused by TB. The mission is to end the TB epidemic by 2035, with the goal of getting back on track by 2030. Therefore, the National TB Programme aims to treat at least 1.6 million TB cases successfully by 2030.[450]

HIV/AIDS

Infection with HIV can lead to acquired immunodeficiency syndrome (AIDS). AIDS results in a gradual and persistent decline and failure of the immune system, resulting in a heightened risk of life-threatening infection and cancers. In most cases, HIV is a sexually transmitted infection. However, HIV can also be transmitted from mother to child, during pregnancy or childbirth, or through breastfeeding. Non-sexual transmission can also occur by sharing injection equipment such as needles.[451]

The HIV epidemic is well established in Pakistan. It is defined as a concentrated epidemic meaning that the prevalence in traditional risk groups exceeds 5%. However, the epidemic is expanding among injecting drug users, with an estimated prevalence of 20%, and among their sexual contacts, including male and transgender sex workers, with rates of 2%–3% and 4%, respectively. National surveillance data shows rates of infection in most major cities ranging 15-50% among the country's estimated 150,000 injecting drug users. Like many developing countries, Pakistan faces elevated risk of HIV transmission as a result of poverty, low literacy, gender-related discrimination, ignorance about modes of transmission, and the stigma that prohibits people with risk behaviors from seeking

HIV testing or disclosing their HIV-positive status.[452]

Non-Communicable Diseases

The world has experienced a shift in disease burden toward NCDs, which represent an emerging global health threat. NCDs – especially heart disease, cancer, chronic respiratory disease, and diabetes – are the leading cause of death worldwide. They exceed all communicable disease deaths combined. NCDs kill 41 million people each year, equivalent to 74% of all deaths worldwide.[453] This NCD trend can also be seen in Pakistan, where premature mortality due to NCDs since 2000 has steadily increased. NCDs now account for an estimated 58% of all deaths in Pakistan. NCDs account for five of the top 10 causes of death. Adoption of a sedentary lifestyle and changes in diet have resulted in a surge in NCDs in Pakistan. Ischemic heart disease is the most common NCD, followed by stroke, chronic obstructive pulmonary disease (COPD), diabetes, and cirrhosis of the liver.[454]

In 2004, Pakistan was one of the first developing countries to develop a comprehensive National Action Plan to address NCDs. Among the seven strategic health priorities laid out in its CCS 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.[455]

Training for Health Professionals

Nearly 33,000 physicians graduate every year in Pakistan, and 40% of them go abroad for better opportunities. Departing physicians cite low income, long hours, and inequality as the main reasons for seeking work overseas. This brain drain puts undue pressure on the PHS and leads to inadequate provision of health care. Figure 19 details the human resources present within the PHS between 2017 and 2021.[456]

The Pakistan Human Resources for Health Vision 2018–2030 seeks to address the systemic challenges that stem from having one of the lowest densities of health workers globally. The country has an essential skilled health professional (physicians, nurses, lady health visitors, and midwives) density of 1.4 per 1,000 population, well below the indicative minimum threshold of 4.45 physicians, nurses, and midwives per 1,000 population. The Vision focuses on four strategic objectives:

- Establishing national and provincial planning and development capability for the health workforce to provide the necessary tools (strategies, governance mechanisms, and legislation) and resources to deliver a health workforce of sufficient size, composition, capability, and distribution to meet the health needs of the population
- Aligning investment in human resources for the health labor market with the current and future needs of the people and health system to address shortages and improve distribution of a quality health workforce and enable maximum improvements in health outcomes and poverty reduction

Health Manpower	2017	2018	2019	2020	2021
Doctors	208,007	220,829	233,261	245,987	266,430
Dentists	20,463	22,595	24,930	27,360	30,501
Nurses	103,777	108,474	112,123	116,659	121,245
Midwives	38,060	40,272	41,810	43,129	44,693
Lady Health Workers	18,400	19,910	20,565	21,361	22,408

Figure 19: PHS Human Resources (2017-2021)

- Building the capacity of institutions at district, province, and national levels for effective and quality pre-service and in-service training and leadership on human resources for health
- Strengthening data collection, processing, and dissemination related to human resources for health for monitoring and ensuring accountability at different levels[457]

The Certificate in Health Professions Education (CHPE) program, mandated by the Pakistan Medical and Dental Council for all medical and dental educators seeking promotion, serves as a pivotal development in the landscape of health profession education. Designed to be innovative, the CHPE aims to furnish healthcare practitioners with the requisite educational proficiencies, knowledge base, and skillset to excel as educators, mentors, and leaders. With the proliferation of medical universities, there is a marked variability in the content, quality, and assessment criteria of CHPE programs across institutions. Furthermore, there is a trend of heavy reliance on Western medical education models without appropriate contextualization of Pakistan's unique healthcare challenges and cultural intricacies. This inconsistency and potential lack of relevance emphasize the urgent need for standardized regulation to ensure the quality and applicability of these programs to address the country's healthcare needs.[458]

In 2006, the U.S. CDC initiated the Field Epidemiology and Laboratory Training Program (FELTP) in Pakistan at the request of Pakistan's Federal Ministry of Health. The primary objective of FELTP Pakistan is to bolster the workforce capacity necessary to fulfill the core competencies outlined in the IHR and the Global Health Security Agenda. The program began with the induction of its first cohort in 2007, and since then, it has successfully trained over 2,000 health professionals. The course encompasses two principal training modalities: 1) a comprehensive two-year advanced FELTP; and 2) a frontline training course, along with various short-term training sessions focused on critical areas such as disease surveillance, outbreak investigation and response, risk communication, incident management systems, contact tracing, and case management. To date, 12 cohorts have completed the FELTP two-year advanced training. The contributions of FELTP graduates were instrumental in Pakistan's response to the COVID-19 pandemic. These trained professionals facilitated the mitigation of virus transmission through proactive case identification and hotspot mapping, implementing effective public health interventions, and enhancing immunization uptake. Consequently, the program has significantly strengthened Pakistan's overall health security.[459]

WOMEN, PEACE AND SECURITY

The Women, Peace and Security (WPS) agenda covers a wide range of efforts to increase women's meaningful participation in the promotion of sustainable peace and security through conflict prevention and resolution, peace negotiation, peacebuilding, peacekeeping, humanitarian response, relief aid, and economic recovery and development. The WPS agenda gained global visibility with United Nations Security Council Resolution (UNSCR) 1325, which was adopted in October 2000 and affirmed the important role women play in many aspects of promoting and maintaining peace and security. The WPS agenda has since expanded with the adoption of additional related UNSCRs: 1820 (2009); 1888 (2009); 1889 (2010); 1960 (2011); 2106 (2013); 2122 (2013); 2242 (2015); 2467 (2019); and 2493 (2019). These resolutions together address various issues of gender and security, including the need to stop gender-based violence and to promote women's roles in conflict resolution, recovery, and peacebuilding. The WPS agenda has also broadened to include applying a gendered perspective to humanitarian assistance, disaster management, DRR, and climate security for more equitable participation to address humanitarian needs and benefit the entirety of a society over the longer term.

As of May 2024, Pakistan is not among the 109 countries that have adopted a National Action Plan for implementation of UNSCR 1325 on WPS.[460] However, Pakistan has made a number of other international legal commitments related to human rights or labor protection, including ratification of the following commitments in the year noted:[461]

- Universal Declaration of Human Rights — 1948
- Convention on the Prevention and Punishment of the Crime of Genocide — 1948
- Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87) — 1951
- Right to Organize and Collective Bargaining Convention, 1949 (No. 98) — 1952
- Abolition of Forced Labour Convention, 1957 (No. 105) — 1960
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111) — 1961
- International Convention on the Elimination of All Forms of Racial Discrimination (ICERD) — 1966
- Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment — 1987
- Convention on the Rights of the Child (CRC) — 1990
- Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) — 1996
- Worst Forms of Child Labor Convention, 1999 (No. 182) — 2001
- Equal Remuneration Convention, 1951 (No. 100) — 2001
- International Covenant on Economic, Social and Cultural Rights (ICESCR) — 2004
- Convention on the Rights of People with Disabilities (CRPD) — 2006
- Minimum Age Convention, 1973 (No. 138) — 2006
- International Covenant on Civil and Political Rights (ICCPR) — 2008
- Sustainable Development Agenda — 2015

Women in the Pakistani military have made remarkable strides, both domestically and internationally, as part of the broader WPS framework. Since the 1940s, Pakistan has progressively integrated women into its armed forces, with female personnel serving in all branches, from enlisted ranks to officers, and progressively moving into combat arms roles.[462]

Women are also contributing to international peacekeeping efforts. The first all-female Pakistani Engagement Team, deployed in 2019 as part of the United Nations peacekeeping mission in the Democratic Republic of the Congo, played a crucial role in building trust within local communities, providing psychological support, and empowering women through vocational training and health initiatives.[463] Photo 1 shows a member of the Pakistani Engagement Team greeting Congolese children.[464]

Tens of thousands of women in Pakistan participate each year in the Aurat (Women's) March on International Women's Day (8 March) to highlight issues of gender inequality, including street harassment, bonded labor, and the lack of proper representation in parliament. What started in 2018 as a single march in Karachi has developed into an annual multi-city event.[465] In addition to Karachi, the annual march is held in the capital, Islamabad, and other cities including Lahore, Multan, Peshawar, and Quetta.[466] In 2024, the marches called for an end to violence against women in the home, workplace, and politics.[467] As the 2024 Aurat March came one month after a controversial general election, that year's march additionally called for transparency in poll results and an increase in the number of women's seats in Parliament.[468] Only 12 women were directly elected as Members of Parliament in the February 2024 elections. Women hold 53 out of 312 (17%) seats in the National Assembly and 16 out of 85 (18.8%) seats in the upper house, the Senate or House of the Federation.[469] The march has also experienced significant backlash. In 2020 in Islamabad, religious conservatives attacked march participants with batons and stones a few hundred yards from the prime minister's office and Parliament building; these assaults injured dozens, including the head of the Aurat March's Islamabad chapter.[470] After the 2021 march, opponents circulated fake videos edited to falsely attribute blasphemous slogans to marchers.[471]

At least two international indices regarding gender equality include Pakistan among the countries surveyed – the Global Gender Gap Report and the WPS Index. The Global Gender Gap Report, published by the World Economic Forum since 2006, annually benchmarks the state of gender parity across the four dimensions of economic participation and opportunity, educational attainment, health and survival, and political empowerment. Among the 146 countries surveyed in the 2024 report, Pakistan ranked 145th, with a score of 0.57 (57%) on a scale of 0 to 1, where 1 denotes parity. Pakistan was strongest in the dimension of health and survival by scoring 0.961 (96%), followed by educational attainment with a score of 0.836 (84%). The dimensions weighing down Pakistan's score were economic participation



Photo 1: Pakistani Woman Peacekeeper Greets Congolese Children

and opportunity with a score of 0.360 (36%) and political empowerment with a score of 0.122 (12%).[472]

The WPS Index, published by the Georgetown Institute for WPS and the Peace Research Institute Oslo, ranks countries on women's status across the three areas of women's inclusion, justice, and security. In the 2023/2024 WPS Index, Pakistan ranked 158 out of 177 countries and had a score of 0.481 on a scale of 0 to 1, where 1 denotes equal status. That edition included the following indicators across the three focus areas: Inclusion — education, financial inclusion, employment, cell phone use, parliamentary representation; Justice — absence of legal discrimination, access to justice, maternal mortality, son bias; Security — intimate partner violence, community safety, political violence targeting women, proximity to conflict. Figure 20 shows Pakistan's scores across all 13 factors of the WPS Index.[473]

Since 2017, Pakistan has made the most progress in women's financial inclusion, which increased from 3% to 13.5% of women ages 15 years and older who report having an individual or joint account at a bank or other financial institution, or who report using a mobile money service in the past year. In the same timeframe, Pakistan also made significant gains in women's perception of community safety, a statistic that rose from 50.8% to 56% of women ages 15 years and older who report that they "feel safe walking alone at night in the city or area where you live."[474]

Pakistan's 2022 National Gender Policy Framework aims to enact laws and policy reforms to enhance women's empowerment and participation. The National Commission on the Status of Women (NCSW) was established in 2000 and expanded its mandate in 2012. The NCSW has a dual mandate of overseeing the enforcement of laws, policies, and programs, and aiding the government in fulfilling its international commitments. It is the primary oversight body on gender issues at the national level, with the role of reviewing and monitoring the implementation of laws, policies, and programs and facilitating government implementation of international obligations. The NCSW focuses on eradicating violence against women, boosting women's involvement and representation in politics, and securing women's economic empowerment. To address the limited availability and analysis of comprehensive and consistent gender-disaggregated data and quality reporting on progress on gender equality and women's empowerment, in collaboration with UN Women Pakistan, the NCSW developed the National Gender Data Portal (NGDP) in 2021. The NGDP aims to consolidate gender data at a national level by using digital tools that triangulate data from various sources. Other state initiatives supporting women's empowerment or gender equality include the BISP, the largest single social safety net program in the country. Launched in 2008, BISP specifically targets women, with at least 8.7 million women beneficiaries. Gender-Based Violence courts and women's police stations have also been established.[475] Many structural and socio-cultural barriers pose challenges for women's and girls' agency, safety, and mobility, while various women's social movements strive to improve women's wellbeing and reduce barriers to gender equality.[476]

			INCLUSION					JUSTICE				SECURITY			
WPS Index rank 2023	Country	WPS Index score 2023	Education (years) 2016–2021[a]	Financial inclusion (%) 2021	Employment (%) 2018–2022[a]	Cellphone use (%) 2022	Parliamentary representation (%) 2023	Absence of legal discrimination (score) 2023	Access to justice (score) 2022	Maternal mortality ratio (deaths per 100,000 live births) 2020	Son bias (number of sons born per 100 girls) 2022	Intimate partner violence (%) 2018	Community safety (%) 2020–2022[a]	Political violence targeting women (events per 100,000 women) 2022	Proximity to conflict (%) 2021–2022
158	Pakistan	.481	3.9	13.5	25.3	32.0	20.1	58.8	1.527	154.2	105.5	16.0	56.0	0.013	40.0

Figure 20: Pakistan Metrics in the WPS Index 2023/24

CONCLUSION

Pakistan's 241.5 million people live in various cultural, political, and geographic spaces. Both the agriculture and services sectors are critical components of the national economy, but volatility has marked the country's economic activity in recent years as both domestic and international challenges – e.g., political unrest, massive flooding, and the COVID-19 pandemic – have disrupted investment and trade while also devastating lives and livelihoods.

The country has long confronted geophysical and hydro-meteorological hazards as earthquakes have shaken communities and extreme temperatures and floods have undermined agrarian and urban productivity. However, climate change is impacting all areas of the country, albeit in various ways as it influences the hazards to which Pakistan is exposed. There is a high likelihood that both flooding and extreme heat will worsen as glaciers melt and rain patterns shift. However, there is also a high potential for shifts in heat and precipitation to drive changing biological hazards – i.e., epidemic diseases and pests – even as environmental and economic conditions promote industrial activity that increases the risk of anthropogenic or technological hazard incidents.

The NDMA coordinates and implements DM policies at the national level, and its organization is mirrored at the provincial and district levels where PDMAs and DDMAs work with authorities within their respective jurisdictions. Although the institutions are well-defined at all levels, the DDMAs are at varying stages of capacity as they continue to work to develop the appropriate levels of hazard maps and assessments and to reform their DM plans to integrate shifting hazards and vulnerable populations while also contending with limited human and financial resources.

As part of its NDC, the country targets an inclusive, whole-of-society effort to adapt to climate change through ecosystem maintenance and renewal, expansion of renewable energy usage, and accessing global climate financing. However, with responsibility for climate change policy, diplomacy, and funding housed in the MoCC, integration of DM and CCA has been slow to develop. Nonetheless, NDMA's most recent NDMP has emphasized the Authority's role in addressing the impacts of climate change, particularly in promoting climate-smart and disaster resilient development.

Just more than one-third of the country's people live in urban areas, and this proportion is expected to rise in the coming decade such that more than half of people are urban dwellers. Unplanned urban growth is among the factors increasing the vulnerability of key sub-sets of the populace. The NDMA GCC is very active in developing ways to work with the country's most vulnerable communities, especially women and children, but also elders and people living with disabilities. The cell is continuing to ensure collection of data to inform policies and guidelines with regard to these groups and to ensure participation of representatives of these groups in DM and CCA planning and execution. Nonetheless, an increase in people living in poverty or in extremely-hazard-prone areas will increase the work of the GCC.

The country has strong relationships with international agencies and bilateral partners across the political, economic, and development sectors. Along with UN system agencies, Pakistan sustains ties with global players active in DM and CCA and seeks to leverage these ties to ensure that national development is both climate- and disaster-resilient.

APPENDICES

DoD DMHA Engagements in the Past Five Years (FY 2019-2024)

The list below describes the DMHA Engagements that the U.S. DoD has had with Pakistan in the last five years.

Inspired Gambit – August 2023

Inspired Gambit is a U.S. Army Central (ARCENT) and 3rd Security Force Assistance Brigade-led exercise with the Pakistani military. It focuses on crisis and natural disaster response training. In the latest iteration of the exercise, in August 2023, participants spent several days working on humanitarian assistance and disaster relief (HADR) scenarios, with an emphasis on sharing Military Decision-Making Process techniques and capabilities for effective foreign humanitarian assistance. Representatives included members from the U.S. and Pakistan militaries, USAID, and the U.S. Embassy in Islamabad.[477] Photo 2 shows the U.S. Central Command (CENTCOM) and ARCENT social media engagement regarding events within Inspired Gambit 2023.[478]

Exercise Regional Cooperation 23 – August 2023

The Montana National Guard (MTNG) hosted Regional Cooperation 23 (RC23), a U.S. CENTCOM-sponsored exercise at Fort Harrison in Helena, Montana, 8-18 August 2023. Over 230 participants took part in the event, including military personnel representing Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, and Uzbekistan, observers from Turkmenistan, and U.S. National Guard units from Arizona, Massachusetts, Mississippi, Montana, and Virginia. RC23 focused on collaborative responses to simulated international security threats, with participants engaging in scenarios addressing regional security, weapons interdiction, countering terrorism, and narcotics control. This annual exercise, supported by the U.S. National Guard State Partnership Program, emphasized enhancing interoperability, sharing information, and strengthening multinational partnerships for improved regional stability.[479]



Photo 2: CENTCOM's X Post for Inspired Gambit 2023

USCENTCOM Commander Visits Pakistan Armed Forces – July 2023

From 23 through 25 July 2023, General Michael 'Erik' Kurilla, USCENTCOM commander, visited Pakistan to meet with General Syed Asim Munir, Pakistan's Chief of Army Staff, and other senior Pakistani leaders to enhance military-to-military relations. Key topics of discussion included disaster preparedness and humanitarian assistance opportunities, security cooperation, and countering terrorism. General Kurilla also visited Pakistan's National Counter Terrorism Center to explore joint training opportunities, highlighting USCENTCOM's commitment to advancing the longstanding U.S.-Pakistan partnership in HADR and regional security.[480]

AMAN-23 – February 2023

The Pakistan Navy hosted the multi-national naval "Exercise Aman" 10-14 February 2023, with participants from over 50 different countries. Under the slogan "Together for Peace and Security," the exercise focused on enhancing interoperability and maritime security in the Indian Ocean region. This included focus on climate change, counterterrorism, and HADR operations such as search and rescue at sea.[481]

Regional Cooperation 22 – August 2022

The U.S. CENTCOM-sponsored RC22 exercise was hosted in Dushanbe, Tajikistan, 10-20 August 2022. Military personnel from the U.S., Tajikistan, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, and Uzbekistan gathered for a six-day command post operation and a five-day U.S.-Tajikistan field training exercise at the Fakhrabad Training Center. Regional Cooperation has been an annual event since 2004; it is intended to promote stability across the region and enhancing regional security, counterterrorism, and cooperative capabilities. U.S. State Department officials highlighted the exercise's role in strengthening Central and South Asian partnerships, facilitating peaceful responses, and advancing information-sharing and security cooperation.[482]

International/Foreign Relations

Pakistan is situated in a strategic geopolitical location along key maritime and land-based routes that connect Central Asia and the Middle East's energy resources to South and East Asia's dense population hubs. Pakistan's foreign policy aims to develop positive international relations with neighboring countries and major powers, while also safeguarding national security and geo-strategic interests.[483] These strategic alliances foster regional stability and economic development and enhance Pakistan's capability to respond to emerging threats and hazards.

Afghanistan

Pakistan-Afghanistan relations trace back to 1893, when the international border between Afghanistan and British India was established. Following Pakistan's independence in 1947, the historically disputed border was inherited by the Pakistani government. Known as the Durand Line, the Pakistan-Afghanistan border runs 2,640 km (1,640 mi) along Pakistan's western frontier and is marked today by cultural tension between the Punjabi and Pashtun ethnic communities, as well as by terrorist activity and conflict between the Taliban and the Pakistan military.[484]

The border provinces have seen a surge in violent attacks associated with the Pakistan Taliban, or Tehrik-e Taliban Pakistan (TTP), a close ally of the Afghan Taliban. These attacks have led to increased anti-terrorism operations by the Pakistan military, and the subsequent deportation of over 1 million undocumented Afghan refugees who had been living in Pakistan.[485] An estimated 4 million Afghan refugees still reside in Pakistan; some of them arrived in Pakistan in the 1980s during the Soviet Union's occupation of Afghanistan. Pakistan's rapid deportation of refugees has drawn international criticism for its humanitarian implications, with concerns over violations of human rights norms and the potential return of asylum seekers to perilous conditions.[486]

Despite such disputes, Pakistan strives for peaceful diplomatic relations with Afghanistan due to their close geographic proximity, historical linkages, and socio-economic relations. Pakistan is the largest trade partner of Afghanistan, with major exports to Afghanistan including packaged medicines, rice, and other agricultural products including vegetable oils.[487] Bilateral trade between Pakistan and Afghanistan amounted to US$1,603 million in FY2023.[488]

PRC

Relations between Pakistan and PRC have largely been influenced by regional tensions with India. Following the 1962 Sino-Indian War, Beijing provided Pakistan with arms, economic

aid, and resources to develop its nuclear weapons program.[489] However, PRC had maintained political distance from Pakistan until the mid-2000s when strategic alliances between the United States and India improved, threatening Beijing's strength in the region and reinvigorating interest in Pakistan as a critical regional partner.[490]

Today, bilateral relations are rooted in partnerships such as the CPEC, a framework for improving infrastructure and transportation networks between the two nations to promote socio-economic development.[491] Projects funded through CPEC include the development of coal and renewable energy power plants, construction of key logistics assets such as motorways, train lines, and ports, and other social sector resources such as desalination plants, hospitals, and emergency relief supplies to enhance NDMA's disaster preparedness capacity.[492]

However, PRC-Pakistan relations have recently become strained due to Pakistan's growing economic instability, marked by mounting debts to Beijing, delayed progress on CPEC initiatives, and concerns for the security of Chinese citizens that have been increasingly targeted by extremist groups in Pakistan. Beijing is frustrated with Islamabad's inability to address these issues, while Pakistan's proposals to the United States for financial support further complicate the partnership, particularly amid intensifying United States-PRC strategic competition in the Indo-Pacific region.[493]

India

Pakistan-India relations have been marked by 1947's Partition, the violent division of British India, during which approximately 12.5 million people were displaced and over 1 million people were killed.[494] The ongoing dispute over Kashmir – parts of which are claimed by both Pakistan (as part of AJK) and India (as part of Jammu and Kashmir) – is one of the longest-running disputes on the United Nations Security Council's agenda, with wars over control of the region erupting in 1965 and 1999.[495] Persistent skirmishes at the LOC, terrorism, and insurgencies have fueled tensions in the disputed region, with Pakistan accused of supporting militant groups.[496]

Despite periods of dialogue, such as the Simla Agreement (1972) and Lahore Declaration (1999), trust has been undermined by incidents like the 2008 Mumbai attacks and 2019 Pulwama bombing. Nuclear tests by both countries in the 1990s added a new layer of complexity, and both nations received international sanctions.[497] In recent years there have been sporadic ceasefires and efforts for peace, but underlying issues, particularly over Kashmir, continue to strain relations.

United States

Following Pakistan's independence in 1947, relations with the U.S. were established. Amid the Cold War (1947-1991), Pakistan sided with the U.S. against the spread of communism, and this alignment formed a foundation for future military and economic relations.[498] These relations shifted significantly after the terrorist attacks of 11 September 2001, as Pakistan's geostrategic location and influence in the Islamic world made it a pivotal player in the war on terrorism.[499] The U.S. has continuously urged Pakistan to take decisive action against militant groups and UN-designated terrorist organizations in the region and to support a free and open Indo-Pacific region, including maritime and airspace security.[500]

While Pakistan-United States relations have been predominately security-centric, following the United States withdrawal from Afghanistan in 2021, relations have pivoted to a more comprehensive approach, emphasizing economic development, bilateral trade, and enhancing regional cooperation in areas including DM and countering infectious diseases.[501] The United States remains the top importer of Pakistani export goods, dominated by items from Pakistan's textile industry; the total worth of these exports hit US$6.47 billion in 2022. Major exports from the United States to Pakistan include raw cotton, scrap iron, and pharmaceutical products, such as vaccines. [502]

Also critical to relations is the Pakistani diaspora in the United States, the third largest such diaspora worldwide. This community bonds Pakistani communities across the two nations and is a large source of economic support in the form of remittances sent from Pakistanis in the United States.[503] An estimated 554,000 Pakistanis lived in the United States as of 2019, and over 60% of them remained for over 10 years.[504]

United Kingdom

Pakistan and the UK have had continuous formal diplomatic relations since Pakistan's independence, while historical ties are rooted in colonial era relations. Since the UK's exit from the EU (Brexit) in 2020, the UK's foreign relations strategy in Pakistan has aimed to improve Pakistan's economic stability and regional security, in alignment with the UK's geopolitical interests.[505] Recent areas of focus have included population dynamics, climate vulnerability, gender inequality, and macroeconomic stability. [506]

Approximately 1.6 million immigrants from Pakistan reside in the UK, the second-largest Pakistani diaspora community after the Middle East. Additionally, the Pakistani population is the UK's second-largest minority population.[507] In FY2022-23, remittances from the UK to Pakistan totaled US$4 billion, an amount that plays a significant role in fostering international relations and supporting millions of families and driving local development in Pakistan.[508]

European Union

Relations between the EU and Pakistan are underscored by the 2019 Strategic Engagement Plan (SEP), which covers political and security cooperation, trade, and development assistance.[509] The SEP builds upon the foundations of the UN Charter, international law, and prior agreements established between the EU and Pakistan that aimed to further positive partnership and development.[510]

The EU has played a vital role in supporting Pakistan's initiatives in climate resilience, human capital development, governance, and migration challenges, including sustainable reintegration of refugees, combating human trafficking, and facilitating legal pathways for labor migration to the EU.[511] Pakistan's trade has been supported by the EU's Generalized System of Preferences, which allows the country to export a diverse range of products to the EU market with reduced or zero tariffs.[512] This has resulted in significant growth in exports, particularly in the textiles and clothing sectors, which accounted for over 73% of exports from Pakistan to the EU in 2023.[513]

Participation in International Organizations

Pakistan is a member of, participates in, or cooperates with the following international organizations and agreement frameworks either as a government or via a national NGO or other entity:

ASEAN Regional Forum (ARF), Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), Association of Southeast Asian Nations (ASEAN) (sectoral dialogue partner), Colombo Plan (CP), Commonwealth, Conference on Interaction and Confidence Building Measures in Asia (CICA), D-8 Organization for Economic Cooperation, Economic Cooperation Organization (ECO), European Organization for Nuclear Research (CERN) (associate member), Food and Agriculture Organization of the United Nations (FAO), Group of 77 (G77), Group of Eleven (G11), Institute of Catastrophe Risk Management (ICRM), Inter-Parliamentary Union (IPU), Intergovernmental Group of Twenty Four (G-24), International Atomic Energy Agency (IAEA), International Bank for Reconstruction and Development (IBRD), International Chamber of Conference (ICC-national committees), International Civil Aviation Organization (ICAO), International Criminal Police Organisation (INTERPOL), International Development Association (IDA), International Federation of Red Cross and Red Crescent Societies (IFRC), International

Finance Corporation (IFC), International Fund for Agricultural Development (IFAD), International Hydrographic Organization (IHO), International Labour Organization (ILO), International Maritime Organization (IMO), International Mobile Satellite Organization (IMSO), International Monetary Fund (IMF), International Olympic Committee (IOC), International Organization for Migration (IOM), International Organization for Standardization (ISO), International Telecommunications Satellite Organization (ITSO), International Telecommunications Union (ITU), International Trade Union Confederation (ITUC-NGOs), Islamic Development Bank (IDB), Multilateral Investment Guarantee Agency (MIGA), Non-Aligned Movement (NAM), Organisation for the Prohibition of Chemical Weapons (OPCW), Organisation of Islamic Cooperation (OIC), Organization of American States (OAS) (observer), Permanent Court of Arbitration (PCA), The Shanghai Cooperation Organisation (SCO), South Asia Cooperative Environment Programme (SACEP), South Asian Association for Regional Cooperation (SAARC), United Nations (UN), United Nations Conference on Trade and Development (UNCTAD), United Nations Educational, Scientific, and Cultural Organization (UNESCO), United Nations High Commissioner for Refugees (UNHCR), United Nations Industrial Development Organization (UNIDO), United Nations Office for Outer Space Affairs (UNOOSA), Universal Postal Union (UPU), World Customs Organization (WCO), The World Federation of Trade Unions (WFTU NGOs), World Health Organization (WHO), World Intellectual Property Organization (WIPO), World Meteorological Organization (WMO), World Tourism Organization (UNWTO), World Trade Organization (WTO)

UN peacekeeping missions that Pakistan is contributing personnel to, as of 31 July 2024:

- United Nations Interim Security Force for Abyei (UNISFA): 13 Experts on Mission, 12 Staff Officers, 570 Troops
- United Nations Mission for the Referendum in Western Sahara (MINURSO): 12 Experts on Mission
- United Nations Mission in South Sudan (UNMISS): 3 Experts on Mission, 15 Staff Officers, 275 Troops
- United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA): 9 Experts on Mission, 32 Staff Officers, 1,276 Troops
- United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO): 11 Experts on Mission, 29 Staff Officers, 340 Troops
- United Nations Peacekeeping Force in Cyprus (UNFICYP): 3 Staff Officers
- United Nations Support Office in Somalia (UNSOS): 1 Expert on Mission
- The country had a total of 2,601 uniformed personnel on UN missions globally; of these personnel, 2,495 were male and 106 were female.[514]

Force Protection/Pre-Deployment Information

The following information is provided for pre-deployment planning and preparations. Visit 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). 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.

Passport/Visa

The Government of Pakistan requires all travelers ages 12 years and over to be fully vaccinated against COVID-19. All travelers are subject to random COVID-19 testing at all points of entry/exit. This policy is in effect until further notice and affects all international airports. Those testing positive for COVID-19 with the rapid test at the point of entry to Pakistan will then have a sample taken for a polymerase chain reaction (PCR) test and be given home isolation

instructions. Travelers should not expect to be returned to their previous destination, nor quarantined at the Port of Entry/Exit.

Requirements for entry and exit:
- Valid passport
- Valid Pakistani visa
- Dual nationals only: National Identity Cards for Overseas Pakistanis (NICOP)

Travelers must obtain a visa at the Pakistani Embassy or a Consulate prior to initiating travel to Pakistan.

All U.S. government employees and immediate family members on U.S. government orders 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. Official U.S. government travelers must be aware that operational and personal security policies for official U.S. government personnel change frequently.

Dual Nationals: Different visa requirements may apply for travelers who hold both U.S. and Pakistani citizenship. U.S. citizens who travel to Pakistan on a NICOP or Pakistan Origin Card (POC) will be considered a citizen of Pakistan, which may limit the amount of assistance and communication the U.S. Embassy can provide in case of arrest.

Travelers must obtain advance permission from local or federal authorities to travel in:
- Province of Khyber Pakhtunkhwa (KP)
- Various districts in Azad Kashmir
- Province of Balochistan

Stay in compliance with Pakistani immigration regulations. Travelers who overstay a visa or violate visa terms may be detained, arrested, fined, and/or imprisoned. For further details see the Ministry of Interior website or call +92-51-920-7290.

Keep copies of your U.S. passport data page, Pakistani visa or ID card, and Pakistan immigration entry stamp with you at all times. Consider downloading these documents to your mobile phone in case of emergency.

Safety and Security

Terrorism: Violent extremist groups within Pakistan continue to seek opportunities to attack locations where U.S. citizens and other Westerners are known to congregate or visit, including:
- High-profile public events (sporting contests, political rallies, demonstrations, holiday events, celebratory gatherings, etc.)
- Government facilities
- Schools and universities
- Shopping malls and markets
- Hotels, clubs, and restaurants frequented by Westerners and tourists
- Public transportation hubs/stations
- Minority neighborhoods
- Outdoor recreation areas.

Terrorists also target Pakistani officials, government facilities, security forces, and religious minorities.

We recommend you limit the frequency of travel and minimize the duration of trips to public markets, restaurants, and other public locations.

Attacks have included armed assaults on heavily guarded sites, including Pakistani military and police installations, and airports. Primary tactics of terrorists include suicide operations, shootings, and bombings (including vehicle-borne explosives and improvised explosive devices), while other actions include but are not limited to assassinations, carjackings, kidnappings, and assaults. The Government of Pakistan maintains heightened security measures, particularly in major cities, and these measures can vary from day to day. However, the U.S. government is aware of narcotics smuggled onto flights from Pakistan, which may indicate broader security vulnerabilities at Pakistani

airports.

The U.S. Embassy and Consulates regularly assess security situations and restrict the movements of official personnel as necessary. 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 U.S. government personnel under Chief of Mission (COM) security responsibility. The U.S. Embassy and Consulates prohibit personnel under COM security responsibility from using public transportation or taxi services. The U.S. Embassy and Consulates also prohibit such personnel from visiting houses of worship.

Official U.S. government personnel visiting Pakistan are authorized to stay overnight in certain local hotels in Islamabad, and some other areas of the country. Avoid hotels that do not apply stringent security measures. 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 U.S. government personnel on official travel/orders.

Follow media coverage of local events and maintain good situational awareness and operational security wherever you travel in Pakistan. If you feel that your life is in danger in Pakistan, we advise you to report the threat to local police authorities and consider immediately changing locations or departing Pakistan.

Crime: All travelers are advised to dress conservatively, with arms and legs covered, and to avoid walking alone. Avoid travel on the streets late at night. Urban crime can be organized or opportunistic and conducted by individuals or groups. It can include fraud, theft, robbery, carjacking, 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, theft, and larceny are common on buses and trains at all hours of the day.

Take precautions to avoid crime, including:

- Locking home and vehicle doors
- Varying routes and schedules
- Keeping bags or valuables under your legs away from passing vehicle traffic and ensuring that bag straps are not visible
- Traveling in groups
- Being accompanied by someone with the ability to speak the local language if you travel outside urban areas
- Carrying your mobile phone

Victims of assault are advised to flee to a safe area and report the situation to local authorities by going directly to a police station or dialing 15.

Demonstrations occur frequently. They may take place in response to local, national, or international current events, including on politically significant holidays. Demonstrations can be unpredictable; avoid areas around protests and demonstrations. Past demonstrations have turned violent. Check local media for updates and traffic advisories.

Demonstrations, political rallies, or large religious gatherings intended to be peaceful can become confrontational and possibly escalate into violence. U.S. citizens are advised to avoid areas where large crowds of any kind gather. 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.

The U.S. Embassy and U.S. Consulates General generally do not message or post information about routine demonstrations but will disseminate known information regarding demonstrations or unrest that pose a potentially specific threat to U.S. citizens, including U.S. government personnel in country.

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 such as New Year's Eve. Although the likelihood of being struck is remote, falling rounds can cause injury or death.

Victims of Crime: U.S. citizen victims of

sexual assault are encouraged to contact the U.S. Embassy for assistance. Report crimes to the local police at 15 and contact the U.S. Embassy at +(92)(51) 201-4000. Local authorities are responsible for investigating and prosecuting crime. 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 and may be treated as Pakistani nationals by the police and the courts.

The U.S. Embassy can:

- Help find appropriate medical care
- Assist in reporting a crime to the police
- Contact relatives or friends with written consent
- Provide a list of local attorneys
- Provide our information on victim's compensation programs in the U.S.
- Provide an emergency loan for repatriation to the United States and/or limited medical support in cases of destitution
- Help find accommodation and arrange flights home
- Replace a stolen or lost passport

Tourism: The tourism industry is unevenly regulated, and safety inspections for equipment and facilities do not regularly occur. Hazardous areas/activities are not always identified with appropriate signage, and staff may not be trained or certified either by the host government or by recognized authorities in the field. In the event of an injury, appropriate medical treatment is typically available only in/near major cities. First responders are generally unable to access areas outside of major cities and to provide urgent medical treatment. U.S. citizens are encouraged to purchase medical evacuation insurance.[515]

Emergency Contact Information

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
Email: *ACSIslamabad@state.gov*
Web: *https://pk.usembassy.gov/*

Currency Information

Pakistani Rupee (PKR or Rs)
Rs 1.00 = US$0.0036 or Rs 278.79 = US$1.00 (9 September 2024)

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 Tables 3 and 4 is taken directly from the CDC website under the Travelers Health Section (*https://wwwnc.cdc.gov/travel/destinations/list/*).[516]

Health Alerts for Pakistan - At the time of writing this handbook (9 September 2024), there is a health risk alert:

- Level 2 - Practice Enhanced Precautions – Pakistan is among the countries identified by the CDC as having circulating poliovirus. Before any international travel, travelers should ensure they are up to date on polio vaccines. Adults who previously completed the full, routine polio vaccine series may receive a single, lifetime booster dose.
- Polio is a crippling and potentially deadly disease that affects the nervous system. Good hand washing practices can help prevent the spread of this disease. Because the virus that causes polio lives in the feces of an infected person, people infected with the disease can spread it to others when they do not wash their hands well after defecating. People can also be infected if they drink water or eat food contaminated with infected feces.
- Most people with polio do not feel sick. Some people have only minor symptoms, such as fever, tiredness, nausea, headache, nasal congestion, sore throat, cough, stiffness in the neck and back, and pain in the arms and legs. In rare cases, polio infection causes permanent loss of muscle function

Routine Vaccines	All travelers should be up to date on all routine vaccines before every trip. Some of these vaccines include: • Chickenpox (Varicella) • Diphtheria-Tetanus-Pertussis • Flu (influenza) • Measles-Mumps-Rubella (MMR) • Polio • Shingles
COVID-19	All eligible travelers should be up to date with COVID-19 vaccines.
Chikungunya	There has been evidence of chikungunya virus transmission in Pakistan within the last 5 years. Chikungunya vaccination may be considered for the following travelers: • People aged 65 years or older, especially those with underlying medical conditions, who may spend at least 2 weeks (cumulative time) in indoor or outdoor areas where mosquitoes are present in Pakistan • People planning to stay in Pakistan for a cumulative period of 6 months or more
Cholera	Cholera is presumed to be present in Pakistan. Cholera is rare in travelers. Certain factors may increase the risk of getting cholera or having severe disease. Avoiding unsafe food and water and washing your hands can also help prevent cholera. Vaccination may be considered for children and adults who are traveling to areas of active cholera transmission.
Hepatitis A	Recommended for unvaccinated travelers 1 year old or older going to Pakistan. Infants 6-11 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 and who are 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 younger than 60 years of age traveling to Pakistan. Unvaccinated travelers over the age of 60 years may consider vaccination before travel to Pakistan.
Japanese Encephalitis	Vaccination is recommended for travelers who: • Are moving to live in an area with Japanese Encephalitis • Will spend one month or more in areas with Japanese Encephalitis • Frequently travel to areas with Japanese Encephalitis Other travelers who may consider vaccination if they will be doing activities that increase risk of infection – e.g., visiting rural areas, hiking or camping, staying in places without air conditioning. Vaccination is not recommended for short-term travelers who will be in urban areas or 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	Travelers are at risk of measles if they have not been fully vaccinated at least two weeks prior to departure or have not had measles in the past and travel internationally to areas where measles is spreading. All international travelers should be fully vaccinated against measles with the MMR vaccine, including an early dose for infants 6–11 months.
Polio	In Pakistan, poliovirus has been identified in the past year. Travelers to Pakistan are at increased risk of exposure to poliovirus. Vaccine recommendations: • Adults traveling to Pakistan who received a complete polio vaccination series as children may receive a single lifetime booster dose of inactivated polio vaccine; • Travelers who are unvaccinated or not fully vaccinated should receive a complete polio vaccination series before travel • Children who are not fully vaccinated will be considered for an accelerated vaccination schedule.
Rabies	Dogs infected with rabies are commonly found in Pakistan. If rabies exposures occur while in Pakistan, rabies vaccines are typically not readily available. Rabies pre-exposure vaccination considerations include whether travelers 1) will be performing occupational or recreational activities that increase risk for exposure to potentially rabid animals, and 2) might have difficulty getting prompt access to safe post-exposure prophylaxis. Please consult with a healthcare provider to determine whether you should receive pre-exposure vaccination before travel.
Typhoid	Recommended for most travelers, especially those staying with friends or relatives or visiting smaller cities or rural areas. A significant proportion of *Salmonella Typhi* strains found in Pakistan are extensively drug resistant but remain susceptible to azithromycin and carbapenems.
Yellow Fever	Required for travelers 9 months old or older and who are arriving from countries with risk for virus transmission.

Table 3: CDC Travel Health Information for Vaccine- and Prophylaxis-Preventable Diseases in Pakistan

Chikungunya	Chikungunya is spread through the bite of an infected mosquito. To avoid infection, avoid bug bites.
Crimean-Congo Hemorrhagic Fever (CCHF)	CCHF can be spread by tick bites or by exposure to the body fluids of a person or animal infected with CCHF. To avoid infection, avoid bug bites.
Dengue	Transmitted by the bite of infected mosquitos. Avoid bug bites.
Cholera	Cholera is presumed to be present in Pakistan. Cholera is rare in travelers. Certain factors may increase the risk of getting cholera or having severe disease. Avoiding unsafe food and water and washing your hands can also help prevent cholera. Vaccination may be considered for children and adults who are traveling to areas of active cholera transmission.
Hantavirus	Contracted by breathing in air or accidentally eating food contaminated with the urine, droppings, or saliva of infected rodents, by the bite of an infected rodent, or, less commonly, by being around someone sick with hantavirus. Avoid rodents and areas where they live. Avoid sick people.
Leishmaniasis	Transmitted by sand fly bites. Avoid bug bites.
Leptospirosis	Contracted by touching urine or other body fluids from an animal infected with leptospirosis, by swimming or wading in urine-contaminated fresh water or contact with urine-contaminated mud, or by drinking water or eating food contaminated with animal urine. Avoid contaminated water and soil.
Tuberculosis	TB is transmitted by inhaling TB bacteria that is in the air from an infected and contagious person coughing, speaking, or singing. Avoid sick people.

Table 4: CDC Travel Health Information for Non-Vaccine-Preventable Diseases in Pakistan

(paralysis). Polio can be fatal if the muscles used for breathing are paralyzed or if there is an infection of the brain.

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; 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.

To prevent bug bites:

- Cover exposed skin by wearing long-sleeved shirts, long pants, and hats.
- Use an appropriate insect repellent (see below).
- Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents). Do not use permethrin directly on skin.
- Stay and sleep in air-conditioned or screened rooms.
- Use a bed net if the area where you are sleeping is exposed to the outdoors.

For protection against ticks and mosquitoes:

Use a repellent that contains 20 percent or more DEET for protection that lasts up to several hours.

For protection against mosquitoes only:

- Products with one of the following active ingredients can also help prevent mosquito bites. Higher percentages of active ingredient provide longer protection.
- DEET
- Picaridin (also known as KBR 3023, Bayrepel, and Icaridin)
- Oil of lemon eucalyptus (OLE) or para-Menthane-3,8-diol (PMD)
- IR3535
- 2-undecanone

If you are bitten by bugs:

- Avoid scratching bug bites and apply hydrocortisone cream or calamine lotion to reduce the itching.
- Check your entire body for ticks after outdoor activity. Be sure to remove ticks properly.

Safety and Security

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*.

Sendai Framework

The Sendai Framework for Disaster Risk Reduction 2015-2030 is the global blueprint and 15-year plan to build the world's resilience to natural disasters.[517] The Sendai Framework is the successor instrument to the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.[518] Adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan, in 2015, the 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.[519]

The Framework outlines seven targets and four priorities for action to prevent new and 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 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 DRR 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.[520]

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.

Figure 21 shows the Sendai DRR Framework.[521]

In 2023, Pakistan published its Voluntary National Report for the Mid-Term Review of the Sendai Framework. The below details regarding progress toward Sendai Framework outcomes is taken directly from the Voluntary National Report.[522]

Priority 1 – Understanding disaster risk

Prior to implementation of the Sendai Framework, the NDMA had developed an NDMP, and the Office of Chief Engineering Advisor/Chairman Federal Flood Commission (CEA/CFFC) had executed three National Flood Protection Plans (I-III). After the 2022 floods, the fourth comprehensive NFPP-IV (originally from 2017) was updated. Moreover, the updated Flood Protection Sector Project-III (FPSP-III) was submitted for approval by the Central Development Working Party (CDWP); it includes both structural and non-structural interventions on a national scale to address all probable flooding situations in the country.

Humanitarian and development agencies and organizations, including the National Disaster Risk Management Fund (NDRMF), Sindh People's Housing for Flood Affectees (SPHF), partner NGOs of the PHF and NHN, and UN agencies have implemented Community-Based Disaster Risk Reduction (CBDRM) and School-Based Disaster Risk Reduction (SBDRM), as well as training for vulnerable communities

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 during 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 during 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global 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

Priorities for Action			
There is a need for focused action within and across sectors by States at local, national, regional, and global levels in the following four priority areas.			
Priority 1 Understanding disaster risk	**Priority 2** Strengthening disaster risk governance to manage disaster risk	**Priority 3** Investing in disaster risk reduction for resilience	**Priority 4** Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation, and reconstruction
Disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics, and the environment	Disaster risk governance at the national, regional, and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations, and public policies that, by defining roles and responsibilities, guide, encourage, and incentivize the public and private sectors to take action and address disaster risk	Public and private investment in disaster risk prevention and reduction through structural is non-structural measures are essential to enhance the economic, social, health, and cultural resilience of persons, communities, countries, and their assets, as well as the environment. These can be drivers of innovation, growth, and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses, and ensure effective recovery and rehabilitation	Experience indicates that disaster preparedness needs to be strengthened for more effective response and to ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation, and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to "Build Back Better" through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases

Figure 21: UN Sendai Framework for Disaster Risk Reduction 2015-2030

in Community Emergency Response Training (CERT). Implementing partners ensure adherence to gender action plans, economic viability assessments, sustainability assessments, addressing income inequalities, environmental and social safeguards, application of building codes, and land zoning regulations.

To address annual winter road blockages on the highways connecting Balochistan to other provinces and to international borders, the PDMA Balochistan has procured snowplow machines and pre-positions heavy machinery in anticipation of inclement weather. The PDMA KP has implemented gender-sensitive contingency plans for monsoon and winter, and it is working with the provincial Communication & Works (C&W) Department to develop building codes for safer construction of houses, buildings, and infrastructure in hazard-prone areas. The PDMA KP also systematically evaluates and records disaster losses, shares information about their economic, social, health, education, and environmental impacts, and builds the knowledge of government officials, civil society, communities, volunteers, and the private sector through training, sharing experiences, lessons learned, and good practices on DRR.

Pakistan has invested in EWSs, disaster preparedness and response, and infrastructure improvements such as flood protection and seismic retrofitting. Efforts to reduce vulnerability have included improving access to health and education services and promoting livelihood diversification. CBDRM programs have focused on augmenting the capacity for risk reduction. Efforts are being made to ensure that underlying disaster risks are taken into account in development policies and programs. Policies and strategies such as the NDMP and the NCCP have been developed to address disaster risk.

The PMD provides forecasts to stakeholders regarding imminent disasters. Every year a monsoon seasonal forecast is issued by PMD to inform the NDMA, PDMAs, and DDMAs regarding the vulnerability of different areas of the country toward torrential rainfall during the upcoming monsoon season and resulting flooding. The monsoon seasonal forecast provides the basis for scenario-based annual contingency planning by NDMA and PDMAs. Communities living in vulnerable areas are informed before the onset of monsoon rain spells. Similarly, the district administrations / DDMAs issue warnings locally so that people know to avoid vulnerable areas. The NAMC of the PMD informs agriculture sector entities about meteorological conditions that can affect agricultural yield. Meteorological bulletins are frequently issued to farmers to inform them about heatwaves, droughts, the possibility of torrential rainfall, flood, hailstorms, frosts, and pests and provides precautionary measures to mitigate risks associated with these environmental conditions to reduce the vulnerability of the agriculture community.

The FFD, Lahore, is the specialized unit of the PMD, and it plays a pivotal role in flood forecasting and warnings. It obtains hydro-meteorological data from various national and international sources and analyses that data to produce weather/flood forecasts and warnings. These forecasts and warnings are then disseminated to various Federal/Provincial organizations and mass media through various means including the FFD website. In this way, the PMD is identifying the underlying causes of disaster risk and reducing vulnerability by providing timely forecasts and warnings to vulnerable communities while strengthening their capacities for risk reduction.

The NDMA has established an EWS for local communities in close collaboration with the PTA and the telecommunications industry. The first trial of the SMS-based EWS for communities was conducted in 2014 during floods and generated approximately 6 million SMS messages. The system was further enhanced in 2015 and generated approximately 52.2 million messages. Following the October 2015 earthquake, the NDMA issued 15 Public Service Messages (PSM) to the residents of Malakand Division and Bajaur Agency via SMS alerts. The NDMP has incorporated a comprehensive and dedicated

Multi-Hazard EWS Plan, with a proposed budget of approximately US$188 million. The plan encompasses upgrading existing radar stations, establishing connections between national and regional disaster management authorities, and other related measures.

To enhance knowledge and understanding of DRR, disaster-related education and awareness initiatives have been started. They include integration of DRR components into academic curricula, as recognized by the Higher Education Commission (HEC) at the undergraduate and graduate levels of tertiary education. National Disaster Resilience Day has been designated 8 October every year, to not only commemorate the victims of Kashmir Earthquake 2005, but also to raise awareness on the need of DRR in the country. DRR awareness and education materials for children have also been developed. Pakistan is a member of the UNDRR Safer Schools program, and regular awareness advertisements are broadcast on media platforms, along with an active social media presence. National, regional, and international conferences and workshops are regularly held and attended to promote disaster awareness and preparedness.

Local and Indigenous knowledge (LIK) practices are widely implemented for disaster preparedness and mitigation. Traditional methods are used to measure flood levels, and information is shared through non-technical means – e.g., announcements made via mosques and churches. This method is particularly useful in areas with no access to electricity or the internet, and participation in risk assessments is, therefore, vital for informed decision-making and investment. In Upper and Lower Chitral, local communities have developed their warning systems and identified safe evacuation places based on their indigenous knowledge. Similarly, some local communities in Muzaffargarh built their own early warning system by placing poles with marked scales at the entrance and middle of the villages to gauge the discharge and flow of water and intensity of floods. Moreover, indigenous communities can retrieve historical data related to past earthquakes, tsunamis, GLOF, and flash flood events. Local knowledge is also helpful in predicting glacier behavior and identifying local terrain, which is useful in planning for risk management, resilience, and adaptation or mitigation strategies.

Institutional support for DRR has been secured by designating the National Hazard and Vulnerability Assessment as a priority area in both the National DRM Plan and the National DRR Policy. To develop an understanding of disaster risk, Pakistan conducted a National Hazard and Risk Assessment in 2011. The purpose of this activity was to develop a nationwide mechanism for risk-sensitive development planning at the national, provincial, and local levels of government. In addition, a National Multi-Hazard and Risk Assessment was conducted at a macro level with the aid of technical experts from the Japan International Cooperation Agency (JICA) during the development of the NDMP. Realizing the importance of multi-hazard vulnerability and risk assessments (MHVRA) in understanding risks and DRM planning, NDMA constituted a dedicated Project Management Unit in 2015, with the aim to develop in-house capacity to conduct MHVRAs. In 2016, NDMA launched Policy Guidelines for Conduct of MHVRA and a model to conduct MHVRA at district level. NDMA has piloted the model in more than a dozen districts in Punjab, Sindh, and KP. The MHVRA Conduct Guidelines ensure uniformity and compatibility in methodologies and outcomes.

To provide strategic guidance and coordinate all activities related to vulnerability and risk assessments for guaranteeing uniformity of data, information, and the utilization of standard methodologies, Pakistan has established a National Working Group (NWG) under the NDMA. The NWG on Risk Assessment is tasked with maintaining consistency in the methodologies used for conducting risk assessments, ensuring uniformity in the data formats used during the data collection, and promoting coordination among all parties involved in the assessments.

For risk-informed decision-making, Pakistan has conducted various sector-specific risk assessments; some examples of these assessments include the Sindh Drought Needs Assessment 2016 to understand drought risks and their impact on livelihoods, food security, nutrition, health, water, and sanitation; the Child Centered Risk Assessment 2017 in Balochistan; and the multi-dimensional poverty index as a proxy to measure multidimensional vulnerabilities. Similarly, Aga Khan Development Network (AKDN) carried out local-level pilot risk assessment exercises in cities and districts for the reconstruction of zone areas to estimate seismic risks and related phenomena during the 2005 earthquake reconstruction program. A Drought Assessment has been conducted for more than 20 districts in Balochistan and Sindh. To better understand the most vulnerable populations, a Disaggregated Data Atlas has been developed for the 25 districts with the highest vulnerability; the data also cover age, gender, and disability. In addition, National Policy Guidelines for MHVRAs have been issued, and the priority of vulnerable districts has been identified in the NDMP. The NDMA intends to extend the coverage of the MHVRAs to all districts.

Priority 2 – Strengthening disaster risk governance to manage disaster risk

In Pakistan, the establishment of regional, sub-regional, national, and local DRR strategies and plans has significantly expanded DRR efforts, particularly in provinces and districts. Since the 2005 earthquake, Pakistan has developed a robust institutional structure for DRM. In 2006, the National Disaster Management Ordinance constituted an institutional setup for DRM and established authorized bodies at all three levels of governance: NDMA, PDMA, and DDMA. In 2012, the NDMA launched the NDMP 2012-2022 to manage the complete spectrum of DRM through DRR policies, strategies, measures, and actions in collaboration with all stakeholders. The NDMP comprises CBRDM Guidelines for Instructors, a Human Resource Development Plan on disaster management, Multi-Hazard EWS Plan, hazard preparedness plans, contingency plans, and SOP with roles and responsibilities for all institutions and organizations.

At the national and local levels, Pakistan has implemented various DRR strategies and plans, including the NDMP, which outlines a comprehensive approach to DRR, the NCCP, which addresses climate change impacts, and Provincial Disaster Management Plans, aimed at reducing disaster risks and enhancing resilience at the local level. CBDRM programs have also been established to foster greater local community participation in DRR efforts and enhance their resilience. Other programs include Disaster Risk Financing and Insurance (DRFI), aimed at reducing the financial impacts of disasters and increasing the resilience of vulnerable communities, Climate-Smart Agriculture (CSA) programs, aimed at reducing the impacts of natural disasters on agriculture and food security, and Building and Construction Codes, developed to reduce the vulnerability of buildings to natural disasters, such as earthquakes and cyclones. These measures, among others, demonstrate the Pakistani government's commitment to address risk governance and management through mitigating disaster risks and enhancing resilience, providing a framework for the effective implementation of DRR activities across the country.

The NDMA is the primary government agency responsible for disaster risk governance and management in the country. The NDMA coordinates DRR activities across different sectors and institutions, ensuring that all stakeholders have a role to play in reducing disaster risks and enhancing community resilience. In addition, Pakistan has developed and implemented national and local DRR strategies to guide DRM efforts. These strategies ensure a coordinated and integrated approach to reducing disaster risks across different sectors. The government has also established mechanisms for inter-agency cooperation and coordination in disaster risk governance and

management, including working closely with other government agencies and local authorities.

Pakistan has a well-structured institutional mechanism for the implementation of DRM at all three tiers of governance. The NDMC, headed by the Prime Minister, is the main policy-making body at the federal level where NDMA is working as the secretariat of NDMC for coordinating the implementation of DRM. Since its inception, NDMA has met irregularly. Similarly, at the provincial level PDMCs, headed by the respective chief ministers, are responsible for decision-making with support from PDMAs as secretariat and operational institutions. At the third tier of governance, DDMAs are responsible for the whole spectrum of DRM in their respective Jurisdictions. They have been authorized to mobilize resources at the local level to deal with disasters and emergencies. The NDMP outlines the roles and responsibilities of various stakeholders in the pre-disaster, disaster, and post-disaster phases. The Emergency Relief Cell has been merged with the NDMA. An NDMP Implementation Steering Committee has been formed, with a dedicated unit within the NDMA. GCCs have been established at the national and provincial levels.

Pakistan is taking steps to align DRR strategies and plans with the SDGs and the Paris Agreement to address the underlying drivers of risk and prioritize risk reduction efforts in vulnerable communities. To this end, the government is working to integrate DRR into national and local plans and actions, thereby ensuring that the DRR remains a priority in the country. Pakistan's NDC 2021 include key commitments in the energy, agriculture, forestry, DRR, and transport sectors. For instance, Pakistan is committed to increasing the share of renewable energy in its energy mix and promoting climate-smart agriculture practices such as water management, cropping patterns, and soil and water conservation. The country is also committed to increasing forest cover and promoting sustainable forest management practices. Additionally, Pakistan recognizes the importance of DRR in addressing the impacts of climate change and is committed to enhancing its resilience to natural disasters. The government aims to reduce the exposure and vulnerability of communities to disasters while increasing the preparedness and response capacities of stakeholders. Finally, Pakistan is committed to reducing emissions from the transport sector by promoting energy efficient public transport, encouraging low-carbon vehicles, and improving fuel efficiency.

Pakistan has taken significant steps to integrate DRR and DRM into actions that address climate change, sustainable development, biodiversity, public health risks, and sustainable food systems. Pakistan has mainstreamed DRR into national development plans and policies, including the NCCP and the NDMP. This helps to ensure that DRR is a priority across all sectors of the country. In addition, the government has promoted the adoption of climate-smart agricultural practices to reduce the vulnerability of agricultural communities to climate-related disasters and ensure sustainable food systems.

The government has also integrated DRR into its public health planning and response efforts. This helps to better manage health risks in disaster-prone areas and ensures that the health needs of affected communities are met in the aftermath of a disaster. To further reduce the impact of disasters, Pakistan has taken steps to conserve biodiversity and to protect ecosystems. In June 2021 on the eve of the World Environment Day, as a lead country chosen by the UN, Pakistan had also launched the 'Decade of Ecosystem Restoration' initiative of the UN Environment Programme (UNEP). These efforts are important because ecosystems play a critical role in reducing the impacts of disasters and maintaining the resilience of communities. The government has implemented the National Biodiversity Strategy and Action Plan (NBSAP) to achieve these goals.

Pakistan has developed several key plans related to DRM, including the NDRP 2019, Annual Monsoon Contingency Plans/Directives 2010, the National Drought Mitigation and Response Plan 2015, and the Nuclear Emergency

Management Plan. Other plans in place include the National Plan for Industrial/Technical Disasters, the Cyclone Contingency Plan for Karachi 2008, the National Marine Disaster Contingency Plan 2007 (updated in 2019) and Tsunami Preparedness Guidelines. Furthermore, the incorporation of a DRR checklist into the public sector development project proposal format, known as PC-I, is a significant development for the DRR mainstreaming in Pakistan. This inclusion ensures that every new project is reviewed for DRR compliance before it receives approval from the highest planning forum for implementation. The NDMA has formulated several policies, reports, and frameworks to strengthen DRR in Pakistan, including the DRM Needs Assessment Report 2012, the NDMP, NDMA Guidelines for persons affected by natural and manmade disasters, Implementation Framework on the National Policy Guidelines, the Pakistan School Safety Framework, and the MHVRA Implementation Guidelines and Policy.

Through the integration of DRM into the development process, Pakistan is working towards adopting a holistic DRM approach to development decision-making that considers the impact of natural hazards on public investments, as well as the existing risk profile of communities and assets. This approach aims to increase preparedness for response and recovery, prevent the exacerbation of disaster risk, and ultimately strengthen resilience. To promote this principle, Pakistan has implemented various DRR initiatives and programs that involve the collaboration of different sectors and stakeholders. These initiatives and programs aim to reduce hazard exposure and vulnerability to disasters, increase preparedness, and improve the response and recovery capacities of communities and the government.

The shared responsibility principle has been applied through various practices. One is partnership building, where the government has collaborated with local authorities, civil society organizations, and private sector organizations to promote DRR. This approach ensures that all stakeholders have a role to play in reducing disaster risks and enhancing the resilience of communities. Another key practice is community participation, which is crucial for DRR. Community-based organizations, including women's groups, have been involved in various activities such as awareness-raising and the development of community-based disaster management plans. This approach empowers communities to take ownership of their DRR efforts and ensures that local knowledge is taken into account in decision-making. Additionally, the government has conducted risk assessments at the national and local levels, involving local authorities and communities in the process, which has helped to identify disaster risks and prioritize action for reducing these risks. Capacity building is another important practice that has been promoted, where the government has provided training and capacity-building programs for local authorities and communities to enhance their ability to respond to and manage disasters.

Pakistan has made significant progress in incorporating the concept of DRR into its public and private investment decisions. To meet the Sendai Framework's four priorities, donors ensure that fund-implementing partners adhere to donors' compliances as agreed via legal agreements. These agreements typically include provisions for economic viability, project sustainability, gender action plans, and environmental and social compliance. In addition to complying with donor requirements, fund-implementing partners in Pakistan must also adhere to national laws and regulations, including the NDMP. These partners work as a consortium of public-private partnerships that include NGOs, academia, think tanks, the federal government, provincial government, and national organizations. They embed the adoption of the Sendai Framework into decision-making and investment processes as required by legal agreements. Government has established a dedicated NDRMF as a special purpose vehicle for funding implementation of the Sendai Framework and NFPP in the country, while also

contributing to SDGs and NDCs.

At the provincial level, the PDMAs encourage the use and strengthening of baselines and periodically assess disaster risks, vulnerability, capacity, exposure, hazard characteristics, and their possible sequential effects on ecosystems. This approach helps to better understand disaster risks and their root causes and to incorporate this understanding into public and private decision-making and investment.

Pakistan's policy environment related to DRR includes the NDMP 2012 -2022, the National DRR Policy 2013, the National GCC Framework 2013, and the National Policy Guidelines on Vulnerable Groups. Additionally, the NDMA Guidelines for Persons Affected by Natural and Man-made Disasters, Implementation Framework on the National Policy Guidelines, and the Pakistan School Safety Framework are in place and are being piloted. The guidelines for MHVRAs and Multi-Sector Initial Rapid Assessments (MIRA) have also been formulated. Furthermore, a Media and Communication Strategy has been developed to support DRR initiatives.

The Sendai Framework has been adopted at the national level, but its implementation at sub-national and local levels varies. In some areas, there are initiatives to involve communities in disaster risk assessments and to promote disaster risk-informed decision-making. For example, in Gilgit-Baltistan and KP, community-based disaster management plans are being developed under the GLOF-II project. Similarly, the Tsunami Early Warning Centre of the PMD is working to establish a Tsunami Hazard Mitigation Committee at the national level in coordination with IOTWMS. However, in rural and remote communities, awareness and implementation of the Sendai Framework may be limited due to resource constraints, capacity issues, lack of awareness and political commitment.

Priority 3 – Investing in disaster reduction for resilience

Future climate impacts are expected to further worsen Pakistan's economic fragility. Pakistan is taking both structural and non-structural measures to build resilience. At the national level, the Emergent Flood Program along with the Provincial Annual Development Plans at the provincial level are implementing structural measures. The NFPP-IV and FPSP-III propose additional measures that will be implemented before 2028, subject to fund availability. The PMD and WAPDA are undertaking various non-structural measures, such as enhancing the Forecasting and Warning System. Similarly, the NFPP-IV and FPSP-III propose several measures that will be implemented before 2028; these programs include the provision of new radars, installation of a Telemetry Network, and establishment of regional Flood Forecasting Centers, subject to the availability of funds. The PDMA is strengthening the protection of livelihoods and productive assets, including livestock, working animals, tools, and seeds, through public investment in resilience via the construction of protection work. Additionally, people with life-threatening and chronic diseases, such as COVID-19, have been included in the DRM plans to manage their risks before, during, and after the disaster, including access to life-saving services.

Public investments in disaster resilience in the PMD include early warning systems such as weather monitoring through meteorological observatories, automatic weather stations, and radars. Moreover, disaster-resilient infrastructure upgrades and planning, such as the construction/upgrading of bridges, roads, and communication systems, are incorporated into DRR plans. Spatial planning, such as the development of spatial plans that take into account disaster risks, is also included. Emergency preparedness plans, such as Nullah Lai Flooding/GLOF/Tsunami/Marine Protection, also exist with embedded emergency action plans, training in emergency preparedness, and evacuation plans. The non-structural measures in reducing disaster risk and promoting disaster resilience include CBDRM, implementation of early warning systems, and weather monitoring and alerts to help people

prepare for disasters and reduce loss of life.

Pakistan has a dedicated fund for DRR, the NDRMF under the National DRR Policy to ensure funding for risk financing to implement planned DRR interventions. However, at the subnational levels, the PDMAs and the DDMAs have varying financial capacities and usually face financial constraints for DRM activities. The ADB approved a US$200 million loan in 2016 to support the establishment of NDRMF and at the provincial level, the World Bank provided financial assistance to establish disaster risk financing strategies and the DRM funds. The government received additional contributions of US$3.4 million from the Australian government, US$1.5 million from the Swiss government, and US$25 million from the Pakistani government. The portfolio has grown over the period, with additional financing from the World Bank and other sources. As a result of the NDRMF interventions, over 2 million people have benefited, and more than 12,000 hectares of agricultural land has been safeguarded. The modernization of the PMD is currently underway to enhance EWSs and improve disaster preparedness.

The NDRMF has also helped its public and non-public sector partners improve their capacity to meet donor and government obligations. For example, 236 flood protection structures are being built to safeguard the lives and livelihoods of over 10 million people across Pakistan, while 45 public sectors buildings, such as schools and health centers, are being seismically retrofitted to improve the learning environment for over 10,000 students, teachers, and support staff. Approximately 8,000 committee-nominated volunteers are receiving general and specialized training to improve their capabilities as first responders in the event of disasters and emergencies through 451 community-based disaster management committees. Moreover, 23 water conservation structures are being constructed in Balochistan to retain rainwater for domestic and irrigation uses, benefitting roughly 131,000 residents. Twelve communities vulnerable to landslides are being stabilized using structural measures and bio-engineering techniques to provide connectivity for travelers and tourists both inside and outside of Azad Jammu and Kashmir, and seven localized early warning systems are being installed to provide mountainous communities with advance disaster-related information for timely evacuation and survival. Rescue-1122, the provincial/regional emergency service provider, has been given state-of-the-art search and rescue equipment, fire tenders, and ambulances, increasing its service coverage area from 55% to 64% and decreasing its response time from 10 minutes to 7 minutes in Gilgit-Baltistan region. Lastly, approximately 82 million seedlings are being planted country-wide to promote biodiversity, mitigate land degradation, and develop nurseries and orchards.

Being an agricultural economy, the DRR mainstreaming in this sector is essential to reduce livelihood vulnerability in the agriculture sector. The key challenges faced by the farmers in the semi-arid region of Pakistan are a high cost of adaptation measures and federal lack of knowledge about hazards. To overcome agriculture sector vulnerabilities, the Flood Commission (FFC) and provincial irrigation departments have carried out structural interventions by investing in irrigation development schemes to expand the irrigated area for local farming and to increase capacity for flood protection.

Pakistan faces a significant financial challenge resulting from natural disasters, with flooding alone causing an estimated economic impact of 3-4% of the federal budget annually. On an average, around 3 million people in Pakistan are affected by natural catastrophes each year, which amounts to 1.5% of the total population. While funding from donors and multilateral financial institutions has been an important part of the Government's DRM strategy in the past, this approach has significant limitations in terms of efficiency and effectiveness. Therefore, there is an urgent need for a sound disaster risk financing strategy, especially given the country's economic forecast of stringent fiscal policies.

Disaster risk financing can help increase the financial resilience of national and subnational governments, businesses, households, farmers, and the most vulnerable against natural disasters by implementing sustainable and cost-effective financial protection policies and operations. The NDMA has included financial aspects of post-disaster needs in the NDMP 2012-22, as mandated by the National DM Act 2010. While the fiscal disaster risk analysis is preliminary, it provides the Government with an estimate of their possible public spending needs for post-disaster operations, which is essential for disaster risk financing. Also, the National DRR Policy recommends both a sovereign catastrophe risk financing strategy and the development of a competitive private catastrophe insurance market. The sovereign strategy aims to increase the financial response capacity of the Pakistani government, while the private insurance market targets homeowners, small and medium enterprises, and public entities through the creation of catastrophe insurance pools and defining top layers of risk.

Pakistan is taking steps to integrate DRR measures into fiscal instruments and financial regulatory mechanisms. The establishment of the NDRMF, incorporation of DRR measures into the Public Sector Development Program, and encouragement of corporate social responsibility funds for disaster risk reduction and management initiatives are all positive developments. The Sustainable Finance Framework developed by the State Bank of Pakistan, which includes guidelines for banks and other financial institutions to incorporate environmental and social risks, including disaster risk, into their lending and investment decisions, is also a significant step forward. Furthermore, the development of disaster risk insurance products by the insurance industry in Pakistan can help protect vulnerable populations against losses from natural disasters. However, it is important to continue efforts to ensure that investments are aligned with DRR measures and to encourage private investment in DRR. Additionally, it is crucial to regularly assess the impact of these measures on DRR efforts in Pakistan.

The Public Sector Development Program (PSDP) is another important tool for investment planning and budgeting in Pakistan. Since the adoption of the Sendai Framework, the PSDP has incorporated the DRR measures and allocated funds for disaster mitigation and prevention projects. Private sector organizations have also established Corporate Social Responsibility (CSR) funds to support DRR activities, with guidance from the State Bank of Pakistan's Sustainable Finance Framework.

The insurance industry in Pakistan has developed disaster risk insurance products, including index-based insurance, to protect vulnerable populations from losses due to natural disasters. These initiatives have the potential to significantly enhance the DRR efforts in the country. However, to further encourage private investment in the DRR and ensure alignment with the DRR measures, more efforts are needed. The development of a disaster risk insurance policy and mechanism in Pakistan may help individuals and communities secure their assets and livelihoods during times of disaster. The government can play a significant role in this regard by introducing and implementing such policies, including through Islamic banking, which avoids interest and is in line with the country's value system.

Disaster risk financing strategies and instruments are under discussion and implementation, and the Planning Commission of Pakistan is reintroducing the DRR checklist as an essential part of project design. Additionally, a national disaster risk financing strategy is under development, which includes the impacts of climate change, natural disasters, and human-induced disasters on various sectors of society.

To address disaster risk transfer and insurance, risk sharing and retention, and financial protection mechanisms, the NDMA has collaborated with Lead Pakistan and CDKN to create a Disaster Risk Insurance mechanism for vulnerable and marginalized communities. The World Bank provided support for a Fiscal

Disaster Risk Assessment, which resulted in the development of an Options Paper. Following the earthquakes in 2005 and floods in 2010/2011, a Citizen Damage Compensation program was established. The NDMA is currently working on the development of a National Disaster Risk Financing Strategy.

Socio-economic vulnerabilities exacerbate the impact of a disaster on already marginalized communities; therefore, social safety nets play a crucial role in reducing economic disparities to cousin the disaster and economic shocks. In this context, the government of Pakistan has launched social welfare programs for the labor and non-labor working class including the Employees Old-Age Benefits Institution, the Zakat Fund, the Workers Welfare Fund, the Pakistan Bait-ul-Mal, and the Benazir Income Support Programme (BISP). BISP, the flagship social safety program, also plays a vital role as a cash transfer mechanism during emergency response. After Floods 2022, BISP disbursed over Rs. 67 billion (US$240 million) to more than 2.6 million affected households.

To integrate risk-sensitive DRR investment in development planning, government agencies must comply with the official procedure developed by the Planning Commission of Pakistan for disaster risk screening as per the DRR checklist. Disaster risk screening has become mandatory to ensure the mainstreaming of the DRR into public sector development projects before they get approved by the highest planning forum for implementation.

On the front of technology transfer, PMD, in collaboration with JICA, has recently completed a project aimed at establishing a specialized medium-range weather forecasting center strengthening the weather forecasting system. This initiative involved upgrading the RADAR system in Islamabad, installing a wind profiler for upper-air observation, providing a weather forecasting and analysis system, and conducting technical training for the operation and maintenance of weather radar, utilization of meteorological products, and related areas. Additionally, meteorological data communication systems have been installed in the Specialized Medium Range Forecasting Center (SMRFC), and five regional meteorological centers of the PMD to facilitate the exchange of weather information. The project is expected to improve weather surveillance capacity, enhance the weather forecasting and warning system, and provide more precise weather observations to enable meteorologists to track and monitor weather patterns more accurately. The upgraded RADAR system is particularly noteworthy as it can detect severe weather conditions such as thunderstorms and tornadoes, enabling early warnings to the public. Furthermore, the PMD and the UNDP jointly undertook a project during 2020-21 aimed at strengthening tsunami and earthquake preparedness in coastal areas of Pakistan. This project involved several activities to enhance the capacity of the Tsunami Early Warning Centre, increase public awareness, and improve institutional participation and community involvement. The project strengthened the seismic monitoring network of the PMD by providing new Broad Band seismometers, IT equipment, earthquake real-time analysis software, and training to operational staff and Tsunami Early Warning Centre, among other measures. Additionally, workshops and community-wide tsunami evacuation drills were conducted to raise awareness about tsunami disasters among different stakeholders and communities at risk.

NDMA, with the financial and technical support of Germany's Federal Ministry for Economic Cooperation and Development (BMZ) and Federal Institute for Geosciences and Natural Resources (BGR), is implementing a Promoting Resilience against Impacts of Natural Disasters in Pakistan (NADIR) project. The project aims to improve performance of government DRM through awareness raising in disaster risk authorities for risk-sensitive spatial planning, development of procedures to reduce disaster risks and development and implementation of a risk-sensitive spatial planning guideline.

Priority 4 – Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction

Pakistan has made progress in improving preparedness for response, recovery, rehabilitation, and reconstruction since the adoption of the Sendai Framework. This includes the development of the NDRP in 2019. The NDRP provides guidance and SOPs for emergency response, recovery, rehabilitation, and reconstruction. The NDRP aims to enhance coordination and collaboration among stakeholders in the cycle of disaster management. The concept of "Build Back Better" has gained traction with a focus on ensuring that reconstruction efforts after disasters result in more resilient and sustainable infrastructure. After the 2010 floods, the government implemented a housing reconstruction program that incorporated earthquake-resistant features and utilized locally available materials. Pakistan has received some support for "Build Back Better" initiative. International donors have ensured through legal compliances/agreements the inclusion of women, persons with disability, youth, and other marginalized groups while designing and implementing projects covering various geographical locations and thematic areas. The post-Floods 2022 Resilient Recovery, Reconstruction and Rehabilitation Framework (4RF) heavily draws on the concept of "Build Back Better" and resilient recovery to ensure that existing risks are reduced and no new risk is created.

Since 2007, the contingency and response planning process has undergone reforms to adopt a bottom-up approach that involves stakeholders from districts to national level. The NDMA launched an annual campaign to raise awareness and engage in provincial-level consultations with various stakeholders to address the challenges posed by climate change and the resources available. The consultations aim to foster an understanding of multi-hazard contingency planning, with a specific focus on the Monsoon Contingency Plan. The consultations also identify DRM needs at the provincial and regional levels, which guide the development of focused policy interventions to address key concerns.

The NDMA has undertaken several initiatives to strengthen emergency response and preparedness. These initiatives include annual monsoon preparedness and contingency planning in collaboration with all provinces and regions, strengthening emergency response through participation in disaster management field exercises, and enhancing storage capacity for relief items. The NDMA has also organized national post-monsoon review conferences to compile lessons learned and good practices established. Additionally, the NDRP was formulated in 2010 and has been revised to align it with the latest priorities and requirements.

At the regional level, the Asian Preparedness Partnership (APP) is a collaborative initiative established by six countries – Cambodia, Myanmar, Nepal, Pakistan, Philippines, and Sri Lanka. The primary objective of the partnership is to enhance the preparedness and emergency response capacities of the participating countries in Asia. Through joint efforts, the APP aims to strengthen the region's ability to respond to emergencies, particularly those related to natural hazards.

At the country level, Pakistan Resilience Partnership (PRP) was established in February 2018 by the NDMA with the assistance of the ADPC and the NHN. The partnership aims to strengthen Pakistan's emergency response capacity by bringing together representatives from the government, local humanitarian organizations, the private sector, academia, and the media. To improve coordination and effectiveness in emergency response, PRP members have signed an agreement to enhance their partnership through knowledge sharing, training, and networking opportunities. The partnership's National Steering Committee (NSC), initially consisting of members from the NDMA, NHN, Federation of Pakistan Chamber of Commerce & Industries, Higher Education Commission, and Press Information Department, will work to enhance the capacities

of all stakeholders involved. The number of representatives in the NSC is expected to increase over time.

To strengthen emergency response and coordinating mechanisms for disaster/crises management, Pakistan has developed the NDRP 2019, an updated version of NDRP 2010, as well as the Host National Support Guidelines for Foreign Assistance to Pakistan During Disaster 2018, and National Monsoon Contingency Response Directive, which has been updated through annual monsoon/summer contingency planning exercise and issued annually before monsoon period to present an outlook of the monsoon situation for the upcoming year. The Directive visualizes monsoon contingencies and provides response guidelines to phased actions for the NDMA, the PDMAs, and the DDMAs, and other concerned agencies for hydro-met hazards.

Recognizing the specific needs of the marginalized segments of society especially women and children, during humanitarian response, emergency management, and DRR actions, NDMA's GCC was established in 2010. The GCC is an attempt to protect the fundamental rights of women, children, and marginalized segments of society as articulated in the constitution, international conventions, and treaties. The National Policy Guidelines on Vulnerable Groups in Disasters (2014), Minimum Standards for Protective Spaces for Children (2013), and Guidelines for Minimum Standards of Relief in Camp (2017) were developed to further strengthen emergency response.

Pakistan's response to disaster is reactive rather than proactive; therefore, ad-hoc emergency response and recovery management bodies and plans are in place for early recovery and recovery management. The establishment of National Command and Operations Centre (NCOC) for COVID-19 pandemic response and National Flood Response Coordination Centre (NFRCC) during 2022 are example of such measures. Similarly, the Earthquake Reconstruction & Rehabilitation Authority (ERRA) was set up for the post-Earthquake 2005 recovery. The Strategic Early Recovery Action Plan (SERAP) and Flood Relief and Early Recovery Response Plan (PFRERRP) were developed for the 2010 recovery. To determine the socio-economic impact of the 2010, 2011, and 2022 floods to devise recovery strategies, the PDNA have been conducted with support from the Global Facility for Disaster Reduction and Recovery – World Bank (GFDRR), ADB, UNDP, and other technical agencies. Similarly, for the 2014 flood, NDMA in collaboration with UNDP conducted a recovery need assessment to determine an estimated cost for recovery and reconstruction. The guidelines for mainstreaming DRR in early recovery from the floods were developed in 2010 as an attempt for building back better. The guidelines cover risk-sensitive recovery across eight sectors – governance, WASH, education, health, agriculture and food security, non-farm livelihoods, housing, and community physical infrastructure.

The NDMA has developed a robust disaster response capability in Pakistan, with the ability to support over 300,000 people nationwide in addition to the respective provincial capabilities. To support this effort, the NDMA has established a countrywide warehouse network with the assistance of the WFP. This network includes seven strategic humanitarian response facilities and 51 Flo-spans, each equipped with a standardized inventory of emergency relief goods and a backup generator. These warehouses are essential for upscaling preparedness levels and ensuring effective disaster response by facilitating field coordination and easy access to disaster-prone communities.

In addition to infrastructure, the NDMA has prioritized capacity building through training programs. Since 2010, more than 8,600 officials have been trained through the NIDM. Furthermore, in 2014 and 2015, the NDMA conducted National DM Simulation Exercises (SIMEX) with support from the WFP. These exercises were instrumental in enhancing the capacity of different stakeholders

to understand and practice various aspects of disaster management, such as early warning planning, coordination, urban relocation, camp management, logistics needs, and damage assessment. Building on this success, a countrywide SIMEX was also organized in 2015. In 2022 and 2023, NDMA conducted national-level table top SIMEXs, based on scenario-based multi-hazards simulations, with participation from national and provincial stakeholders and humanitarian partners. Pakistan is also the participant of biennial Indian Ocean Wave Exercise, a large-scale tsunami exercise to test SOPs, communication links among stakeholders, communities' tsunami preparedness and evacuation procedures.

For an effective EWS, the PTA and mobile telephone service companies provided assistance in establishing an effective SMS-based early warning system, which has been instrumental in disseminating alerts to the public for floods, earthquakes (in 2014 and 2015), and heatwaves (in 2016 and 2017). Over 58 million SMS alerts have been sent to the public, and over 30,000 persons have been evacuated through these early warnings. Additionally, Pakistan Radio and Television have been effectively used as part of an information campaign. The National Early Warning System (NEWS) is being developed in consultation with PTA to institutionalize the present SMS-based Alert System. The Comprehensive and Exclusive Multi-Hazard EWS Plan has been included in the NDMP. Other early warning systems include a Satellite-based Integrated Flood Alert System (IFAS), the replacement of Automatic Weather Stations (AWS), the establishment of the SMRFC, the upgradation of the existing FEWS Computer Model for the Indus River System, and the replacement of Karachi and Islamabad Weather Radars. Additionally, Pakistan has a Tsunami Early Warning System for the Sindh and Baluchistan coasts in addition to the SMS-based EWS for communities.

Pakistan has conducted various disaster preparedness and contingency exercises to enhance its readiness for natural disasters and emergencies. These include national industrial mock exercises held in 2010, 2016, and 2017. The country had also participated in the South Asian Annual Disaster Management Exercise (SAADMEX) hosted in New Delhi, India. Additionally, the government conducted the Government Official Emergency Response Exercise (GOERE) throughout the country in 2016 to test its response capacity. To strengthen its search and rescue capabilities, Pakistan raised and operationalized six modern Urban Search and Rescue Teams. The country has also formulated Host Nation Support Guidelines in 2018 to facilitate international aid agencies during disasters and emergencies.

Based on the experiences gained during the COVID-19 pandemic and previous emergency responses, NDMA has proposed amendments to the National DM Act to improve disaster management, preparedness and emergency response measures. These amendments will strengthen the institutional structure to handle emergency disasters at all levels.

Marginalized groups, such as women, persons living with disabilities, youth, and others, have been involved in DRR efforts. For example, the "Women's Resilience Initiative" was launched in 2014 to train women in disaster preparedness, first aid, and search and rescue, enabling them to play a more active role in disaster response efforts. Pakistan has also utilized technology to enhance disaster preparedness and response, including through the development of mobile applications for emergency response as part of the "Smart Pakistan" initiative launched in 2019. The PDMA KP has established a GCC to ensure the empowerment of women and persons with disabilities, youth, and other marginalized groups to publicly lead and promote gender equitable and universally accessible response, recovery, rehabilitation, and reconstruction.

Country Profile

The information in the Country Profile section is sourced directly from the CIA World Factbook. 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.[523]

Background

The Indus Valley civilization, one of the oldest in the world and dating back at least 5,000 years, spread over much of modern-day 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 partition in 1947 of British India into the Muslim state of Pakistan (with West and East sections) and largely Hindu India created lasting tension between the two countries. They have fought two wars and a limited conflict -- in 1947-48, 1965, and 1999 respectively -- over the Kashmir territory, a dispute that continues to this day. A third war in 1971 -- in which India assisted an indigenous movement reacting to Bengali marginalization 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 1998. Pakistan has been engaged in a decades-long armed conflict with militant groups, including the Tehreek-e-Taliban Pakistan (TTP) and other militant networks that target government institutions and civilians.

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

Area
total : 796,095 km^2
land: 770,875 km^2
water: 25,220 km^2
comparison ranking: total 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 km
border countries (4): Afghanistan 2,670 km; China 438 km; India 3,190 km; Iran 959 km

Coastline
1,046 km

Maritime claims
territorial sea: 12 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
highest point: K2 (Mt. Godwin-Austen) 8,611 m
lowest point: Arabian Sea 0 m
mean elevation: 900 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
193,400 km^2 (2020)

Major rivers (by length in km)
Indus river mouth (shared with China [s] and India) - 3,610 km; Sutlej river mouth (shared with China [s] and India) - 1,372 km; Chenab river mouth (shared with India [s]) - 1,086 km
note – [s] after country name indicates river source; [m] after country name indicates river mouth

Major watersheds (area sq km)
Indian Ocean drainage: Indus (1,081,718 km^2)
Internal (endorheic basin) drainage: Tarim Basin (1,152,448 km^2), (Aral Sea basin) Amu Darya (534,739 km^2)

Major aquifers
Indus Basin

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

People and Society

Population
total: 252,363,571
male: 128,387,797
female: 123,975,774 (2024 est.)
note: results of Pakistan's 2017 national census estimate the country's total population to be 207,684,626
comparison rankings: female 5; male 5; total 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%, Baloch 3.6%, other 6.3%

Languages
Punjabi 38.8%, Pashto (alternate name, Pashtu) 18.2%, Sindhi 14.6%, Saraiki (a Punjabi variant) 12.2%, Urdu 7.1%, Balochi 3%, Hindko 2.4%, Brahui 1.2%, other 2.4%
note: data represent population by mother tongue; English (official; lingua franca of Pakistani elite and most government ministries)

Religions
Muslim (official) 96.5% (Sunni 85-90%, Shia 10-15%), other (includes Christian and Hindu) 3.5% (2020 est.)

Age structure
0-14 years: 34.4% (male 44,330,669/female 42,529,007)
15-64 years: 60.7% (male 78,321,834/female 74,833,003)
65 years and over: 4.9% (2024 est.) (male 5,735,294/female 6,613,764)

Figure 22 shows the 2023 population pyramid for Pakistan.[524]

Dependency ratios
total dependency ratio: 70
youth dependency ratio: 62.8
elderly dependency ratio: 7.2
potential support ratio: 13.9 (2021 est.)

Median age
total: 22.9 years (2024 est.)
male: 22.8 years
female: 23 years
comparison ranking: total 180

Population growth rate
1.86% (2024 est.)
comparison ranking: 46

Birth rate
25.5 births/1,000 population (2024 est.)
comparison ranking: 45

Death rate
5.9 deaths/1,000 population (2024 est.)
comparison ranking: 159

Net migration rate
-1.1 migrant(s)/1,000 population (2024 est.)
comparison ranking: 148

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

Urbanization
urban population: 38% of total population (2023)
rate of urbanization: 2.1% annual rate of change (2020-25 est.)
total population growth rate v. urban population growth rate, 2000-2030

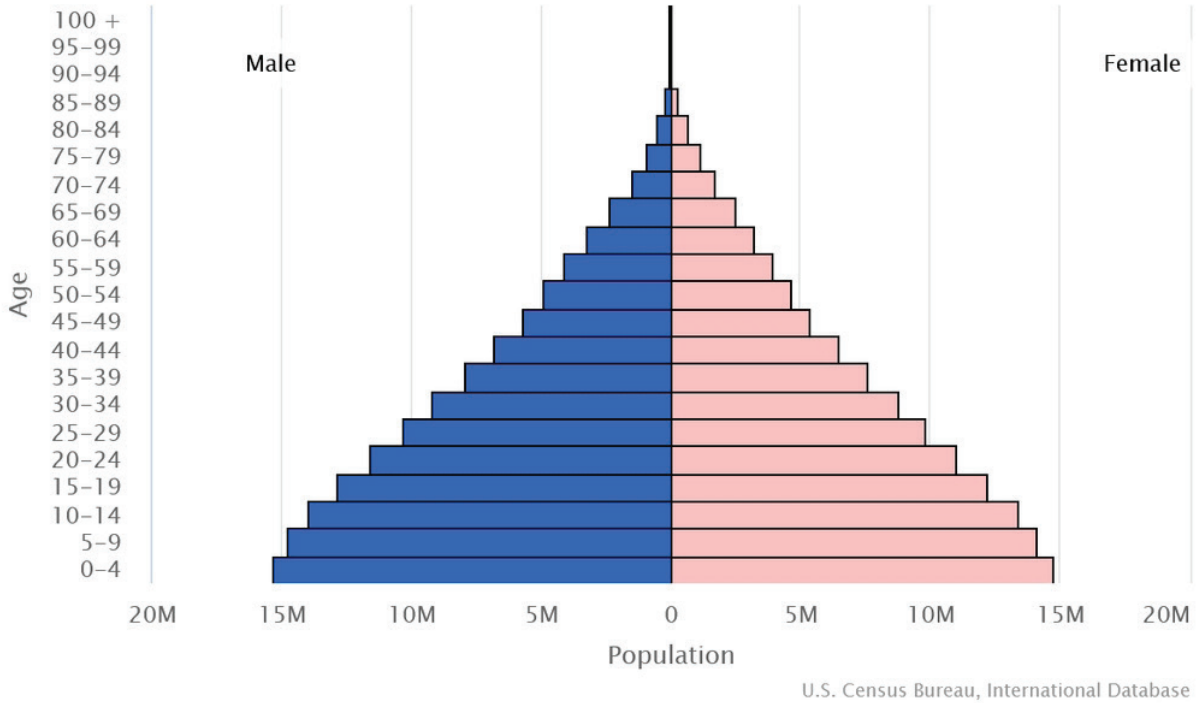


Figure 22: Population Pyramid, Pakistan (2023)

Major urban areas - population
17.236 million Karachi, 13.979 million Lahore, 3.711 million Faisalabad, 2.415 million Gujranwala, 2.412 million Peshawar, 1.232 million ISLAMABAD (capital) (2023)

Sex ratio
at birth: 1.05 male(s)/female
0-14 years: 1.04 male(s)/female
15-64 years: 1.05 male(s)/female
65 years and over: 0.87 male(s)/female
total population: 1.04 male(s)/female (2024 est.)

Mother's mean age at first birth
22.8 years (2017/18 est.)
note: data represents median age at first birth among women 25-49

Maternal mortality ratio
154 deaths/100,000 live births (2020 est.)
comparison ranking: 54

Infant mortality rate
total: 51.5 deaths/1,000 live births (2024 est.)
male: 56 deaths/1,000 live births
female: 46.8 deaths/1,000 live births
comparison ranking: total 18

Life expectancy at birth
total population: 70.3 years (2024 est.)
male: 68.2 years
female: 72.5 years
comparison ranking: total population 178

Total fertility rate
3.32 children born/woman (2024 est.)
comparison ranking: 40

Gross reproduction rate
1.62 (2024 est.)

Contraceptive prevalence rate
34% (2018/19)

Drinking water source
improved: urban: 96.5% of population
rural: 92.5% of population
total: 94% of population
unimproved: urban: 3.5% of population
rural: 7.5% of population
total: 6% of population (2020 est.)

Current health expenditure
2.8% of GDP (2020)

Physician density
1.12 physicians/1,000 population (2019)

Hospital bed density
0.6 beds/1,000 population (2017)

Sanitation facility access
improved: urban: 88.6% of population
rural: 73.2% of population
total: 78.9% of population
unimproved: urban: 11.4% of population
rural: 26.8% of population
total: 21.1% of population (2020 est.)

Major infectious diseases
degree of risk: high (2023)
food or waterborne diseases: bacterial diarrhea, hepatitis A and E, and typhoid fever
vectorborne diseases: dengue fever, malaria, and Crimean-Congo hemorrhagic fever
animal contact diseases: rabies
note: Pakistan is one of two countries with endemic wild polio virus (the other is Afghanistan) and considered high risk for international spread of the disease; before any international travel, anyone unvaccinated, incompletely vaccinated, or with an unknown polio vaccination status should complete the routine polio vaccine series; before travel to any high-risk destination, the US Centers for Disease Control and Prevention (CDC) recommends that adults who previously completed the full, routine polio vaccine series receive a single, lifetime booster dose of polio vaccine

Obesity - adult prevalence rate
8.6% (2016)
comparison ranking: 148

Alcohol consumption per capita
total: 0.04 liters of pure alcohol (2019 est.)
beer: 0 liters of pure alcohol (2019 est.)
wine: 0 liters of pure alcohol (2019 est.)
spirits: 0.04 liters of pure alcohol (2019 est.)
other alcohols: 0 liters of pure alcohol (2019 est.)
comparison ranking: total 180

Tobacco use
total: 20.2% (2020 est.)
male: 33% (2020 est.)
female: 7.3% (2020 est.)
comparison ranking: total 86

Children under the age of 5 years underweight
23.1% (2017/18)
comparison ranking: 8

Currently married women (ages 15-49)
63.5% (2023 est.)
Child marriage
women married by age 15: 3.6%
women married by age 18: 18.3%
men married by age 18: 4.7% (2018 est.)

Education expenditures
2.4% of GDP (2021 est.)
comparison ranking: 177

Literacy
definition: age 15 and over can read and write
total population: 58%
male: 69.3%
female: 46.5% (2019)

School life expectancy (primary to tertiary education)
total: 9 years
male: 9 years
female: 8 years (2019)

Environment

Environment - current issues
water pollution from raw sewage, industrial wastes, and agricultural runoff; limited natural freshwater resources; most of the population does not have access to potable water; deforestation; soil erosion; desertification; air pollution and noise pollution in urban areas

Environment - international agreements
party to: Antarctic-Environmental Protection, Antarctic-Marine Living Resources, Antarctic Treaty, Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Climate Change-Paris Agreement, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping-London Convention, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands
signed, but not ratified: Marine Life Conservation

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

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.)

Urbanization
urban population: 38% of total population (2023)
rate of urbanization: 2.1% annual rate of change (2020-25 est.)
total population growth rate v. urban population growth rate, 2000-2030

Food insecurity
severe localized food insecurity: due to population displacements, economic constraints, and high prices of the main food staple - according to the latest analysis, about 4.7 million

people, 25% of the population, are estimated to be facing high levels of acute food insecurity, between April and June 2022 in 25 districts analyzed in Balochistan, Sindh and Khyber Pakhtunkhwa provinces; prices of wheat flour, the country's main staple, were at high levels in most markets in May 2022, constraining access to the staple food (2022)

Revenue from forest resources
0.1% of GDP (2018 est.)
comparison ranking: 114

Revenue from coal
0.06% of GDP (2018 est.)
comparison ranking: 29

Air pollutants
particulate matter emissions: 50.13 micrograms per cubic meter (2019 est.)
carbon dioxide emissions: 201.15 megatons (2016 est.)
methane emissions: 142.12 megatons (2020 est.)

Waste and recycling
municipal solid waste generated annually: 30.76 million tons (2017 est.)
municipal solid waste recycled annually: 2,460,800 tons (2017 est.)
percent of municipal solid waste recycled: 8% (2017 est.)

Major rivers (by length in km)
Indus river mouth (shared with China [s] and India) - 3,610 km; Sutlej river mouth (shared with China [s] and India) - 1,372 km; Chenab river mouth (shared with India [s]) - 1,086 km
note – [s] after country name indicates river source; [m] after country name indicates river mouth

Major watersheds (area sq km)
Indian Ocean drainage: Indus (1,081,718 km^2)
Internal (endorheic basin) drainage: Tarim Basin (1,152,448 km^2), (Aral Sea basin) Amu Darya (534,739 km^2)

Major aquifers
Indus Basin

Total water withdrawal
municipal: 9.65 billion cubic meters (2020 est.)
industrial: 1.4 billion cubic meters (2020 est.)
agricultural: 172.4 billion cubic meters (2020 est.)

Total renewable water resources
246.8 billion cubic meters (2020 est.)

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

Legal system
common law system with Islamic law influence

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

International law organization participation
accepts compulsory ICJ jurisdiction with reservations; non-party state to the ICCt

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 Asif Ali ZARDARI (since 10 March 2024)
head of government: Prime Minister Shahbaz SHARIF (since 3 March 2024)
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 9 March 2024 (next to be held in 2029)
election results:
2024: Asif Ali ZARDARI elected president; National Assembly vote - Asif Ali ZARDARI (PPP) 411 votes, Mehmood Khan ACHAKZALI (PMAP) -181 votes; Shahbaz SHARIF elected prime minister on 3 March 2024; National Assembly vote - Shahbaz SHARIF (PML-N) 201, Omar AYUB (PTI) 92
2018: 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 (96 seats current; members indirectly elected by the 4 provincial assemblies and the federal capital territory indirectly elected by the National Assembly using proportional representation vote; members serve 6-year terms with one-half of the membership renewed every 3 years)
National Assembly (336 seats; 266 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 2 and 9 April 2024 (next to be held in 2027)
National Assembly - last held on 8 February 2024 (next to be held in 2029)
election results: Senate - percent of vote by party - NA; seats by party - NA; composition - men 79,

women 17, percent of women 17.7%
National Assembly - percent of vote by party - NA; seats by party - PML-N 75, PPP 54, MQM-P 17, JUI-F 4, Pakistan Muslim League 3, Istehkam-e-Pakistan Party 2, BNP-A 2, BAP 1, PMAP 1, PML-Z 1, NP 1, independent (PTI-backed) 101, other 8, vacant 2 (excludes 60 seats reserved for women and 10 non-Muslims); composition - men 276, women 60, percent of women 17.9%; note - total Parliament percent of women 17.8%
note: in May 2018, the Parliament of Pakistan and the Khyber Pakhtunkhwa Assembly passed a constitutional amendment to merge the Federally Administrated Tribal Areas and Provincially Administered Tribal Areas with the province of Khyber Pakhtunkhwa; the amendment will reduce the Senate from 104 to 96 members - 4 in the 2024 election and 4 in the 2027 election

Judicial branch
highest court(s): 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
Awami National Party or ANP
Awami Muslim League or AML
Balochistan Awami Party or BAP
Balochistan National Party-Awami or BNP-A
Balochistan National Party-Mengal or BNP-M
Grand Democratic Alliance or GDA (alliance of several parties)
Hazara Democratic Party or HDP
Istehkam-e-Pakistan Party
Jamaat-e-Islami or JI
Jamhoori Wattan Party or JWP
Jamiat Ulema-e-Islam-Fazl or JUI-F
Majlis Wahdat-e-Muslimeen Pakistan or MWM
Muttahida Majlis-e-Amal or MMA (alliance of several parties)
Muttahida Qaumi Movement-Pakistan or MQM-P
National Party or NP
Pakistan Muslim League or PML-Z
Pakistan Muslim League-Functional or PML-F
Pakistan Muslim League-Nawaz or PML-N
Pakistan Muslim League-Quaid-e-Azam or PML-Q
Pakistan Peoples Party or PPP
Pakistan Rah-e-Haq Party or PRHP
Pakistan Tehrik-e Insaaf or PTI (Pakistan Movement for Justice)
Pashtoonkhwa Milli Awami Party or PMAP or PKMAP
Tehreek-e-Labbaik Pakistan or TLP

International organization participation
ADB, AIIB, ARF, ASEAN (sectoral dialogue partner), C, CERN (associate member), 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, MINURCAT, MINURSO, MINUSCA, MONUSCO, NAM, OAS (observer), OIC, OPCW, PCA, SAARC, SACEP, SCO, UN, UNAMID, UNCTAD, UNESCO, UNFICYP, UNHCR, UNIDO, UNISFA, UNISFA, UNMISS, UNOOSA, UNSOS, UNWTO, UPU, WCO, WFTU (NGOs), WHO, WIPO, WMO, WTO

Diplomatic representation in the US
chief of mission: Ambassador Sardar Masood KHAN (since 19 April 2022)
chancery: 3517 International Court NW, Washington, DC 20008
Tel: [1] (202) 243-6500
Fax: [1] (202) 686-1534
Email: *consularsection@embassyofpakistanusa.org*
Web: *https://embassyofpakistanusa.org/*
consulate(s) general: Chicago, Houston, Los Angeles, New York

Diplomatic representation from the US
chief of mission: Ambassador Donald BLOME (since 2 July 2022)
embassy: Diplomatic Enclave, Ramna 5, Islamabad
mailing address: 8100 Islamabad Place, Washington, DC 20521-8100
Telephone: [92] 051-201-4000
Fax: [92] 51-2338071
Email: *ACSIslamabad@state.gov*
Web: *https://pk.usembassy.gov/*
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)

National heritage
total World Heritage Sites: 6 (all cultural)
selected World Heritage Site locales: Archaeological Ruins at Moenjodaro; Buddhist Ruins of Takht-i-Bahi; Taxila; Fort and Shalamar Gardens in Lahore; Historical Monuments at Makli, Thatta; Rohtas Fort

Economy

Economic overview
lower middle-income South Asian economy; extremely high debt; endemic corruption; major currency devaluation; major food insecurity and inflation; environmentally fragile agricultural sector; regional disputes with India and Afghanistan hinder investment

Real GDP (purchasing power parity)
$1.347 trillion (2023 est.)
$1.347 trillion (2022 est.)
$1.285 trillion (2021 est.)
note: data in 2021 dollars
comparison ranking: 25

Real GDP growth rate
0% (2023 est.)
4.77% (2022 est.)
6.51% (2021 est.)
note: annual GDP % growth based on constant local currency
comparison ranking: 188

Real GDP per capita
$5,600 (2023 est.)
$5,700 (2022 est.)
$5,600 (2021 est.)
note: data in 2021 dollars
comparison ranking: 172

GDP (official exchange rate)
$338.368 billion (2023 est.)
note: data in current dollars at official exchange rate

Inflation rate (consumer prices)
30.77% (2023 est.)
19.87% (2022 est.)
9.5% (2021 est.)
note: annual % change based on consumer prices
comparison ranking: 207

Credit ratings
Fitch rating: B- (2018)
Moody's rating: B3 (2015)
Standard & Poor's rating: B- (2019)
note: The year refers to the year in which the current credit rating was first obtained.

GDP - composition, by sector of origin
agriculture: 24.4% (2016 est.)
industry: 19.1% (2016 est.)
services: 56.5% (2017 est.)
comparison rankings: services 147; industry 157; agriculture 30

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.)

Agricultural products
sugarcane, bison milk, wheat, milk, rice, maize, potatoes, mangoes/guavas, cotton, onions (2022)
note: top ten agricultural products based on tonnage

Industries
textiles and apparel, food processing, pharmaceuticals, surgical instruments, construction materials, paper products, fertilizer, shrimp

Industrial production growth rate
-3.76% (2023 est.)
note: annual % change in industrial value added based on constant local currency
comparison ranking: 193

Labor force
80.99 million (2023 est.)
note: number of people ages 15 or older who are employed or seeking work
comparison ranking: 6

Unemployment rate
5.5% (2023 est.)
5.55% (2022 est.)
6.34% (2021 est.)
note: % of labor force seeking employment
comparison ranking: 105

Youth unemployment rate (ages 15-24)
total: 9.7% (2023 est.)
male: 9.3% (2023 est.)
female: 10.7% (2023 est.)
note: % of labor force ages 15-24 seeking employment
comparison ranking: total 139

Population below poverty line
21.9% (2018 est.)
note: % of population with income below national poverty line

Gini Index coefficient - distribution of family income
29.6 (2018 est.)
note: index (0-100) of income distribution; higher values represent greater inequality
comparison ranking: 124

Average household expenditures
on food: 39.6% of household expenditures (2021 est.)
on alcohol and tobacco: 1.1% of household expenditures (2021 est.)

Household income or consumption by percentage share
lowest 10%: 4.2% (2018 est.)
highest 10%: 25.5% (2018 est.)
note: % share of income accruing to lowest and highest 10% of population

Remittances
7.85% of GDP (2023 est.)
8.05% of GDP (2022 est.)
8.98% of GDP (2021 est.)
note: personal transfers and compensation between resident and non-resident individuals/households/entities

Budget
revenues: $38.966 billion (2020 est.)
expenditures: $59.621 billion (2020 est.)
note: data are for fiscal years

Public debt
67% of GDP (2017 est.)
comparison ranking: 61

Taxes and other revenues
15.4% (of GDP) (2017 est.)
comparison ranking: 135

Current account balance
-$350.044 million (2023 est.)
-$12.216 billion (2022 est.)
-$12.283 billion (2021 est.)
note: balance of payments - net trade and primary/secondary income in current dollars
comparison ranking: 116

Exports
$36.442 billion (2023 est.)
$38.967 billion (2022 est.)
$35.612 billion (2021 est.)
note: balance of payments - exports of goods and services in current dollars
comparison ranking: 74

Exports - partners
US 17%, Germany 7%, China 7%, UAE 7%, UK 6% (2022)
note: top five export partners based on percentage share of exports

Exports - commodities
garments, fabric, cotton fabric, rice, refined petroleum (2022)
note: top five export commodities based on value in dollars

Imports
$57.806 billion (2023 est.)
$76.594 billion (2022 est.)
$76.514 billion (2021 est.)
note: balance of payments - imports of goods and services in current dollars
comparison ranking: 64

Imports - partners
China 28%, UAE 8%, Indonesia 6%, Saudi Arabia 6%, Kuwait 5% (2022)
note: top five import partners based on percentage share of imports

Imports - commodities
refined petroleum, crude petroleum, natural gas, palm oil, cotton (2022)
note: top five import commodities based on value in dollars

Reserves of foreign exchange and gold
$13.73 billion (2023 est.)
$9.927 billion (2022 est.)
$22.812 billion (2021 est.)
note: holdings of gold (year-end prices)/foreign exchange/special drawing rights in current dollars
comparison ranking: 67

Debt - external
$107.527 billion (2019 est.)
$95.671 billion (2018 est.)
comparison ranking: 54

Exchange rates
Pakistani rupees (PKR) per US dollar -
280.356 (2023 est.)
204.867 (2022 est.)
162.906 (2021 est.)
161.838 (2020 est.)
150.036 (2019 est.)

Energy

Electricity access
electrification - total population: 95% (2022 est.)
electrification - urban areas: 100%
electrification - rural areas: 93%

Electricity
installed generating capacity: 43.478 million kW (2022 est.)
consumption: 145.999 billion kWh (2022 est.)
imports: 498.228 million kWh (2022 est.)
transmission/distribution losses: 23.021 billion kWh (2022 est.)
comparison rankings: transmission/distribution losses 190; imports 91; consumption 28; installed generating capacity 30

Electricity generation sources
fossil fuels: 62.5% of total installed capacity (2022 est.)
nuclear: 13.2% of total installed capacity (2022 est.)
solar: 0.8% of total installed capacity (2022 est.)
wind: 1.9% of total installed capacity (2022 est.)
hydroelectricity: 20.5% of total installed capacity (2022 est.)
biomass and waste: 1.1% of total installed capacity (2022 est.)

Nuclear energy
Number of operational nuclear reactors: 6 (2023)
Net capacity of operational nuclear reactors: 3.26GW (2023 est.)
Percent of total electricity production: 17.4% (2023 est.)
Number of nuclear reactors permanently shut down: 1 (2023)
Coal
production: 12.712 million metric tons (2022 est.)
consumption: 34.027 million metric tons (2022 est.)
exports: 1,000 metric tons (2022 est.)
imports: 21.944 million metric tons (2022 est.)
proven reserves: 3.064 billion metric tons (2022 est.)

Petroleum
total petroleum production: 101,000 bbl/day (2023 est.)
refined petroleum consumption: 473,000 bbl/day (2022 est.)
crude oil estimated reserves: 540 million barrels (2021 est.)

Natural gas
production: 36.937 billion cubic meters (2022 est.)
consumption: 46.448 billion cubic meters (2022 est.)
imports: 10.851 billion cubic meters (2022 est.)
proven reserves: 592.219 billion cubic meters (2021 est.)

Carbon dioxide emissions
213.498 million metric tonnes of CO2 (2022 est.)
from coal and metallurgical coke: 71.24 million metric tonnes of CO2 (2022 est.)
from petroleum and other liquids: 66.804 million metric tonnes of CO2 (2022 est.)
from consumed natural gas: 75.454 million metric tonnes of CO2 (2022 est.)
comparison ranking: total emissions 30

Energy consumption per capita
14.902 million Btu/person (2022 est.)
comparison ranking: 141

Communications

Telephones - fixed lines
total subscriptions: 2.799 million (2022 est.)
subscriptions per 100 inhabitants: 1 (2022 est.)
comparison ranking: total subscriptions 43

Telephones - mobile cellular
total subscriptions: 192.78 million (2022 est.)
subscriptions per 100 inhabitants: 82 (2022 est.)
comparison ranking: total subscriptions 9

Telecommunication systems
general assessment: Pakistan's telecom market transitioned from a regulated state-owned monopoly to a deregulated competitive structure in 2003, now aided by foreign investment; moderate growth over the last six years, supported by a young population and a rising use of mobile services; telecom infrastructure is improving, with investments in mobile-cellular networks, 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 tests ongoing; data centers in major cities; mobile and broadband doing well and dominate over fixed-broadband sector; future growth (in market size as well as revenue) is likely to come from the wider availability of value-added services on top of the expansion of 4G LTE and (from 2023) 5G mobile networks; the Universal Service Fund (USF) continues

to direct investment towards the development of mobile broadband (and, to a lesser extent, fiber-based networks) in under-served and even under served areas of the country, with multiple projects being approved to start in 2021 and 2022 (2021)
domestic: mobile-cellular subscribership has increased; 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 and broadband penetration in Pakistan is increasing--by the end of 2021, 50% of the population had access to broadband services; fixed-line teledensity is a little over 1 per 100 and mobile-cellular roughly 82 per 100 persons (2021)
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)

Broadcast media
television is the most popular and dominant source of news in Pakistan with over 120 satellite tv stations licensed by the country's electronic media regulatory body, PEMRA ,and 42 media companies/channels with landing rights permission; state-run Pakistan Television Corporation (PTV) is the largest television network in the country and serves over 85 percent of the population with the largest terrestrial infrastructure of the country; PTV consists of nine TV Channels and PTV networks give special coverage to Kashmir; Pakistanis have access to over 100 private cable and satellite channels; six channels are considered the leaders for news reporting and current affairs programing in the country; state-owned Pakistan Broadcasting Corporation (PBC or Radio Pakistan) has the largest radio audience in the country, particularly in the rural areas; Radio Pakistan's AM/SW/FM stations cover 98 percent of the population and 80 percent of the total area in the country; all major newspapers have online editions and all major print publications operate websites; freedom of the press and freedom of speech in the country are fragile (2022)

Internet country code
.pk

Internet users
total: 48.3 million (2021 est.)
percent of population: 21% (2021 est.)
comparison ranking: total 21

Broadband - fixed subscriptions
total: 2,523,027 (2020 est.)
subscriptions per 100 inhabitants: 1 (2020 est.)
comparison ranking: total 53

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 (2018) mt-km

Civil aircraft registration country code prefix
AP

Airports
116 (2024)
comparison ranking: 45

Heliports
48 (2024)

Pipelines
13,452 km gas transmission and 177,029 km gas distribution, 3,663 km oil, 1,150 km refined products (2022)

Railways
total: 11,881 km (2021)
narrow gauge: 389 km (2021) 1.000-m gauge
broad gauge: 11,492 km (2021) 1.676-m gauge (286 km electrified)
comparison ranking: total 20

Roadways
total: 264,175 km
paved: 185,463 km (includes 708 km of expressways)
unpaved: 78,712 km (2021)
comparison ranking: total 17

Merchant marine
total: 60 (2023)
by type: bulk carrier 5, oil tanker 9, other 46
comparison ranking: total 113

Ports
total ports: 3 (2024)
large: 0
medium: 2
small: 1
very small: 0
ports with oil terminals: 2
key ports: Gwadar, Karachi, Muhamamad Bin Qasim

Military and Security

Military and security forces
Pakistan Armed Forces: Pakistan Army (includes National Guard), Pakistan Navy (includes marines, Maritime Security Agency), Pakistan Air Force (Pakistan Fizaia)
Ministry of Interior: Frontier Corps, Pakistan Rangers (2023)
note 1: 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
note 2: the Frontier Corps is a paramilitary force manned mostly by individuals from the tribal areas and commanded by officers from the Pakistan Army; its primary mission is security of the border with Afghanistan; the Frontier Corps is under the Ministry of Interior, but would report to the Army in times of conflict
note 3: the Pakistan Rangers is a paramilitary force operating in Sindh and Punjab

Military expenditures
3% of GDP (2023 est.)
4% of GDP (2022 est.)
4% of GDP (2021 est.)
4% of GDP (2020 est.)
4.1% of GDP (2019 est.)
comparison ranking: 33

Military and security service personnel strengths
information varies; approximately 630,000 active-duty personnel (550,000 Army; 30,000 Navy; 50,000 Air Force); approximately 150,000 Frontier Corps and Pakistan Rangers (2023)

Military equipment inventories and acquisitions
the military's inventory includes a broad mix of equipment, primarily from China, but also from such suppliers as France, Russia, Turkey, Ukraine, the UK, and the US; China has been the leading supplier of arms to Pakistan; Pakistan also has a large domestic defense industry (2023)

Military service age and obligation
16 (or 17 depending on service) to 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 (2023)

Military deployments
1,300 Central African Republic (MINUSCA); 290 South Sudan (UNMISS); 590 Sudan (UNISFA) (2024)

Military - note
the Pakistan military operates largely independently and without effective civilian oversight; it has ruled the country for more than 30 years since independence in 1947 and continues to play a significant role in Pakistan's political arena; it also has a large stake in the country's economic sector and is involved

in a diverse array of commercial activities, including banking, construction of public projects, employment services, energy and power generation, fertilizer, food, housing, real estate, and security services
the military is responsible for external defense but also has a large role in domestic security; its chief external focus is on the perceived threat posed by India; the military is the lead security agency in many areas of the former Federally Administered Tribal Areas (FATA); it has considerable operational experience, having engaged in several conflicts with India and conducted counterinsurgency and counterterrorism operations for decades against various internal militant groups; it is also one of the longest serving and largest contributors to UN peacekeeping missions; China is its closest security partner
Pakistan and India have fought several conflicts since 1947, including the Indo-Pakistan War of 1965 and the Indo-Pakistan and Bangladesh War of Independence of 1971, as well as two clashes over the disputed region of Kashmir (First Kashmir War of 1947 and the Kargil Conflict of 1999); a fragile cease-fire in Kashmir was reached in 2003, revised in 2018, and reaffirmed in 2021, although the Line of Control remains contested, and India has accused Pakistan of backing armed separatists and terrorist organizations in Jammu and Kashmir; in addition, India and Pakistan have battled over the Siachen Glacier of Kashmir, which was seized by India in 1984 with Pakistan attempting to retake the area in 1985, 1987, and 1995; despite a cease-fire, both sides continue to maintain a permanent military presence there with outposts at altitudes above 20,000 feet (over 6,000 meters) where most casualties were due to extreme weather or the hazards of operating in the high mountain terrain of the world's highest conflict, including avalanches, exposure, and altitude sickness

Pakistan has Major Non-NATO Ally (MNNA) status with the US, a designation under US law that provides foreign partners with certain benefits in the areas of defense trade and security cooperation (2024)

Space

Space agency/agencies
Pakistan Space & Upper Atmosphere Research Commission (SUPARCO; established 1961); National Remote Sensing Center (aka Resacent; established 1980) (2024)

Space launch site(s)
Somiani Flight Test Range (Balochistan); Tilla Satellite Launch Center (aka Tilla Range; Punjab) (2024)

Space program overview
space program dates back to the early 1960s but funding shortfalls and shifts in priority toward ballistic missile development in the 1980s and 1990s hampered the program's development; more recently, the program has regained attention and become more ambitious, particularly in acquiring satellites and reaching agreements with other space powers for additional capabilities; manufactures and operates satellites; researching and developing other space-related capabilities and technologies, such as satellite payloads and probably satellite/space launch vehicles (SLVs); also conducts research in such areas as astronomy, astrophysics, environmental monitoring, and space sciences; has relations or cooperation agreements on space with China, Russia, and Turkey (cooperated with the UK and US prior to the 1990s) (2024)
note: further details about the key activities, programs, and mitones of the country's space program, as well as government spending estimates on the space sector, appear in the Space Programs reference guide

Terrorism

Terrorist group(s)
Terrorist group(s): Haqqani Network; Harakat ul-Jihad-i-Islami; Harakat ul-Mujahidin; Hizbul Mujahideen; Indian Mujahedeen; Islamic State of Iraq and ash-Sham-Khorasan (ISIS-K); 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 (TTP); al-Qa'ida; al-Qa'ida in the Indian Subcontinent (AQIS)

note: details about the history, aims, leadership, organization, areas of operation, tactics, targets, weapons, size, and sources of support of the group(s) appear(s) in the Terrorism reference guide

Transnational Issues

Refugees and internally displaced persons
refugees (country of origin): 2.64-2.9 million (1.3 million registered, 1.34-1.6 million undocumented or otherwise categorized) (Afghanistan) (2023)
IDPs: 21,000 (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-Paktunkwa Province; more than 1 million displaced in northern Waziristan in 2014; individuals also have been displaced by repeated monsoon floods) (2022)
stateless persons: 48 (2022)

Illicit drugs
one of the world's top transit corridors for opiates and cannabis products trafficked with Afghanistan and Iran; increased synthetic drug smuggling primarily methamphetamine; a major source of precursor or essential chemicals used in the production of heroin and amphetamine-type stimulants

Acronyms and Abbreviations

°	degree(s) – of temperature (Celsius [C] or Fahrenheit [F]) or of latitude and longitude (North [N], South [S], East [E], and West [W])
$	dollar(s) – U.S.
ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Center
AJK	Azad Jammu and Kashmir
ARCENT	United States Army Central
BCE	Before Common Era (formerly BC)
BHA	Bureau for Humanitarian Assistance (of USAID)
BHU	basic health unit
BISP	Benazir Income Support Programme
BRI	Belt and Road Initiative (of the PRC)
CAREC	Central Asia Regional Economic Cooperation
CBDRM	community-based disaster risk management
CCA	climate change adaptation or Civil Aviation Authority
CCS	Country Cooperation Strategy
CDC	Centers for Disease Control and Prevention (of the U.S.)
CE	Common Era (formerly AD)
CENTCOM	United States Central Command
CFE-DM	Center for Excellence in Disaster Management and Humanitarian Assistance
CHPE	Certificate in Health Professions Education
COP	Conference of Parties
COVID-19	Coronavirus Disease 2019
CPEC	China-Pakistan Economic Corridor
CRPD	Convention on the Rights of Persons with Disabilities
DDMA	district disaster management authority
DEOC	district emergency operations center
DHN	Declaration of Humanitarian Need
DISCO	distribution company
DM	disaster management
DMHA	disaster management and humanitarian assistance
DoD	Departments of Defense (of the U.S.)
DRF-Pak	Pakistan Rescue Team
DRM	disaster risk management
DRR	disaster risk reduction
DWT	deadweight tonnage
ECHO	European Commission Directorate-General for European Civil Protection and Humanitarian Aid Operations
EIE	education in emergencies

ENSO	El Niño Southern Oscillation
EOC	emergency operations center
ER4	early recovery, risk reduction, and resilience
EU	European Union
EWS	early warning system
FDR	Foreign Disaster Response
FFC	Federal Flood Commission
ft / ft^2	feet / square feet
GBDMA	Gilgit-Baltistan Disaster Management Authority
GCC	Gender and Child Cell (of the NDMA)
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	greenhouse gas
GLOF	glacial lake outburst flood
GPA	Gwadar Port Authority
GW	gigawatt(s)
HADR	humanitarian assistance and disaster relief
HCT	Humanitarian Country Team
HRF	Humanitarian Response Facilities
IASC	Inter-Agency Standing Committee
ICRC	International Committee of the Red Cross
ICT	information and communications technology or Inland Container Terminal
IDP	internally displaced person
IFRC	International Federation of Red Cross and Red Crescent Societies
IHR	International Health Regulations
IMF	International Monetary Fund
in	inch(es)
INSARAG	International Search and Rescue Advisory Group
IOM	International Organization for Migration
IOTWMS	Indian Ocean Tsunami Warning and Mitigation System
IPP	independent power producer
JEE	joint external evaluation
km / km2	kilometer(s) / square kilometer(s)
KP	Khyber Pakhtunkhwa
KPT	Karachi Port Trust
kV	kilovolt(s)
LNG	liquified natural gas
LOC	Line of Control
m / m^2 / m^3	meter(s) / square meter(s) / cubic meter(s)
Mbps	megabits per second

MDR-TB	multidrug-resistant TB
mi / mi^2	mile(s) / square mile(s)
MHVRA	multi-hazard vulnerability risk assessment
MIRA	multi-sector initial rapid assessment
ML	Mainline (of the railway)
mm	millimeter(s)
MOC	Ministry of Communications
MoCC	Ministry of Climate Change and Environmental Coordination
MoF	Ministry of Finance
MoITT	Ministry of Information Technology and Telecommunication
MoPD&SI	Ministry of Planning, Development, and Special Initiatives
MOR	Ministry of Railways
MoU	memorandum of understanding
MOWR	Ministry of Water Resources
MRP	Minimum Response Package
MT	metric ton
MTNG	Montana National Guard
MW	megawatt(s)
NAMC	National Agro Meteorological Centre
NAP	National Adaptation Plan
NCC	National Coordination Committee
NCCP	National Climate Change Policy
NCD	non-communicable disease
NCOC	National Command and Operations Center
NCSW	National Commission on the Status of Women
ND-GAIN	University of Notre Dame Global Adaptation Initiative
NDC	Nationally Determined Contributions
NDMA	National Disaster Management Authority
NDMC	National Disaster Management Commission
NDMP	National Disaster Management Plan
NDRMF	National Disaster Risk Management Fund
NDRP	National Disaster Response Plan
NEOC	National Emergency Operations Centre
NEPRA	National Electric Power Regulatory Authority
NFPP	National Flood Protection Plan
NGDP	National Gender Data Portal
NGO	non-governmental organization
NHA	National Highway Authority
NHC	National Highway Council
NHN	National Humanitarian Network

NHSRC	Ministry of National Health Services, Regulations and Coordination
NIDM	National Institute of Disaster Management
NTDCL	National Transmission and Dispatch Company Limited
OCHA	Office for Coordination of Humanitarian Affairs (of the UN)
OOSC	out-of-school children
PCCC	Pakistan Climate Change Council
PDC	Pacific Disaster Center
PDMA	Provincial Disaster Management Authority
PDNA	Post Disaster Needs Assessment
PEMRA	Pakistan Electronic Media Regulatory Authority
PEOC	provincial emergency operations center
PHC	preventive health care
PHF	Pakistan Humanitarian Forum
PHS	Pakistan healthcare system
PMD	Pakistan Meteorological Department
PML	Pakistan Muslim League
PNSC	Pakistan National Shipping Corporation
PPP	Pakistan Peoples Party
PQA	Port Qasim Authority
PR	Pakistan Railways
PRC	People's Republic of China
PRCS	Pakistan Red Crescent Society
PRP	Pakistan Resilience Partnership
PSSF	Pakistan School Safety Framework
PTA	Pakistan Telecommunication Authority
PTI	Pakistan Tehreek-e-Insaf
PTV	Pakistan Television Corporation
RC(XX)	Regional Cooperation (annual exercise)
RCP	Representative Concentration Pathway
RHU	rural health unit
SAARC	South Asia Association of Regional Cooperation
SDG	Sustainable Development Goal
SDMA	State Disaster Management Authority
SDMC	SAARC Disaster Management Centre
SEP	Strategic Engagement Plan
SNC	Single National Curriculum
SOE	state-owned enterprise
SOP	standing operating procedure
SSC	School Safety Committees
TB	tuberculosis

TEU	twenty-foot equivalent unit
U.S.	United States
UAE	United Arab Emirates
UHC	universal health coverage
UK	United Kingdom
UN	United Nations
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
UNDRR	United Nations Office of Disaster Risk Reduction
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNHAS	United Nations Humanitarian Air Service
UNHC	United Nations Humanitarian Coordinator
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNRC	United Nations Resident Coordinator
UNSCR	United Nations Security Council Resolution
USAID	United States Agency for International Development
USAR	urban search and rescue
USDA	United States Department of Agriculture
W/m2	watts per meter squared
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Agencies
WFP	World Food Programme
WHO	World Health Organization
WPS	Women, Peace and Security

Endnotes

1 Asia for Educators. History of South Asia: A Chronological Outline. Accessed 27 April 2021. http://afe.easia.columbia.edu/timelines/southasia_timeline.htm

2 Blood, Peter R. Pakistan: A Country Study. Federal Research Division, Library of Congress. 1995. https://www.loc.gov/item/95017247

3 Blood, Peter R. Pakistan: A Country Study. Federal Research Division, Library of Congress. 1995. https://www.loc.gov/item/95017247

4 BBC. Pakistan profile – Timeline. Accessed 4 May 2021. https://www.bbc.com/news/world-south-asia-12966786

5 Burki, Shahid Javed; and Ziring, Lawrence. Pakistan – History. Encyclopedia Britannica. Last updated 18 September 2024. https://www.britannica.com/place/Pakistan/

6 Hussain, Abid. Shehbaz Sharif elected Pakistan PM for second term after controversial vote. Al-Jazeera. 3 March 2024. https://www.aljazeera.com/news/2024/3/3/shehbaz-sharif-set-to-become-pakistans-new-pm-after-controversial-election

7 Consulate General of Pakistan in Vancouver, Canada. Culture. Accessed 31 October 2024. https://pcgv.org/culture/

8 Ministry of Finance. Overview of the Economy 2023-2024. https://finance.gov.pk/survey/chapter_24/overview%202023-24.pdf

9 Pakistan Bureau of Statistics. TABLE 5 - POPULATION BY SELECTED AGE GROUP, SEX AND RURAL/ URBAN, CENSUS2023. https://www.pbs.gov.pk/sites/default/files/population/2023/tables/national/table_5.pdf

10 World Bank. Islamic Republic of Pakistan – Leveling the Playing Field: Systematic Country Diagnostic. 16 September 2020. https://openknowledge.worldbank.org/server/api/core/bitstreams/93b61534-2d3b-54c6-89accba6aacb80f3/content

11 Burki, Shahid Javed; and Ziring, Lawrence. Pakistan – People of Pakistan. Encyclopedia Britannica. Last updated 25 September 2024. https://www.britannica.com/place/Pakistan/People

12 Wee, Rolando. Who Are The Punjabi People?, WorldAtlas, 25 April 2017. https://www.worldatlas.com/articles/who-are-the-punjabi-people.html

13 Szczepanski, Kallie. Who Are the Pashtun People of Afghanistan and Pakistan?, ThoughtCo, 11 August 2019. https://www.thoughtco.com/who-are-the-pashtun-195409

14 Misachi, John. Ethnic Groups in Pakistan, WorldAtlas, 30 July 2019. https://www.worldatlas.com/articles/ethnic-groups-in-pakistan.html

15 Australia: Refugee Review Tribunal, Pakistan: 1. Are those of Bengali origins included as Mohajirs? 2. Have Pakistanis with Bengali origins who are not politically active faced serious harm or discrimination in the last five years in Karachi or elsewhere in Pakistan?, 20 February 2008, PAK32916, available at: https://www.refworld.org/docid/4b6fe2dd0.html

16 Zeidan, Adam. Baloch people, Encyclopedia Brittanica, 1 September 2024. https://www.britannica.com/topic/Baloch

17 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adcb20a-b481fb609017

18 Ministry of Finance. Overview of the Economy 2023-2024. https://finance.gov.pk/survey/chapter_24/overview%202023-24.pdf

19 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adcb20a-b481fb609017

20 CIA World Factbook. Pakistan – People and Society. Accessed 30 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#people-and-society

21 Pakistan Bureau of Statistics. TABLE 1 : AREA, POPULATION BY SEX, SEX RATIO, POPULATION DENSITY, URBAN POPULATION, HOUSEHOLD SIZE AND ANNUAL GROWTH RATE, CENSUS-2023. https://www.pbs.gov.pk/sites/default/files/population/2023/tables/national/table_1.pdf

22 World Bank. Islamic Republic of Pakistan – Leveling the Playing Field: Systematic Country Diagnostic. 16 September 2020. https://openknowledge.worldbank.org/server/api/core/bitstreams/93b61534-2d3b-54c6-89accba6aacb80f3/content

23 Ziring, Lawrence, and Shahid Javed Burki. Pakistan - Ethnic Groups, Languages, Religions, Encyclopedia Britannica, 29 September 2024. https://www.britannica.com/place/Pakistan/People

24 Exploring the Rich Linguistic Landscape of Pakistan, Dynamic Language, 18 July 2024. https://www.dynamiclanguage.com/exploring-the-rich-linguistic-landscape-of-pakistan/#:~:text=With%20over%2070%20languages%20spoken%20as%20first%20languages,%20the%20linguistic

25 Sen Nag, Oishimaya. What Languages Are Spoken In Pakistan?, WorldAtlas, 30 July 2019. https://www.worldatlas.com/articles/what-languages-are-spoken-in-pakistan.html

26 Pakistan Bureau of Statistics. 7th Population and Housing Census – 2023, 'The Digital Census', Religious Demographics of Pakistan. https://www.pbs.gov.pk/sites/default/files/population/2023/tables/national/table_9.pdf

27 Ziring, Lawrence, and Shahid Javed Burki. People of Pakistan, Encyclopedia Brittanica, 7 October 2024. https://www.britannica.com/place/Pakistan/People

28 Misachi, John. Religion in Pakistan, World Atlas, 30 July 2019. https://www.worldatlas.com/articles/religious-beliefs-and-freedoms-in-pakistan.html

29 UNDRR. Sendai Framework Terminology on DRR – Vulnerability. Accessed 28 October 2024. https://www.undrr.org/terminology/vulnerability

30 National Disaster Management Authority – Gender and Child Cell. National Policy Guidelines on Vulnerable Groups in Disasters. 2014. https://www.ndma.gov.pk/storage/plans/July2024/HGlDQfefxcAIy9FrJx3R.pdf

31 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

32 National Disaster Management Authority. Pakistan School Safety Framework. June 2021. https://app.adpc.net/wp-content/uploads/2021/06/Pakistan-School-Safety-Framework.pdf

33 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

34 Pakistan Bureau of Statistics. TABLE 8 : POPULATION BY SEX, AGE GROUP, RELATIONSHIP TO THE HEAD OF HOUSEHOLD AND RURAL/URBAN, CENSUS – 2023. https://www.pbs.gov.pk/sites/default/files/population/2023/tables/table_8_national.pdf

35 Pakistan Bureau of Statistics. TABLE 5 - POPULATION BY SELECTED AGE GROUP, SEX AND RURAL/ URBAN. 2017. https://www.pbs.gov.pk/sites/default/files/population/2017/tables/pakistan/Table05n.pdf

36 Pakistan Bureau of Statistics. TABLE 17 : DISABILITY AND FUNCTIONAL LIMITATION FOR SPECIAL AGE GROUP BY RURAL/URBAN, CENSUS 2023. https://www.pbs.gov.pk/sites/default/files/population/2023/tables/national/table_17.pdf

37 HelpAge. Pakistan Floods: Rapid Needs Assessment of Older People. 24 October 2022. https://reliefweb.int/report/pakistan/pakistan-floods-rapid-needs-assessment-older-people

38 HelpAge. Pakistan Floods: Rapid Needs Assessment of Older People. 24 October 2022. https://reliefweb.int/report/pakistan/pakistan-floods-rapid-needs-assessment-older-people

39 World Bank. The World Bank in Pakistan – Overview. Accessed 19 September 2024. https://www.worldbank.org/en/country/pakistan/overview

40 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336.

41 World Bank. The World Bank in Pakistan – Overview. Accessed 19 September 2024. https://www.worldbank.org/en/country/pakistan/overview

42 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336. Page 19

43 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

44 Pakistan Bureau of Statistics. TABLE 16 : DISABILITY AND FUNCTIONAL LIMITATION BY REGION AND GENDER, CENSUS-2023. https://www.pbs.gov.pk/sites/default/files/population/2023/tables/national/table_16.pdf

45 Ministry of Human Rights. Pakistan Parliament passes landmark law to protect rights of people with disabilities. 17 September 2020. https://mohr.gov.pk/NewsDetail/NDA2NDc4OWUtYjY2NC00M2MzLTg0MTktZjY1YzZiNzc0N-WQw

46 Economist Intelligence Unit. Moving from the margines: Mainstreaming persons with disabilities in Pakistan. August 2014. https://www.britishcouncil.org/sites/default/files/moving_from_the_margins_final.pdf

47 Pakistan Bureau of Statistics. TABLE 16 : DISABILITY AND FUNCTIONAL LIMITATION BY REGION AND GENDER, CENSUS-2023. https://www.pbs.gov.pk/sites/default/files/population/2023/tables/national/table_16.pdf

48 Ministry of Human Rights. Pakistan Parliament passes landmark law to protect rights of people with disabilities. 17 September 2020. https://mohr.gov.pk/NewsDetail/NDA2NDc4OWUtYjY2NC00M2MzLTg0MTktZjY1YzZiNzc0N-WQw

49 Kunbhar, Zulfiqar. Pakistan: persons with disabilities demand true inclusion. Fair Planet. 22 December 2023. https://www.fairplanet.org/story/pakistan-persons-with-disabilities-demand-true-inclusion/

50 National Disaster Management Authority – Gender and Child Cell. National Policy Guidelines on Vulnerable Groups in Disasters. 2014. https://www.ndma.gov.pk/storage/plans/July2024/HGlDQfefxcAIy9FrJx3R.pdf

51 Asian Development Bank. Asian Development Outlook – Pakistan. 2024. https://www.adb.org/sites/default/files/publication/957856/pak-ado-april-2024.pdf

52 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

53 Asian Development Bank. Asian Development Outlook – Pakistan. 2024. https://www.adb.org/sites/default/files/publication/957856/pak-ado-april-2024.pdf

54 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

55 National Disaster Management Authority – Gender and Child Cell. National Policy Guidelines on Vulnerable Groups in Disasters. 2014. https://www.ndma.gov.pk/storage/plans/July2024/HGlDQfefxcAIy9FrJx3R.pdf

56 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336

57 World Health Organization. Global Health Observatory – Indicator metadata registry list – Child malnutrition: Stunting among children under 5 years of age. Accessed 28 October 2024. https://www.who.int/data/gho/indicator-metadata-registry/imr-details/72#:~:text=Child%20stunting%20refers%20to%20a,their%20physical%20and%20cognitive%20potential.

58 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336

59 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

60 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336

61 National Disaster Management Authority – Gender and Child Cell. Standard Operating Procedures on Separated, Unaccompanied and Missing Children in Disasters. 2014. https://reliefweb.int/report/pakistan/standard-operating-procedures-separated-unaccompanied-and-missing-children-disasters

62 Australian Government – Department of Foreign Affairs and Trade. Pakistan Country Brief. Accessed 18 September 2024. https://www.dfat.gov.au/geo/pakistan/pakistan-country-brief

63 World Bank. Islamic Republic of Pakistan – Leveling the Playing Field: Systematic Country Diagnostic. 16 September 2020. https://openknowledge.worldbank.org/server/api/core/bitstreams/93b61534-2d3b-54c6-89ac-cba6aacb80f3/content

64 Asian Development Bank. Asian Development Outlook – Pakistan. 2024. https://www.adb.org/sites/default/files/publication/957856/pak-ado-april-2024.pdf

65 World Bank. The World Bank in Pakistan – Overview. Accessed 19 September 2024. https://www.worldbank.org/en/country/pakistan/overview

66 Asian Development Bank. Asian Development Outlook – Pakistan. 2024. https://www.adb.org/sites/default/files/publication/957856/pak-ado-april-2024.pdf

67 Australian Government – Department of Foreign Affairs and Trade. Pakistan Country Brief. Accessed 18 September 2024. https://www.dfat.gov.au/geo/pakistan/pakistan-country-brief

68 World Bank. Islamic Republic of Pakistan – Leveling the Playing Field: Systematic Country Diagnostic. 16 September 2020. https://openknowledge.worldbank.org/server/api/core/bitstreams/93b61534-2d3b-54c6-89ac-cba6aacb80f3/content

69 Ministry of Finance. Pakistan Economic Survey 2023-2024; Chapter 08 – Trade and Payments. https://finance.gov.pk/survey/chapter_24/8_trade%20and%20payments.pdf

70 World Bank. The World Bank in Pakistan – Overview. Accessed 19 September 2024. https://www.worldbank.org/en/country/pakistan/overview

71 World Bank. Islamic Republic of Pakistan – Leveling the Playing Field: Systematic Country Diagnostic. 16 September 2020. https://openknowledge.worldbank.org/server/api/core/bitstreams/93b61534-2d3b-54c6-89ac-cba6aacb80f3/content; p 35

72 Australian Government – Department of Foreign Affairs and Trade. Pakistan Country Brief. Accessed 18 September 2024. https://www.dfat.gov.au/geo/pakistan/pakistan-country-brief

73 World Bank. The World Bank in Pakistan – Overview. Accessed 19 September 2024. https://www.worldbank.org/en/country/pakistan/overview

74 Burki, Shahid Javed; and Ziring, Lawrence. Pakistan – Government and Society. Encyclopedia Britannica. Last updated 18 September 2024. https://www.britannica.com/place/Pakistan/Government-and-society

75 CIA World Factbook. Pakistan – Government. Accessed 18 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#government

76 CIA World Factbook. Pakistan – Government. Accessed 18 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#government

77 Australian Government – Department of Foreign Affairs and Trade. Pakistan Country Brief. Accessed 18 September 2024. https://www.dfat.gov.au/geo/pakistan/pakistan-country-brief

78 CIA World Factbook. Pakistan – Government. Accessed 18 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#government

79 Australian Government – Department of Foreign Affairs and Trade. Pakistan Country Brief. Accessed 18 September 2024. https://www.dfat.gov.au/geo/pakistan/pakistan-country-brief

80 CIA World Factbook. Pakistan – Government. Accessed 18 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#government

81 Kureshi, Yasser. Politics at the Bench: The Pakistani Judiciary's Ambitions and Interventions. Carnegie Endowment for International Peace. 23 June 2022. https://carnegieendowment.org/research/2022/06/politics-at-the-bench-the-pakistani-judiciarys-ambitions-and-interventions?lang=en

82 Research Society of International Law. Role of Judiciary – Pakistan's Criminal Justice System. Accessed 18 September 2024. https://rsilpak.org/resource-bank-pakistans-criminal-justice-system/role-of-judiciary/

83 CIA World Factbook. Pakistan – Government. Accessed 18 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#government

84 Burki, Shahid Javed; and Ziring, Lawrence. Pakistan – Government and Society. Encyclopedia Britannica. Last updated 18 September 2024. https://www.britannica.com/place/Pakistan/Government-and-society

85 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

86 Burki, Shahid Javed; and Ziring, Lawrence. Pakistan – Government and Society. Encyclopedia Britannica. Last updated 18 September 2024. https://www.britannica.com/place/Pakistan/Government-and-society

87 Commonwealth Local Government Forum. Pakistan. Accessed 18 September 2024. https://www.clgf.org.uk/regions/clgf-asia/pakistan/

88 Burki, Shahid Javed; and Ziring, Lawrence. Pakistan – Government and Society. Encyclopedia Britannica. Last updated 18 September 2024. https://www.britannica.com/place/Pakistan/Government-and-society

89 CIA World Factbook. Pakistan – Map. Accessed 17 September 2024. https://www.cia.gov/the-world-factbook/static/maps/PK-map.jpg

90 American Institute of Pakistan Studies. Geography. Accessed 18 September 2024. https://www.pakistan-studies-aips.org/pakistan/geography

91 CIA World Factbook. Pakistan – Geography. Accessed 17 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#geography

92 Burki, Shahid Javed; and Ziring, Lawrence. Pakistan. Encyclopedia Britannica. Last updated 18 September 2024. https://www.britannica.com/place/Pakistan

93 CIA World Factbook. Pakistan – Geography. Accessed 17 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#geography

94 Center for Preventative Action. Conflict Between India and Pakistan. 9 April 2024. https://www.cfr.org/global-conflict-tracker/conflict/conflict-between-india-and-pakistan#Background-0

95 Mir, Asfandyar, et al. Afghanistan-Pakistan Border Dispute Heats Up. U.S. Institute of Peace. 12 January 2022. https://www.usip.org/publications/2022/01/afghanistan-pakistan-border-dispute-heats

96 ADB and World Bank. Climate Risk Country Profile – Pakistan. 14 May 2021. https://reliefweb.int/report/pakistan/climate-risk-country-profile-pakistan?gad_source=1&gclid=EAIaIQobChMIjabd1J3LiAMVFDStBh-0PUyXBEAMYAyAAEgK5HvD_BwE

97 Qureshi, Haris Uddin. Trend assessment of changing climate patterns over the major agro-climatic zones of Sindh and Punjab. Frontiers in Water, 21 September 2023, Sec. Water and Climate; Volume 5 – 2023. https://doi.org/10.3389/frwa.2023.1194540

98 ADB and World Bank. Climate Risk Country Profile – Pakistan. 14 May 2021. https://reliefweb.int/report/pakistan/climate-risk-country-profile-pakistan?gad_source=1&gclid=EAIaIQobChMIjabd1J3LiAMVFDStBh-0PUyXBEAMYAyAAEgK5HvD_BwE

99 Qureshi, Haris Uddin. Trend assessment of changing climate patterns over the major agro-climatic zones of Sindh and Punjab. Frontiers in Water, 21 September 2023, Sec. Water and Climate; Volume 5 – 2023. https://doi.org/10.3389/frwa.2023.1194540

100 ADB and World Bank. Climate Risk Country Profile – Pakistan. 14 May 2021. https://reliefweb.int/report/pakistan/climate-risk-country-profile-pakistan?gad_source=1&gclid=EAIaIQobChMIjabd1J3LiAMVFDStBh-0PUyXBEAMYAyAAEgK5HvD_BwE

101 World Bank Climate Change Knowledge Portal. Pakistan – Climatology. Accessed 17 September 2024. https://climateknowledgeportal.worldbank.org/country/pakistan/climate-data-historical

102 EM-DAT. Data for Pakistan, natural events, 2000-2024. Accessed 29 October 2024. https://www.emdat.be/

103 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

104 ND-GAIN. University of Notre Dame Global Adaptation Initiative – Country Index Rankings. Accessed 29 October 2024. https://gain.nd.edu/our-work/country-index/rankings/

105 ND-GAIN. University of Notre Dame Global Adaptation Initiative – Country Index Technical Report. 26 August 2024. https://gain.nd.edu/assets/581554/nd_gain_countryindex_technicalreport_2024.pdf

106 ND-GAIN. University of Notre Dame Global Adaptation Initiative – Country Index Rankings. Accessed 29 October 2024. https://gain.nd.edu/our-work/country-index/rankings/

107 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336.

108 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

109 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336.

110 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

111 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf; Islamic Relief. Research Study: Climate Vulnerability and Capacity Assessment of Coastal Communities in Sindh and Formulation of Community Adaptation Plan - Under the "Climate Sensitive Livelihood Modeling (CSLM) Project" Implemented in District Thatta and Malir. February 2024. https://reliefweb.int/report/pakistan/research-study-climate-vulnerability-and-capacity-assessment-coastal-communities-sindh-and-formulation-community-adaptation-plan-under-climate-sensitive-livelihood-modeling-cslm-project-implemented-district-thatta-and-malir?_gl=1*suxlxm*_ga*MTIwNDc5OTEzMi4xNzAwMDAzNjgx*_ga_E60ZNX2F68*MTcyOTE5ND-Q4OS43MS4xLjE3MjkxOTUxNjQuMzcuMC4w; ADB and World Bank. Climate Risk Country Profile – Pakistan. May 2021. https://reliefweb.int/report/pakistan/climate-risk-country-profile-pakistan?gad_source=1&gclid=EAIaIQobChMIjabd1J3LiAMVFDStBh0PUyX-BEAMYAyAAEgK5HvD_BwE; World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336.

112 McSweeney, Robert and Zeke Hausfather. Q&A: How do climate models work?, Carbon Brief, Clear on Climate, 15 January 2018. https://www.carbonbrief.org/qa-how-do-climate-models-work/#inout

113 Hausfather, Zeke. Explainer: The high-emissions 'RCP8.5' global warming scenario, Carbon Brief, Clear on Climate, 21 August 2019. https://www.carbonbrief.org/explainer-the-high-emissions-rcp8-5-global-warming-scenario/

114 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

115 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336.

116 Mehmood, Tahir. Country Report of Pakistan, Asian Disaster Reduction Center, 2015. https://www.adrc.asia/countryreport/PAK/2015/PAK_CR2015A.pdf

117 World Bank. Pakistan, Climate Change Knowledge Portal, 2021. https://climateknowledgeportal.worldbank.org/country/pakistan/vulnerability

118 Hussain, Muhammad Awais, Zhang Shuai, Muhammad Aamir Moawwez, Tariq Umar, Muhammad Rashid Iqbal, Muhammad Kamran, and Muhammad Muneer. 2023. "A Review of Spatial Variations of Multiple Natural Hazards and Risk Management Strategies in Pakistan" Water 15, no. 3: 407. https://doi.org/10.3390/w15030407 ; https://www.mdpi.com/2073-4441/15/3/407

119 Rafferty, John, and Michele Metych. Pakistan floods of 2022, Encylopedia Britannica, 4 October 2024. https://www.britannica.com/event/Pakistan-floods-of-2022

120 Government of Pakistan, Ministry of Planning, Development and Special Initiatives. Resilient Recovery, Rehabilitation, and Reconstruction Framework Pakistan (4RF), December 2022. https://www.pc.gov.pk/uploads/downloads/Final_4RF.pdf

121 Rafferty, John, and Michele Metych. Pakistan floods of 2022, Encylopedia Britannica, 4 October 2024. https://www.britannica.com/event/Pakistan-floods-of-2022

122 Government of Pakistan, Ministry of Planning, Development and Special Initiatives. Pakistan Floods 2022: Post-Disaster Needs Assessment (PDNA) Supplemental Report. November 2022. https://www.pc.gov.pk/uploads/downloads/PDNA_report.pdf

123 Government of Pakistan, Ministry of Planning, Development and Special Initiatives. Resilient Recovery, Rehabilitation, and Reconstruction Framework Pakistan (4RF), December 2022. https://www.pc.gov.pk/uploads/downloads/Final_4RF.pdf

124 Intergovernmental Panel on Climate Change (IPCC). 2021. Climate Change 2021: The Physical Science Basis. ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_FullReport.pdf

125 Hussain, Muhammad Awais, Zhang Shuai, Muhammad Aamir Moawwez, Tariq Umar, Muhammad Rashid Iqbal, Muhammad Kamran, and Muhammad Muneer. 2023. "A Review of Spatial Variations of Multiple Natural Hazards and Risk Management Strategies in Pakistan" Water 15, no. 3: 407. https://doi.org/10.3390/w15030407 ; https://www.mdpi.com/2073-4441/15/3/407

126 Timeline: Cyclones over the years with Pakistan in their path – Pakistan, Dawn.COM, 13 June 2023. https://www.dawn.com/news/1759518

127 Shah, Sabih. Timeline: 130-year history of cyclones ravaging Pakistan, Geo News, 14 June 2023. https://www.geo.tv/latest/493030-timeline-130-year-history-of-cyclones-ravaging-pakistan ; Pakistan Weather Portal, Detailed history of Cyclones in Pakistan. https://pakistanweatherportal.com/2011/03/31/history-of-cyclones-in-pakistan/

128 Natural Hazards in Pakistan, Scholarly Community Encyclopedia. https://encyclopedia.pub/entry/40933

129 Deshpande, Medha, Vineet Kumar Singh, Mano Kranthi Ganadhi, M. K. Roxy, R. Emmanuel, Umesh Kumar. Changing status of tropical cyclones over the north Indian Ocean, Climate Dynamics 57, 3545–3567 (2021). https://doi.org/10.1007/s00382-021-05880-z ; https://www.rocksea.org/bin/research/deshpande_cyclones_climate_dynamics_2021.pdf

130 Encyclopedia Britannica. Kashmir earthquake of 2005, 1 October 2024. https://www.britannica.com/event/Kashmir-earthquake-of-2005

131 Mehmood, Tahir. Country Report of Pakistan, Asian Disaster Reduction Center, 2015. https://www.adrc.asia/countryreport/PAK/2015/PAK_CR2015A.pdf

132 Z. Rafi, N. Mahmood, Sajjad A, S. Rafiq, M. Butt, Seismic Division, Pakistan Meteorological Department, Islamabad. Seismicity trend analysis in and around Pakistan region between 1900 – 2022, Pakistan Engineering Congress, Lahore. https://seismic.pmd.gov.pk/frontend/trend.pdf

133 Muhammad Abbas Quershi, Habil Ahmad, Atta Ullah Shah, and Shaukat Ali Khan. An Earthquake Risk Assessment Study of Khyber Pakhtunkhwa Province, First International Conference on Emerging Trends in Engineering, Management and Sciences, Peshawar, Pakistan, 28-30 December 2014. https://www.cusit.edu.pk/icetems/Proceeding/Civil%20Engineering/PK-CE-117.pdf

134 Hussain, Muhammad Awais, Zhang Shuai, Muhammad Aamir Moawwez, Tariq Umar, Muhammad Rashid Iqbal, Muhammad Kamran, and Muhammad Muneer. 2023. "A Review of Spatial Variations of Multiple Natural Hazards and Risk Management Strategies in Pakistan" Water 15, no. 3: 407. https://doi.org/10.3390/w15030407 ; https://www.mdpi.com/2073-4441/15/3/407

135 Intergovernmental Panel on Climate Change (IPCC). 2021. Climate Change 2021: The Physical Science Basis. ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_FullReport.pdf

136 ReliefWeb. Pakistan: Floods and Landslides - Jun 2024. https://reliefweb.int/disaster/fl-2024-000118-pak

Education Cluster, Save the Children, and UNICEF. Pakistan: ESWG Flood Recovery Monitoring Dashboard (as of September 2024). 23 October 2024. https://reliefweb.int/report/pakistan/pakistan-eswg-flood-recovery-monitoring-dashboard-september-2024

137 ReliefWeb. Pakistan: Floods – Feb 2024. https://reliefweb.int/disaster/fl-2024-000020-pak; IFRC. Pakistan Flood 2024 – DREF Operational Update n° MDRPK025 (31-08-2024). https://reliefweb.int/report/pakistan/pakistan-flood-2024-dref-operational-update-ndeg-mdrpk025-31-08-2024

138 UNICEF. UNICEF Pakistan Humanitarian Situation Report -- End-of-Year 2023. 14 February 2024. https://reliefweb.int/report/pakistan/unicef-pakistan-humanitarian-situation-report-end-year-2023

139 ReliefWeb. Pakistan: Floods - Jul 2022. 14 July 2023. https://reliefweb.int/disaster/fl-2022-000254-pak#countries

140 UNICEF. UNICEF Pakistan Humanitarian Situation Report -- End-of-Year 2023. 14 February 2024. https://reliefweb.int/report/pakistan/unicef-pakistan-humanitarian-situation-report-end-year-2023

141 UNICEF. UNICEF Pakistan Humanitarian Situation Report -- End-of-Year 2023. 14 February 2024. https://reliefweb.int/report/pakistan/unicef-pakistan-humanitarian-situation-report-end-year-2023

142 UNDP Pakistan. Pakistan Floods 2022: Post-Disaster Needs Assessment (PDNA). 28 October 2022. https://www.undp.org/pakistan/publications/pakistan-floods-2022-post-disaster-needs-assessment-pdna; Government of Pakistan. Pakistan floods 2022: Resilient recovery, rehabilitation, and reconstruction framework (4RF). https://www.preventionweb.net/publication/pakistan-floods-2022-resilient-recovery-rehabilitation-and-reconstruction-framework-4rf; UN OCHA. Revised Pakistan 2022 Floods Response Plan: 01 Sep 2022 - 31 May 2023 (04 Oct 2022). https://reliefweb.int/report/pakistan/revised-pakistan-2022-floods-response-plan-01-sep-2022-31-may-2023-04-oct-2022

143 IFRC. Pakistan: Dengue Response – Final Report, DREF Operation n° MDRPK022. 30 June 2022. https://reliefweb.int/report/pakistan/pakistan-dengue-response-final-report-dref-operation-ndeg-mdrpk022

144 IFRC. Pakistan: Balochistan Earthquake - DREF Operation n° MDRPK021 Final Report. 29 July 2022. https://reliefweb.int/report/pakistan/pakistan-balochistan-earthquake-dref-operation-ndeg-mdrpk021-final-report

145 World Health Organization. Data – WHO COVID-19 Dashboard: Pakistan. Accessed 28 October 2024. https://data.who.int/dashboards/covid19/cases?m49=586&n=o

146 Kureshi, Yasser. Multi-Level Government and COVID-19: Lessons from Pakistan's experience. Melbourne Forum on Constitution-Building. https://law.unimelb.edu.au/__data/assets/pdf_file/0009/3475719/MF20-Web3-Paksitan-Kureshi-FINAL.pdf

147 Hadid, Diaa; and Sattar, Abdul. Pakistan Limits Worshippers At Mosques. Many Worshippers Are Defiant. NPR. 17 April 2020. https://www.npr.org/sections/goatsandsoda/2020/04/17/837007264/pakistan-limits-worshippers-at-mosques-many-worshippers-are-defiant

148 Kureshi, Yasser. Multi-Level Government and COVID-19: Lessons from Pakistan's experience. Melbourne Forum on Constitution-Building. https://law.unimelb.edu.au/__data/assets/pdf_file/0009/3475719/MF20-Web3-Paksitan-Kureshi-FINAL.pdf

149 Hadid, Diaa; and Sattar, Abdul. Pakistan Limits Worshippers At Mosques. Many Worshippers Are Defiant. NPR. 17 April 2020. https://www.npr.org/sections/goatsandsoda/2020/04/17/837007264/pakistan-limits-worshippers-at-mosques-many-worshippers-are-defiant

150 Kureshi, Yasser. Multi-Level Government and COVID-19: Lessons from Pakistan's experience. Melbourne Forum on Constitution-Building. https://law.unimelb.edu.au/__data/assets/pdf_file/0009/3475719/MF20-Web3-Paksitan-Kureshi-FINAL.pdf

151 World Bank. South Asia Economic Focus (Fall 2022): Coping with Shocks: Migration and the Road to Resilience. 7 November 2022. https://reliefweb.int/report/pakistan/south-asia-economic-focus-fall-2022-coping-shocks-migration-and-road-resilience

152 ADB and UN Women. Two Years On: The lingering gendered effects of the COVID-19 pandemic in Asia and the Pacific. 22 June 2022. https://reliefweb.int/report/pakistan/two-years-lingering-gendered-effects-covid-19-pandemic-asia-and-pacific

153 WFP. WFP & Gender Contributing towards gender equality and women's empowerment in Pakistan. 9 March 2022. https://reliefweb.int/report/pakistan/wfp-gender-contributing-towards-gender-equality-and-women-s-empowerment-pakistan

154 IFRC. Pakistan: Severe winter DREF Operation n° MDRPK018 Final Report. 30 November 2020. https://reliefweb.int/report/pakistan/pakistan-severe-winter-dref-operation-n-mdrpk018-final-report

155 ReliefWeb. Pakistan: Earthquake – Sep 2019. https://reliefweb.int/disaster/eq-2019-000117-pak

156 ReliefWeb. Pakistan: Floods and Landslides – Jul 2019. https://reliefweb.int/disaster/fl-2019-000087-pak

157 ReliefWeb. Pakistan: Drought – 2018-2019. https://reliefweb.int/disaster/dr-2018-000428-pak

158 ReliefWeb. Pakistan: Floods and Heavy Snowfalls – Jan 2017. https://reliefweb.int/disaster/fl-2017-000017-pak

159 ReliefWeb. Pakistan: Floods and Landslides – June 2016. https://reliefweb.int/disaster/fl-2016-000066-pak

160 ReliefWeb. Pakistan: Floods and Landslides – March 2016. https://reliefweb.int/disaster/fl-2016-000021-pak

161 ReliefWeb. Afghanistan/Pakistan: Earthquake – October 2015 https://reliefweb.int/disaster/eq-2015-000147-afg

162 International Federation of Red Cross and Red Crescent Societies. Pakistan - Earthquake (MDRPK012): DREF Operation 1. 3 November 2015. https://reliefweb.int/report/pakistan/pakistan-earthquake-mdrpk012-dref-operation-1?_gl=1*yldupq*_gcl_aw*R0NMLjE3Mjk5MDUwNDAuRUFJYUlRb2JDaE1JamFiZDFKM0xpQU1WRkRTdEJoMFBVeVhCRUFNWUF5QUFFZ0s1SHZEX0J3RQ..*_ga*MTIzNDA1Mjg0NS4xNzAyMDc1MzE1*_ga_E60ZNX2F68*MTczMDE0NDY5Ni41MC4xLjE3MzAxNDQ4MDguNjAuMC4w

163 ReliefWeb. Pakistan: Floods – Apr 2015. https://reliefweb.int/disaster/fl-2015-000017-pak

164 ReliefWeb. Pakistan: Floods – Sep 2014 https://reliefweb.int/disaster/fl-2014-000122-pak

165 ReliefWeb. Pakistan: Drought – 2014-2017. https://reliefweb.int/disaster/dr-2014-000035-pak

166 Fitzgibbon, C. and Crosskey, A. Disaster risk reduction management in the drylands in the Horn of Africa. Brief prepared by a Technical Consortium hosted by CGIAR in partnership with the FAO Investment Centre. Technical Consortium Brief 4. Nairobi: International Livestock Research Institute. 2013. https://repo.mel.cgiar.org/handle/20.500.11766/5197

167 UNDRR. Terminology. Accessed 8 September 2022. https://www.undrr.org/terminology

168 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM. Accessed 30 January 2023. https://drmkc.jrc.ec.europa.eu/inform-index

169 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM Global Risk Index. Methodology. https://drmkc.jrc.ec.europa.eu/inform-index/InDepth/Methodology

170 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM Risk Methodology. https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk/Methodology

171 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM Country Risk Profile 2025 – Pakistan. Accessed 7 October 2024. https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk/Country-Risk-Profile

172 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM Country Risk Profile 2025 – Pakistan. Accessed 7 October 2024. https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk/Country-Risk-Profile

173 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM Climate Change Tool. Accessed 7 October 2024. https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Climate-Change/INFORM-Climate-Change-Tool

174 Poljansek, K., Marzi, S., Galimberti, L., Dalla Valle, D., Pal, J., Essenfelder, A.H., Mysiak, J., Corbane, C. 2022. INFORM Climate Change Risk Index Concept and Methodology. Publications, European Union, Luxembourg, doi:1.0.2760/822072, JRC129896. https://drmkc.jrc.ec.europa.eu/inform-index/Portals/0/InfoRM/2022/INFORM%20Climate%20Change%20Risk%20Index%20Concept%20and%20Methodology.pdf

175 Poljansek, K., Disperati, P., Vernaccini, L., Nika, A., Marzi, S. and Essenfelder, A.H., 2020, INFORM Severity Index, EUR 30400 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-23014-4, doi:10.2760/94802, JRC122162. https://drmkc.jrc.ec.europa.eu/inform-index

176 Bündnis Entwicklung Hilft. World Risk Report 2024 - Focus: Multiple Crises. https://reliefweb.int/report/world/worldriskreport-2024-focus-multiple-crises

177 National Disaster Management Authority. National Disaster Management Logistic Stock Pile Instructions – 2023. https://www.ndma.gov.pk/storage/plans/August2024/7AQQTFUVuWqfTiAHzdCk.pdf

178 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

179 National Disaster Management Authority. National Disaster Management Logistic Stock Pile Instructions – 2023. https://www.ndma.gov.pk/storage/plans/August2024/7AQQTFUVuWqfTiAHzdCk.pdf

180 Jabbar, R., and Makki, M. Managing health disasters and Civil–Military Cooperation: A case of COVID-19 in Pakistan. Jàmbá: Journal of Disaster Risk Studies, 13(1), 8 pages. 2021. doi: https://doi.org/10.4102/jamba.v13i1.1113; https://jamba.org.za/index.php/jamba/article/view/1113/2033

181 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

182 National Disaster Management Authority. Organigram. Accessed 22 October 2024. https://www.ndma.gov.pk/organogram

183 National Disaster Management Authority. About. Accessed 22 October 2024. https://www.ndma.gov.pk/about

184 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

185 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

186 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

187 National Disaster Management Authority. National Disaster Management Plan – III – 2024. https://www.ndma.gov.pk/storage/plans/July2024/vWxklzviXxzbgPGHuitB.pdf

188 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

189 Federal Flood Commission. History. Accessed 25 October 2024. https://ffc.gov.pk/history/

190 Federal Flood Commission. Flood Wing/FFC Functions. Accessed 25 October 2024. https://ffc.gov.pk/project/federal-flood-commission/

191 National Institute for Disaster Management. Global Best Practices for Disaster Mitigation and Management – 2024. National Disaster Management Authority. https://www.ndma.gov.pk/storage/publications/July2024/9uipbYXjrReOQNaVs5I3.pdf

192 World Bank. Pakistan Country Climate and Development Report (CCDR). Washington, DC: World Bank, 2022. https://openknowledge.worldbank.org/entities/publication/614ddc2b-ca31-53c9-b59c-6bf12a56d336.

193 National Disaster Management Authority. National Disaster Management Plan – III – 2024. https://www.ndma.gov.pk/storage/plans/July2024/vWxklzviXxzbgPGHuitB.pdf

194 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

195 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

196 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

197 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

198 National Disaster Management Authority. National Disaster Management Logistic Stock Pile Instructions – 2023. https://www.ndma.gov.pk/storage/plans/August2024/7AQQTFUVuWqfTiAHzdCk.pdf

199 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

200 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

201 National Disaster Management Authority. National Disaster Management Logistic Stock Pile Instructions – 2023. https://www.ndma.gov.pk/storage/plans/August2024/7AQQTFUVuWqfTiAHzdCk.pdf

202 Virtual OSOCC. USAR Team Directory. Accessed 18 November 2024. https://vosocc.unocha.org/USAR_Directory/USARTeam.asp

203 UN Office for the Coordination of Humanitarian Affairs. INSARAG Guidelines 2020; Volume 1: Policy. https://www.insarag.org/wp-content/uploads/2021/06/INSARAG-20Guidelines20Vol20I.pdf

204 Ministry of Defence. What we do. Accessed 25 October 2024. https://mod.gov.pk/Detail/M2ExNDVjMjgtZjA1OC00Y2U4LWFkNmMtZjE2MDMyNmY0NDg1

205 Global Fire Power. 2024 Pakistan Military Strength. https://www.globalfirepower.com/country-military-strength-detail.php?country_id=pakistan#google_vignette

206 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

207 Jabbar, R., and Makki, M. Managing health disasters and Civil–Military Cooperation: A case of COVID-19 in Pakistan. Jàmbá: Journal of Disaster Risk Studies, 13(1), 8 pages. 2021. doi: https://doi.org/10.4102/jamba.v13i1.1113; https://jamba.org.za/index.php/jamba/article/view/1113/2033

208 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

209 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

210 Jabbar, R., and Makki, M. Managing health disasters and Civil–Military Cooperation: A case of COVID-19 in Pakistan. Jàmbá: Journal of Disaster Risk Studies, 13(1), 8 pages. 2021. doi: https://doi.org/10.4102/jamba.v13i1.1113; https://jamba.org.za/index.php/jamba/article/view/1113/2033

211 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

212 Jabbar, R., and Makki, M. Managing health disasters and Civil–Military Cooperation: A case of COVID-19 in Pakistan. Jàmbá: Journal of Disaster Risk Studies, 13(1), 8 pages. 2021. doi: https://doi.org/10.4102/jamba.v13i1.1113; https://jamba.org.za/index.php/jamba/article/view/1113/2033

213 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

214 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

215 National Disaster Management Authority. National Disaster Management Plan – III – 2024. https://www.ndma.gov.pk/storage/plans/July2024/vWxklzviXxzbgPGHuitB.pdf

216 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

217 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

218 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

219 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

220 Pakistan Humanitarian Forum. 2023 – Annual Report. https://pakhumanitarianforum.org/wp-content/uploads/2024/08/Annual-Report-2023_c.pdf

221 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

222 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

223 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

224 International Committee of the Red Cross (ICRC). The Movement. Accessed 23 March 2020. https://www.icrc.org/en/movement#:~:text=The%20International%20Red%20Cross%20and,armed%20conflicts%20and%20other%20emergencies.

225 International Federation of Red Cross and Red Crescent Societies (IFRC). Pakistan – 2024 IFRC network country plan. 27 February 2024. https://www.ifrc.org/ifrc-network-country-plans?location%5B%5D=6450&-search_terms=&field_year_ifrc_plans%5B%5D=2024&-search_terms=

226 International Federation of Red Cross and Red Crescent Societies (IFRC). Who we are. Accessed 23 March 2021. http://www.ifrc.org/en/who-we-are/

227 International Federation of Red Cross and Red Crescent Societies (IFRC). Pakistan – 2024 IFRC network country plan. 27 February 2024. https://www.ifrc.org/ifrc-network-country-plans?location%5B%5D=6450&-search_terms=&field_year_ifrc_plans%5B%5D=2024&-search_terms=

228 Pakistan Red Crescent Society. Our History. https://prcs.org.pk/our-history/

229 International Federation of Red Cross and Red Crescent Societies (IFRC). Pakistan – 2024 IFRC network country plan. 27 February 2024. https://www.ifrc.org/ifrc-network-country-plans?location%5B%5D=6450&-search_terms=&field_year_ifrc_plans%5B%5D=2024&-search_terms=

230 International Federation of Red Cross and Red Crescent Societies (IFRC). Pakistan – 2023 IFRC network annual report, Jan-Dec. 28 August 2024. https://reliefweb.int/report/pakistan/pakistan-2023-ifrc-network-annual-report-jan-dec-28-august-2024?_gl=1*e7ouk6*_ga*MTIwNDc5OTEzMi4xNzAwMDAzNjgx*_ga_E60ZNX2F68*MTcyOTE5NDQ4OS43MS4xLjE3MjkxOTQ3NTYuMzAuMC4w

231 U.S. Mission Pakistan. Sections and Offices. Accessed 12 November 2024. https://pk.usembassy.gov/sections-offices/#commercial

232 U.S. Mission Pakistan. Our Relationship. Accessed 12 November 2024. https://pk.usembassy.gov/our-relationship/

233 U.S. Mission Pakistan. Remarks: U.S. Ambassador Blome at the "Recharge Pakistan" Launch Event. 10 September 2024. https://pk.usembassy.gov/remarks/

234 U.S. Mission Pakistan. Remarks: U.S. Ambassador Blome at the Climate Smart Agriculture Activity Launch. 11 November 2024. https://pk.usembassy.gov/remarks-u-s-ambassador-blome-at-the-climate-smart-agriculture-activity-launch/

235 U.S. State Department. U.S. Government (USG) Global Health Security (GHS) Program in Pakistan, Country Dashboard, 2023. https://www.state.gov/wp-content/uploads/2024/04/Pakistan-Country-Page-Final_508_v2.pdf

236 U.S. Mission Pakistan. U.S. Assistance to Pakistan. Accessed 12 November 2024. https://pk.usembassy.gov-/u-s-assistance-to-pakistan/

237 USAID. Pakistan – Country Overview. Accessed 12 November 2024. https://www.usaid.gov/pakistan

238 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adc-b20a-b481fb609017

239 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

240 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

241 USAID. Country Development Cooperation Strategy (CDCS) – Pakistan (November 2023-2028). 28 November 2023. https://www.usaid.gov/sites/default/files/2024-03/CDCS-Pakistan-Nov-2028.pdf

242 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

243 National Disaster Management Authority. National Disaster Management Plan – III – 2024. https://www.ndma.gov.pk/storage/plans/July2024/vWxklzviXxzbgP-GHuitB.pdf

244 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

245 National Disaster Management Authority. National Disaster Management Plan – III – 2024. https://www.ndma.gov.pk/storage/plans/July2024/vWxklzviXxzbgP-GHuitB.pdf

246 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

247 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

248 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

249 Federal Flood Commission. BRIEF REGARDING UPDATION OF THE 4th NATIONAL FLOOD PROTECTION PLAN (NFPP-IV UPDATED). July 2024. https://ffc.gov.pk/wp-content/uploads/2024/07/Brief-on-NFPP-IV-Updated-1.pdf

250 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

251 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

252 National Disaster Management Authority. National Disaster Response Plan. 2019. https://www.ndma.gov.pk/storage/publications/July2024/LseuKlsxiAtQoUyCY5Ph.pdf

253 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

254 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

255 Climate Change Division. National Climate Change Policy Implementation Framework (2014-2030). Government of Pakistan. https://www.icimod.org/policies-on-energy/pakistan/Framework%20for%20Implementation%20of%20Climate%20Change%20Policy%20(2014-2030).pdf

256 World Bank Group. World Bank Group Climate Change Action Plan 2021-2025: South Asia Roadmap. 2021. http://hdl.handle.net/10986/36321 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/1218d6c3-663d-5881-a8fe-b79c4284653d

257 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

258 Ministry of Climate Change and Environmental Coordination. National Adaptation Plan – Pakistan 2023. https://www.ndma.gov.pk/storage/plans/July2024/qkng0sNom2LgAJqJ3Qy4.pdf

259 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

260 Pakistan Meteorological Department. About Us. Accessed 1 November 2024. https://www.pmd.gov.pk/en/about.php

261 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

262 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adc-b20a-b481fb609017

263 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

264 National Disaster Management Authority. Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters. 2018. https://app.adpc.net/resources/host-nation-support-guidelines-for-foreign-assistance-to-pakistan-during-disasters-2/

265 Seismic Monitoring and Early Tsunami Warning Center. Objectives. Pakistan Meteorological Department. Accessed 1 November 2024. https://seismic.pmd.gov.pk/seismicnew/objective.html

266 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

267 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

268 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

269 Joint Publication 3-29. Foreign Humanitarian Assistance. 14 May 2019. Page IV-35. https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_29.pdf?ver=2019-05-21-150525-607

270 Pacific Disaster Center (PDC Global). About DisasterAWARE. Accessed 23 March 2021. https://www.pdc.org/apps/disasteraware/about-disasteraware/

271 Pacific Disaster Center (PDC Global). Disaster Alert. Accessed 23 March 2021. https://disasteralert.pdc.org/disasteralert/

Pacific Disaster Center (PDC Global). DisasterAWARE Quick Start User Guide, 2019, Version 6.5. https://disasteraware.pdc.org/help/Quick-Start-Guide-DisasterAWARE-screen.pdf

272 Pacific Disaster Center (PDC Global). DisasterAlert™. Accessed 23 March 2021. https://www.pdc.org/apps/disaster-alert/

273 Ministry of Planning, Development and Special Initiatives. About – The Ministry. Accessed 3 October 2024. https://www.pc.gov.pk/web/ministry

274 Ministry of Planning, Development and Special Initiatives. About – Organigram. Accessed 3 October 2024. https://www.pc.gov.pk/web/orag

275 World Bank. Integrated Flood Resilience and Adaptation Project. https://projects.worldbank.org/en/projects-operations/project-detail/P180323

276 Ministry of Finance. Overview of the Economy 2023-2024. https://finance.gov.pk/survey/chapter_24/overview%202023-24.pdf

277 Planning Commission. Pakistan 2025: One Nation – One Vision: Executive Summary. Ministry of Planning, Development and Reform. https://www.pc.gov.pk/uploads/vision2025/Vision-2025-Executive-Summary.pdf

278 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adc-b20a-b481fb609017

279 Planning Commission. Pakistan 2025: One Nation – One Vision: Executive Summary. Ministry of Planning, Development and Reform. https://www.pc.gov.pk/uploads/vision2025/Vision-2025-Executive-Summary.pdf

280 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

281 Pakistan Civil Aviation Authority. About Organization. Accessed 7 October 2024. https://caapakistan.com.pk/AboutUs.aspx

282 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

283 Zakir, D., I. Greenwood, and A. Ayoobi. Sustainable Transport Infrastructure: Road Asset Management in the CAREC Region. ADBI Working Paper 1437. Tokyo: Asian Development Bank Institute. 2024. https://doi.org/10.56506/XZVX6537

284 CAREC Corridor Performance and Monitoring. (2022). CAREC corridor performance measurement and monitoring: Annual report 2022. https://cpmm.carecprogram.org/

285 CAREC Program. CAREC Designated Rail Corridors Map. Accessed 1 October 2024. https://www.carecprogram.org/uploads/CAREC_DRC_map_February_2021.pdf

286 Asian Development Bank. Pakistan: National Motorway M–4 Gojra–Shorkot Section Project and National Motorway M–4 Gojra–Shorkot–Khanewal Section Project - Additional Financing. Validation Report. December 2023. https://www.adb.org/sites/default/files/Evaluation%20Document/936431/files/pvr-3300.pdf

287 Khalid Ahmed, Mita Bhattacharya, Ahmer Qasim Qazi, Niaz Ahmed Ghumro. Transport infrastructure and industrial output in Pakistan: An empirical investigation. Research in Transportation Economics, Volume 90, 2021, 101040, ISSN 0739-8859, https://doi.org/10.1016/j.retrec.2021.101040. https://www.sciencedirect.com/science/article/pii/S0739885921000123

288 Pakistan Civil Aviation Authority. About Organization. Accessed 7 October 2024. https://caapakistan.com.pk/AboutUs.aspx

289 Pakistan Civil Aviation Authority. National Aviation Policy. 2019. https://caapakistan.com.pk/upload/AT/NAP-2019.pdf

290 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

291 Asian Development Bank. Impact of COVID-19 on CAREC Aviation and Tourism. February 2021. https://www.adb.org/sites/default/files/publication/674106/impact-covid-19-carec-aviation-tourism.pdf

292 Airport Technology. Allama Iqbal International Airport, Lahore (LHE/OPLA). 1 April 2021. https://www.airport-technology.com/projects/lahore/?cf-view

293 CAPA – Centre for Aviation. Airport Profiles. Accessed 7 October 2024. https://centreforaviation.com/data/profiles/airports; Skybrary. Airports. Accessed 7 October 2024. https://skybrary.aero/airports?f%5B0%5D=icao_territory_name%3A841; Sky Vector. Airports in Pakistan. Accessed 7 October 2024. https://skyvector.com/airports/Pakistan; International Flight Planning Solutions. Airport Info. Accessed 7 October 2024. https://acukwik.com/Airport-Info/; Airport Technology. Allama Iqbal International Airport, Lahore (LHE/OPLA). 1 April 2021. https://www.airport-technology.com/projects/lahore/?cf-view

294 Ministry of Maritime Affairs. Introduction. Accessed 7 October 2024. https://www.moma.gov.pk/Detail/NzIxMTIzM2EtMjQwOC00MjUyLTlhOTctMTViNzVkYzA2NmIy

295 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

296 Asian Development Bank. Ports and Logistics Scoping Study in CAREC Countries. March 2021. https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf

297 Asian Development Bank. Ports and Logistics Scoping Study in CAREC Countries. March 2021. https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf

298 Karachi Port Trust. Port. Accessed 1 October 2024. https://kpt.gov.pk/pages/37/port

299 Asian Development Bank. Ports and Logistics Scoping Study in CAREC Countries. March 2021. https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf

300 Karachi Port Trust. Port. Port Parameters. Accessed 1 October 2024. https://kpt.gov.pk/pages/24/port-parameters

301 Asian Development Bank. Ports and Logistics Scoping Study in CAREC Countries. March 2021. https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf

302 Port Qasim Authority. Port Operational Complex. Accessed 7 October 2024. https://www.pqa.gov.pk/en/port-operations/port-operational-complex/#marginal-warf

303 Asian Development Bank. Ports and Logistics Scoping Study in CAREC Countries. March 2021. https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf

304 Gwadar Port Authority. Master Plan. Accessed 7 October 2024. https://www.gwadarport.gov.pk/masterplan.aspx

305 Ministry of Communication. About us – Overview. Accessed 3 October 2024. https://www.communication.gov.pk/Detail/ZGJhNmIyOGMtMzcxYi00NTI2LWIxNjktNDg3NGQ5Y2Q5YmQ2

306 Khalid Ahmed, Mita Bhattacharya, Ahmer Qasim Qazi, Niaz Ahmed Ghumro. Transport infrastructure and industrial output in Pakistan: An empirical investigation. Research in Transportation Economics, Volume 90, 2021, 101040, ISSN 0739-8859, https://doi.org/10.1016/j.retrec.2021.101040. https://www.sciencedirect.com/science/article/pii/S0739885921000123

307 National Highway Authority. National Highway Council. Accessed 1 October 2024. https://mail.nha.gov.pk/sitepages/topic/27

308 National Highway Authority. Background. Accessed 1 October 2024. https://mail.nha.gov.pk/sitepages/topic/26

309 Asian Development Bank. Pakistan: National Motorway M–4 Gojra–Shorkot Section Project and National Motorway M–4 Gojra–Shorkot–Khanewal Section Project - Additional Financing. Validation Report. December 2023. https://www.adb.org/sites/default/files/Evaluation%20Document/936431/files/pvr-3300.pdf

310 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

311 Asian Development Bank. Road Safety Report Card for the CAREC Region. July 2022. https://www.adb.org/sites/default/files/publication/813381/road-safety-report-card-carec-region_1.pdf

312 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

313 Asian Development Bank. Road Safety Report Card for the CAREC Region. July 2022. https://www.adb.org/sites/default/files/publication/813381/road-safety-report-card-carec-region_1.pdf

314 National Highway Authority. Roads – Motorways. Accessed 1 October 2024. https://mail.nha.gov.pk/roads/38

315 Asian Development Bank. Pakistan: National Motorway M–4 Gojra–Shorkot Section Project and National Motorway M–4 Gojra–Shorkot–Khanewal Section Project - Additional Financing. Validation Report. December 2023. https://www.adb.org/sites/default/files/Evaluation%20Document/936431/files/pvr-3300.pdf

316 Asian Development Bank. Pakistan: National Highway Network Development in Balochistan Project. Validatio Report. May 2023. https://www.adb.org/sites/default/files/Evaluation%20Document/936606/files/pvr-3134.pdf

317 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

318 Asian Development Bank. Pakistan: Enabling Economic Corridors through Sustainable Transport Sector Development. TCR Validation Report. July 2022. https://www.adb.org/sites/default/files/evaluation-document/813426/files/tcrv-8990_2.pdf

319 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

320 Ministry of Railways. About us – Vision and Mission. Accessed 3 October 2024. https://www.railways.gov.pk/Detail/YWY1MTdjMTMtMDZjYS00N2ViLThhODgtZDAzYzA2ZTFiZTM2

321 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

322 Asian Development Bank. Pakistan: Central Asia Regional Economic Cooperation Railway Connectivity Investment Program. TCR Validation Report. November 2021. https://www.adb.org/sites/default/files/evaluation-document/751066/files/tcrv-9153_6.pdf

323 Asian Development Bank. Ports and Logistics Scoping Study in CAREC Countries. March 2021. https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf

324 Asian Development Bank. Pakistan: Central Asia Regional Economic Cooperation Railway Connectivity Investment Program. TCR Validation Report. November 2021. https://www.adb.org/sites/default/files/evaluation-document/751066/files/tcrv-9153_6.pdf

325 Asian Development Bank. Ports and Logistics Scoping Study in CAREC Countries. March 2021. https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf

326 Ministry of Railways. Route Map of Pakistan Railways. https://www.railways.gov.pk/Detail/OTg0NzM1YzAtOWFhOC00MGIzLWFlMzEtNzY1MjZhOGFiZTMw

327 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

328 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

329 Planning Commission. Pakistan 2025: One Nation – One Vision: Executive Summary. Ministry of Planning, Development and Reform. https://www.pc.gov.pk/uploads/vision2025/Vision-2025-Executive-Summary.pdf

330 Ministry of Education and Professional Training. Introduction. Accessed 7 October 2024. https://www.mofept.gov.pk/Detail/NDM1NDI0ZTQtZmFjMy00ZTVlLWE5M2YtYjgxOTE4YTkyYWNi

331 American Association of Collegiate Registrars and Admissions Officers. Country Updates – Pakistan. Accessed 7 October 2024. https://www.aacrao.org/edge/country/pakistan

332 U.S. International Trade Administration. Pakistan – County Commercial Guide. 12 January 2024. https://www.trade.gov/country-commercial-guides/pakistan-education

333 American Association of Collegiate Registrars and Admissions Officers. Country Updates – Pakistan. Accessed 7 October 2024. https://www.aacrao.org/edge/country/pakistan

334 U.S. International Trade Administration. Pakistan – County Commercial Guide. 12 January 2024. https://www.trade.gov/country-commercial-guides/pakistan-education

335 UNICEF Pakistan. Education. Accessed 7 October 2024. https://www.unicef.org/pakistan/education

336 American Association of Collegiate Registrars and Admissions Officers. Country Updates – Pakistan. Accessed 7 October 2024. https://www.aacrao.org/edge/country/pakistan

337 U.S. International Trade Administration. Pakistan – County Commercial Guide. 12 January 2024. https://www.trade.gov/country-commercial-guides/pakistan-education

338 Tariq N, Jaffry T, Khalid S. Earthquake Preparedness in Schools of Islamabad. Journal of the Islamabad Medical and Dental College. 2019; 8(3):141-145. doi 10.35787/jimdc.v8i3.398

339 Jaffar, Khadija; Reba, Amjad; Bin Jamil, Hazri; and Iqbal, Muhammad. The inclusion of education of disaster risk reduction: what matters in Pakistan educational policy? Journal of Positive School Psychology; 2023, Vol. 7, Issue 1; Pp 189-203. https://spe-jpsp.com/wp-content/uploads/2023-1-14.pdf

340 Ahmad Shah, et al. Looking through the Lens of schools: Children perception, knowledge, and preparedness of flood disaster risk management in Pakistan. International Journal of Disaster Risk Reduction, Volume 50, 2020, 101907, ISSN 2212-4209. https://doi.org/10.1016/j.ijdrr.2020.101907. https://www.sciencedirect.com/science/article/pii/S2212420920314096

341 International Rescue Commission. Climate Impacts on Education and Learning Losses in the Provinces of the Sindh. 5 March 2024. https://reliefweb.int/report/pakistan/climate-impacts-education-and-learning-losses-provinces-sindh

342 Syverson, Ali. Still standing: How USAID's disaster-resilient construction in Pakistan is keeping children in school amidst devastating floods. Climatelinks. 25 July 2024. https://www.preventionweb.net/news/still-standing-how-usaids-disaster-resilient-construction-pakistan-keeping-children-school

343 International Rescue Commission. Climate Impacts on Education and Learning Losses in the Provinces of the Sindh. 5 March 2024. https://reliefweb.int/report/pakistan/climate-impacts-education-and-learning-losses-provinces-sindh

344 Jaffar, Khadija; Reba, Amjad; Bin Jamil, Hazri; and Iqbal, Muhammad. The inclusion of education of disaster risk reduction: what matters in Pakistan educational policy? Journal of Positive School Psychology; 2023, Vol. 7, Issue 1; Pp 189-203. https://spe-jpsp.com/wp-content/uploads/2023-1-14.pdf

345 International Rescue Commission. Climate Impacts on Education and Learning Losses in the Provinces of the Sindh. 5 March 2024. https://reliefweb.int/report/pakistan/climate-impacts-education-and-learning-losses-provinces-sindh

346 National Disaster Management Authority. Pakistan School Safety Framework. June 2021. https://app.adpc.net/wp-content/uploads/2021/06/Pakistan-School-Safety-Framework.pdf

347 National Disaster Management Authority. NDMA Observed School Safety Day with School Safety Kits Handover & Evacuation Drills at Federal Schools. 16 May 2024. https://www.ndma.gov.pk/pages/single-news/ndma-observed-school-safety-day-with-school-safety-kits-handover-and-evacuation-drills-at-federal-schools

348 National Disaster Management Authority. NDMA Holds National Consultation on Pakistan School Safety Framework. 6 March 2024. https://www.ndma.gov.pk/pages/single-news/ndma-holds-national-consultation-on-pakistan-school-safety-framework

349 National Disaster Management Authority. Pakistan School Safety Framework. June 2021. https://app.adpc.net/wp-content/uploads/2021/06/Pakistan-School-Safety-Framework.pdf

350 Ahmad Shah, et al. Looking through the Lens of schools: Children perception, knowledge, and preparedness of flood disaster risk management in Pakistan. International Journal of Disaster Risk Reduction, Volume 50, 2020, 101907, ISSN 2212-4209. https://doi.org/10.1016/j.ijdrr.2020.101907. https://www.sciencedirect.com/science/article/pii/S2212420920314096

351 Shah, A.A., Ye, J., Pan, L. et al. Schools' Flood Emergency Preparedness in Khyber Pakhtunkhwa Province, Pakistan. Int J Disaster Risk Sci 9, 181–194 (2018). https://doi.org/10.1007/s13753-018-0175-8

352 Secondary Education Department. Balochistan Education Sector Plan (BESP) 2020-2025. Government of Balochistan. http://emis.gob.pk/Uploads/BESP2020-25.pdf

353 Secondary Education Department. Balochistan Education Sector Plan (BESP) 2020-2025. Government of Balochistan. http://emis.gob.pk/Uploads/BESP2020-25.pdf

354 Jaffar, Khadija; Reba, Amjad; Bin Jamil, Hazri; and Iqbal, Muhammad. The inclusion of education of disaster risk reduction: what matters in Pakistan educational policy? Journal of Positive School Psychology; 2023, Vol. 7, Issue 1; Pp 189-203. https://spe-jpsp.com/wp-content/uploads/2023-1-14.pdf

355 National Disaster Management Authority. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

356 Ministry of Communication. About us – Overview. Accessed 3 October 2024. https://www.communication.gov.pk/Detail/ZGJhNmIyOGMtMzcxYi00NTI2LWIxNjktNDg3NGQ5Y2Q5YmQ2

357 Ministry of Finance. Pakistan Economic Survey 2023-2024; Chapter 08 – Trade and Payments. https://finance.gov.pk/survey/chapter_24/8_trade%20and%20payments.pdf

358 Ministry of Information and Broadcasting. Overview. Accessed 9 October 2024. https://moib.gov.pk/Pages/132/The-Ministry

359 CDAC Network. Pakistan Media Landscape Guide. 19 March 2022. https://www.cdacnetwork.org/resources/pakistan

360 Pakistan Telecommunications Authority. Telecom Indicators - Overview. Accessed 9 October 2024. https://www.pta.gov.pk/category/telecom-indicators

361 CIA World Factbook. Pakistan – Communications. Accessed 9 October 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#communications

362 World Bank. South Asia's Digital Economy: An Opportunity to Build Back Better, Digitally. 2022. http://hdl.handle.net/10986/37292 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/98b54d4f-6af8-51b7-8b9f-5be5255d884c

363 CIA World Factbook. Pakistan – Communications. Accessed 9 October 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#communications

364 Pakistan Telecommunications Authority. List of Operators. Accessed 9 October 2024. https://www.pta.gov.pk/category/list-of-operators-350607753-2023-05-30

365 Pakistan Telecommunications Authority. Telecom Indicators – Market Share. Accessed 9 October 2024. https://www.pta.gov.pk/category/telecom-indicators/166

366 Kemp, Simon. Digital 2024: Pakistan. Datareportal. 23 February 2024. https://datareportal.com/reports/digital-2024-pakistan

367 CDAC Network. Pakistan Media Landscape Guide. 19 March 2022. https://www.cdacnetwork.org/resources/pakistan

368 CIA World Factbook. Pakistan – Communications. Accessed 9 October 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#communications

369 Pakistan Telecommunications Authority. Telecom Indicators - Overview. Accessed 9 October 2024. https://www.pta.gov.pk/category/telecom-indicators

370 World Bank. South Asia's Digital Economy: An Opportunity to Build Back Better, Digitally. 2022. http://hdl.handle.net/10986/37292 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/98b54d4f-6af8-51b7-8b9f-5be5255d884c

371 Kemp, Simon. Digital 2024: Pakistan. Datareportal. 23 February 2024. https://datareportal.com/reports/digital-2024-pakistan

372 World Bank. South Asia's Digital Economy: An Opportunity to Build Back Better, Digitally. 2022. http://hdl.handle.net/10986/37292 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/98b54d4f-6af8-51b7-8b9f-5be5255d884c

373 CDAC Network. Pakistan Media Landscape Guide. 19 March 2022. https://www.cdacnetwork.org/resources/pakistan

374 World Bank. South Asia's Digital Economy: An Opportunity to Build Back Better, Digitally. 2022. http://hdl.handle.net/10986/37292 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/98b54d4f-6af8-51b7-8b9f-5be5255d884c

375 U.S. State Department. 2023 Country Reports on Human Rights Practices: Pakistan. https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/pakistan/

376 CIA World Factbook. Pakistan – People and Society. Accessed 9 October 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#people-and-society

377 Reports sans Frontieres. Pakistan. Accessed 9 October 2024. https://rsf.org/en/country/pakistan

378 CDAC Network. Pakistan Media Landscape Guide. 19 March 2022. https://www.cdacnetwork.org/resources/pakistan

379 Maqbool, Nazam. The Electronic Media Economy in Pakistan: Issues and Challenges. Pakistan Institute of Development Economics. 2021. https://pide.org.pk/research/the-electronic-media-economy-in-pakistan-issues-and-challenges/

380 CDAC Network. Pakistan Media Landscape Guide. 19 March 2022. https://www.cdacnetwork.org/resources/pakistan

381 CIA World Factbook. Pakistan – Communications. Accessed 9 October 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#communications

382 CDAC Network. Pakistan Media Landscape Guide. 19 March 2022. https://www.cdacnetwork.org/resources/pakistan

383 CDAC Network. Pakistan Media Landscape Guide. 19 March 2022. https://www.cdacnetwork.org/resources/pakistan

384 Freedom House. Freedom in the World 2024. https://freedomhouse.org/country/pakistan/freedom-world/2024

385 Freedom House. Freedom in the World 2024. https://freedomhouse.org/country/pakistan/freedom-world/2024

386 U.S. State Department. 2023 Country Reports on Human Rights Practices: Pakistan. https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/pakistan/

387 Freedom House. Freedom in the World 2024. https://freedomhouse.org/country/pakistan/freedom-world/2024

388 Freedom House. Freedom in the World 2024. https://freedomhouse.org/country/pakistan/freedom-world/2024

389 Ministry of Communication. Pakistan Post. Accessed 30 September 2024. https://communication.gov.pk/Detail/MjViNDg4MzgtMzk0Yy00NDNiLTk1NzYtM2JjZjA0MTdmMzBj

390 Ul Haque, Nadeem; and Anwar, Saba. Transport and Logistics. Pakistan Institute of Development Economics. 2024. https://pide.org.pk/research/transports-and-logistics/

391 Government of Pakistan. Alternative and Renewable Energy Policy. 2019. https://www.icimod.org/policies-on-energy/pakistan/Alternative%20and%20Renewable%20Energy%20Policy%202019%20(Draft).pdf

392 Ministry of Waster Resources. Functions. Accessed 10 October 2024. https://mowr.gov.pk/Detail/NjYyMTM2ZTItNDQzZC00YmE0LWI3NmQtZDRhY2IxYTFjNmNm

393 Ministry of Waster Resources. Water Wing. Accessed 10 October 2024. https://mowr.gov.pk/Detail/NTY3YTVmODYtMjFmNi00YTZhLWFmMDQtYmUxZTlhZTQyOWJm

394 Water and Power Development Authority. About Us. Accessed 10 October 2024. https://www.wapda.gov.pk/about-us

395 Ministry of Water and Power. National Power Policy 2013. Government of Pakistan. https://www.icimod.org/policies-on-energy/pakistan/National%20Power%20Policy%202013.pdf

396 Turner, Natalie. Workshop on Pakistan's Energy Transition. Julis-Rabinowitz Center for Public Policy and Finance. 8 July 2024. https://jrc.princeton.edu/news/pakistan-energy-2024

397 World Bank Group. Data – Access to Electricity (% of population) – Pakistan. Accessed 11 October 2024. https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=PK

398 Dunne, Daisy; and Chandrasekhar, Aruna. The Carbon Brief Profile: Pakistan. Carbon Brief. 25 May 2023. https://interactive.carbonbrief.org/the-carbon-brief-profile-pakistan/

399 Choi, Hyun Jin; Qayyum, Saadia; and Koo, Bryan Bonsuk. Pakistan Energy Survey: Insights into the True Energy Access Situation in Pakistan Based on the Multi-Tier Framework. International Bank for Reconstruction and Development / The World Bank. 2024. http://documents.worldbank.org/curated/en/099062824120620952/P1693131aa11a409b1bd991b944e3711bfe; page 17

400 Government of Pakistan. Alternative and Renewable Energy Policy. 2019. https://www.icimod.org/policies-on-energy/pakistan/Alternative%20and%20Renewable%20Energy%20Policy%202019%20(Draft).pdf

401 Hulio ZH, Jiang W, Chandio GS. Power policies, challenges, and recommendations of renewable resource assessment in Pakistan. Energy Exploration & Exploitation. 2022;40(3):947-976. doi:10.1177/01445987211064678

402 Government of Pakistan. Alternative and Renewable Energy Policy. 2019. https://www.icimod.org/policies-on-energy/pakistan/Alternative%20and%20Renewable%20Energy%20Policy%202019%20(Draft).pdf

403 Hulio ZH, Jiang W, Chandio GS. Power policies, challenges, and recommendations of renewable resource assessment in Pakistan. Energy Exploration & Exploitation. 2022;40(3):947-976. doi:10.1177/01445987211064678

404 Ahmad, Daniyal. A brief history: The rot in our DISCOs. Profit. 31 December 2023. https://profit.pakistantoday.com.pk/2023/12/31/a-brief-history-the-rot-in-our-discos/

405 Karachi Electric. Who We Are. Accessed 11 October 2024. https://www.ke.com.pk/our-company/who-we-are/

406 PACRA. Power DISCOs – Sector Overview. January 2020. https://www.pacra.com/sector_research/Power%20Discos_Presentation_Jan%2019%20Final_1579776963.pdf

407 Government of Pakistan. Alternative and Renewable Energy Policy. 2019. https://www.icimod.org/policies-on-energy/pakistan/Alternative%20and%20Renewable%20Energy%20Policy%202019%20(Draft).pdf

408 PACRA. Power DISCOs – Sector Overview. January 2020. https://www.pacra.com/sector_research/Power%20Discos_Presentation_Jan%2019%20Final_1579776963.pdf

409 Planning Commission. Pakistan 2025: One Nation – One Vision: Executive Summary. Ministry of Planning, Development and Reform. https://www.pc.gov.pk/uploads/vision2025/Vision-2025-Executive-Summary.pdf

410 World Bank. Variable Renewable Energy Locational Study. Pakistan Sustainable Energy Series. 2021. http://hdl.handle.net/10986/35113 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/4cac8dcf-207e-5178-be66-f38a97185d9a

411 U.S. International Trade Administration. Pakistan - Country Commercial Guide – Renewable Energy. 12 January 2024. https://www.trade.gov/country-commercial-guides/pakistan-renewable-energy

412 World Bank. Variable Renewable Energy Locational Study. Pakistan Sustainable Energy Series. 2021. http://hdl.handle.net/10986/35113 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/4cac8dcf-207e-5178-be66-f38a97185d9a

413 U.S. International Trade Administration. Pakistan - Country Commercial Guide – Renewable Energy. 12 January 2024. https://www.trade.gov/country-commercial-guides/pakistan-renewable-energy

414 Malik, S., M. Qasim, H. Saeed, Y. Chang, and F. Taghizadeh-Hesary. Energy Security in Pakistan: A Quantitative Approach to a Sustainable Energy Policy. ADBI Working Paper 1024. Tokyo: Asian Development Bank Institute. 2019. https://www.adb.org/publications/energy-security-pakistan-sustainable-energy-policy

415 U.S. International Trade Administration. Pakistan - Country Commercial Guide – Renewable Energy. 12 January 2024. https://www.trade.gov/country-commercial-guides/pakistan-renewable-energy

416 World Bank. Variable Renewable Energy Locational Study. Pakistan Sustainable Energy Series. 2021. http://hdl.handle.net/10986/35113 License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/4cac8dcf-207e-5178-be66-f38a97185d9a

417 PACRA. Power DISCOs – Sector Overview. January 2020. https://www.pacra.com/sector_research/Power%20Discos_Presentation_Jan%2019%20Final_1579776963.pdf

418 Ahmad S, Zahra J, Ali M, Ali S, Iqbal S, Kamal S, Tahir M, Aborode AT. Impact of water insecurity amidst endemic and pandemic in Pakistan: Two tales unsolved. Ann Med Surg (Lond). 2022 Aug 24;81:104350. doi: 10.1016/j.amsu.2022.104350. PMID: 36106063; PMCID: PMC9464874.

419 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adc-b20a-b481fb609017

420 Housing, Urban Development, and Public Health Department. Waster and Sanitation Agencies. Government of The Punjab. Accessed 11 October 2024. https://hudphed.punjab.gov.pk/wasa

421 CIA World Factbook. Pakistan – People and Society. Accessed 30 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#people-and-society

422 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adc-b20a-b481fb609017

423 CIA World Factbook. Pakistan – People and Society. Accessed 30 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#people-and-society

424 UNICEF Pakistan. WASH: Water, sanitation and hygiene. Accessed 11 October 2024. https://www.unicef.org/pakistan/wash-water-sanitation-and-hygiene-0

425 Planning Commission. Pakistan 2025: One Nation – One Vision: Executive Summary. Ministry of Planning, Development and Reform. https://www.pc.gov.pk/uploads/vision2025/Vision-2025-Executive-Summary.pdf

426 World Bank. Realizing the Potential of Pakistan's Secondary Cities. 2024. http://hdl.handle.net/10986/41756 License: CC BY-NC 3.0 IGO. https://openknowledge.worldbank.org/entities/publication/57b00713-78d0-4adc-b20a-b481fb609017

427 WHO. Eastern Mediterranean Region: Pakistan. https://www.emro.who.int/pak/programs/stop-tuberculosis.html

428 U.S. CDC. Global Health Pakistan. https://www.cdc.gov/global-health/countries/pakistan.html

429 UNICEF Pakistan. Data: Monitoring the situation of children and women. https://www.unicef.org/pakistan/health

430 Institute for Health Metrics and Evaluation. Pakistan – What Causes the Most Death. Accessed 18 November 2024. https://www.healthdata.org/research-analysis/health-by-location/profiles/pakistan

431 Siddiqa, Maryam; et al. Applied nutritional investigation: Risk factors of child malnutrition under 5 years: Evidence from Pakistan using the Composite Index of Anthropometric Failure. 17 August 2024. https://www.sciencedirect.com/science/article/abs/pii/S0899900724001722

432 Khan SJ, et al. Pakistan's Healthcare System: A Review of Major Challenges and the First Comprehensive Universal Health Coverage Initiative. Cureus. 2023 Sep 4;15(9):e44641. doi: 10.7759/cureus.44641. PMID: 37799252; PMCID: PMC10548490.

433 Ministry of National Health Services, Regulations and Coordination. Mission and Vision. Accessed 18 November 2024. https://www.nhsrc.gov.pk/Detail/YjIxNDkyYWQt-NzcxNi00NTNmLThiNzItYWI3YzY0ZGYxZmYx

434 Drug Regulatory Authority of Pakistan. Pakistan – Health Organizational Structure. May 2022. https://www.dra.gov.pk/wp-content/uploads/2022/05/Pakistan-Health-Organizational-Structure-Version-3-Q-2-2022-dated-20-May-2022.pdf

435 Khan SJ, et al. Pakistan's Healthcare System: A Review of Major Challenges and the First Comprehensive Universal Health Coverage Initiative. Cureus. 2023 Sep 4;15(9):e44641. doi: 10.7759/cureus.44641. PMID: 37799252; PMCID: PMC10548490.

436 Khan SJ, et al. Pakistan's Healthcare System: A Review of Major Challenges and the First Comprehensive Universal Health Coverage Initiative. Cureus. 2023 Sep 4;15(9):e44641. doi: 10.7759/cureus.44641. PMID: 37799252; PMCID: PMC10548490.

437 World Health Organization. Country cooperation strategy for WHO and Pakistan. 2020-2025. https://www.who.int/publications/i/item/9789290226642

438 WHO. Joint external evaluation of IHR core capabilities of the Islamic Republic of Pakistan. 27 April-6 May 2016. https://www.who.int/publications/i/item/WHO-WHE-CPI-2017.9

439 WHO. Country cooperation strategy for WHO and Pakistan 2020–2025. 19 June 2021. https://www.who.int/publications/i/item/9789290226642

440 National Health Vision Pakistan 2016-2025. https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/pakistan/national_health_vision_2016-25_30-08-2016.pdf

441 WHO. Country cooperation strategy for WHO and Pakistan 2020–2025. 19 June 2021. https://www.who.int/publications/i/item/9789290226642

442 Javed, Saad. Mpox threat: Pakistan must act now. The Lancet. Vol 404, 14 September 2024. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)01805-1/fulltext

443 Ministry of National Health Services Regulations and Coordination. Monkey Pox Advisory. https://www.nih.org.pk/advisories 2nd advisory

444 WHO. Pakistan: Prevention and control of hepatitis. 2024. https://www.emro.who.int/pak/programs/prevention-a-control-of-hepatitis.html

445 National Library of Medicine: Hepatitis is still a major health concern in Pakistan: short communication Published online 2023 Sep 5. doi: 10.1097/MS9.0000000000001280 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10617882/

446 WHO. Country cooperation strategy for WHO and Pakistan 2020–2025. 19 June 2021. https://www.who.int/publications/i/item/9789290226642

447 CDC. Morbidity and Mortality Weekly Report Progress Toward Poliomyelitis Eradication — Pakistan, January 2023–June 2024 Weekly / September 12, 2024 / 73(36); 788–792 https://www.cdc.gov/mmwr/volumes/73/wr/mm7336a2.htm

448 WHO: Eastern Mediterranean Region. Pakistan. https://www.emro.who.int/pak/programs/roll-back-malaria.html

449 WHO: Eastern Mediterranean Region. Pakistan. https://www.emro.who.int/pak/programs/stop-tuberculosis.html

450 USAID PAKISTAN TUBERCULOSIS ROADMAP OVERVIEW, FISCAL YEAR 2023 https://www.usaid.gov/sites/default/files/202402/Pakistan_TB%20roadmap_narrative_22_508.pdf

451 Our World in Data. Death rate from HIV/AIDS; Prevalence, new cases and deaths from HIV/AIDS – Pakistan. https://ourworldindata.org/hiv-aids

452 WHO: Eastern Mediterranean Region Pakistan HIV/AIDS https://www.emro.who.int/pak/programmes/hiv-aids.html

453 WHO. Noncommunicable diseases. 16 Sept 2023. https://www.who.int/news-room/fact-sheets/detail/non-communicable-diseases

454 WHO: Eastern Mediterranean Region Pakistan. Volume 28 2022 | Volume 28 issue 11 | Burden of non-communicable diseases in Pakistan. https://www.emro.who.int/emhj-volume-28-2022/volume-28-issue-11/burden-of-noncommunicable-diseases-in-pakistan.html

455 WHO. Country cooperation strategy for WHO and Pakistan 2020–2025. 19 June 2021. https://www.who.int/publications/i/item/9789290226642

456 Khan SJ, et al. Pakistan's Healthcare System: A Review of Major Challenges and the First Comprehensive Universal Health Coverage Initiative. Cureus. 2023 Sep 4;15(9):e44641. doi: 10.7759/cureus.44641. PMID: 37799252; PMCID: PMC10548490.

457 National Health Vision Pakistan 2016-2025. https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/pakistan/national_health_vision_2016-25_30-08-2016.pdf

458 Pakistan Journal of Medical Sciences 2024 Jan-Feb; 40(1Part-I): 1–4. doi: 10.12669/pjms.40.1.8783 The evolving landscape of health professions education in Pakistan: A critical discourse on CHPE regulation and standardization; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10772411/

459 U.S. CDC. Pakistan FELTP. August 2010. https://stacks.cdc.gov/view/cdc/28158

460 1325 National Action Plans (NAPs), WILPF Monitoring and Analysis of National Action Plans

on Women, Peace and Security, Women's International League for Peace and Freedom (WILPF), May 2024. http://1325naps.peacewomen.org/

461 The National Commission on Status of Women and UN Women Pakistan. National Report on the Status of Women in Pakistan, 2023. https://asiapacific.unwomen.org/en/digital-library/publications/2024/06/national-report-on-the-status-of-women-in-pakistan#view

462 Hilal Her. (2022, September). Women of Pakistan armed forces: A story of feminine valor. Hilal. https://hilal.gov.pk/view-article.php?i=6531#:~:text=The%20Pakistan%20Army%20Women%20National,was%20Maj%20Gen%20Shahida%20Badshah

463 United Nations Peacekeeping. (2020). The first-ever female Pakistani UN peacekeeping team receives UN medals. United Nations. https://peacekeeping.un.org/en/first-ever-female-pakistani-un-peacekeeping-team-receives-un-medals

464 Hilal Her. (2020, October). Female UN Peacekeepers: Guardians of peace and security. Hilal. https://hilal.gov.pk/view-article.php?i=4544

465 Ur-Rehman, Zia. As Women's Marches Gain Steam in Pakistan, Conservatives Grow Alarmed, The New York Times, 6 March 2022. https://www.nytimes.com/2022/03/06/world/asia/pakistan-aurat-march-women.html

466 In Pakistan, Women March For More Rights, Radio Free Europe, 8 March 2024. https://www.rferl.org/a/pakistan-womens-day-march/32853998.html

467 'Violence Must Stop': Thousands Rally in Pakistan to Mark Women's Day, Radio Free Europe, 8 March 2024. https://www.rferl.org/a/pakistan-women-day-marches/32854172.html

468 Aurat March turns political, demands election results transparency, Dawn, 9 March 2024. https://epaper.dawn.com/DetailImage.php?StoryImage=09_03_2024_002_004

469 Monthly ranking of women in national parliaments, International Parliamentary Union, 1 October 2024. https://data.ipu.org/women-ranking/?date_year=2024&date_month=10

470 Hussain, Abid. Aurat March: Pakistani women rally seeking safe public space, Al Jazeera, 8 March 2023. https://www.aljazeera.com/news/2023/3/8/aurat-march-pakistani-women-rally-across-country ; Klasra, Kaswar. Threatened with violence and intimidation, Pakistani women still vow to march, NBC News, 7 March 2022. https://www.nbcnews.com/news/world/pakistani-international-womens-day-marchers-face-threats-rcna18938

471 Ur-Rehman, Zia. As Women's Marches Gain Steam in Pakistan, Conservatives Grow Alarmed, The New York Times, 6 March 2022. https://www.nytimes.com/2022/03/06/world/asia/pakistan-aurat-march-women.html

472 World Economic Forum. The Global Gender Gap Report, 2024. https://www3.weforum.org/docs/WEF_GGGR_2024.pdf

473 Georgetown Institute for Women, Peace and Security and Peace Research Institute Oslo. 2023. Women, Peace, and Security Index 2023/24: Tracking sustainable peace through inclusion, justice, and security for women. Washington, DC: GIWPS and PRIO. Figure from page 85. https://giwps.georgetown.edu/wp-content/uploads/2023/10/WPS-Index-full-report.pdf

474 Country Profile: Pakistan, Georgetown Institute for Women, Peace and Security, 2023. https://giwps.georgetown.edu/country/pakistan/

475 The National Commission on Status of Women and UN Women Pakistan. National Report on the Status of Women in Pakistan, 2023. https://asiapacific.unwomen.org/en/digital-library/publications/2024/06/national-report-on-the-status-of-women-in-pakistan#view

476 Khan, Aleena. Pakistan: A Rising Women's Movement Confronts a New Backlash, United States Institute of Peace, 17 March 2021. https://www.usip.org/publications/2021/03/pakistan-rising-womens-movement-confronts-new-backlash

477 U.S. Air Force. USARCENT Inspired Gambit 2023. 9 Mau 2023. https://www.safie.hq.af.mil/News/Video/mod/61713/player/0/video/894590/; U.S. Army Central. USARCENT Inspired Gambit 2023. 22 August 2023. https://www.af.mil/Reoptimization-for-Great-Power-Competition/dvpTag/Pakistan/

478 X. @CENTCOM. 10 August 2023. https://x.com/CENTCOM/status/1689653636962689024

479 Gati, Sgt. 1st Class Terra. U.S., partner nations complete Regional Cooperation 23 in Montana. Virginia National Guard Public Affairs Office. 22 August 2023. https://www.centcom.mil/MEDIA/NEWS-ARTICLES/News-Article-View/Article/3500825/us-partner-nations-complete-regional-cooperation-23-in-montana/

480 U.S Central Command. Readout: General Kurilla Visits Pakistan Armed Forces. 25 July 2023. https://www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/3469343/readout-general-kurilla-visits-pakistan-armed-forces/

481 U.S. Mission Pakistan. U.S. Ambassador Donald Blome joins AMAN-23 Naval Exercises to Demonstrate Continued Support for U.S.-Pakistan. 15 February 2023. https://pk.usembassy.gov/u-s-ambassador-donald-blome-joins-aman-23-naval-exercises-to-demonstrate-continued-support-for-u-s-pakistan-partnership/; Johum, Anoshka. Exercise Aman-2023 'Together for peace and security'. Business Recorder. 22 January 2023. https://www.brecorder.com/news/40221657

482 U.S. Embassy Tajikistan. REGIONAL COOPERATION 2022 Military Exercise Begins in Dushanbe. 10 August 2022. https://www.centcom.mil/MEDIA/NEWS-ARTICLES/News-Article-View/Article/3123432/regional-cooperation-2022-military-exercise-begins-in-dushanbe/

483 Government of Pakistan. (2024). Foreign policy. Ministry of Foreign Affairs. https://mofa.gov.pk/foreign-policy#:~:text=The%20foreign%20policy%20of%20Pakistan%20seeks%20to%20promote%20the%20internationally,and%20peaceful%20settlement%20of%20disputes.

484 National Geographic. (2024). The Durand line. Education. https://education.nationalgeographic.org/resource/durand-line/

485 Rajvanshi, A. (2024, July). Why Pakistan-Afghanistan tensions are soaring. TIME. https://time.com/6995069/pakistan-afghanistan-relations-taliban/

486 Fahrney, M. (2023, December). Why Pakistan is deporting Afghan migrants. Council on Foreign Relations. https://www.cfr.org/in-brief/why-pakistan-deporting-afghan-migrants

487 The Observatory of Economic Complexity. (2024). Pakistan / Afghanistan. OEC. https://oec.world/en/profile/bilateral-country/pak/partner/afg

488 Government of Pakistan. (2024). Kabul bilateral trade. Embassy of Pakistan. https://mofa.gov.pk/kabul-bilateral-trade

489 Chatterjee Miller, M. (2022, October). How China and Pakistan forged close ties. Council on Foreign Relations. https://www.cfr.org/article/how-china-and-pakistan-forged-close-ties

490 Sharma, S. (2024, September). Cracks in China-Pakistan relations: Bilateral and external factors. Observer Research Foundation. https://www.orfonline.org/expert-speak/cracks-in-china-pakistan-relations-bilateral-and-external-factors

491 China-Pakistan Economic Corridor. (2024). Introduction. About CPEC. https://cpec.gov.pk/introduction/1

492 China-Pakistan Economic Corridor. (2024). CPEC Projects Progress Update. Progress Update. https://cpec.gov.pk/progress-update

493 Sharma, S. (2024, September). Cracks in China-Pakistan relations: Bilateral and external factors. Observer Research Foundation. https://www.orfonline.org/expert-speak/cracks-in-china-pakistan-relations-bilateral-and-external-factors

494 European Foundation for South Asian Studies. (2024). Indo-Pak relations: A brief history. Topics. https://www.efsas.org/topics/indo-pak-relations.html

495 Ministry of Foreign Affairs, Government of Pakistan. (2024). Jammu and Kashmir dispute. Ministry of Foreign Affairs. https://mofa.gov.pk/jammu-and-kashmir-dispute

496 Haque, M. (2024, September). Kashmir to remain a thorn in the side of India-Pakistan relations. East Asia Forum. https://eastasiaforum.org/2024/09/20/kashmir-to-remain-a-thorn-in-the-side-of-india-pakistan-relations/

497 Johnson, D. (2024). India-Pakistan relations: A 50-year history. Asia Society. https://asiasociety.org/education/india-pakistan-relations-50-year-history

498 Pakistan-American Public Affairs Committee. (2024). US-Pakistan relations. PAKPAC USA. https://www.pakpacusa.org/about/us-pakistan-relations/

499 Akram, Z. (2002). Pakistani-U.S. relations after 9/11: A Pakistani perspective. Columbia International Affairs Online. https://ciaotest.cc.columbia.edu/olj/gjia/gjia_sumfall02h.pdf

500 Bureau of South and Central Asian Affairs. (2022, August). U.S. relations with Pakistan. U.S. Department of State. https://www.state.gov/u-s-relations-with-pakistan/

501 Khan, M. (2024, September). Pakistan-U.S. relations: Buiilding a futuristic partnership. Institute of Strategic Studies Islamabad. https://issi.org.pk/wp-content/uploads/2024/09/IB_Mahrukh_Sep_16_2024-1.pdf

502 The Observatory of Economic Complexity. (2024). Pakistan / United States. OEC. https://oec.world/en/profile/bilateral-country/pak/partner/usa

503 American Pakistan Foundation. (2024). About Pakistani Americans. American Pakistan Foundation. https://www.americanpakistan.org/pakistani-americans

504 Budiman, A. (2021, April). Pakistanis in the U.S. fact sheet. Pew Research Center. https://www.pewresearch.org/social-trends/fact-sheet/asian-americans-pakistanis-in-the-u-s/

505 Javed, T. (2024, July). Enhancing collaboration between Pakistan and the UK. Center for Strategic and Contemporary Research. https://cscr.pk/explore/themes/trade-economics/enhancing-collaboration-between-pakistan-and-the-uk/

506 UK Government. (2023, July). UK-Pakistan development partnership summary. Foreign, Commonwealth & Development Office. https://www.gov.uk/government/publications/uk-pakistan-development-partnership-summary/fa26e100-839f-43b1-9680-bb843bf94f12

507 British Pakistan Foundation. (2015, August). Pakistani diaspora: An overview. British Pakistan Foundation. https://www.britishpakistanfoundation.com/pakistani-diaspora-an-overview/

508 Government of Pakistan. (2024). UK and Commonwealth. Ministry of Foreign Affairs. https://mofa.gov.pk/uk-and-commonwealth

509 European Union. (2021, July). Relations with the EU: The European Union and Pakistan. Delegation of the European Union to Pakistan. https://www.eeas.europa.eu/pakistan/european-union-and-pakistan_en?s=175

510 European Union. (2019). EU-Pakistan Strategic Engagement Plan. Political Relations. https://www.eeas.europa.eu/sites/default/files/eu-pakistan_strategic_engagement_plan.pdf

511 European Commission. (2024). Pakistan. International Parternships. https://international-partnerships.ec.europa.eu/countries/pakistan_en#our-flagship-initiatives

512 The Pakistan Business Council. (2024). Pakistan's trade with the EU & its member states. The Pakitan Business Council. https://www.pbc.org.pk/research/pakistans-trade-with-the-eu-and-its-member-states-october-2023/

513 European Commission. (2024). Pakistan. EU Trade Relationships By Country /Region. https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/pakistan_en

514 UN Peacekeeping. Contribution of Uniformed Personnel to UN by Country, Mission, and Personnel Type. 31 July 2024. https://peacekeeping.un.org/sites/default/files/03_country_and_mission_76_july_2024.pdf

515 U.S. State Department. Pakistan International Travel Information. Accessed 9 September 2024. https://travel.state.gov/content/travel/en/international-travel/International-Travel-Country-Information-Pages/Pakistan.html

516 U.S. Centers for Disease Control and Prevention (CDC). Travelers' Health – Pakistan. Accessed 9 September 2024. https://wwwnc.cdc.gov/travel/destinations/traveler/none/pakistan?s_cid=ncezid-dgmq-travel-single-001

517 PreventionWeb.net. Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030. http://www.preventionweb.net/files/44983_sendaiframeworkchart.pdf

518 UNISDR. Sendai Framework for Disaster Risk Reduction. https://www.unisdr.org/we/coordinate/sendai-framework

519 PreventionWeb.net. Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030. http://www.preventionweb.net/files/44983_sendaiframeworkchart.pdf

520 UNISDR. Sendai Framework for Disaster Risk Reduction. https://www.unisdr.org/we/coordinate/sendai-framework

521 PreventionWeb.net. Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030. http://www.preventionweb.net/files/44983_sendaiframeworkchart.pdf

522 National Disaster management Authority, Pakistan. Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 – Pakistan – National Voluntary Report. May 2023. https://www.preventionweb.net/publication/pakistan-voluntary-national-report-mtr-sf

523 CIA World Factbook. Pakistan. Accessed 9 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/

524 CIA World Factbook. Pakistan – People and Society. Accessed 9 September 2024. https://www.cia.gov/the-world-factbook/countries/pakistan/#people-and-society



Center for Excellence in Disaster Management & Humanitarian Assistance
456 Hornet Avenue, Building 76, Joint Base Pearl Harbor - Hickam, Hawaii 96860-3503
Telephone: 808.472.0518 | DSN: 315.472.0518
https://www.cfe-dmha.org
@cfedmha