

2025

PROVINCIAL DROUGHT CONTINGENCY PLAN



*PROVINCIAL DISASTER MANAGEMENT AUTHORITY
Rehabilitation Department
Government of Sindh*

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ACRONYMS

AA	Anticipatory Action
DCP	Drought Contingency Plan
DDMA	District Disaster Management Authority
DRR	Disaster Risk Reduction
DEOC	District Emergency Operation Center
DMA	Disaster Management Authority
DRM	Disaster Risk Management
ERC	Emergency Relief Cell
GHQ	General Headquarters, Pakistan Army
HH	Households
INGO	International Non-Governmental Organization
LST	Land Surface Temperature
MIRA	Multi Cluster Initial Rapid Assessment
NDMA	National Disaster Management Authority
NFIs	Non Food Items
NGO	Non-Governmental Organization
NHN	National Humanitarian Network
NHEPRN	National Health Emergency Preparedness and Response Network
OCHA UN	Office for the Coordination of Humanitarian Affairs
O&M	Operations and Maintenance
PDMA	Provincial Disaster Management Authority
PEOC	Provincial Emergency Operations Center
PHED	Public Health Engineering Department
PHF	Pakistan Humanitarian Forum
PMD	Pakistan Meteorological Department
PTA	Pakistan Telecommunication Authority
PWD	People with disabilities
SASCOF	South Asian Climate Outlook Forum
SITREP	Situation Report
SOPs	Standard Operating Procedures
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	UN Children's Fund
WASH	Water, Sanitation and Hygiene
WFP	World Food Program
WHO	World Health Organization

Preface

The rapid change in global climate has given rise to many disasters that pose a severe threat to human life, property and infrastructure. Disasters like floods, earthquakes, tsunamis, droughts, heatwave and cyclones with storm surges are some prominent manifestations of climate change phenomenon.

The Provincial Disaster Management Authority (PDMA) Sindh, was constituted under the NDM Act (National Disaster Management Act) in 2010, PDMA specializes in mitigation, preparedness and an organized response to a disaster. The most important role of PDMA lies in providing a platform for all provincial departments to come together and strategize management and response to disasters and calamities. PDMA also acts as the coordinating authority, which articulates the coordination mechanism between key provincial departments including Sindh Emergency Services-Rescue 1122, Civil Defense, District Governments, Pak Army and Police for immediate rescue and rehabilitation operations. In case of a disaster, PDMA not only oversees search, rescue and evacuation of the affected people, but also takes concrete measures to provide immediate relief, early recovery and long-term rehabilitation to them. In case of emergencies, the PDMA works closely with District Governments/DDMAs to organize initial and subsequent assessment of disaster affected areas, and determine the course of action to ensure long-term rehabilitation of the affected population.

Contingency Plans provide a proactive approach to disaster risk management. Contingency plans enable government departments, UN agencies, INGOs, NGOs and communities to prepare for potential disaster before they occur, thereby minimizing their impacts and damages. Early systems are typically included in anticipatory action-based contingency plans which allow communities to receive alerts about the potential disasters in advance and take necessary actions to protect themselves and their livelihood resources. The Drought Contingency Plan (DCP) is based on the advisory of the Pakistan Meteorological Department, which has declared mild meteorological drought conditions in Pakistan, including Sindh province, as the country has received below normal rains to approximately -40% and major anomaly of -52% has been observed in Sindh. This plan is prepared to facilitate and coordinate proactive preparations and an effective response against likely hazards associated with drought conditions in Sindh province.

1. Sindh AT A Glance

Located in the South- Eastern part of the Country, Sindh is Pakistan's third-largest province by area. It occupies the lower Indus basin, covering 140,915 km², which accounts for 18% of Pakistan's total landmass. The province shares its borders with Balochistan to the west, Punjab to the north, India to the east, and the Arabian Sea to the south, making it a geographically diverse and strategically significant region. The Indus Delta, the sixth- largest in the world, forms a vital part of Sindh's 350 km coastline, supporting unique ecosystems and acting as a natural buffer against coastal erosion and storm surges. Sindh's terrain features a mix of geographical zones: the fertile alluvial plains flanking the Indus River, the arid and inhospitable Thar Desert to the east, and the rugged Khirthar Mountain range to the west. This diversity contributes to the province's ecological and economic significance, but it also exacerbates its vulnerability to climate and environmental hazards.

The mighty River Indus flows in the middle of the province. There are seasonal streams which become active in the monsoon season, they emanate from the Khirthar hill range from West of Province, which fallout in River Indus and Arabian Sea. The boundaries of Sindh are touched by Arabian Sea in South, India in East, Punjab in North and Balochistan in West.

According to 2023 census reports of Pakistan, the population of province is 55.696 Million, with a growth rate of 2.57%. Urban and rural population statistics 53.97% and 46.03% respectively, indicate Sindh as most urbanized province of the country. The overall literacy rate of the province is 57.54%. Administratively, Sindh is divided into 30 districts, grouped into six divisions: Karachi, Hyderabad, Sukkur, Mirpurkhas, Larkana, and Shaheed Benazirabad. Karachi, the provincial capital, serves as the economic and industrial hub of Pakistan, hosting two of the country's largest seaports i.e. Port Qasim and Karachi Port, making Sindh a gateway for trade and commerce. The province's economy is supported by a mix of industries, including manufacturing, finance, and agriculture, with the latter concentrated along the Indus River. Despite its industrialization and urbanization, rural Sindh remains reliant on subsistence farming, contributing to the province's socio-economic disparity.

Sindh is uniquely positioned but is increasingly susceptible to climate-related challenges. Pakistan is ranked as the 8th most disaster-prone country and the 5th most affected by climate change in the Global Climate Risk Index (GCRI), 2021. Sindh, with its low-lying topography and dependence on the Indus River, is particularly at risk. Extreme weather events, including recurrent flooding during monsoons, prolonged droughts, and heatwaves, disrupt livelihoods, destroy infrastructure, and exacerbate socio-economic inequalities. The province's vulnerability is further heightened by rapid urbanization, poor land-use planning, and deforestation.

Sindh's unique geography and climate conditions demand targeted disaster risk reduction (DRR) measures and climate-resilient infrastructure to mitigate these vulnerabilities and support its population through increasingly unpredictable seasonal hazards.

As of the rest of Pakistan, the economy of Sindh is predominantly Agricultural and depends almost entirely on artificial Irrigation. The principal source of water is the Indus River, on which three irrigation barrages have been built- Guddu on the Punjab border; the Lloyd Barrage in Sukkur and the Kotri barrage at Kotri is the farthest at south. Sindh's principal crops are Wheat, Rice, Cotton, Oilseeds, Sugarcane, Vegetables and Fruits. Sheep, Cattle, Camels, and Poultry are raised, and there is a healthy fishing industry as well. Manufacturing industries are concentrated in Karachi, Hyderabad, Nooriabad, Kotri and Sukkur. They produce Textile Products, Cement, Cardboard, Chemicals, Electric Power Supplies, Rail-Road Equipment, Machinery and other Metal products.

Sindh's Administrative Setup for Disaster Management

The Provincial Disaster Management Authority (PDMA) Sindh plays a crucial role in coordinating disaster preparedness, response, and recovery efforts across the province. The PDMA collaborates with multiple stakeholders, including government line departments, District Disaster Management Authorities (DDMAs), armed forces, and humanitarian organizations to ensure an integrated and efficient disaster management approach.

2. Disaster Profile of Sindh

This unique geographical juxtaposition has made the province of Sindh vulnerable to most kinds of disasters, with river flood and hill torrents frequently occurring since 2010. Sindh faces floods in varying intensity almost every year. There have also been examples of cyclones and earthquakes in the province but their frequency has been quite low, with most of the Sindh being relatively safe with regard to vulnerability to earthquakes. Sindh's geographic location and climatic conditions make it more vulnerable to monsoon floods and droughts. The effects of climate change and associated variability in the monsoons means that the occurrence and intensity of floods have significantly increased in the last decade. The effect of climate change has also resulted in increasing instances of extended heatwaves in the urban centers, as well as, increased frequency of cyclones.

2.1 Climate of Sindh

Sindh is characterized by a semitropical climate, with hot summers from May to August and cold winters from December to January. During the summer, the temperature can frequently rise above 46 C, while in the winter it can fall below 2 C.

The average annual total precipitation in Sindh is about 150-180 millimetres, with more than 70% of it occurring during the monsoon season from July to August. This scarcity of water is compensated by the inundation of the Indus River twice a year, due to the spring and summer melting of the Himalayan snow and by precipitation. However, these natural patterns have been somewhat modified by the construction of dams and barrages on the Indus River.

2.2 Provincial Risk Matrix

		RETURN PERIODS						
		5 YEARS	10 YEARS	25 YEARS	50 YEARS	100 YEARS	250 YEARS	500 YEARS
HAZARD	FLOOD	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div></div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div></div>
	METEOROLOGICAL DROUGHT	<div>Low</div> <div>Medium</div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Medium</div> <div>High</div> <div>Extreme</div>	<div></div>	<div></div>	<div></div>
	AGRICULTURAL DROUGHT	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div>Low</div> <div>Medium</div> <div>High</div> <div>Extreme</div>	<div></div>	<div></div>	<div></div>
	HEATWAVE	<div>Low</div> <div>Medium</div>	<div>Low</div> <div>Medium</div> <div>High</div>	<div>Low</div> <div>Medium</div> <div>High</div>	<div>Low</div> <div>Medium</div> <div>Extreme</div>	<div>Low</div> <div>Medium</div> <div>Extreme</div>	<div></div>	<div></div>
	CYCLONE	<div></div>	<div></div>	<div>Low</div>	<div></div>	<div>Low</div>	<div></div>	<div>Low</div> <div>Medium</div>
	STORM SURGE	<div></div>	<div></div>	<div>Medium</div> <div>High</div>	<div></div>	<div>Medium</div> <div>High</div> <div>Extreme</div>	<div></div>	<div>Medium</div> <div>High</div> <div>Extreme</div>
	RETURN PERIODS							
	EARTHQUAKE	95 YEARS	475 YEARS	975 YEARS	2475 YEARS			
		<div>Low</div>	<div>Low</div> <div>Medium</div>	<div>Medium</div> <div>High</div>	<div>Medium</div> <div>High</div> <div>Extreme</div>			
	TSUNAMI	RETURN PERIODS						
		8.0 MAG.	8.5 MAG.	9.0 MAG.				
<div>Low</div>		<div>Low</div> <div>Medium</div>	<div>Low</div> <div>Medium</div> <div>High</div>					
		<div>Low 50-99</div> <div>High 200-249</div>	<div>Medium 100-199</div> <div>Extreme 250-300</div>					

3. Drought Hazard and History in Sindh

Drought is a natural hazard that differs from other hazards since it has a slow onset, evolves over months or even years, affects a large spatial extent, and cause little structural damage. Its onset and end and severity are often difficult to determine. Like other hazards, the impacts of drought span over economic, environmental and social sectors and can be reduced through timely mitigation and preparedness. Because droughts are a normal part of climate variability for virtually all regions, it is important to develop plans to deal with these extended periods of water shortage in a timely, systematic manner as they evolve.

Sindh geographically can be divided into four zones namely eastern desert, western hilly / mountainous area, coastal area in the south and irrigated agriculture area in the middle. Its 60% area is arid receiving rainfall on average of 5 inches during monsoon and very little in December and January. The people living in arid areas depend upon the scanty rainfall raising livestock and planting millet crops. The failure of rainfall and global climatic effects reduce

the water supplies in Indus River System (IRS). Sindh being at the end of the system usually takes the brunt. Besides, two-third of ground water is brackish and 80% agricultural land is affected by water logging and salinity.

3.1 Drought Hazards by Type in Sindh

There are three types of droughts namely Meteorological, Hydrological and Agricultural. The first two types describe physical events whereas the third describes the particular impact of the first two types on an area of human activity. The three types are briefly described as under:

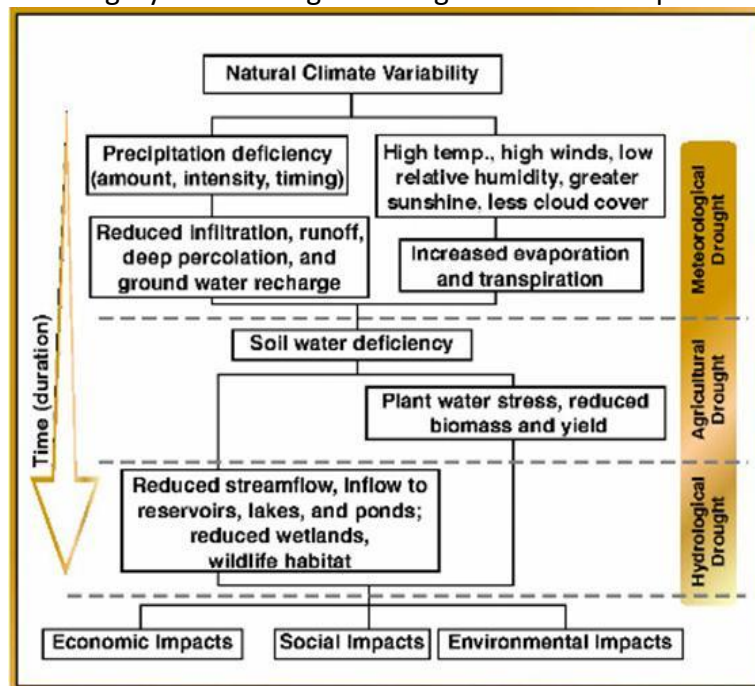
3.1.1 Meteorological Drought

Meteorological drought involves a reduction in rainfall over a region for a specified period (day, month, season, and year) below a specified amount, usually defined as some proportion (percentage) of the long term average for the specified time period. Its definition involves only the precipitation statistics.



3.1.2 Hydrological Drought

This type of drought involves a reduction in water resources (stream flows, reservoir levels, ground water, underground aquifers etc) below a specified level for a given period of time. Hydrological drought occurs when a lengthy meteorological drought causes a sharp decline in the levels of ground water, rivers and lakes. For example, lack of winter snowfall over the mountains of northern areas and failure of monsoon rains during the monsoon period has a serious impact on water availability for the country in the subsequent months.



3.1.3 Agricultural Drought

This emerges due to the impact of Meteorological and Hydrological droughts on a particular area of human activity. In order to achieve the optimum growth, crops have particular temperature, moisture and nutrient requirements during their growth cycle. If the moisture availability in particular falls below the optimum amount during the growth cycle, the crop growth will be impaired and yields reduced.



3.1.4 Socio-economic Drought

Socio-economic drought hazard refers to the impact of drought conditions on the economic and social well-being of communities in Sindh province, extending beyond environmental water shortages to include negative effects on livelihoods, food security, and the overall economy. Sindh, like many regions, is increasingly vulnerable to climate change, with erratic rainfall patterns, prolonged dry spells, and rising temperatures making the region more prone to frequent and severe droughts. It aggravates the socio-economic impacts of drought, particularly in an economy heavily dependent on agriculture. Water scarcity caused by drought affects crop yields, livestock, and food production, resulting in income loss for farmers and agricultural workers, heightening poverty and food insecurity. The socio-economic impact disproportionately affects marginalized communities, particularly rural populations, with poor farmers and daily wage workers facing economic instability, displacement, and limited access to resources.

3.2 Drought History in Sindh

The geographical location of Sindh also prompts the drought condition. It has confronted with shortage of rainfall especially on eastern side in its Thar Desert. From time to time, the Indus Basin have been hit by the droughts and associated famines. From 19th to 1st half of 20th century, famines typically occurred after every 7 to 8 years. 1871, 1881, 1899, 1931, 1947, and 1998 were declared the worst drought years in Sindh province¹.

The Sindh's arid zone comprises the Kohistan and the eastern desert of Thar, including Nara, spread over 68000 sq. kms. It constitutes about 48% of the total geographical area of 140,914 sq. kms. This arid region is at higher topography and the various Sindh barrages are unable to feed it. These areas thus completely depend on only rainfall. Some small dams for conservation of rain water were constructed in Thar (desert) and Kohistan region. There is ample scope for enhancing the number of interventions for conservation of water in these arid zones. As drought is defined in terms of the shortages of rainfall for a longer period of time, or without any rainfall for longer period, therefore consequent dryness or substantial reduction of soil moisture tends to cause permanent damage to the plants or natural vegetation which otherwise could be either avoided or minimized by appropriate intervention in water conservation sector.

Drought, though is a normal phenomenon like floods and is a recurrent feature of climatic cycle after a wet spell. Drought can occur in virtually all climatic zones, and its characteristics may vary significantly from one to the other region. It is an insidious hazard of nature. It can erupt in a matter of months, or it may gradually creep up on an unsuspecting society over several seasons. It goes largely unobserved by the public until its impacts have already affected the concerned area and its population.

The Province is bordering the Baluchistan plateau which itself is generally arid and mountainous. The Thar desert belt of Sindh borders with the Indian Rajasthan in the east, which is a greater part of the Thar Desert that is spread across the western part of India which too comprises extreme arid zone, Cholistan Desert in Southern Punjab, the Runn of Kutch towards the south and the mighty Indus River towards its west side.

3.3 Thar Desert

Desert area of Thar is the most drought prone region in Sindh Province. Thar Desert presents an undulating surface, with high and low sand dunes separated by sandy plains and low barren hills, or bhakars, which rise abruptly from the surrounding plains. The dunes are in continual motion and take on varying shapes and sizes. Older dunes, however, are in a semi-stabilized or stabilized condition, and many rise to a height of almost 500 feet (150 metres) above the surrounding areas. Several playas (saline lake beds), locally known as **dhands**, are scattered throughout the region. The soils consist of several main groups—desert soils, red desertic soils, sierozems (brownish grey soils), the red and yellow soils of the foothills, the

¹ MHVRA of Sindh, by PDMA Sindh. Page 37.

https://pdma.gos.pk/Documents/District_Management_Plans/Provincial%20Disaster%20Management%20Plan.pdf

saline soils of the depressions, and the lithosols (shallow weathered soils) and regosols (soft loose soils) found in the hills.

All these soils are predominantly coarse-textured, well-drained, and calcareous (calcium-bearing). A thick accumulation of lime often occurs at varying depths. The soils are generally infertile and, because of severe wind erosion, are overblown with sand.

The grasses form the main natural resources of the desert. They provide nutritive pasturage as well as medicines used locally by the inhabitants. Alkaloids, used for making medicine and oils for making soap are also extracted. There are five major breeds of cattle in the Thar. Among those the Tharparkar breed is the highest yielder of milk, and the **Kankre** breed is good both as a beast of burden and as a milk producer. Sheep are bred for both medium-fine and rough wool. Camels are commonly used for transport as well as for ploughing the land and other agricultural purposes. Crops like wheat and cotton are grown in selected regions where water is available.

As, water is scarce, the seasonal rainwater collected in tanks and reservoirs is used for drinking and domestic purposes. Most groundwater cannot be utilized, because it lies deep underground and is often saline. Good aquifers have been detected in the central part of the desert. Apart from wells and tanks, canals are the main sources of water in the desert².

3.4 Mountainous Areas

Khirthar Range is a significant geographical feature in Sindh, having catchment within district Malir, Thatta, Jamshoro, Dadu and Kambar Shahdadt. It forms the western edge of the Sindh province and serves as a natural boundary between Sindh and Balochistan. The range is characterized by rugged terrain, deep gorges, and a variety of flora and fauna, including species adapted to arid conditions.

The populations in these areas are vulnerable to drought conditions, particularly when rainfall is below normal, due to the region's arid climate and limited water resources. The arid and semi-arid climate of the region, combined with limited water resources, makes these communities susceptible to water scarcity, crop failures, and livestock mortality during droughts. As an example, during the 2000 drought, the Dadu district, which includes parts of the Khirthar Range, faced significant challenges due to reduced river flow and declining water tables.

3.5 Possible Drought Impacts

Impacts on Agriculture:

- **Crop Failures:** Water scarcity leads to crop loss, especially for wheat, rice, cotton, and sugarcane, which are water-intensive.
- **Reduced Yields:** Drought conditions stunt crop growth, resulting in lower yields and economic losses for farmers.

² MHVRA 2023-2032 by PDMA Sindh. Page No. 38

- **Water Shortages for Irrigation:** Sindh relies heavily on the Indus River for irrigation, and reduced water flow impacts crop productivity.
- **Loss of Income:** Many farmers face financial hardship due to crop failure, pushing them into deeper poverty.

Impacts on Livestock:

- **Decreased Pasture Availability:** The lack of water reduces grass and forage, leading to malnutrition for livestock.
- **Animal Mortality:** Livestock deaths rise due to dehydration, lack of food, and the spread of diseases in weakened animals.
- **Water Shortages for Animals:** Limited access to drinking water forces farmers to travel longer distances or buy costly water for their herds.
- **Livestock Migration:** Farmers and pastoral communities may have to migrate their livestock to find grazing land and water, leading to displacement.
- **Economic Losses:** Livestock, a major source of income, is heavily affected, causing long-term economic hardship in rural communities.

Impacts on Human Lives:

- **Water Scarcity:** Rural communities, especially in the Thar Desert and other drought-prone areas, face severe shortages of drinking water.
- **Health Risks:** Drought increases the risk of dehydration, malnutrition, and waterborne diseases such as cholera and dysentery.
- **Food Insecurity:** Crop failures and livestock losses contribute to food shortages, especially for vulnerable populations in rural areas.
- **Migration and Displacement:** People in drought-hit areas may be forced to migrate in search of water, food, or work, resulting in displacement within Sindh or to urban centers like Karachi.
- **Increased Poverty:** Loss of livelihoods from agriculture and livestock forces people into extreme poverty, making them dependent on aid or remittances.

Impacts on Soil:

- **Soil Erosion:** Drought reduces the ability of soil to retain moisture, leading to increased wind erosion and the degradation of agricultural land.
- **Salinization:** Reduced irrigation water and over-extraction of groundwater lead to salinity problems in soil, making it less productive.
- **Soil Fertility Loss:** Lack of moisture hampers the decomposition of organic material, reducing soil fertility and its ability to support healthy crops.
- **Desertification:** Prolonged drought accelerates desertification, especially in the Thar Desert and other arid regions, where agricultural land turns into barren, unproductive soil.

Impacts on Groundwater:

- **Declining Water Tables:** The depletion of groundwater resources occurs as farmers and communities increasingly rely on underground water sources due to surface water shortages.
- **Increased Pumping Costs:** As groundwater levels drop, the cost of pumping water increases, making it harder for farmers to afford irrigation.
- **Contamination Risk:** Lowered water tables can concentrate contaminants in groundwater, affecting drinking water quality for both people and livestock.
- **Reduced Recharge Rates:** Drought hampers the natural replenishment of aquifers, causing long-term depletion of groundwater resources in the region.

Impacts on Environment:

- **Loss of Biodiversity:** Droughts put pressure on wildlife. Water scarcity leads to the displacement or extinction of local species.
- **Forest Degradation:** Reduced rainfall and prolonged dry periods lead to the drying of forests, making them more vulnerable to pests, diseases, and wildfires.
- **Ecosystem Stress:** The lack of water affects aquatic ecosystems, reducing biodiversity in rivers, canals, and wetlands that support fish and plant life.
- **Increased Desertification:** Drought exacerbates desertification in the arid and semi-arid regions of Sindh, particularly in areas like Thar Desert.
- **Reduced River Flow:** Droughts lead to reduced water flow in the **Indus River**, affecting irrigation, fisheries, and water availability for people and wildlife

4. Seasonal Outlook February-March-April 2025 by PMD

Pakistan Meteorological Department (PMD) has issued seasonal outlook for the months of February-March-April 2025 and has predicted that during the season (FMA) 2025 negative phase of climate indicator like El Niño Southern Oscillation (ENSO) is expected to make a transition to the neutral phase, whereas the neutral phase of the Indian Ocean Dipole (IOD) is expected to persist during the season. Based on the current atmospheric conditions, the climatic outlook for Pakistan is as follows:

4.1 Seasonal Outlook (Rainfall):

As per seasonal outlook **slightly below normal** rainfall is expected in northern parts of the country i.e., Northern Khyber Pakhtunkhwa, northern parts of Punjab and adjoining Kashmir. Whereas, the southern regions are likely to experience rainfall that is closer to normal, with a reduced negative anomaly as per the region's climatological patterns. The second half of the season is expected to be relatively wetter than the first half.

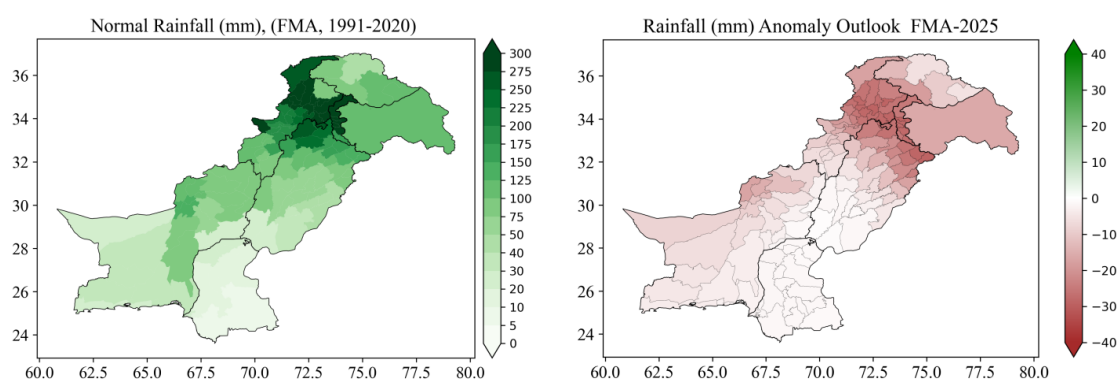


Figure 1: Normal (1991-2020) rainfall and monthly anomaly outlook for FMA 2025

4.2 Seasonal Temperature Outlook:

Temperatures are expected to remain **above normal** nationwide with maximum departure over Gilgit- Baltistan, Kashmir and the adjoining areas of Khyber Pakhtunkhwa.

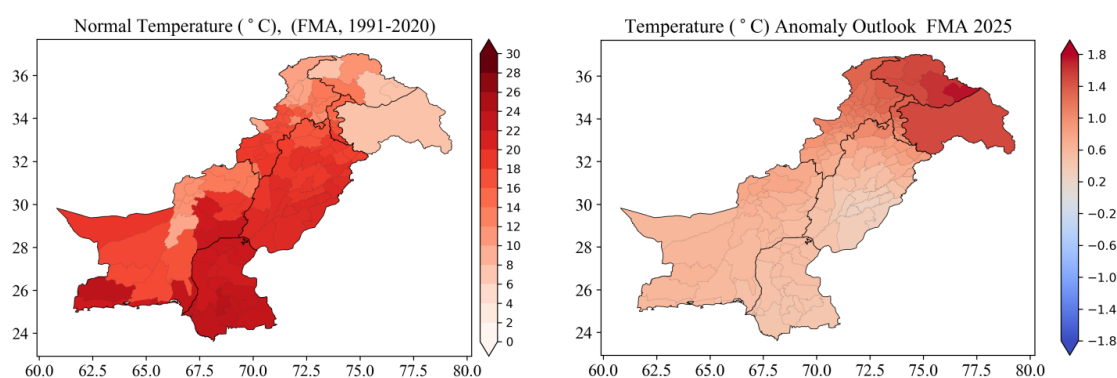
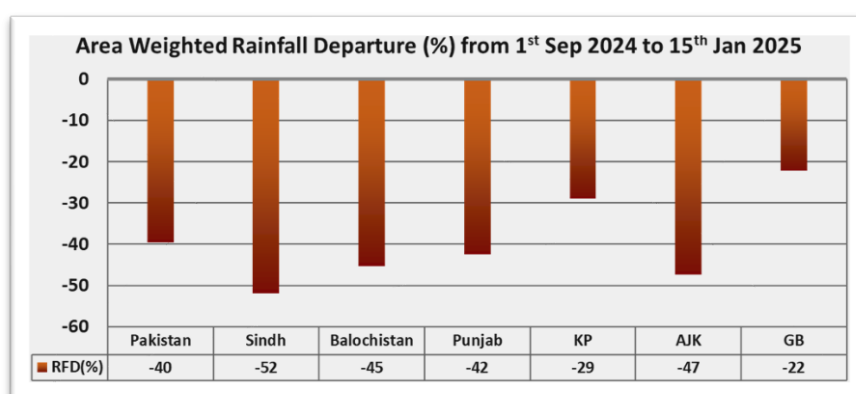
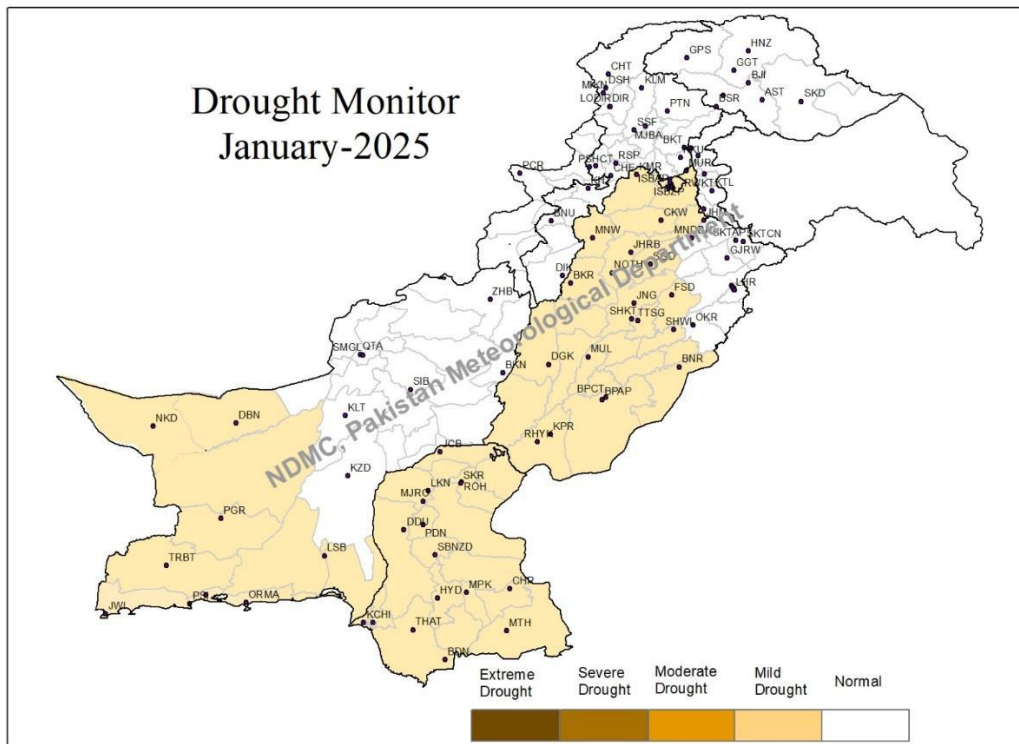


Figure 2: Normal (1991-2020) temperature and monthly anomaly outlook for FMA 2025

4.3 Rainfall from 1st September 2024 to 15th January 2025

Pakistan Meteorological Department's National Drought Monitoring Centre (NDMC) Alert dated 21st January 2025, informs that the recent rainfall spell in the country did not produce significant rainfall in plain areas of the country aggravating the drought conditions. Below normal rainfall (**-40%**) across Pakistan has been received from 1st September 2024 to 15th January 2025. The major anomalies were observed in Sindh (**-52%**). The rainfall departure (%) details are as under:





The ongoing drought conditions are likely to aggravate further as no significant rainfall expected in rain-fed areas of Punjab, Sindh and Balochistan. PMD has also viewed the second half of this season January-February-March (JFM) as dry compared to the first half, also the above normal temperatures forecast may favor the turning of mild drought conditions to moderate drought, especially in the rain-fed areas of country.

4.4 Vulnerable Districts

As per the advisory of the Pakistan Meteorological Department, the 'Mild Meteorological Drought Conditions' have emerged in following districts:

1. Karachi (All districts)
2. Hyderabad
3. Thatta
4. Badin
5. Dadu
6. Sukkur
7. Ghotki
8. Khairpur Mirs
9. Shaheed Benazirabad
10. Naushero Feroz (Padidan)
11. Larkano
12. Jaccobabad and
13. Tharparkar

4.5 Caseload

In case of drought, Division-wise or District-wise caseloads cannot be worked out, for the reason that drought is a slow onset disaster which may either increase the caseload if left unattended or decreases if appropriate and timely mitigation measures are taken. Moreover it also relies a lot on the inner resilience of the community to sustain such situation.

5. Standard Operating Procedures for Drought Management in Sindh

Standard Operating Procedures (SOPs) for drought risk management are crucial for ensuring a structure and effective response. These SOPs outline specific actions, roles and responsibilities of stakeholders to reduce drought impacts on the environment, economy and communities.

These SOPs are prepared to provide a systematic approach to reduce the severity of drought impacts on water resources, agriculture, food and nutrition, livestock, infrastructure and well-being of communities.

These SOPs are applicable to all concerned departments and stakeholders involved in drought monitoring, response and mitigation activities in Sindh province. SOPs are described below:

1. All the departments shall immediately prepare a comprehensive and up-to-date Contingency Plan for combating expected drought, including the details of available staff, vehicles, machinery equipment and other resource in close coordination with PDMA. These all must be kept ready to mobilize / use to combat any emergency during the expected Drought - 2025.
2. Concerned departments shall develop threshold for the drought conditions and issue alerts (e.g watch, warning and emergency) based on the drought monitoring data provided by the PMD.
3. The Deputy Commissioners/DDMAs shall keep close liaison with allied departments like Municipal Corporations, Health, Agriculture, Revenue, Livestock and Fisheries, Irrigation, PHED, Education & Literacy Departments & Law enforcement Agencies. Meetings in this regard are to be held on need basis with concerned departments.
4. Control Rooms would be established at District and Taluka level in the offices of the Deputy Commissioners, Assistant Commissioners, Mukhtiarkars (Revenue) and other all line departments during the emergency. These Control rooms shall function round the Clock.
5. The Agriculture Department shall make arrangement for protection of standing crops from damages and diseases that may cause from the likely drought in the fields. He shall manage required machinery from mechanical wing.
6. The Livestock and Fisheries Department shall ensure safety of livestock from diseases and losses and Veterinary Officers shall ensure regular and timely vaccination of cattle in the districts. They shall make all necessary arrangements for fodder for the livestock to be shifted from drought stricken areas.
7. The Deputy Commissioners/DDMAs, Civil Defense shall ensure the enrolment of volunteers as early as possible in order to avoid any annoying situation in

emergency. He/she will continuously remain in touch with weather forecast and meteorological departments. He/she shall ensure presence of the volunteers and scouts for relief activities in case of any emergency.

8. The Food Department shall ensure availability of sufficient stock of wheat and other grains and shall coordinate with Deputy Commissioners for supply of ration/ food grains from local Food Grains dealers in case of need. If need arises, the Food Department shall make available food grains stored in adjoining districts.
9. The Deputy Commissioners/DDMAs shall ensure mobilization of the NGOs and business community, if present, in the rescue and relief activities in case of emergency shall depute volunteers on different emergency tasks.
10. The Red Crescent Society and other welfare associations and NGOs of the district shall provide food packets and other required material to the affected villages/areas.
11. The Revenue Department shall also conduct the survey of any loss of human life, cattle, standing crops due to drought.
12. Irrigation Department and PHED shall define stages of water use restrictions based on drought severity, and identify and promote the use of non-traditional water sources like rain water harvesting, desalination etc as appropriate to local contexts.
13. Livestock & Fisheries Department shall provide guidance on livestock care during drought, including supplemental feed programs and water management for livestock.
14. Coordination with humanitarian organizations for food aid distribution to the affected communities.
15. Implement programs for recovery, including, replanting crops, restoring water sources and providing financial assistance to the affected agro-based businesses and farmers.

5.1 Mitigation Measures

Based on the best practices, following are the mitigation measures, which PDMA Sindh recommends:

- Conjunctive use of surface and ground water
- Watershed development
- Integrated basin planning
- Strategy based on Agro-Climatic Regional Planning
- Water Management in Irrigated Agriculture
- Adopting appropriate cropping pattern
- Setting up real time dynamic database for water resource and development of water resource information system (WRIS)
- Expanding current network of automatic weather stations and rain gauge stations for much more granular records of evaporation and rainfall data
- Rainwater harvesting and Artificial recharge of ground water
- Renovation of Tanks and **Tarais** (Ponds)
- Promotion of efficient irrigation technologies such as sprinkler and drip irrigation
- Reuse of irrigation waste water
- Prevention of evaporation losses from reservoirs and soil surface

5.2 Preparedness Measures

1. Implement Drought Early Warning System (EWS) at provincial/district level to get clear indications of the impending drought and its consequences, e.g. forecast of impending drought conditions related to changing weather conditions linked to El Nino or La Nina events.
2. Implementation of water supply and demand management and encouragement of efficient irrigation systems in agriculture.
3. Research and promote drought resistant agriculture crops.
4. Resilience and improvement of adaptive capacity of farmers.
5. Monitoring of temperature, precipitation, potential evapotranspiration, soil moisture, stream flow, groundwater levels, lakes, and reservoirs for drought forecasting.
6. Control ground water extraction from upper and lower aquifers to be within the sustainable yield limits.
7. Desalination of sea water and reuse of treated waste water.

5.3 Response Measures

1. Assess data about the nature of drought conditions and their impact.
2. Provision and installation of solar water pumps for availability of clean drinking water.
3. Public information campaign for water management and conservation.

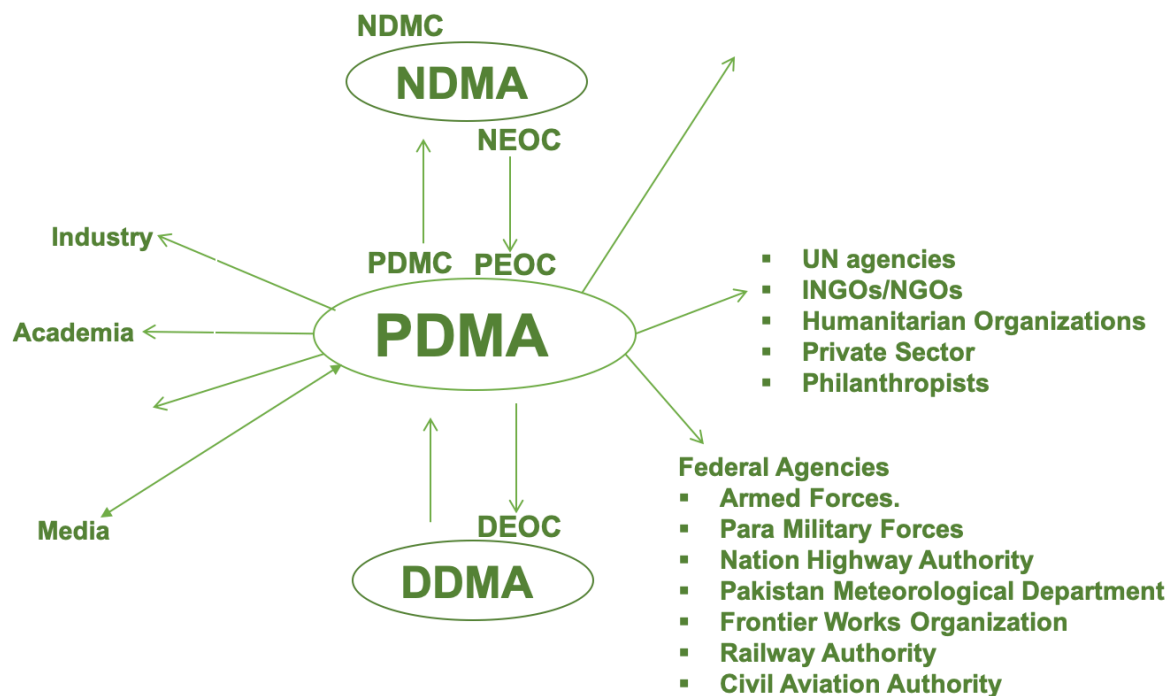
5.4 Recovery and Rehabilitation Measures

1. Cash and in-kind support to farmers for next cropping.
2. Awareness and encouragement of farmers on best irrigation practices and water conservation

5.5 Coordination Mechanism

PDMA will coordinate with key National Stakeholders including PMD, Federal Agencies, DDMA's and Line Departments for management of the entire spectrum of Provincial Disaster Response. As already envisaged, the Provincial Disaster Management Commission (PDMC)/PDMA Board shall take all policy decisions.

The Provincial Disaster Management Authority Sindh shall take all tactical and strategic decisions in line with guidelines of PDMC. The District Disaster Management Authority (DDMA) of a district shall act as the operational arm of PDMA and implement the decisions of PDMC/PDMA within its geographical jurisdiction. System of coordination of PDMA is depicted below:



5.5 Role and Responsibilities of Stakeholders

Pakistan Metrological Department (PMD)

PMD has a broad mandate of supporting agro-based economic activities, air and maritime traffic safety, disaster mitigation efforts and disseminating weather forecast to numerous end users. PMD will ensure the following during Drought Situation:

Pre-Disaster:

- Inform public and Government departments/authorities on the weather forecast and issue warning in case of potential threat
- Collect meteorological data on a regular basis, consolidate and share it with all concerned and predict the threat/s its scale, impact and geographic risk areas

During Disaster:

- Share weather forecasts and early warning information with NDMA, PDMA, and the Media on a regular basis in the drought-like situation
- Monitor the ongoing drought conditions and provide continuous updates on weather patterns and their impact on the affected regions

Post-Disaster:

- Support post-disaster response by providing critical data for recovery efforts, such as rainfall forecasts and predictions of future weather conditions
- Conduct detailed analysis of the drought situation, including weather anomalies and their implications on agriculture, water resources, and the overall economy.
- Collaborate with relevant government agencies and stakeholders to assess the long-term impact of the drought.
- Issue guidance on the potential for recovery and mitigation of future drought risks based on observed weather trends and climate patterns.
- Assist the government departments and authorities in the preparation of drought impact reports for policy makers and help in creating strategies for future disaster resilience.

National Disaster Management Authority (NDMA)

Pre-Disaster:

- Coordinate and inform all concerned departments to get prepared for emergency response.
- Prepare a transition plan from relief to recovery program.

During Disaster:

- National Emergency Operation Centre (NEOC) is activated in NDMA, Islamabad for monitoring the situation and coordination of possible response on a 24/7 basis. The NEOC will always be manned by a Duty Officer who functions under the overall supervision of Director (Response), NDMA.
- Coordinates emergency response of the Federal Government through the NEOC.
- Require any Government Department or Agency to make available such staff or resources that are available for the purpose of emergency response, rescue, and relief.
- Organize initial and subsequent assessment of drought-affected areas and determine the extent of loss/damage and volume of relief required.
- Coordinate with Armed Forces, INGOs, UN Bodies, and Philanthropist Organizations for resource mobilization.
- Mobilize and deploy resources e.g. search and rescue medical teams in the affected areas.
- Supply of food, water, medical supplies, and NFIs to the affected population.
- Coordinate with PTA and PDMA for early warning messages to the affected areas

Post-Disaster

- Guide the recovery and rehabilitation process, ensuring that relief efforts transition into long-term recovery programs.
- Conduct damage and needs assessments to understand the full impact of the drought and prioritize recovery needs.

- Coordinate with relevant stakeholders, including government agencies, international organizations, UN agencies and local NGOs to implement recovery initiatives.
- Facilitate the restoration of livelihoods to support drought affected communities.
- Monitor and evaluate recovery progress to ensure that it is on track and that the affected population's needs are being met.
- Coordinate with Federal Water Management Authorities, including WAPDA for ensuring water supply to drought affected areas of Sindh

Provincial Disaster Management Authority (PDMA)

Pre-Disaster

- PDMA will be facilitate response & relief operations. Director General PDMA Sindh will head a Composite Team (comprising representatives of Lead Agencies/ Departments and focal persons of support organizations) to coordinate response & relief operations.
- Provincial Emergency Operation Centre would be made operational, so as, to make all arrangements for receiving forecast data from PMD and its dissemination.
- The PEOC will coordinate with DDMA's, PMD and NEOC at NDMA, .
- The PEOC shall receive and transmit information on hourly basis during emergency.
- Identification of available resources i.e. machinery, tents etc.
- Contingency planning as to identify role of each stakeholder during emergency.
- Assisting DDMA's in provisions of adequate required resources for drought season.
- An inventory of NGOs working in these areas will be prepared prior to the crisis, in order to mobilize them quickly in case of emergency.

During-Disaster

- The coordination and collection of information and resources to support disaster/emergency incident management activities.
- The PEOC will be a 4CF setup (Central Coordination, Command and Control Facility) responsible for carrying out emergency preparedness and emergency management functions at a strategic level in an emergency situation, and ensuring the continuity of response operations within the drought stricken district either through remote interventions or Direct Action in the district.
- The PDMA will provide relief items to the affectees through DDMA's/district administrations for further distribution.
- PDMA shall coordinate with all UN agencies and humanitarian partners to address response and relief gaps before, during, and after emergencies, while maintaining a stock of food, NFI, and necessary relief items.
- Prepare daily situation reports and circulate to all concerned/publish on PDMA Sindh Website.

Post-Disaster

- The PDMA in collaboration with partners will have to closely monitor the situation on regular basis. Logistic arrangement shall be done in advance keeping in view the positions available in the case of crises. An initial rapid assessment (MIRA) will be

carried out to identify the areas and targeted beneficiaries in coordination with DDMA, UN agencies, NHN, PHF and other stakeholders.

- Continue with relief and early recovery operation till needs of the affected people are adequately met and economic activity is resumed.

District Disaster Management Authority (DDMA)

Pre-Disaster:

- Close coordination with PDMA and other relevant stakeholders
- Risk assessment and identification of disaster-prone areas
- DDMA shall activate District Emergency Operation Centers (DEOCs)
- Ensure readiness of equipment and inventory
- Translate forecast and drought warnings into usable early warnings for vulnerable communities and ensure their timely dissemination to all concerned.
- Setup early warning mechanisms and dissemination of proper information to the public, prepare district-level response plans and guidelines, establish stockpiles of relief and rescue material; provide information to PDMA Sindh on different aspects of Disaster Management.
- Mobilize community volunteer groups and civil defense for emergency operations.

During Disaster:

- In the event of a drought, organize emergency response through the District Emergency Operation Center (DEOC).
- Inform / update PDMA Sindh regarding the overall situation.
- The DDMA shall lead the evacuation of people to safer places with the assistance of PDMA. DDMA shall also ensure safety, security, supply chain, life commodities and management of relief camps
- Conduct initial and subsequent assessment of disaster-affected areas and determine the extent of loss and damage.
- Collect information on damage status and promptly plan for the resources requirement for relief operation and share it with the PDMA Sindh
- Provide food, drinking water, medical supplies, and NFIs to the affected population.
- Coordinate with PDMA Sindh to deploy resources for emergency response.
- Forward timely situation reports (SITREP) on a daily basis to PDMA for its timely dissemination to concerned quarters.

Post-Disaster:

- Need and Damage Assessment reporting to PDMA
- Ensure rehabilitation on Build Back Better principle
- Continue coordinating with relevant authorities to ensure recovery operations are carried out effectively.
- Assess and report on the impact of relief efforts, and assist in planning long-term recovery strategies for affected areas.

Sindh Emergency Service-Rescue 1122

Pre – Disaster

- Public awareness and trainings on disaster and emergencies.
- Public awareness and trainings on safety and precautionary measures in context of disaster and emergencies.

During – Disaster

- Search and rescue
- Evacuation and assistance in initial settlement of disaster affectees
- Cascading disaster control and management
- Assistance in relief camp management

Post – Disaster

- Assistance in decommissioning of relief camps
- Assistance in resettlement of affectees

Health Department

Pre-Disaster

- Provide specific information required regarding precautions for epidemics and malnutrition, particularly in vulnerable areas
- Educate communities on proper nutrition practices, including the importance of micro-nutrient-rich foods and hydration during droughts
- Collaboration with relevant organizations/partner NGOs

During-Disaster

- Providing emergency treatment to the affected populations prioritizing children and pregnant women who are more vulnerable to malnutrition.
- Establish health mobile teams in district & town headquarter hospitals (DHQs/THQs) in vulnerable areas
- Setup an Information Center to collect and share information amongst relevant stakeholders.
- Provision of First-aid kits, anti-snake venom serum & other emergency support. Including kits/material on basic nutrition supplements such as oral rehydration salts (ORS), high-energy biscuits, and other emergency food rations.
- Deployment of mobile medical teams & health staff
- Collaboration with all relevant stake holders

Post Disaster

- Establishment of medical camps, vaccination, ensuring safe food & water and equip the camps to address malnutrition cases with specialized therapeutic foods and vitamin supplements

- Conduct impact assessment on health, intervene to stop outbreak of diseases
- Provide treatment for common waterborne diseases and ensure that malnourished individuals are receiving the necessary medical care, including therapeutic food and supplements, to avoid complications

Agriculture, Supply and Prices Department

In drought situation, Agriculture Department shall act as nodal agency along with PDMA.

Pre-Disaster

- Assessment of high prone areas and estimation of possible damage
- Workout alternate crop for water stressed areas
- Establish a separate desk to work on bio saline agriculture keeping in view the saline water available in Thar belt
- Create community Seed Bank at community level where appropriate
- Assessment of high prone areas and estimation of possible damage and needs for response and recovery regarding crops in case of any disaster
- Close coordination with PDMA and DDMA, & other stakeholders
- Mass awareness regarding epidemics and diseases to crops.
- Provide information to the communities/farmers on drought resistant crops

During-Disaster

- Immediate mass awareness and update of situation
- Arrangements for relief for the affectees
- Vigilance for protection of Agriculture crops

Post-Disaster

- Assessment of damages & needs of affected crop area and submit to DDMA
- Timely compensation to affected farmers
- Mass awareness repairing epidemics & diseases to crops
- Introduce new crops resistance to water shortage/bio saline agriculture

Livestock and Fisheries Department

In drought situation, Livestock & Fisheries Department shall complement Agriculture Department which shall act as nodal agency, for effective management of livestock which is a source of livelihood for people living in drought prone areas.

Pre-Disaster

- Estimation of possible damage
- Mass Awareness regarding precautions
- Close coordination with Agriculture, Irrigation, Meteorological Department & other stakeholders.

During-Disaster

- Update local communities of ongoing situation.
- Provide livestock vaccination both via fixed and mobile units
- Ensure restriction on movement of diseased livestock out of the district
- Arrangements for relief & transportation of livestock

- Secure livestock from contagious diseases by effective and timely vaccination

Post-Disaster

- Assessment & submission of damages & need of affected livestock to DDMA
- Timely compensation to affected livestock owners
- Mass awareness regarding epidemics & diseases to livestock

Education & Literacy Department

Pre-Disaster

- Providing the necessary information/ training to teachers & students regarding disasters with tips to save their families & themselves during drought.
- Help disseminate the early warning to a wider level through teachers, students and School Management Committees at village level/local level

During-Disaster

- Mobilize the human resources for intervention during disaster
- Deployment of volunteers for emergency support

Post-Disaster

- Ensure early resumption of education activities in drought affected areas
- Evaluate the extent of damage to schools, including infrastructure, learning materials, and teacher availability.
- Assess the mental health and well-being of both students and teachers.
- Provide training to teachers on how to address the psychological impacts of the drought on students

Planning and Development Department

Pre-Disaster

- Gathering statistical data regarding possible damages & recovery needs from all relevant departments
- Plan & identify potential resources
- Facilitation to other department in planning

During-Disaster

- Prepare materials and equipment for emergency response
- Deployment teams to distribute fuels to the affected areas

Post-Disaster

- Gathering statistical data regarding actual damaged & recovery needs from all relevant departments
- Plan and Identify potential resources
- Facilitation other departments in planning and execution of rehabilitation in cost effective manner
- Coordinate with all line departments

Revenue Department

Pre-Disaster

- Assessment of high prone areas and estimation of possible damage and needs for recovery.
- Arrangement of financial resources.

During-Disaster

- Declare calamity hit areas and calamity notification
- Establish relief distribution centers and accept relief donation/ relief support
- Coordinating in timely release of funds from Finance Department and submitting financial reports to DEOC regarding support (financial) provided to the distressed districts.

Post-Disaster

- Assessment of damages of Crops and Livestock and Settlement of applicable taxes accordingly
- Support PDMA in conduct of authentic damage assessment and compensation need.

Police Department

Pre-Disaster

- Information dissemination through "15 helpline Service" to local residents
- Prepare Contingency Plan, Teams & their training for emergency intervention

During-Disaster

- Rescuing affected, shifting, to hospitals and corpse disposal
- Providing easy access & security to rescue & relief teams.
- Maintain law & order and divert traffic on alternative safe routes as and when necessary
- Providing security cover to relief workers and relief consignment from hostile situations where security can be compromised

Post-Disaster

- Ensure security to workers of NGOs/INGOs
- Provide security in unsafe areas
- Facilitation to institutions/NGOs/INGOs which focus on rehabilitation activities
- Providing security to enroute relief and stocked relief from being looted.

Civil Defense

Pre-Disaster

- Information sharing regarding technical and personal expertise with PDMA
- Conduct training for volunteers regarding first aid & other activities
- Effectively train & systemize volunteers and mass awareness regarding necessary first aid-rescue activities

During-Disaster

- Deployment of Volunteers
- Communicate to DEOC any additional resources required for performing emergency activities

Post-Disaster

- Identify gaps, make future plan to overcome weaknesses
- Assisting District Administration and other Line Departments in Rehabilitation works

Public Health Engineering Department

Pre-Disaster

- Prepare Contingency plan
- Strict monitoring and vigilance on water for drinking purpose only to be fit for human consumption.
- Identify additional sources of water for maintenance of regular supply.

During-Disaster

- Ensure supply of sufficient water through tankers for habitats and cattle head.
- Provide household water purification tablets (AQUATABS).
- Installation of New Hand Pumps and Tube wells
- Revival of traditional water sources.
- Transportation of water through road tankers.
- Promote awareness on safe hygienic practices and sanitation.

Post-Disaster

- Situation Analysis on water scarcity and additional specific measure like installation of hand pumps and RO plants in consultation with districts.

Social Welfare Department

Pre – Disaster

- Coordination with NGOs and civil society organizations working for disaster risk management.
- Empower the extremely vulnerable people emphasizing women and children through public awareness involving respective departments for various fields such as Education, Health etc.
- Capacity building of community-based groups and volunteers engaged in disaster management activities

During – Disaster

- Provide information on the situation of the disaster to the DEOC.
- Coordinate all NGOs / INGOs and civil society organizations working during the emergency response.
- Monitor progress of relief operations in the affected areas.

- In coordination with PDMA, Health, Revenue and other line departments, ensure delivery of relief to most vulnerable segments of society such as children, orphans, widows, destitute
- Assist and facilitate Damage and Needs Assessment teams from NGOs.
- Share human resources with DDMA.

Post – Disaster

- Monitor and follow up the status of the extremely vulnerable people.
- Assist and facilitate Damage and Needs Assessment teams from NGOs.
- Conduct impact assessment studies and analysis of strengths and weaknesses of stakeholders and disseminate learning to PDMA, DDMA and other concerned institutions.
- Facilitate institutions / NGOs/ INGOs which focus on rehabilitation activities

Food Department

Pre-disaster

- Maintain adequate food reserves, including wheat, to be used to address food insecurity in the drought prone areas.
- Collaborates with the Agriculture, livestock, Health departments and PDMA Sindh to prepare for food security interventions

During-disaster

- Set up emergency food distribution systems in collaboration with government line departments, PDMA Sindh, UN WFP, and other UN agencies, and NGOs
- Once a drought is declared, the Food Department will coordinate the distribution of food items to affected populations.

Post-Disaster

- Support PDMA Sindh, UN agencies and other relevant government departments in conducting post disaster food security assessments
- Support early recovery and rehabilitation activities

Information Department

Pre – Disaster

- Close coordination and liaison with PDMA and DDMA.
- Issuance of press releases regarding hazards and preparedness plans of the government.
- Issue and publish disaster alerts on appropriate media forums.
- Coverage and publication of government initiatives on disaster risk reduction and management.

During – Disaster

- Coordination with PDMA and DDMA for announcement of warnings and updates on disasters.
- Publication of bulletins on government actions, facilities, relief and rescue efforts.
- Publication of camp management and relief distribution announcements.
- Publication of safety measures during disasters to minimize disaster domino effects.
- Communicate voice of affectees to concerned departments.

Post – Disaster

- Focus on problems being faced by the people of the affected area.
- Publish, broadcast /telecast programs highlighting strengths, weaknesses and scams in disaster response activities.
- Publish, broadcast /telecast programs highlighting government initiatives and collective response of NGOs, INGOs and other departments for relief and rehabilitation

UN Agencies/INGOs/NGOs/PHF/NHN

Pre-Disaster

- UN agencies like UN OCHA (Office for the Coordination of Humanitarian Affairs) and WFP (World Food Programme) will work in coordination with PDMA Sindh on developing early warning systems, monitoring food security, and assessing drought risks. They help governments develop national drought plans and frameworks.
- UN OCHA, UNICEF and FAO will assist in collecting and analysing data on water availability, agricultural production, and food security. They will also assess vulnerabilities, including which populations and areas are most at risk.
- The UN and partners will provide training for national governments and local actors on drought management, water conservation, and disaster preparedness.
- INGOs will raise awareness about drought risks and advocate for better planning and early warning systems. They will also mobilize resources for drought response.
- NGOs will work closely with local communities in coordination with DDMA to raise awareness, build resilience, and prepare local-level disaster management plans. This includes organizing training on water conservation and agriculture practices.
- Local NGOs will work with communities and preposition essential supplies to curtail drought impacts and enable a rapid response if drought occurs.

During Disaster Phase (Response)

- UN OCHA will play a pivotal role in coordinating international humanitarian response efforts, ensuring that resources are distributed equitably, and avoiding duplication of efforts.
- Based on the directives of PDMA Sindh, the UN OCHA shall coordinate with UN agencies and relevant departments of Sindh Government to conduct initial rapid assessment (MIRA) in drought affected areas.
- UN Agencies such as the WFP will provide food aid, while UNICEF will focus on providing safe drinking water, sanitation, and health services, especially for

children. FAO may assist with emergency agricultural support, such as seeds and tools.

- WHO (World Health Organization) will support health systems, providing essential health services, nutrition support, and disease outbreak prevention measures. In a drought, malnutrition and waterborne diseases can be major concerns.
- UN agencies together with provincial departments and DDMA's will continuously assess the situation to ensure that aid is reaching the most vulnerable populations, adjusting response efforts as necessary.
- NGOs in coordination with PDMA Sindh, DDMA's and other stakeholders will distribute food, water, and sanitation supplies to remote or underserved populations.
- NGOs may also implement livelihood recovery activities, such as cash transfers, to support drought-affected families, helping them meet their basic needs.

Post-Disaster Phase (Recovery)

- UN agencies support recovery efforts, restoring livelihoods, and ensuring food security in the long term. The FAO may assist with agricultural recovery, while WFP focuses on food security.
- UN agencies will work with national and provincial government departments, and local actors to integrate lessons learned from the drought into future preparedness plans. They may assist in strengthening early warning systems, disaster risk management, and climate change adaptation strategies.
- INGOs and NGOs will support communities in recovering their livelihoods, through income-generating projects or rebuilding agricultural systems. They may assist with restocking livestock or providing seed and fertilizer for farming.

Local Communities

Pre-Disaster

- Participate in awareness campaigns on health risks related to drought conditions and prepare for transportation challenges during severe drought conditions.
- Engage in local-level preparedness measures, such as stockpiling essential supplies and creating community-based response plans.

During-Disaster

- Communities possess valuable local knowledge about their environment, including water sources, agricultural practices, and traditional coping mechanisms, which helps identify and prioritize intervention areas while supporting emergency relief operations, for efficient aid delivery.
- Play an active role in assisting humanitarian agencies by identifying individuals and families most affected by the drought, ensuring that resources reach those in greatest need.

- Collaborate with DDMAAs, government departments, and other humanitarian organizations, to provide relief for both humans and livestock during the drought period.
- Raise awareness among vulnerable groups/individuals to avoid unsafe water use for human and livestock drinking purposes, and promote proper hygiene practices, especially as water scarcity during drought conditions increases disease risks.

Post-Disaster

- Contribute to recovery efforts by adopting resilient practices to mitigate future drought risks and actively participating in rebuilding community infrastructure and livelihoods and promoting sustainable livelihoods and WASH practices
- Organize themselves to rebuild agricultural activities, repair community irrigation systems, and reintroduce livestock farming.
- Protection of natural resources, ensuring that the recovery process does not compromise future generations' ability to cope with future droughts.

ANNEX A: EMERGENCY CONTACT LIST

The communities and any other relevant entity can contact on following number in case emergency:

Provincial Emergency Operation Center (PEOC)

Office	Contact No
Provincial Emergency Operation Center (PEOC), Provincial Disaster Management Authority, Government of Sindh	Emergency No: 1736 (Toll free) (021) 35381810 0335-5557362

List of Divisional Commissioners and Deputy Commissioners/DDMAs

S#	Designation	District	Tel Off.	Fax
KARACHI DIVISION				
1	Commissioner	Karachi	9205610-14, 9205607	99205652, 99205639
2	Deputy Commissioner	East	99231214, 99231215	99230994
3	Deputy Commissioner	West	99333177, 99333172	99333173
4	Deputy Commissioner	Kemari	99333177, 99333172	99333173
5	Deputy Commissioner	South	99205644	99202296
6	Deputy Commissioner	Central	99260037, 99260038	99260036
7	Deputy Commissioner	Malir	99333785-6	35001301
8	Deputy Commissioner	Korangi	99333922	99333923
HYDERABAD DIVISION				
1	Commissioner	Hyderabad	(022) 9200112 - 13	9200114, 9201316
2	Deputy Commissioner	Hyderabad	(022) 9200244	9200976
3	Deputy Commissioner	Jamshoro	(0223) 870135, 871942 - 44	871199, 871954

4	Deputy Commissioner	Dadu	(025) 9200250, 9200251	9200252
5	Deputy Commissioner	Matiari	(022) 2760033, 2760032	2760011
6	Deputy Commissioner	Tando Allahyar	(022) 9250702-3	9250703
7	Deputy Commissioner	Tando M. Khan	(022) 9260701-2-9	9260709
8	Deputy Commissioner	Thatta	(0298) 920061, 770359	R: 920058 O: 920069
9	Deputy Commissioner	Sujawal	(0298) 510051	510051
10	Deputy Commissioner	Badin	(0297) 920013	861471, 920021

SUKKUR DIVISION

1	Commissioner	Sukkur	(071) 9310834, 9310835	O: 9310837 R: 9310619
2	Deputy Commissioner	Sukkur	(071) 9310601-600	9310602
3	Deputy Commissioner	Khairpur	(0243) 9280200, 9280201	9280202
4	Deputy Commissioner	Ghotki	(0723) 661616, 661675	O: 661677 R: 651628

SHAHEED BENAZIRABAD DIVISION

1	Commissioner	Shaheed Benazirabad	(0244) 9370333, 81069	9370392, 381068
2	Deputy Commissioner	Shaheed Benazirabad	(0244) 381494, 9370337	9370338
3	Deputy Commissioner	N. Feroze	(0242) 92010, 448256	920103
4	Deputy Commissioner	Sanghar	(0235) 920116-7	920101

LARKANA DIVISION				
1	Commissioner	Larkana	(074) 9410244, 9410245	(R)9410293, (O)9410394-5
2	Deputy Commissioner	Larkana	(074) 9410318, 9410243	9410336, 9410293
3	Deputy Commissioner	Kamber Shahdadkot	(074) 9411100	9411102, 9411108
4	Deputy Commissioner	Shikarpur	(0726) 920200, 920201	920202
5	Deputy Commissioner	Jacobabad	(0722) 921201-2	921003
6	Deputy Commissioner	Kashmore	(0722) 570904, 35843006	570902
MIRPURKHAS DIVISION				
1	Commissioner	Mirpurkhas	(0233) 9290052, 9290053-54	9290055-59
2	Deputy Commissioner	Mirpurkhas	(0233) 9290069, 9290070	9290254
3	Deputy Commissioner	Umerkot	(0238) 920019-20	920020
4	Deputy Commissioner	Tharparkar	(0232) 920667, 920825	920818

List of operation Wings of Rescue 1122

OPERATION WINGS, RESCUE 1122 (SINDH)				
S#	Division	Name of Officer(s) / Focal Person(s)	Designation	Contact Details
1	Karachi (HQ) Wing - I	Asif Ali	Emergency Officer	0301-3406433
2	Karachi (HQ) Wing - II	Hassaan Ul Haseeb	Station In- charge	0334-3356007
3	Karachi District Station (KIHD)	Saad Ullah Bhutto	Emergency Officer	0332-4510567
4	District Station, Hyderabad	Roshan Ali Mahesar	Emergency Officer	0333-3116117

5	District Station, Mirpurkhas	Fayaz Samo	CLO/Station In-charge	0335-3548887
6	District Station, Shaheed Benazirabad	Roshan Ali Mahesar	Emergency Officer	0333-3116117
7	District Station, Sukkur	M. Awais	Station In- charge	0320-3625154
8	District Station, Larkana	Iftikhar Ahmed	CLO/Station In-charge	0333-1977776



**PROVINCIAL DISASTER MANAGEMENT AUTHORITY,
REHABILITATION DEPARTMENT
GOVERNMENT OF SINDH
PLOT NO. 26-C, MAIN KHAYABAN-E-JAMI, DHA PHASE-VII, KARACHI.**



Helpline No: PDMA Office : 021-35381810 / PEOC : 0335-5557362 / Fax : 021-35314219 / Email : info@pdma.gos.pk

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