



**GOVERNMENT OF PAKISTAN
PRIME MINISTER'S OFFICE
NATIONAL DISASTER MANAGEMENT AUTHORITY
ISLAMABAD**



F. No. 787/IA&PD/Advisory/ NDMA/2026

Islamabad, dated 09th July, 2026

Subject: **MONSOON INFRASTRUCTURE ADVISORY 2026 – METROPOLITAN AREAS**

Reference this office letters:

- A. F. No. 786/NDMA/IA&PD/2024 dated 13th, June 2025.
- B. F.No. 792/IA&PD/Infra-Audit/NDMA/2025 dated 30th December 2025.
- C. F.No. 792/IA&PD/Infra- Audit/NDMA/2026 dated 6th February, 2026.
- D. F.No. 792/IA&PD/Infra- Audit/NDMA/2026 dated 22nd June, 2026.
1. Pakistan is widely recognized as **one of the most vulnerable countries in the world to the devastating effects of climate change with monsoon rains representing a critical and recurring threat** to the nation's infrastructure, economy and public safety. **Metropolitan areas, in particular, face a heightened level of risk** due to their dense population centers and the vulnerability of their aging infrastructure. **The rapid urbanization of these areas, coupled with insufficient urban planning and drainage systems**, exacerbates the potential impact of monsoon rains and floods. To mitigate these risks, **proactive measures are critical** by which Pakistan can significantly enhance its capacity to recover from natural disasters and adapt to the increasingly unpredictable effects of climate change. Reference afore mentioned letters, it is stated that NDMA has already initiated the **National Infrastructure Audit Program 2026** and conducted the inaugural kick-off session at NDMA Headquarters. A comprehensive implementation plan and **Infra Audit Guidelines have been shared with all relevant stakeholders** to facilitate the proactive identification and assessment of vulnerable and structurally weak infrastructure. The initiative **aims to support timely implementation of remedial measures, strengthen infrastructure resilience**, and enhance disaster risk reduction well in advance of future hazard events.
2. The **Disaster Early Warning (DEW-3) Outlook for July–September (JAS) 2026** indicates that metropolitan cities across Pakistan are expected to experience spatially variable monsoon rainfall, with below-normal rainfall projected over much of Punjab, Sindh, and Balochistan, while parts of northern Pakistan may receive near-normal rainfall. At the same time, above-normal temperatures are expected across the country, with the most pronounced warming anticipated over southern and central regions. Despite the overall seasonal rainfall deficit, **isolated episodes of intense monsoon rainfall and localized thunderstorms may occur, particularly over urban centers, potentially overwhelming drainage systems, causing localized urban flooding**, and damage to critical infrastructure. The following locations are particularly susceptible: -
 - a. Islamabad Capital Territory
 - b. **Punjab:** Rawalpindi, Islamabad Capital Territory, Jhelum, Gujrat, Sialkot, Narowal, Lahore, Faisalabad, Gujranwala, Sargodha, Dera Ghazi Khan, Rajanpur, Muzaffargarh, Bahawalpur, Rahim Yar Khan, and surrounding areas.
 - c. **KPK:** Chitral, Swat, Upper Dir, Lower Dir, Kohistan, Mansehra, Abbottabad, Nowshera, Charsadda, Mardan, and surrounding areas.
 - d. **Gilgit:** Hunza, Nagar, Ghizer, Gilgit, Diamer, Astore, Skardu, Shigar, Ghanche, Kharmang, and surrounding areas.
 - e. **Sindh:** Karachi, Hyderabad, Thatta, Badin and surrounding areas.
 - f. **Balochistan:** Quetta, Zhob, and surrounding highlands.
 - g. **AJK:** Muzaffarabad, Neelum Valley, Bagh, and surrounding areas.

3. In the light of expected situation, **following actions are to be ensured for Residential and Public Buildings** by all concerned Federal Ministries / Departments, respective Provincial Governments and their line departments:

- a. All District Disaster Management Authorities (DDMAs) and district administrations should **conduct proactive assessments to identify Kacha (mud) houses** within their districts, along with an estimate of their inhabitants. These vulnerable structures are **likely to sustain significant damage** during flooding, necessitating the provision of temporary shelters for affected residents.
- b. Reinforce riverbanks using **effective protective measures such as retaining walls, riprap and geotextile reinforcement** to prevent breaches. These interventions will mitigate the risk of river water spilling into surrounding low-lying areas, particularly in flood-prone regions.
- c. In densely populated urban areas, the drainage systems must be upgraded to handle increased volumes of water. This **includes expanding stormwater drains, installing larger capacity sewer systems and incorporating green infrastructure solutions** such as bioswales and rain gardens to improve water absorption and reduce flood risks.
- d. Implement smart flood control technologies in high-density urban centers. This includes the installation of **sensors and automated systems** that can monitor water levels in real-time, triggering alerts for preventive actions and managing floodwater more effectively.
- e. Develop strategically located **community flood shelters in high-risk urban areas**. These shelters should be well-equipped to house displaced populations during flood events, providing safe havens with access to essential resources such as food, water and medical care.
- f. Enhance **urban green spaces, such as parks and open areas**, in flood-prone urban areas. These spaces can help absorb rainwater, reduce runoff and act as natural barriers against floodwaters, while also improving the quality of life in dense neighborhoods.
- g. **Retrofit schools, hospitals and government offices to improve flood resilience** by strengthening structural elements, elevating critical utilities and equipment, reinforcing roofs, and applying waterproof and flood-resistant coatings or sealants to external walls, particularly up to 1.5 m above ground level.
- h. Place sandbags around the perimeter of homes as a **temporary flood barrier**. This measure will help prevent floodwaters from reaching the structure, providing additional protection for foundations and lower walls.
- i. **Upgrade utility networks** in urban areas, such as power, water and gas systems, to be flood-resistant. This includes **placing critical infrastructure above ground level or in protected enclosures** to prevent disruption during flooding events.

4. **The following actions are to be ensured for Communication Infrastructure** by all concerned Federal Ministries / Departments, respective Provincial Governments and their line departments:

- a. Strengthen critical road sections, bridges and vulnerable infrastructure, particularly in flood-prone areas, by **enhancing their resilience with reinforced materials and structural upgrades** to withstand damage from extreme weather events.
- b. Establish **rapid-response teams** equipped with necessary tools and resources to carry out **emergency repairs** on roads and bridges during and after flooding events, ensuring quick restoration of services.

- c. Construct **emergency access routes or bypasses** in high-risk areas where roads are more likely to be washed away or blocked by floodwaters, ensuring continued access during flood events.
- d. Develop and implement **Standard Operating Procedures (SOPs) and contingency plans for rerouting traffic** in the event of road closures, ensuring smooth traffic flow and minimizing disruptions caused by flooding.
- e. Install **scour protection**, such as gabions, riprap and reinforced concrete aprons, at vulnerable bridge piers and abutments and retrofit them with erosion-resistant materials to minimize damage from high water velocities.
- f. **Retrofit and anchor bridge decks** to prevent displacement or structural failure due to the impact of floodwaters, ensuring the stability of critical infrastructure.
- g. **Improve urban drainage systems** in densely populated areas by **expanding their capacity** to handle large volumes of floodwater, incorporating stormwater retention systems and ensuring regular maintenance to prevent flooding and surface runoff.
- h. Safeguard roads in flood-prone hilly areas by implementing **slope stabilization techniques** like retaining walls, gabion structures, drainage improvements and the construction of catch drains and check dams to prevent landslides and erosion.
- i. Install **permanent and temporary flood barriers** around key infrastructure such as roads and bridges in urban centers to protect vital communication routes from floodwaters.
- j. Ensure **road signs, flood warnings and directional markers** in urban areas are reinforced and clearly visible during adverse weather conditions to improve traffic safety and navigation during floods.

5. **The following actions are to be ensured for Industrial Infrastructure** by all concerned Federal Ministries / Departments, respective Provincial Governments and their line departments:

- a. **Regularly inspect and clean** all drainage systems to ensure they are free of debris and functioning optimally to prevent water accumulation. Upgrade existing drainage infrastructure where necessary to handle increased rainfall and stormwater runoff, ensuring the facility remains operational during heavy rains.
- b. **Elevate vital machinery, electrical installations and key infrastructure** above expected flood levels. Apply waterproofing measures to critical equipment and power systems to prevent water damage, ensuring business continuity even during extreme weather events.
- c. Set up **reliable, real-time communication channels** with the National Disaster Management Authority (NDMA), local meteorological agencies and other relevant bodies to receive timely flood alerts and updates.
- d. **Ensure backup power for communication systems** to maintain connectivity during power outages.
- e. **Digitize all critical operational records, blueprints, client data and other essential documents** and back them up securely on off-site servers or cloud platforms with multi-layered security measures. This will ensure that no data is lost in case of flood-related damage and that operations can resume quickly after an event.
- f. **Establish and maintain direct lines of communication** with local disaster management authorities, fire departments and emergency services. Set up protocols for quick response to emergencies, ensuring that support can be mobilized swiftly if required.

- g. Conduct a thorough assessment of all hazardous materials and chemicals stored at the facility. **Implement proper storage protocols**, including elevated shelving or containment systems and ensure that all chemicals are securely stored to prevent contamination in case of flooding.
 - h. Install **automatic circuit breakers and fire detection systems** in areas prone to short-circuits, particularly during flooding. Position fire extinguishers at key locations and ensure that staff are trained in using firefighting equipment and are familiar with safe electrical shutdown procedures to prevent fire hazards.
 - i. Perform **comprehensive structural integrity assessments** of industrial buildings, warehouses and manufacturing facilities. Identify weak points and retrofit them with flood-resistant materials, reinforced foundations and structural reinforcements to ensure the building can withstand prolonged exposure to floodwaters.
 - j. Ensure that all concerned departments and facility managers **closely follow flood alerts and advisories** issued by the NDMA and local authorities.
 - k. **Install removable or temporary flood barriers around key areas** of the industrial site, such as loading docks, storage facilities and power stations, to protect them from floodwater inundation. These barriers should be easy to deploy in advance of predicted flood events.
6. Forwarded for information / necessary action by all concerned, please.