



GOVERNMENT OF PAKISTAN
PRIME MINISTER'S OFFICE

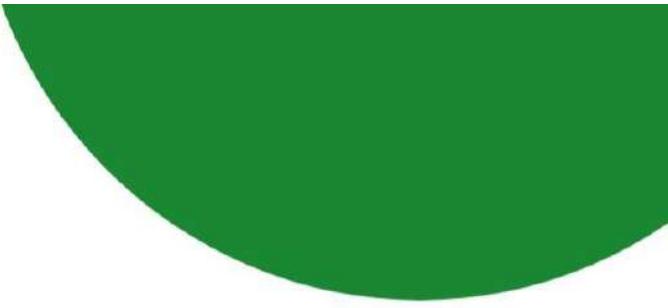


NATIONAL DISASTER MANAGEMENT AUTHORITY
ANNUAL REVIEW

2025

Promoting risk resilience





This document has been prepared under the patronage of Lieutenant General Inam Haider Malik HI(M), Chairman NDMA

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ACRONYMS

Acronym	Full Form
A&F	Administration and Finance
AA	Anticipatory Action
ADPC	Asian Disaster Preparedness Centre
ADRF	Asian Disaster Readiness Fund
AJ&K	Azad Jammu and Kashmir
APP	Asian Preparedness Partnership
ARC/ DEW	Assessment and Response Calculator/ Disaster Early Warning
CBDRM	Community-Based Disaster Risk Management
CERT	Community Emergency Response Team
CISE	Comprehensive International Simulation Exercise
CMIP6	Coupled Model Intercomparison Project - Phase 6
CNIC	Computerized National Identity Card
CORDEX	Coordinated Regional Climate Downscaling Experiment
CPR	Cardiopulmonary Resuscitation
DEW	Disaster Early Warning
DMCF	Disaster Management Coordination Forum
DRR	Disaster Risk Reduction
E&M	Equipment & Maintenance
EAD	Economic Affairs Division
ECMWF	European Centre for Medium-Range Weather Forecasts
MHVRA	Multi-Hazard Vulnerability and Risk Assessment
EOC	Emergency Operations Centre
ER	Emergency Response
EW	Early Warning
FDE	Federal Directorate of Education
FFD	Flood Forecasting Division
GBDMA	Gilgit-Baltistan Disaster Management Authority
GCC	Gender and Community Cell
GDACS	Global Disaster Alert and Coordination System
GDELT	Global Database of Events, Language and Tone
GEE	Google Earth Engine
GIS	Geographic Information System
GLOF	Glacial Lake Outburst Flood

Acronym	Full Form
GPDRR	Global Platform for Disaster Risk Reduction
GRIB	Gridded Binary (Meteorological Data Format)
HDX	Humanitarian Data Exchange
HEC	Higher Education Commission
HECRAS	Hydrologic Engineering Centre – River Analysis System
HRMS	Human Resource Management System
IA&PD	Infrastructure Advisory and Project Development
IC	International Collaboration
IGC	Intergovernmental Commission
INGO	International Non-Governmental Organization
INSAr	Integrated National Search and Rescue
IPCC	Intergovernmental Panel on Climate Change
KP	Khyber Pakhtunkhwa
KSHARC	King Salman Humanitarian Aid and Relief Centre
LIMS	Land Information Management System
LST	Land Surface Temperature
MISP	Minimum Initial Service Package
MoCC&EC	Ministry of Climate Change and Environmental Coordination
MoFE&PT	Ministry of Federal Education and Professional Training
NCF-AA	National Coordination Forum on Anticipatory Action
NCSW	National Commission on the Status of Women
NDMA	National Disaster Management Authority
NDMP	National Disaster Management Plan
NDRP	National Disaster Response Plan
NEOC	National Emergency Operations Centre
NGO	Non-Governmental Organization
NIDM	National Institute of Disaster Management
NOAA	National Oceanic and Atmospheric Administration
NUST	National University of Sciences and Technology
NVC	National Volunteers Corps
PDMA	Provincial Disaster Management Authority
PEDRR	Pakistan Expo on Disaster Risk Reduction
PEOC	Provincial Emergency Operation Centre
PMD	Pakistan Meteorological Department

Acronym	Full Form
PNC	Provincial and National Disaster Management Plan Coordination Cell
PRP	Pakistan Resilience Partnership
PSSF	Pakistan School Safety Framework
QGIS	Quantum Geographic Information System
RFID	Radio Frequency Identification
RM&M	Regional and Military Collaboration and Media
SDMA	State Disaster Management Authority
SimEx	Simulation Exercise
SITREP	Situation Report
SOP	Standard Operating Procedure
SRH	Sexual and Reproductive Health
TOT	Training of Trainers
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USGS	United States Geological Survey
WHO	World Health Organization
WMS	Web Map Service

OVERVIEW

National Disaster Management Authority's (NDMA) serves as apex body responsible for implementing, coordinating and monitoring disaster management through national planning, policy oversight, technical guidance, inter-agency coordination and response support. Provincial Disaster Management Authorities (PDMA) implement and oversee disaster management policies and plans at provincial level, coordinating preparedness, mitigation and response, providing technical guidance to districts and advising provincial government on disaster-related matters. Moreover, District Disaster Management Authorities (DDMAs) act as a frontline operational authority for disaster management, responsible for district planning, coordination, implementation, emergency response (ER), relief & recovery operations and enforcement of disaster-related measures in accordance with national and provincial guidelines.

Annual Review Report-2025 presents an account of NDMA efforts to strengthen Pakistan's disaster preparedness, early warning (EW), response and resilience systems amid increasing climate-induced and multi-hazard risks. Year 2025 was marked by complex challenges including intensified monsoon patterns, floods, heatwaves, smog and seismic risks. In response, NDMA adopted proactive, tech-driven and risk-informed approach to disaster management, reinforcing mandate under National Disaster Management Act.

A central focus of 2025 was expansion and operationalization of advanced EW and decision-support systems integrating satellite analytics, hydrological and meteorological modelling, artificial intelligence and real-time dashboards. Modernization of **Global Command and Operations Platform (GCOP)** and **National Command and Operations Platform (NCOP)**, Flood/ Climate Projection Systems and National Monitoring Portals significantly enhanced anticipatory action, situational awareness and evidence-based decision-making.

The year also witnessed significant progress in knowledge development, training and community engagement. National Institute of Disaster Management (NIDM) expanded its role as a national knowledge hub through academic partnerships, research publications, volunteer mobilization and capacity-building initiatives.

Overall, Annual Review 2025 reflects NDMA's transition from reactive disaster response toward a proactive, forward-looking, technology-enabled and resilience-based disaster management system. Experiences, innovations and lessons documented in this report provide a strong foundation for future preparedness, supporting Pakistan's journey toward a safer, more resilient and climate-adaptive future.

CHAIRMAN NDMA REMARKS

The year 2025 stands as a defining chapter in disaster management in Pakistan. It tested our institutions, challenged our assumptions and reaffirmed necessity of continuous transformation to anticipate and manage risk. Evolving nature of hazards, intensified by climate variability, rapid urbanization and regional dynamics, demands preparedness, institutional agility, innovation and foresight.



Our approach moved beyond event-based response toward system-based risk governance where decisions are informed by science, data integrity and scenario planning rather than hindsight. Experiences of 2025 underscored effective disaster management is by quality of planning, accuracy of information and timeliness of action taken before impacts materialize.

Equally significant was realization that resilience is not built through infrastructure and technology alone rather through involvement of people and effectiveness of institutions. Expanding engagement with academia, volunteers, women leaders, local responders and provincial authorities enhanced response capacity, ownership, accountability and sustainability of preparedness efforts.

As Chairman NDMA, I take pride in professionalism, discipline and commitment of NDMA's officials, technical teams and partners. Their ability to operate under pressure while simultaneously modernizing our systems reflects a growing culture of excellence.

Looking ahead, NDMA's priorities will remain anchored in anticipatory risk management, institutional learning and strategic innovation. Climate uncertainty, emerging hazards and complex emergencies will continue to test national capacities. Our responsibility is to stay ahead of these risks through continuous improvement, policy coherence and investment in systems to protect lives and livelihoods.

This report is not merely a record of activities; it is a reflection of institutional evolution. I am confident that foundations laid in 2025 will guide Pakistan toward a more resilient, prepared and adaptive future.

CHAPTER - 1

TECHNICAL EARLY WARNING WING (TECH EW)

1. **Mandate and Scope.** In view of NDMA's "reactive to proactive disaster risk management" strategy, Tech EW Wing performs its functions with a primary focus on global and local hazard monitoring, forecasting (6-12 months in advance), risk analysis, EW dissemination and risk communication methods and provision of a decision-support system utilizing latest AI and Geographic Information System (GIS) technology:-

a. **Pre-Disaster**

- (1) Development & operation of a national EW system for hydro-meteorological, geological, climatic and other region-specific hazards.
- (2) Multi-hazard based exposure and risk assessments using multi-source geospatial and meteorological datasets.
- (3) Integration of data streams from national and international sources (Pakistan Meteorological Department [PMD], SUPARCO, WAPDA, PDMA, line ministries and global platforms etc).
- (4) Issuance EW, alerts, advisories and impact-based forecasts in coordination with relevant stakeholders.
- (5) Technical support for preparedness planning, scenario building, regional and international SimEx.
- (6) Development and maintenance of disaster information management systems, dashboards and decision-support tools.
- (7) Capacity building and technical guidance to federal and provincial stakeholders on EW and risk analytics.

b. **During Disaster**

- (1) Real-time monitoring of hazards, impacts and evolving risk scenarios using various available technology platforms and portals.
- (2) Provision of EW updates and risk intelligence to decision-makers.
- (3) Technical support to NEOC and Response Wings through situational analysis, maps, dashboards and analytics.
- (4) Integration of field data, satellite imagery and remote sensing for impact assessment and response prioritization.
- (5) Support inter-agency coordination by providing timely, evidence-based risk and impact information.

c. **Post-Disaster**

- (1) Technical support for damage, loss and needs assessments using geospatial and analytical tools.

- (2) Post-event analysis of EW, system performance and data gaps.
- (3) Documentation and reporting of lessons learnt to improve forecasting models, thresholds and dissemination mechanisms.
- (4) Enhancement national disaster risk databases and historical hazard repositories.
- (5) Support early recovery and resilience planning through risk-informed analytics and modelling.

2. **Key Functions**

- a. Tech EW Wing is responsible for development, operation and continuous enhancement of national EW and decision-support systems. This includes systematic collection, integration and analysis of multi-hazard data from national and international sources and generation and dissemination of impact-based EW, alerts and advisories.
- b. During emergency situations, Tech EW Wing provides real-time technical and analytical support to all wings of NEOC. This support is delivered through development of GIS-based products, dashboards, maps and situational awareness tools, enabling informed decision-making and effective coordination.
- c. Wing undertakes extensive coordination with federal and provincial departments, PDMAs, research institutions and development partners to strengthen national EW and information management capacities. It supports and participates in national and international SimExs and drills, develops Standard Operating Procedures (SOPs), guidelines and technical frameworks related to EW and disaster information systems and delivers capacity-building and technical training for stakeholders.

ACTIVITIES OF TECH EW IN 2025

3. **Monsoon 2025 Projections**. Monsoon 2025 Hazard Outlook indicated an early monsoon onset around 26-27 June 2025, with season projected to continue until mid-September. Climatic signals for year point toward above-normal precipitation and elevated temperatures across Central, Southern and foothill regions of country. Based on these conditions assessment identifies heightened risk of flash floods, urban flooding, Glacial Lake Outburst Flood (GLOF) events and landslides, particularly in hill-torrent belts, Sulaiman and Kirthar ranges and Northern mountainous areas.

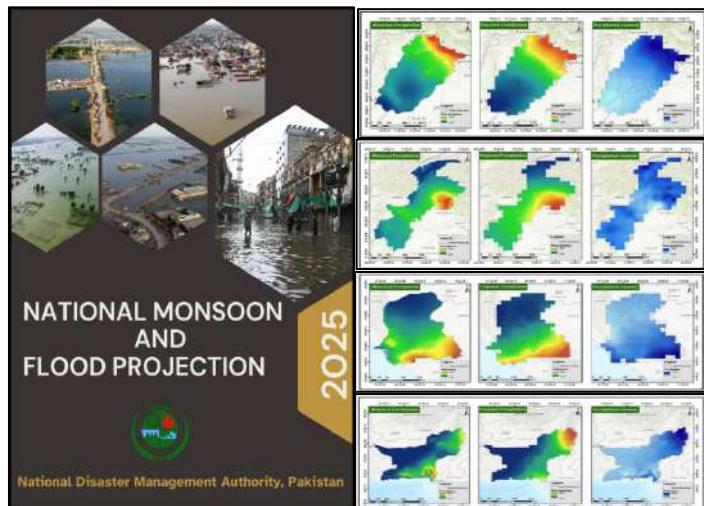


Figure: National Monsoon & Flood Projection

4. **Hydro Analytics 2025.** A detailed hydrological assessment was conducted to identify flood-prone zones including major riverine stretches and hill torrents. Unfolding of flood events was monitored through high resolution satellite imagery which was subsequently overlaid on projected flood risk maps. Comparative analysis between observed inundation and projected extent indicated an accuracy level of approximately **90%**, demonstrating strong reliability of modelling approach and its suitability for operational EW and preparedness planning.

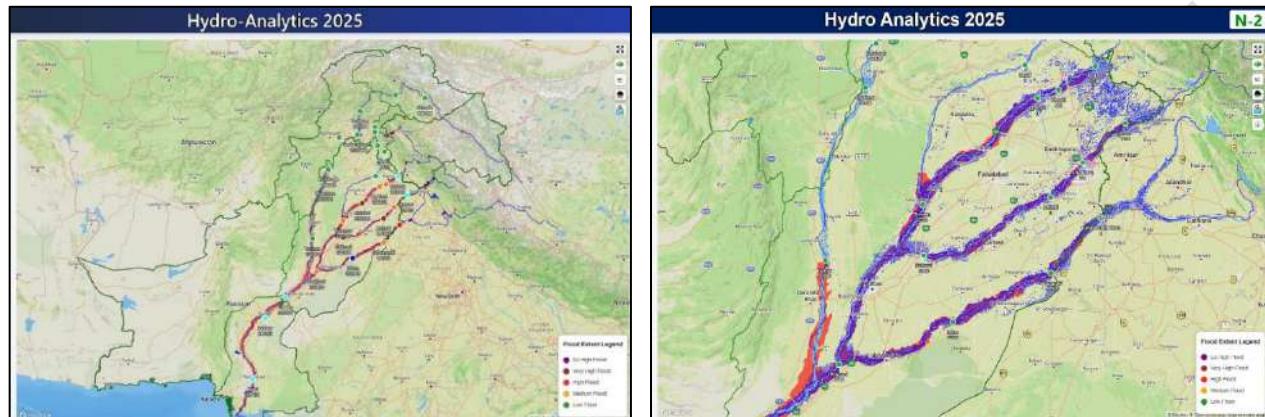


Figure: Hydro - Analytics 2025

5. **Hill Torrents/ Flash Flood Projections.** Watershed scale modelling (DG Khan, Rajanpur, Sulaiman and Kirthar Range catchments to assess flood prone areas/ hill-torrent discharge.

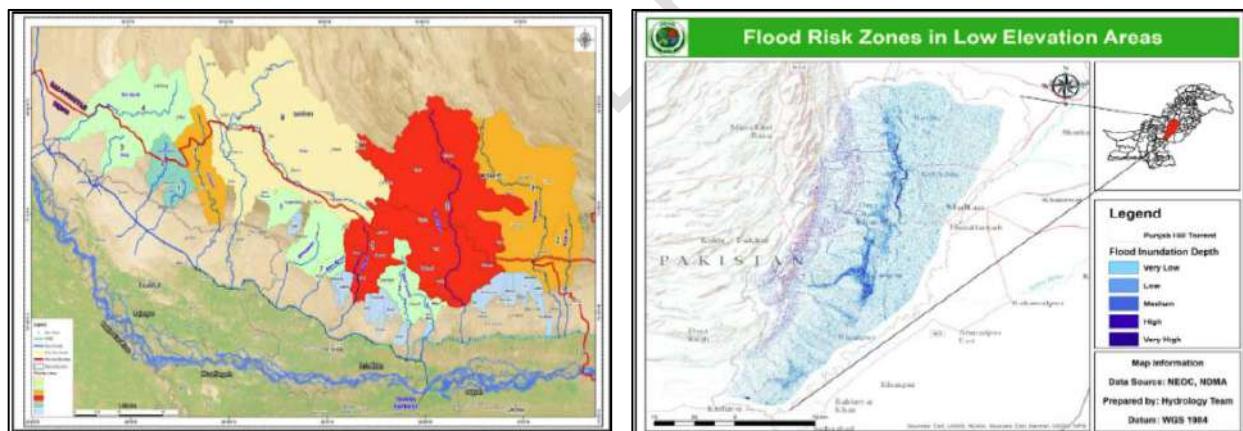


Figure: Hill torrents of DG khan and Rajanpur

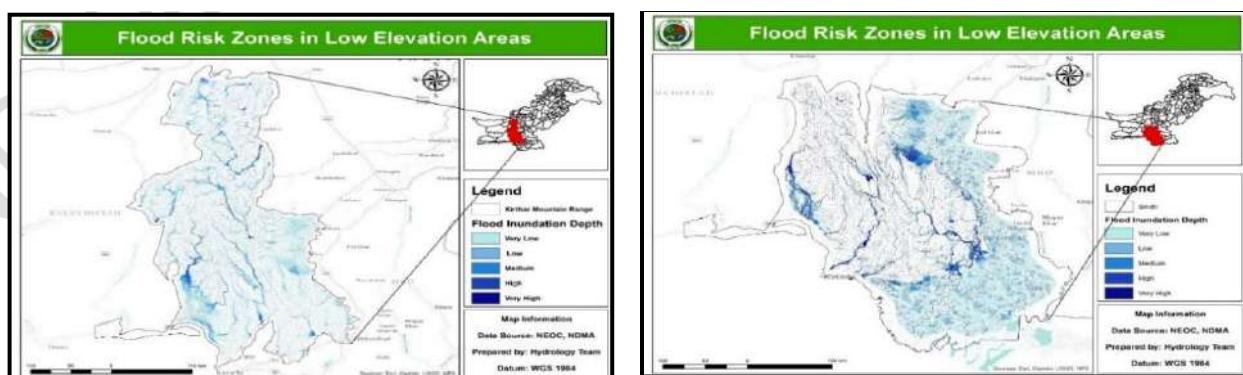


Figure: Flash Flood Prone Hill torrents of Balochistan

Figure: Hill torrents of Sindh

6. **Riverine Flood.** A comprehensive riverine flood outlook was prepared for Indus Basin through integrated snowmelt modelling, reservoir storage assessment and seasonal precipitation analysis. Updated exposure maps were produced for Indus, Jhelum and Chenab rivers, including transboundary flow risk assessment in absence of India's real time discharge data.

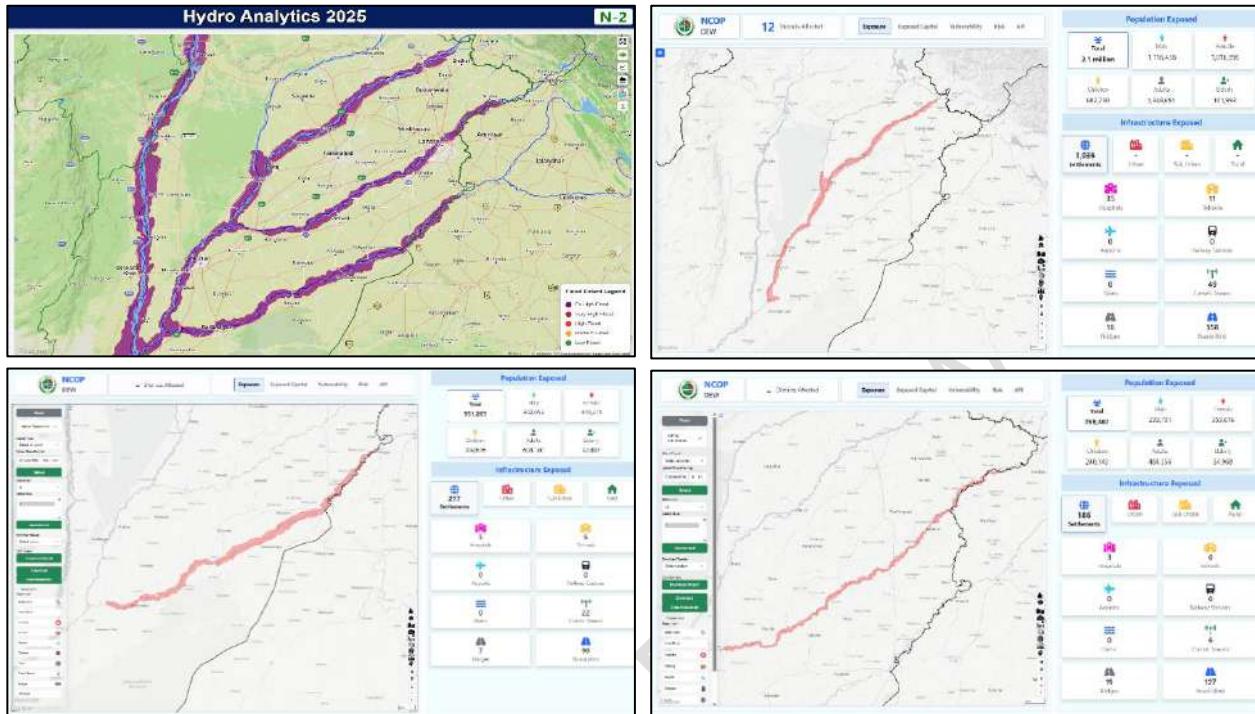


Figure: Exposure along Rivers for Anticipated Flows Scenario

7. **Urban Inundation Projections.** Urban flood susceptibility modelling was carried out for major metropolitan centres using drainage density, DEM-based flow accumulation, land cover classification and extreme rainfall projections. High-risk clusters were identified for Lahore, Rawalpindi, Gujranwala, Peshawar, Mardan, Karachi and Hyderabad based on flood-depth simulations.

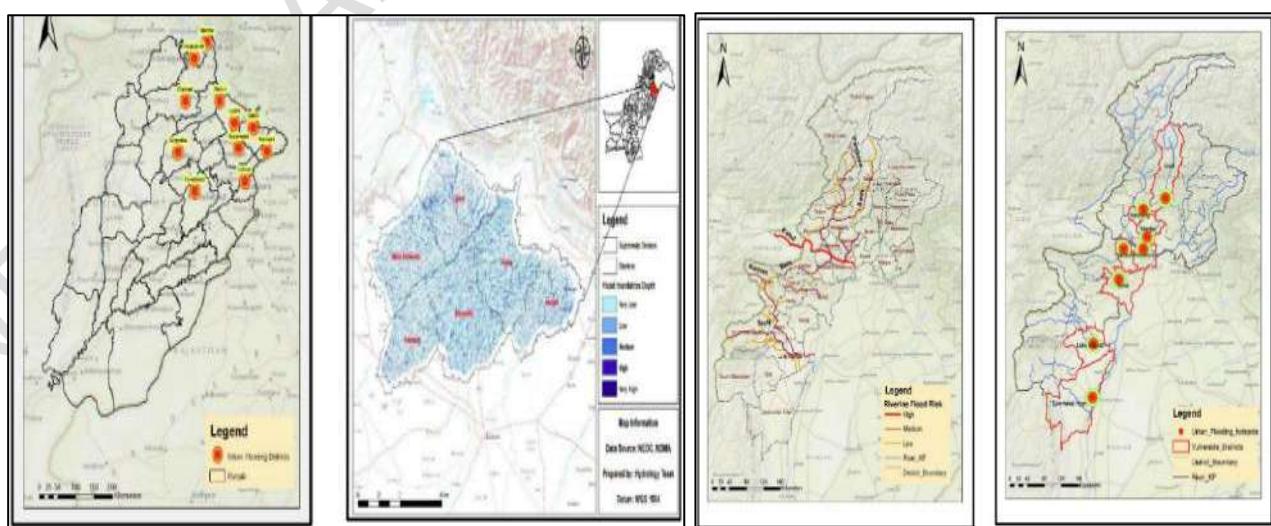


Figure: Vulnerable Flood Prone Area Identification

8. **Indian Dams Monitoring Report through RS and AI/ML.** Tech EW team kept close monitoring of Indian reservoir and barrages due to not sharing of data. Weekly analysis report

along with advisory was issued and share with all relevant stakeholders for timely preparedness.

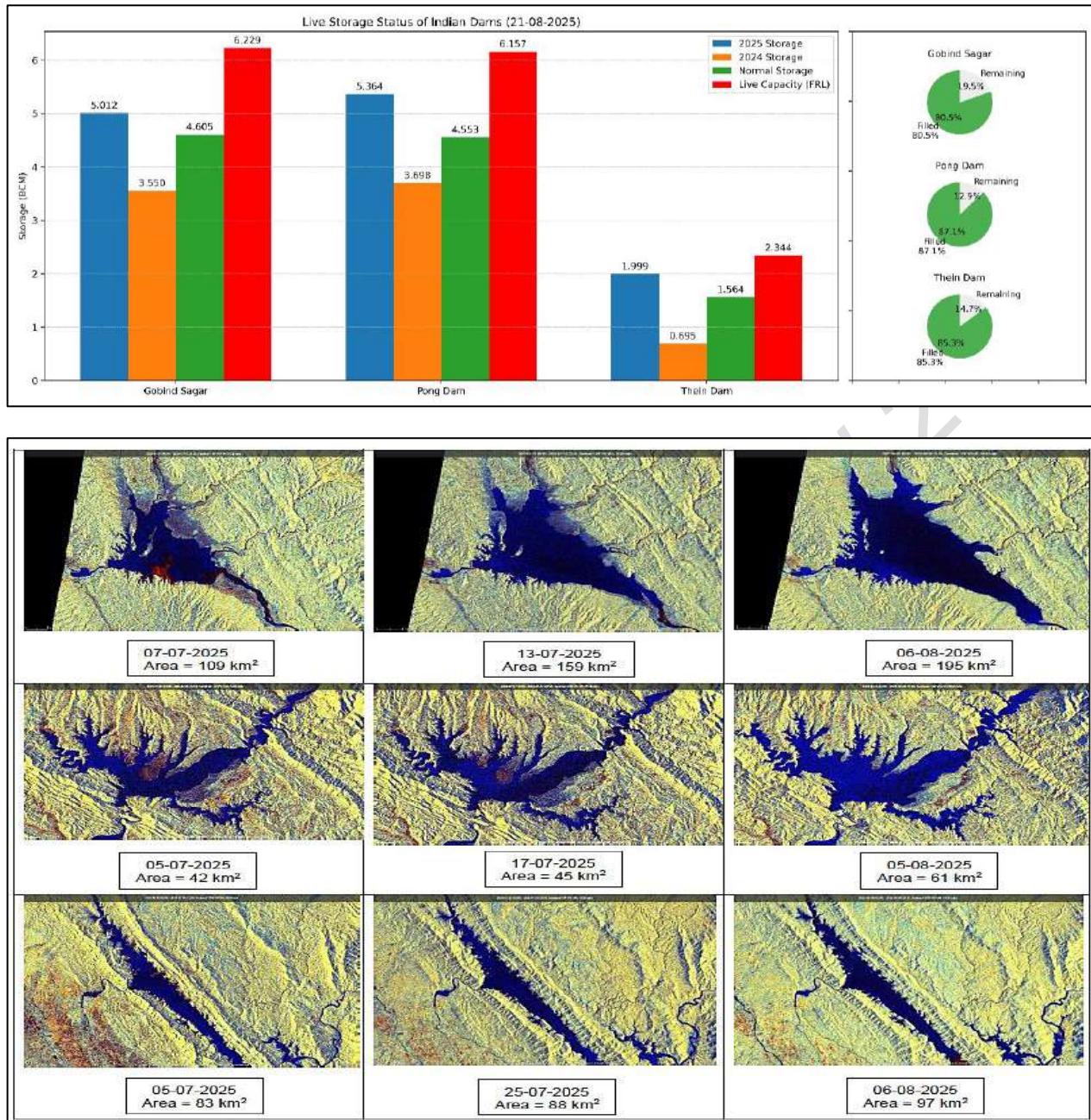


Figure: Monitoring Report

9. **Flood Monitoring Dashboards.** Flood Monitoring Dashboard was prepared by tech team to provide real-time data of flows across major dams, barrages and river gauges. Live telemetry was continuously compared with each structure's design capacity. When observed flows were about to approach or exceed these limits, advisories were issued for timely preparedness and response.

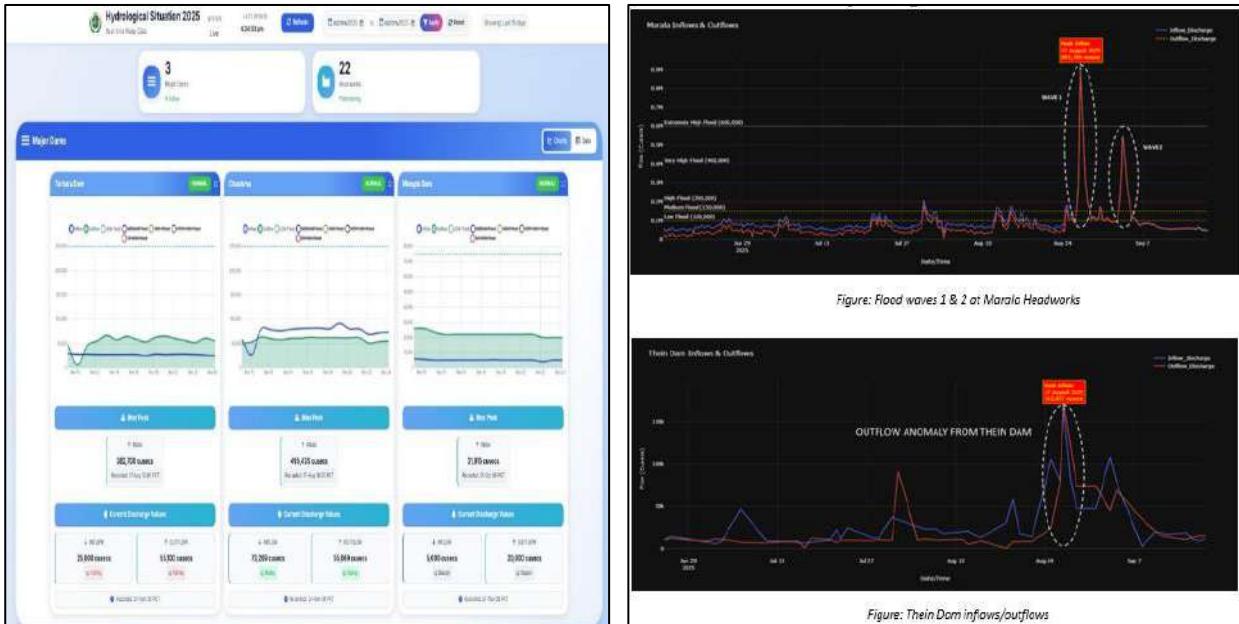


Figure: Monitoring Report

10. **National Volunteers Corps (NVC).** National Volunteer Corps portal is a portal developed by NDMA in partnership with Higher Education Commission (HEC), Government of Pakistan and NVC. This application shows universities engaged, number of trainings for trainers conducted, number of master trainers and number of volunteers in Pakistan. This also shows hazard mapping for all districts of Pakistan with detailed data of all training conducted by trainers throughout Pakistan.

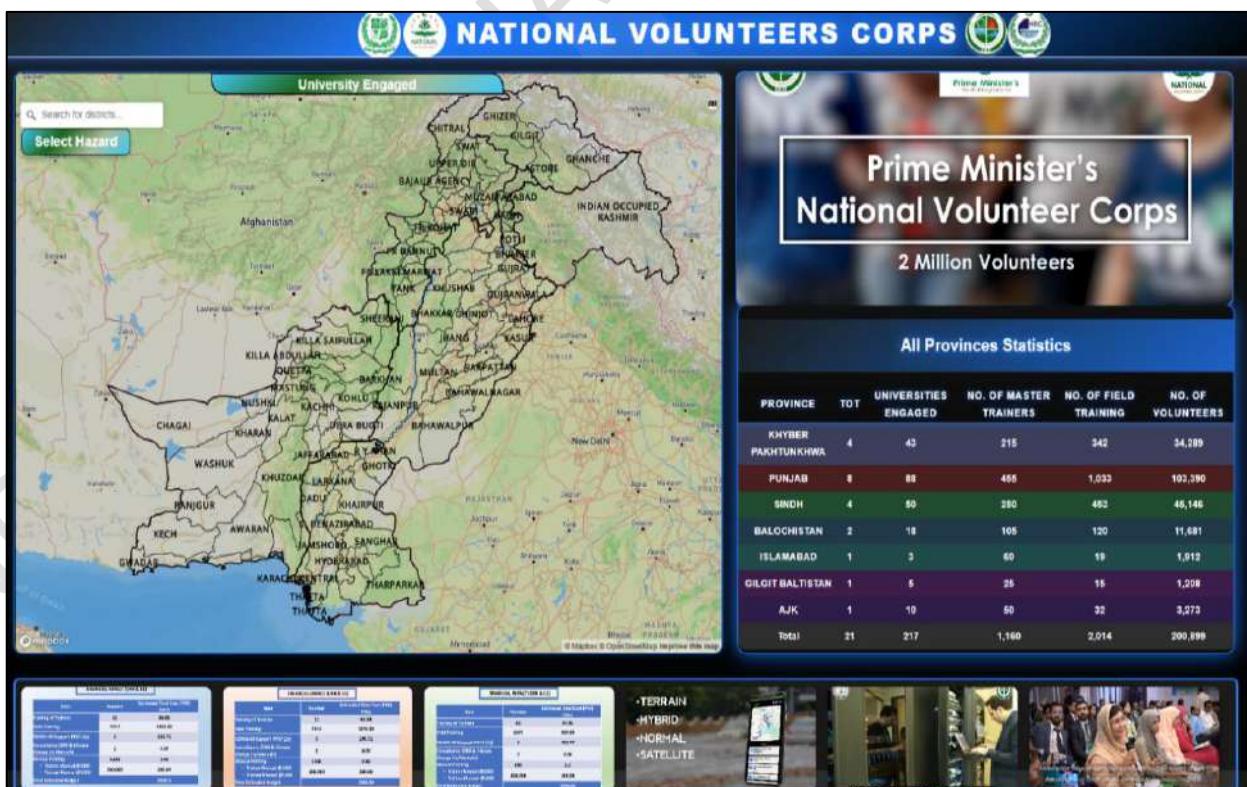


Figure: NVC Portal

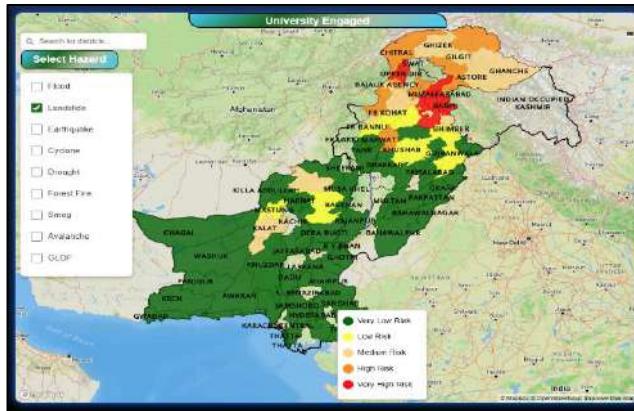


Figure: Hazard Mapping of Pakistani Districts



Figure: Province wise Training of Trainers (TOTs)

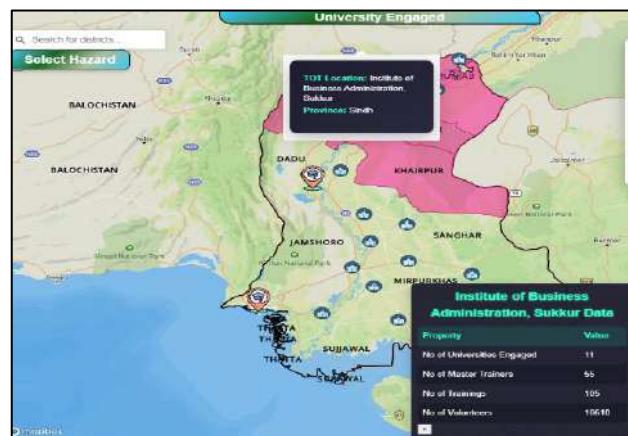


Figure: District wise TOTs and Universities Engaged



Figure: Each District Complete Information

11. **National Coast Watch.** National Coast Watch is national portal that has detailed GIS data analysis of wind, tide, coastal morphology, mangroves cover. It also covers phenomenon and analysis of sea water rise and sea water intrusion affecting coastal areas of Pakistan.

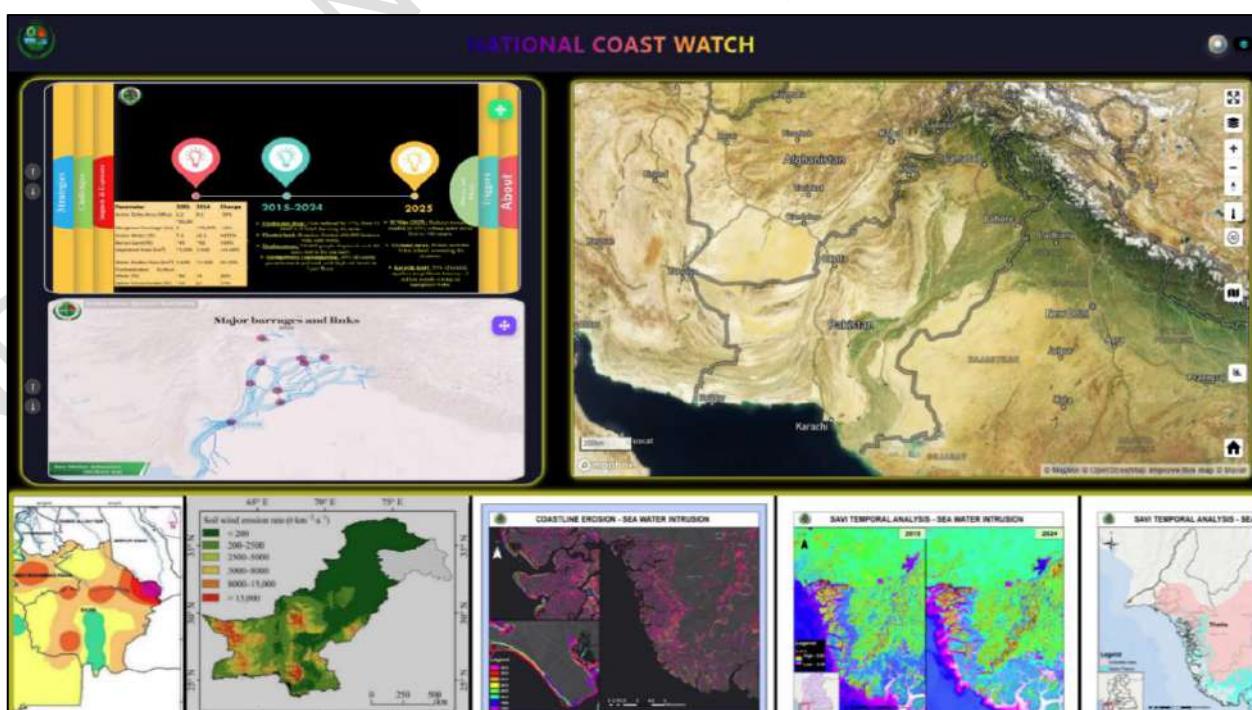


Figure: National Coastal Watch Portal



Figure: Coastal Morphology Analysis



Figure: Wind and Tide analysis

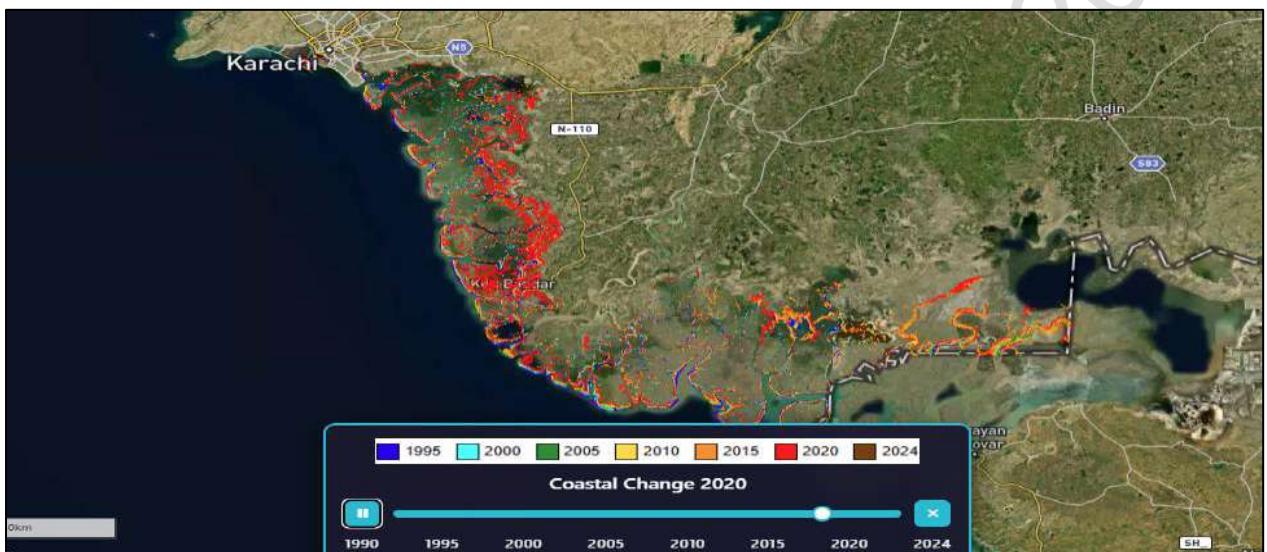


Figure: Coastal Change Over Years

12. **Pakistan Flood Insights.** Pakistan Flood Insights is a portal that has complete GIS geodatabase of all previous flood events/ Flood extents of Pakistan along with flood hotspots and vulnerable zones.

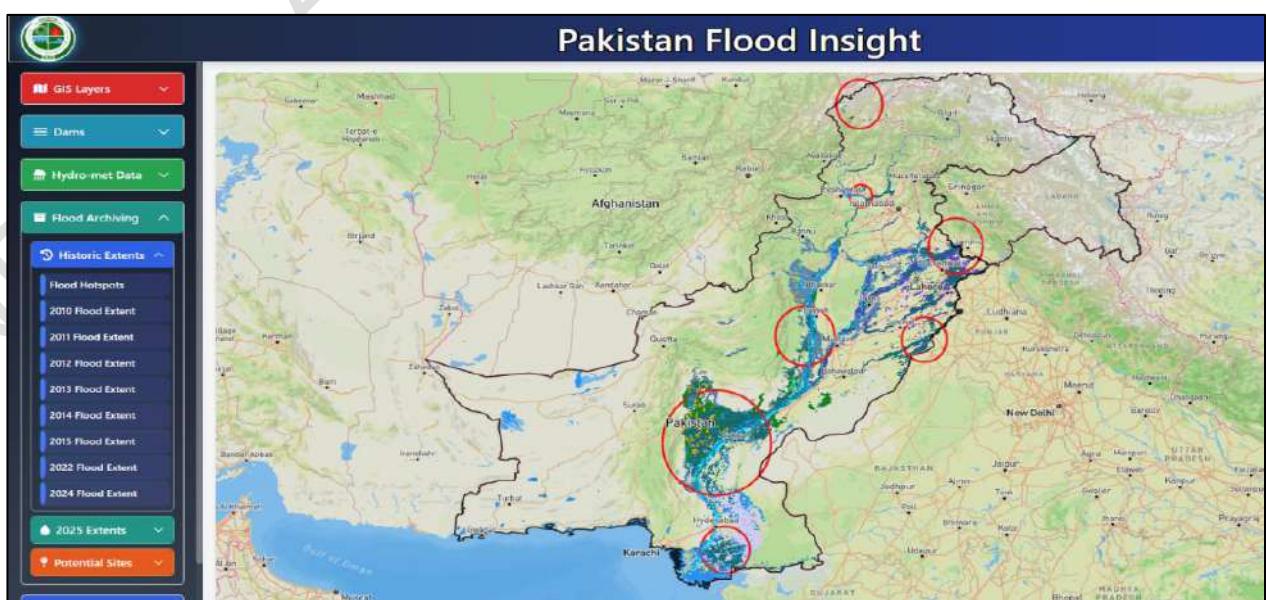


Figure: Pakistan Flood Insight Portal

13. **Hydro Analytics Portal.** Hydro analytics portal is a national portal that has complete GIS based hydro met data used by NDMA during Monsoon 2025 for flood monitoring. It shows actual indentation of flood 2025 along with Hydrologic Engineering Centre - River Analysis System (HECRAS) analysis, predicted scenarios of flood developed by NDMA. Portal also covers real-time inflow, outflow, levels of all headworks and dams of Pakistan along with limited monitoring of three major Indian dams affecting Pakistan during monsoon season.



Figure: Cumulative Flood Extent 2025

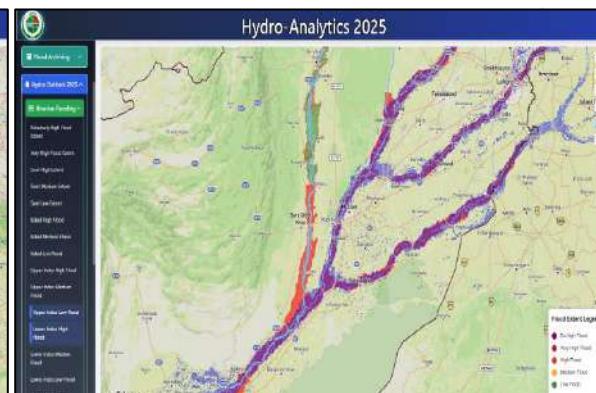


Figure: Actual Indentation vs Predicted



Figure: Realtime Inflow outflow along headwork through Flood Forecasting Division (FFD)



Figure: Daily and Weekly Met Projections

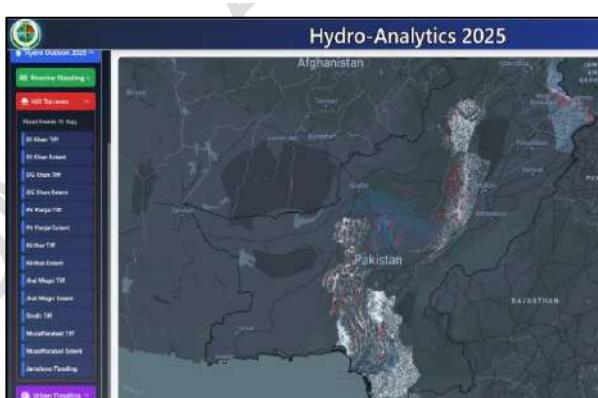


Figure: HECRAS Analysis and Hill Torrents

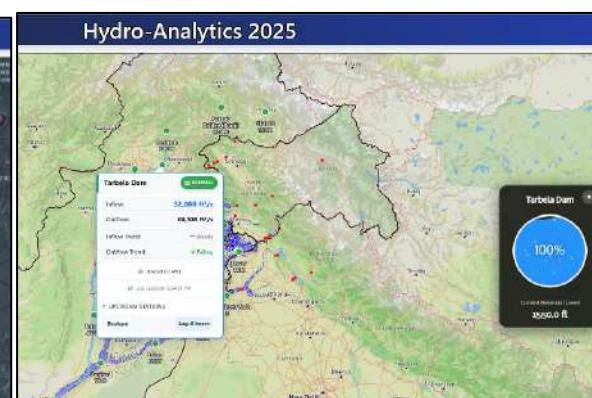


Figure: Tarbela Water Levels



Figure: Thein Dam Water Levels

14. Hydrological Situation. Hydrological situation is an archive of flood related data including inflow, outflow, flood peaks and real-time current inflow, outflow of headworks and dams of Pakistan. It includes data from monsoon 2025 spanning from 25 June till 20 September that was helpful in flood monitoring.

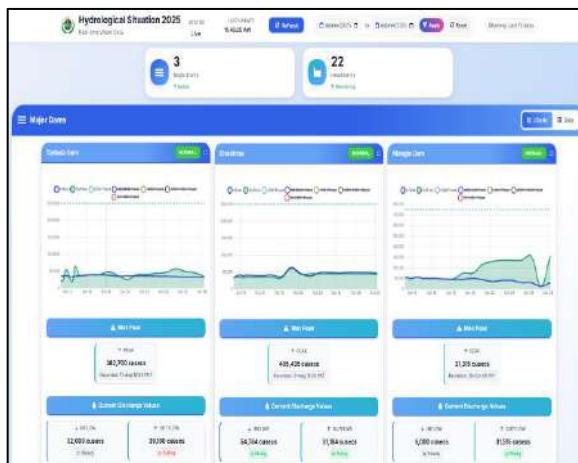


Figure: Hydrological Situation 2025

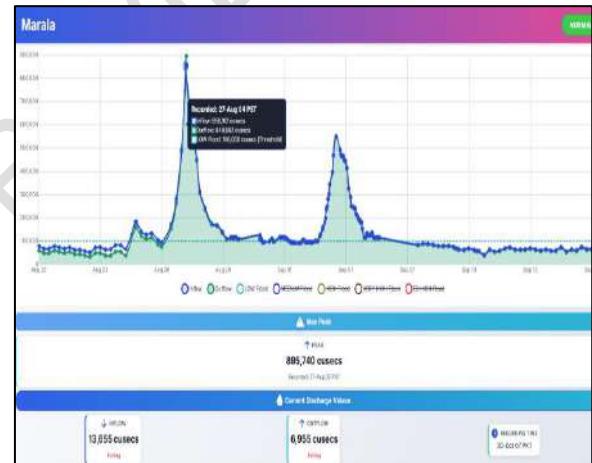


Figure: Hydrological Situation at Marala

15. Automated Situation Update. Automated Hydro situation updated (sitrep) is developed during monsoon period that is used by NDMA duty officers and stakeholders to keep a close eye on flood levels at different stations in Pakistan. It generated an hourly pdf image that showed real-time current flood levels at different headworks of Pakistan.

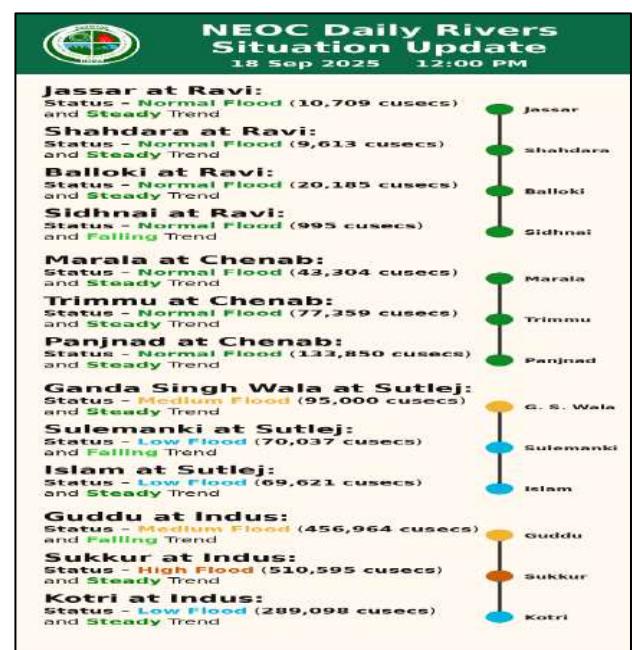


Figure: NDMA River Situation Update

16. **Desert Locust Watch.** Desert Locust Watch is an application developed by NDMA that watches over Locust hazard affecting crops of Sindh and KP region. It includes analysis that shows locust prone districts of Pakistan along with global locust watch for last 3 months.

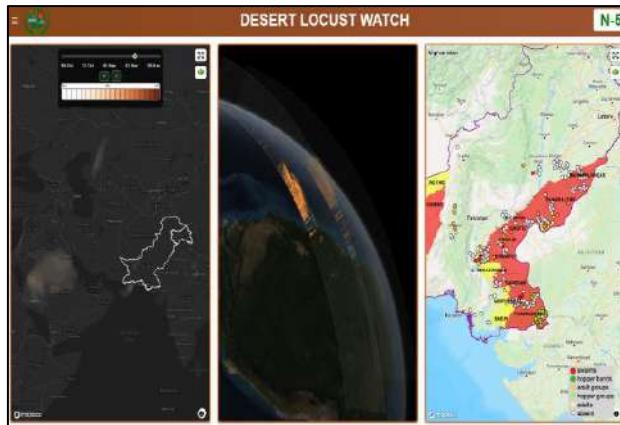


Figure: Desert Locust Watch



Figure: Global Locust watch

17. **Global Seismic and Tsunami Watch.** Earthquake Portal is a web-based dashboard for real-time monitoring of global and regional seismic activity. It integrates data from multiple sources like United States Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA) and Open Quake for dynamic visualization. Users can interactively filter earthquakes by year and month, view data tables and explore tectonic features. Portal supports emergency awareness and seismic risk analysis.



Figure: Seismic and Tsunami Watch



18. **Pakistan Agriculture Equation.** Pakistan Agriculture Portal is an interactive decision-support dashboard that lets users explore crop and land conditions across Pakistan via three interchangeable map views (Crop Topology, Vegetation Cover and Agriculture Map), time-series raster imagery with a month slider & auto play and clear legends for interpreting results. It integrates satellite base maps and terrain (DEM), Web Map Service (WMS) raster layers for crop classification and NDVI/ vegetation indices, meteorological layers (Land Surface Temperature - LST, precipitation, soil moisture, frost, temperature, humidity) and exposure polygons showing population and infrastructure vulnerability, click a polygon to view detailed popups summarizing

demographic and hazard exposure. Right-hand panel provides embedded external portals (Land Information Management System [LIMS], Food Security, Data Portal, National Accounts) and interactive Flourish charts for sector analytics users can toggle layers, switch charts and enter full screen for focused viewing. Together these features deliver near real-time environmental monitoring, seasonal crop performance tracking and exposure assessment in a single, easy to use interface for analysts and decision-makers.



Figure: Crop Topology of Pakistan

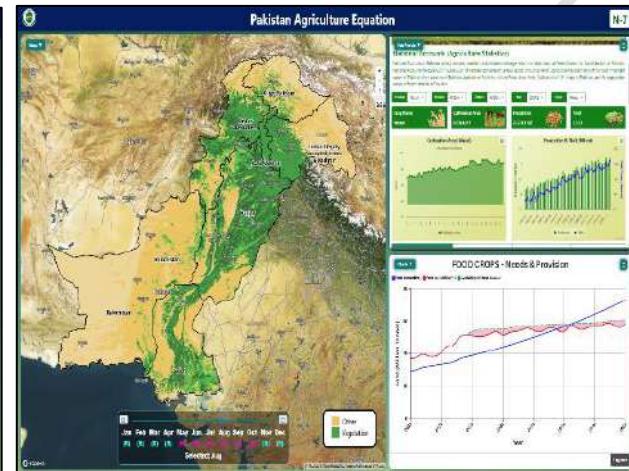


Figure: Vegetation Cover of Pakistan

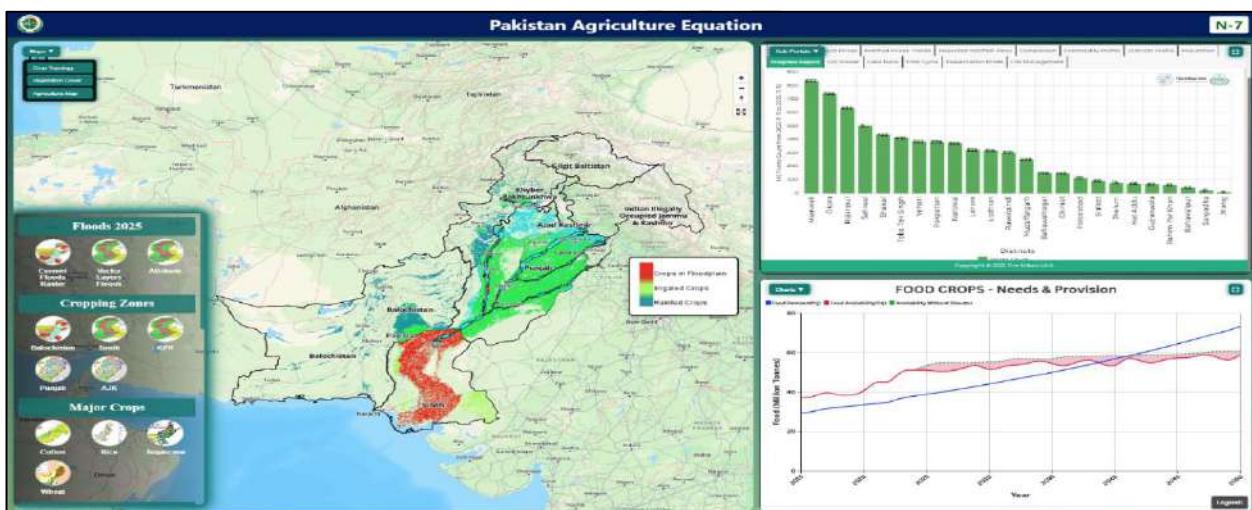


Figure: Crop and Flood Overview

19. **Snow Outlook Portal**. Snow Outlook 2025 is an intuitive, interactive dashboard for exploring snow cover across Pakistan two synchronized maps Historical (last 10 years) and Projected (2025/26) sit side-by-side so users can step through October - March months or run an animated play through to visualize seasonal changes map controls let you switch basemap styles, toggle administrative boundaries and overlays and click or hover on regions to see instant metrics (snow extent, percentage coverage and comparative statistics by province or district) along with contextual charts and summaries, while a projected/ current toggle makes it easy to compare forecasts versus recent conditions; an integrated Snow Cover Validation tool provides deeper analysis, comparisons and downloadable outputs. Overall, portal is designed for clarity, accessibility and decision support across desktop and mobile devices so emergency planners,

researchers and stakeholders can quickly assess trends, validate observations and make informed choices.

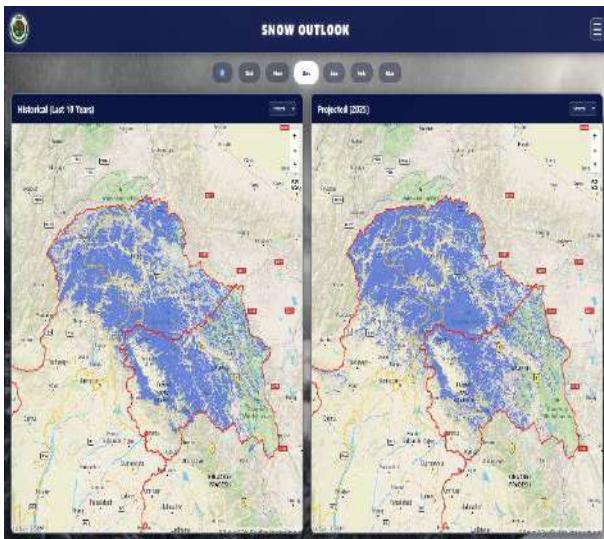


Figure: Snow cover of Pakistan

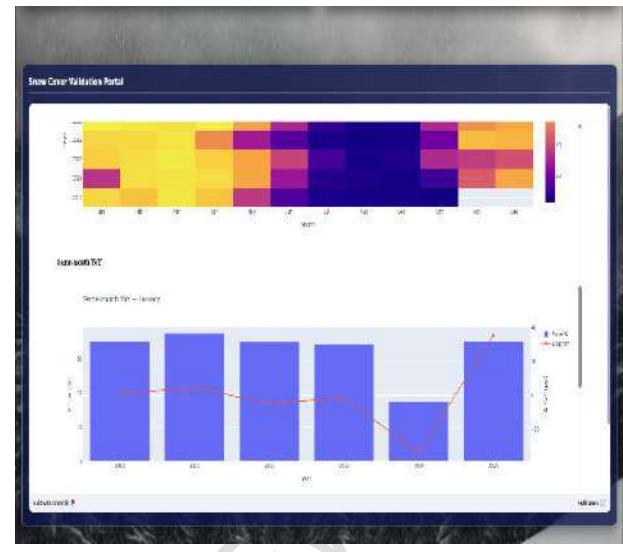


Figure: Comparison Snow Cover - 5 years

20. Pakistan Rivers Flood Zonation. This is an interactive, easy-to-use visualization tool that shows how flood waters change over time along Pakistan's major rivers. With a timeline scrubber and playback controls, users can watch animated maps of flood extents, toggle river layers and zoom to specific areas and immediately see colour coded inundation zones overlaid on satellite imagery. Click or hover on any location to view date specific metrics such as estimated inundated area, percent change versus baseline and time-stamped snapshots while simple comparison tools let you examine before/ after conditions or trends across seasons. Designed for situational awareness and planning, portal helps residents, emergency responders and decision-makers quickly assess impact, identify hotspots and share or save clear visual snapshots for reports or communication.

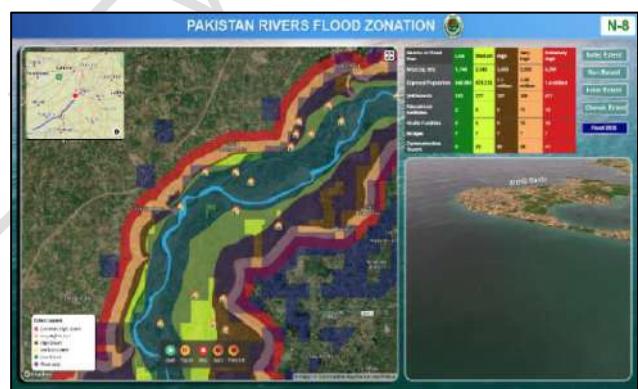


Figure: Overview of Inundated Area of Sutlej River

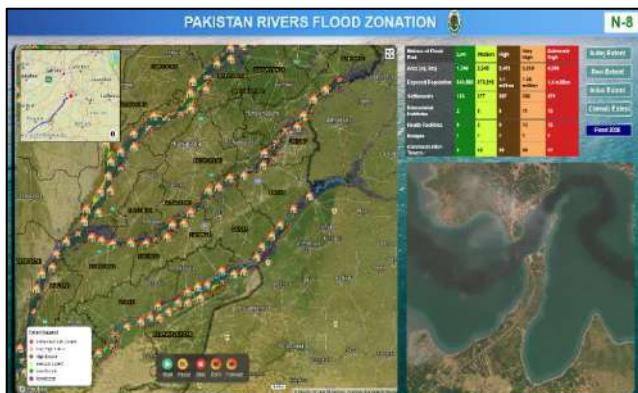


Figure: Overview of Inundated Areas of Ravi, Sutlej and Chenab Rivers

21. Clean Air Recommendations. These are NDMA recommendations that must be adopted by industries, transport and people during smog 2025/26 and so on.



Figure: Clean Air Recommendations

22. **Geo Database.** NDMA Tech (EW) team has developed a centralized geospatial database and Geo Server that are fully integrated with Quantum Geographic Information System (QGIS) for seamless data management. This setup allows layers to be directly uploaded from QGIS to PostgreSQL database and automatically published through central Geo Server from where they are integrated into various web portals. This is a flagship initiative that relies on adequate hardware infrastructure and skilled human resources for optimal performance. System not only serves as a single source of truth for geospatial data but also provides a foundation for developing new thematic portals.



Figure: Workflow Diagram of Geo Database

Figure: Workflow Diagram of Geo Database

23. **Human Resource Management System (HRMS).** NDMA Tech (EW) team has developed a comprehensive HRMS to streamline and digitize all HR-related operations within organization. System covers complete employee lifecycle - from department and designation registration to employee onboarding, education records and profile management. It includes modules for policy documentation and picture uploads, employment contracts, attendance tracking, leave management with an integrated calendar and holiday scheduling. Additionally, it supports training records, monthly performance evaluations, promotions, resignations and

terminations, with several analytical reports already developed for management insights. An API layer has also been created to enable seamless integration of HR data with other organizational systems and dashboards, ensuring a unified and efficient data ecosystem. Currently the system version 1.0 is under testing and will be deployed soon.

24. **Spectre AI Portal**. Spectre AI portal was developed by NEOC AI team for near real-time monitoring of Indian reservoirs and dams during Monsoon 2025. This app gets real-time satellite imagery from various open-source satellite constellations. Embedded algorithm processes these images to detect water bodies and then create a time series of surface area. System then generates a time series forecast for next week. In addition to surface area, system is also able to extract meaningful insights from processed dataset.

25. **Summary of Major Systems and Technical Advancements (2023 - 2025)**. Between 2023 and 2025, GCOP ecosystem underwent significant expansion, transitioning from early-stage concept development to a mature, feature-rich operational platform. These years marked consolidation of multi-hazard monitoring capabilities, introduction of advanced analytical tools and evolution of system's infrastructure to support national and global situational awareness. Several major systems were designed, deployed and continuously refined, forming foundation for GCOP Version 3.0 upgrade highlighted earlier in this report.

26. **GCOP**. Formerly introduced as NCOP, GCOP became central operational environment for multi-hazard monitoring/ decision support. During 2023 - 2025, platform was expanded to:-

- a. Multi-hazard monitoring and real-time forecasting.
- b. National and global alert and incident management workflows.
- c. 6-month and 12-month meteorological projections.
- d. Advanced visualization layers, thematic maps and analysis modules.
- e. Dual dark/ light theme support for improved usability.
- f. Integrated AI-driven chatbot assistant for platform guidance.

27. **Assessment & Response Calculator (ARC) Transformed as Disaster Early Warning (DEW)**. ARC module evolved into a fully automated assessment engine supporting disaster risk analysis. Key capabilities included:-

- a. Automated exposure calculations for population and infrastructure.
- b. Structural vulnerability and impact assessment workflows.
- c. Multi-hazard threat mapping.
- d. Evacuation planning (Version 1 and Version 2).
- e. Integration of Global Climate Change (GCC) indicators.

28. **Climate Projection Systems**. A major component of 2024 - 2025 development cycle was expansion of long-range forecasting. Climate projection suite included:-

- a. 6-Month projections: air temperature, precipitation, humidity, snowfall and wind.

- b. 12-Month projections: extended into 2026.
- c. Coupled Model Intercomparison Project - Phase 6 (CMIP6) global climate model scenarios.
- d. Coordinated Regional Climate Downscaling Experiment (CORDEX) - CORE regional downscaled models.
- e. Probable Futures datasets.
- f. Seasonal forecasting layers.

29. **Alert and Incident Management Framework**. Alerting ecosystem was extensively upgraded, enabling end-to-end management of hazard notifications and field incidents. Key features included:-

- a. Automated alert generation for floods, earthquakes, landslides, droughts, GLOF events, heatwaves and wildfires.
- b. Media-supported incident reporting.
- c. Shapefile-based alert creation.
- d. Simulation Exercise (SimEx) integration.
- e. Role-based access control.
- f. Alert-to-incident conversion workflows.

Framework enabled rapid communication & incident tracking across multiple departments.

30. **Global Monitoring and Data Integration**. To support GCOP's global perspective, numerous international datasets and APIs were integrated, covering:-

- a. Earthquakes (USGS, PMD, shake maps).
- b. Weather (Meteo Blue premium, DWD radar, GDPS, rain radar systems).
- c. Air quality (CAMS, OpenWeather AQI, dust models).
- d. Flood forecasting (Geo GLOWS, GLOFAS).
- e. Health (World Health Organization (WHO) datasets).
- f. Economics (World Bank).
- g. Conflict and crisis monitoring (Humanitarian Data Exchange (HDX), Relief Web, Global Disaster Alert and Coordination System (GDACS), Global Database of Events, Language and Tone (GDELT)).
- h. Real-time news and social media feeds.

31. **Infrastructure and Exposure Analysis Tools**. Comprehensive infrastructure mapping and exposure modelling were deployed to support national risk analysis. Included systems:-

- a. Health and education facilities.
- b. Communication towers.
- c. Transportation networks (roads, rail, airport, seaport).
- d. Dams and reservoirs.

- e. Hydropower stations.
- f. Agricultural impact assessment.
- g. Population exposure modelling.

32. **Technical Infrastructure Evolution**

a. **Backend Development**

- (1) Django-based REST architecture.
- (2) PostgreSQL 14 + PostGIS for spatial operations.
- (3) Nginx and Waitress for production deployment.
- (4) Docker experimentation (adapted due to Windows Server limitations).
- (5) Git with formal branching strategy and protection rules.

b. **Frontend Technologies**

- (1) Vite.js bundling for improved performance.
- (2) Mapbox GL and OpenLayers for geospatial rendering.
- (3) ES6 modules and optimized async patterns.
- (4) Responsive UI with dark/ light theming.
- (5) Charts and recharts for dashboards and analytical charts.
- (6) Custom AI assistant integrated with CORS support.

c. **Geospatial Stack**

- (1) Geo server for MVT vector tiles and raster processing.
- (2) SLD styling for consistent symbolization.
- (3) Geo JSON, Shapefile, NetCDF and Gridded Binary (Meteorological Data Format) GRIB2 support.
- (4) Multi-projection capability for local and global datasets.

d. **External API Integrations**

- (1) Meteorological APIs (MeteoBlue, Open-Meteo, DWD, GDPS, Geometeo).
- (2) Satellite data (Fire Information for Resource Management System (FIRMS), MODIS, Planet).
- (3) Disaster data (USGS, GDACS, EONET, ReliefWeb).
- (4) Climate services (European Centre for Medium-Range Weather Forecasts (ECMWF) CAMS, Intergovernmental Panel on Climate Change (IPCC) datasets).
- (5) Global institutions (WHO, World Bank, HDX, flight tracking APIs).

e. **2025 Highlights and Major Innovations**. Introduction of GCOP's first AI Chatbot Assistant:-

- (1) Theme system with professional-grade dark/ light UI.
- (2) Launch of 12-month climate projections.

- (3) Real-time disaster news + social media integration.
- (4) Global Hazard Calendar for historical trend analysis.
- (5) Comprehensive documentation, deployment guides and templates.
- (6) Performance Enhancements.
- (7) Large-scale codebase refactoring.
- (8) Layer caching and loading optimization.
- (9) Faster database queries and API responses.
- (10) Reduced frontend bundle size.
- (11) User Experience Improvements.
- (12) Enhanced legends and control wrappers.
- (13) Improved mobile responsiveness.
- (14) Redesigned popups and modular workflows.



Figure: Timeline of Completion

f. **Table 1: Major Milestones**

Period	Milestone
November 2023	Project inception and team formation
Q4 2023	Foundation systems (FMS, Electronic Multi-Hazard Vulnerability and Risk Assessment (e-MHVRA), Anticip)
Q1 2024	NCOP launch with core platform features
Q2 2024	Advanced tools: MetEye, calculators, flood portals
Q3 2024	Alerts system, ARC module, global data portals
Q4 2024	Production optimization, 6-month projections
Q1 2025	12-month projections, climate scenarios
Q2 2025	Data expansion (WHO, World Bank), GCOP branding finalized
Q3 2025	UI overhaul (themes, chatbot, news integration)
Q4 2025	Refinements, 2026 projections, performance optimization

33. Infographic Detail

- a. Following is representation of all previous details in graphical formats:-

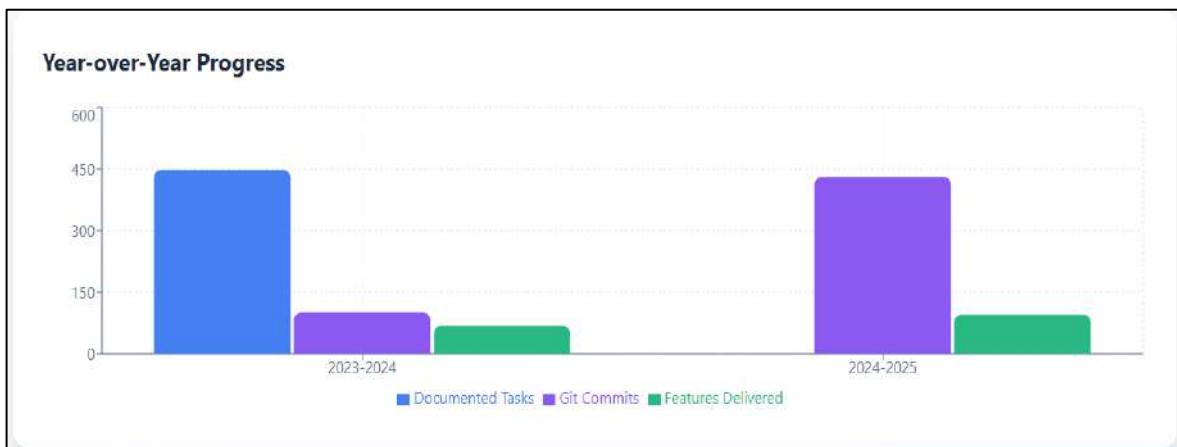


Figure: Yearly Progress

- b. Figure above represents year-to-year progress of workflow of GCOP regarding feature creation etc. While figure below gives information regarding monthly tasks and features delivered.

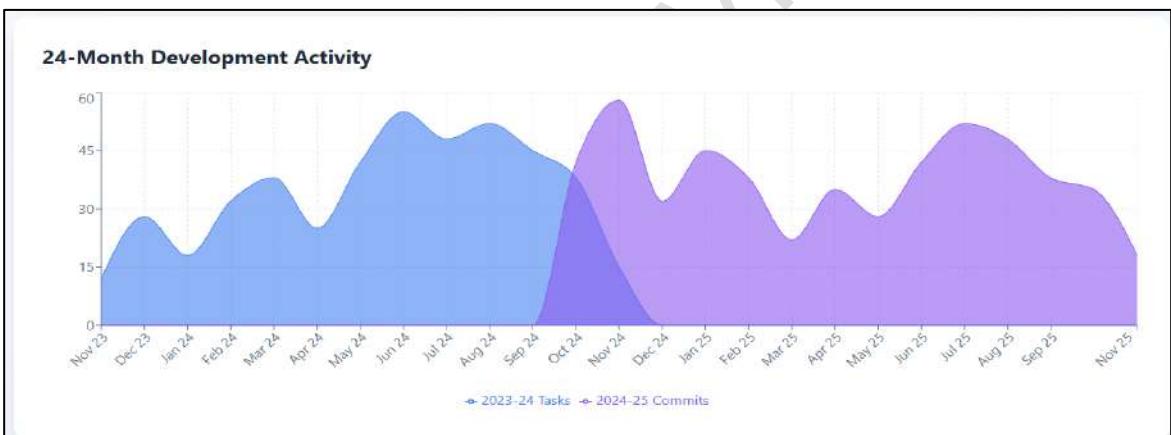


Figure: Monthly Development Activity

- c. Figure represents entire distribution of feature development over the years.

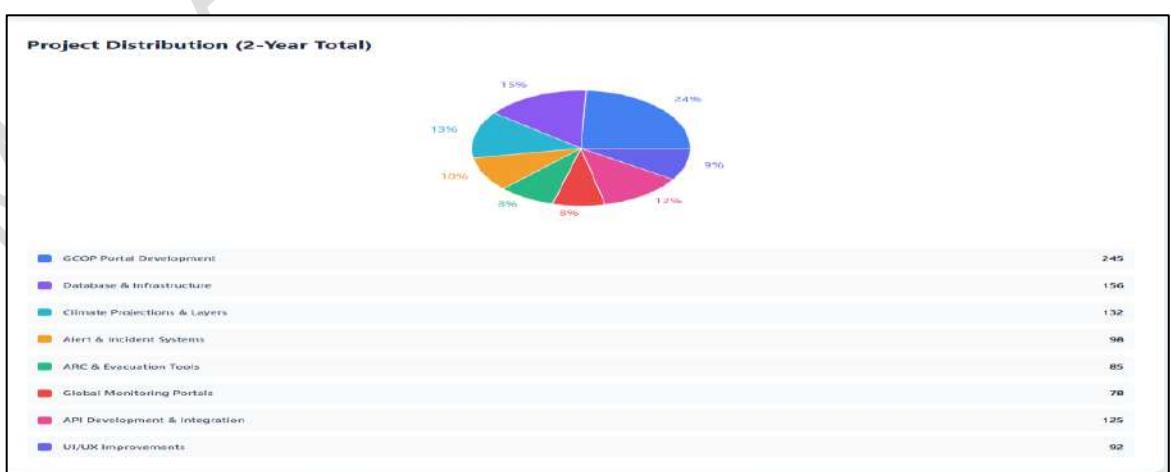


Figure: Distribution

34. Current GCOP Version 3.0. Current GCOP formerly NCOP is a fully modernized multi-hazard monitoring and operational system designed to support national disaster management. It integrates real-time data from meteorological, hydrological and seismic sources, enabling

automated alerts, incident management and visualization of affected areas. GCOP provides both short-term and long-term forecasting, drawing from global datasets and local ground stations and presents information through a highly interactive GIS interface with multiple layers and custom visualizations. Platform tracks development progress and project milestones, providing comprehensive dashboards that display tasks, Git commits and key achievements over multiple years. Its user interface has been redesigned for usability and responsiveness, featuring dark/light modes, advanced legends and customizable views. GCOP's robust reporting, visualization and data integration capabilities make it a central AI tool for decision-making, operational coordination and strategic planning, ensuring efficient management of disaster response and national-level risk monitoring.

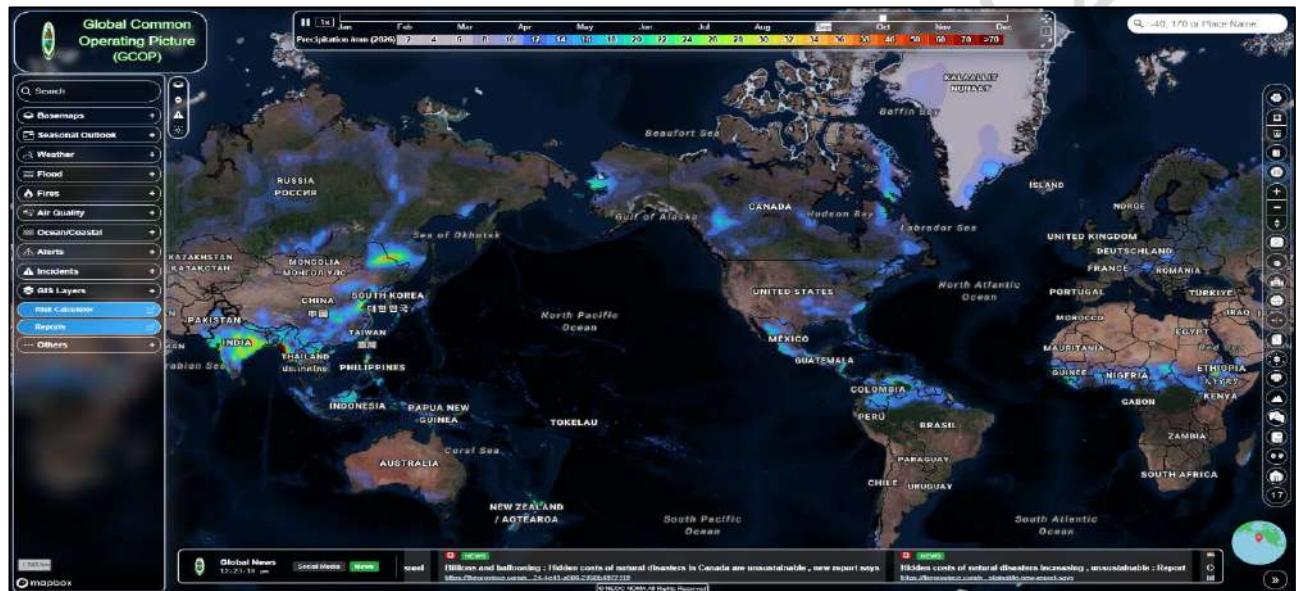


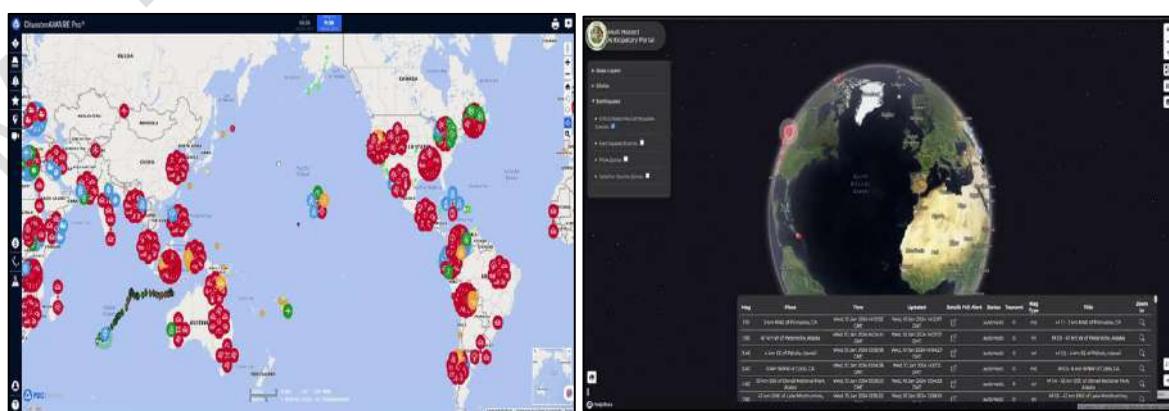
Figure: Current GCOP Version

35. **NCOP.** During October-November 2025, NCOP underwent major modernization, transitioning from its legacy system to a feature rich geospatial platform tailored for NDMA. Upgraded NCOP integrates cutting-edge technologies, including Google Earth Engine (GEE), advanced temporal layer visualization, night mode with glass morphism design and over 55 Pakistani locations with satellite imagery and real-time environmental monitoring.

36. **Key Features**

- GEE Catalogue Integration.** A natural language chatbot allows users to query geospatial and environmental data, making complex analyses accessible to non-technical personnel.
- Advanced Temporal Layer Visualization.** Interactive time sliders, automated animations, multi-source temporal data support and workspace customization enhance situational awareness.
- Night Mode with Glass Morphism Design.** Optimized UI for night-time operations with modern aesthetics and improved readability.

- d. **Multi-Source Data Integration.** Consolidates weather, air quality, precipitation, flood monitoring, environmental hazards and local news for comprehensive monitoring.
37. **Infrastructure and Migration**
- Framework Migration.** From Django-Node to Django-Vite for faster builds, better dependency management and optimized production bundles.
 - Platform Migration.** From Ubuntu to Windows with GDAL support, resolving Node.js version conflicts and maintaining Geo Django capabilities.
 - Deployment Architecture.** Established development → staging → production workflow with rollback procedures, environment-specific configurations and deployment documentation.
 - Challenges Addressed.** Pop-up performance, layer ordering, temporal metadata display, Node.js conflicts, environment configuration and legend styling were resolved to ensure smooth operations.
38. **Future Roadmap**
- Short-term (Q4 2025).** Expanded GEE coverage, analytics dashboards, mobile optimization, real-time alerts and user role management.
 - Medium-term (Q1-Q2 2026).** Predictive hazard modelling, historical trend visualization, API development, offline capability and open geospatial data integration.
 - Long-Term.** IoT sensor integration, advanced satellite processing, collaborative incident workflows, public dashboards and regional interoperability.
 - Development Metrics.** Over 109 commits, 4 active developers, 12+ integrated data sources, 55+ geographic locations, 4-layer categories, 20+ major features delivered and 30+ bug fixes and improvements.



NCOP V1

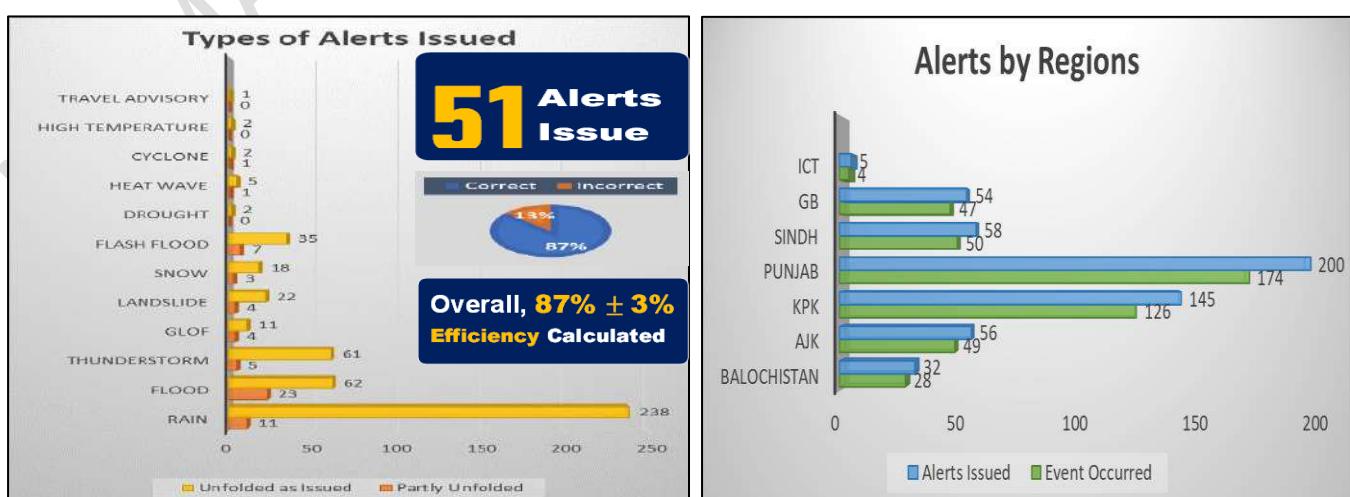


NCOP V2



NCOP V3

39. **Alerts and Advisories Issued in Year 2025.** Throughout 2025, NDMA actively monitored emerging hazards and issued timely advisories to ensure safety and preparedness of communities nationwide. Advisories covered a wide range of risks, including floods, heatwaves, cyclones and other natural hazards. To assess effectiveness of communication and response, advisories have been categorized as unfolded (fully acted upon) and folded (partially acted upon or pending). Following charts provide a clear visual representation of total advisories issued, along with their unfolded and folded status, highlighting NDMA's proactive role in EW and DRR.



40. Reports and Guidelines

- a. **Pre and Post-Monsoon Analyses.** Technical Team conducted detailed province-wise assessments ahead of 2025 monsoon season, leveraging historical in-situ observations, satellite imagery, reanalysis datasets and model simulations. Pre-Monsoon 2025 Report offered forecasts, highlighting potential risks and expected conditions, while Post-Flood Impact Assessment Report evaluated consequences and damage following monsoon flooding.
- b. **Hazard Guidelines.** Based on rigorous technical analysis, team developed comprehensive guidelines for major hazards. These guidelines are disseminated to all stakeholders, ensuring timely awareness and enabling proactive measures for effective disaster preparedness and response.
- c. **Global and National Hazard Calendars.** NEOC has prepared both Global and National Hazard Calendars, offering a structured overview of hazards, their intensity and periods of occurrence. These calendars serve as vital tools for continuous monitoring and preparedness planning.
- d. **Integration of 3D Technologies.** Adoption of three-dimensional (3D) technologies has significantly enhanced NDMA's disaster management capabilities. By employing advanced 3D mapping tools such as Blender, Autodesk Maya, 3D Max and Unity, NEOC can visually represent disaster prone areas interactively, facilitating improved planning, scenario simulation and effective response strategies.

Region	Pakistan's Natural Hazards Calendar											
	Winter Ctgys				Summer Ctgys				Winter Ctgys			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GB, AJK	Snow Emgys		Avalanche		Heatwave		Flash Flood					Snow Emgys
Punjab		Smog, Fog			Forest Fire		Hill Torrents					Smog, Fog
KPK	Snow Emgys		Avalanche		Heatwave		Hailstorm		Cloudburst			Snow Emgys
Bln		Water Stress			Forest Fire		LS/GLOF		Flash/River Flood			Water Stress
Sindh	Drought				Cyclone		Hill Torrents		Flood			Drought
					Heatwave				Urban Flood			Cyclone
												Water Stress
												Drought

Figure: National Hazard Calendar, Global Hazard Calendar

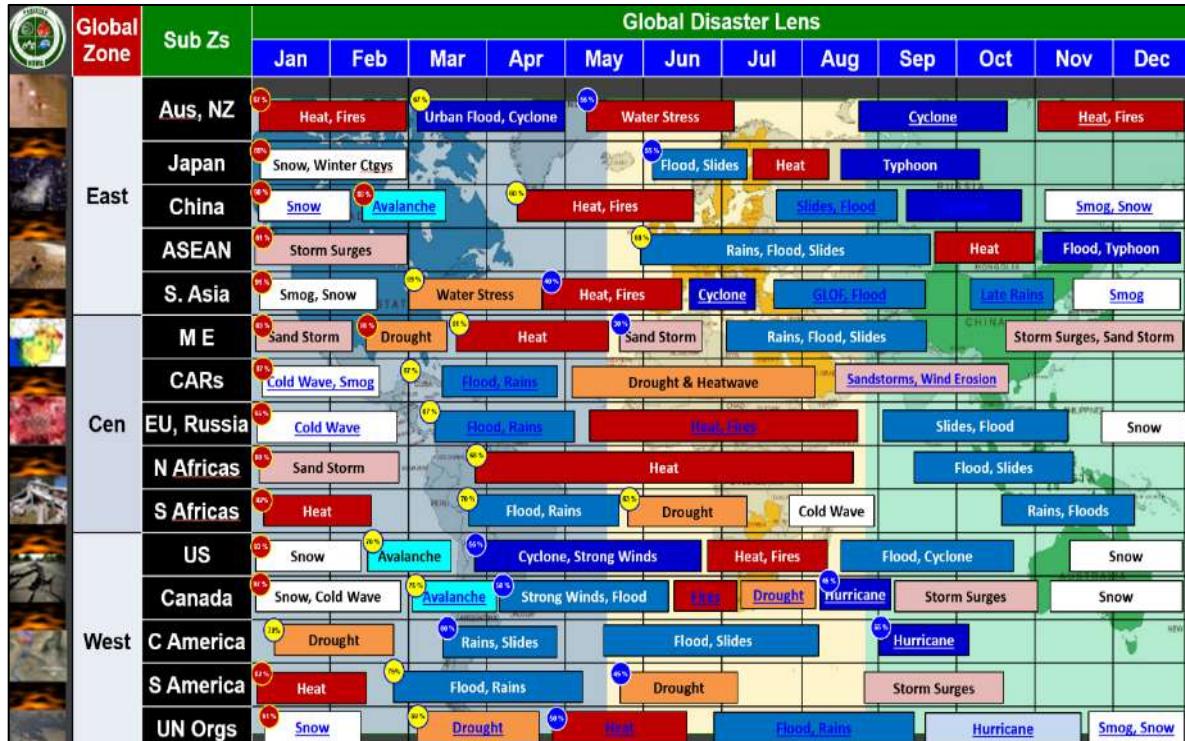


Figure: Global Disaster Lens

41. **SimExs.** Tech EW team conducted **56 SimExs** throughout 2025 to enhance disaster preparedness and response planning. These exercises replicated diverse hazard scenarios, enabling teams to test coordination, refine operational protocols and strengthen decision-making processes. Consistent practice through simulations ensured that NDMA remained well-prepared to respond effectively to emergencies nationwide.

CHAPTER - 2

NATIONAL INSTITUTE OF DISASTER MANAGEMENT (NIDM)

1. **Mandate and Scope.** Span full disaster management cycle, encompassing pre-disaster risk reduction and preparedness, capacity building and training, research and knowledge management as well as post-disaster learning, evaluation and recovery support with a strong focus on institutional strengthening and adoption of national and global best practices:-

a. **Pre-Disaster**

- (1) Update national disaster archives and lessons learned.
- (2) Document and share national and international global best practices.
- (3) Issue specific tasking to academia, DRR societies, Think Tanks for risk communication and preparation for first responders against disaster.
- (4) Roll out standardized community-based training modules.
- (5) Prepare trained national volunteers in high-risk zones.

b. **During Disaster**

- (1) Monitor deployment/ performance of trained volunteers and DRR societies.
- (2) Facilitate short-term placement of HR on disaster sites.
- (3) Support in coordination of relief, donations and early recovery planning.
- (4) Provide technical inputs for real-time decision-making based on DEW and field feedback/ evidences.
- (5) Facilitate targeted engagement of national and international academia for rapid assessments where required.

c. **Post Disaster**

- (1) Conduct rapid impact and damage analysis reviews.
- (2) Consolidate feedback mechanism from field, lessons learned/ evidences from monsoon response.
- (3) Identify priority research, training and capacity gaps.
- (4) Issue implementation-focused guidance to national academic institutions.

2. **Key Functions**

- a. Develop and issue annual Academia Best Practices Manuals, synthesizing national and global academic disaster mitigation, adaptation and management knowledge.
- b. Act as a knowledge-bridging institution connecting validated global and national best practices with national and sub-national users without assuming liability for long-term or primary research.
- c. Establish and operate NIDM Think Tank to curate, review and contextualize academic and practitioner inputs for DRR and resilience building.

- d. Design and deliver localized and context-specific training programs for communities, public sector institutions, military and first responders in remote and vulnerable areas in coordination with relevant NDMA wings.
- e. Coordinate with DRR, Plans, Operations and Logistics Wings to ensure coherence between policy guidance, preparedness planning and operational requirements.
- f. Maintain professionally trained volunteers database including trained by NDMA, Non-Governmental Organizations (NGOs) and humanitarian partners to support rapid mobilization/ capacity mapping.
- g. Facilitate integration of disaster management training with national youth, volunteer and civic engagement initiatives through coordination with relevant federal ministries and departments.
- h. Promote academia policy practice linkages by engaging universities, research institutions and centres of excellence for applied learning/ capacity development.

ACTIVITIES OF NIDM IN 2025

3. **Building National Resilience.** Year 2025 marked a defining phase for NIDM as it significantly expanded its role in advancing disaster preparedness, EW dissemination, academic partnerships and local-level response capacities across Pakistan. Monsoon floods of 2025 posed severe challenges at both rural and urban scales, yet they also demonstrated growing strength of Pakistan's preparedness mechanisms, particularly those developed through NIDM's integrated approach involving academia, Think Tanks, provincial DMAs and community responders. NIDM's work throughout year focused on strengthening anticipatory systems, sharing global best practices, improving institutional readiness, enhancing evidence-based planning and establishing robust knowledge exchange mechanisms that enabled timely and coordinated response in country.

4. One of NIDM's major achievements in 2025 was its strengthened collaboration with 150 x national and 450 (+) x international universities for summer and winter contingency planning. Recognizing importance of academic expertise and on-ground networks in risk analysis and disaster response, NIDM expanded its partnerships with universities across Punjab, Sindh, Khyber Pakhtunkhwa (KP), Azad Jammu and Kashmir (AJ&K) and Gilgit-Baltistan (GB). To ensure uninterrupted communication, NIDM established dedicated WhatsApp groups for real-time coordination and connection. These communication groups served as rapid information pipelines during monsoon season, enabling instant dissemination of rainfall alerts, flood advisories, hydrological warnings and field updates. Through this system, thousands of students, faculty members, emergency volunteers and district officials received verified information which facilitated quicker decision making at local level and enhanced overall EW system. Timely sharing

of advisories through these academic networks ensured that high-risk districts activated preparedness measures well before arrival of peak floods.

5. NIDM publishes global best practices annually (e.g. 2024/ 2025) to guide policy, strengthen preparedness and support evidence-based DRR. NIDM has conducted a comprehensive review of floods over last 50 years to identify patterns, vulnerabilities and gaps in disaster response. NIDM also has published post-flood reports for 2025 to disseminate lessons learned, inform stakeholders and refine national and local disaster mitigation strategies. These reports support evidence-based planning, strengthen preparedness frameworks and enhance community resilience against future floods.

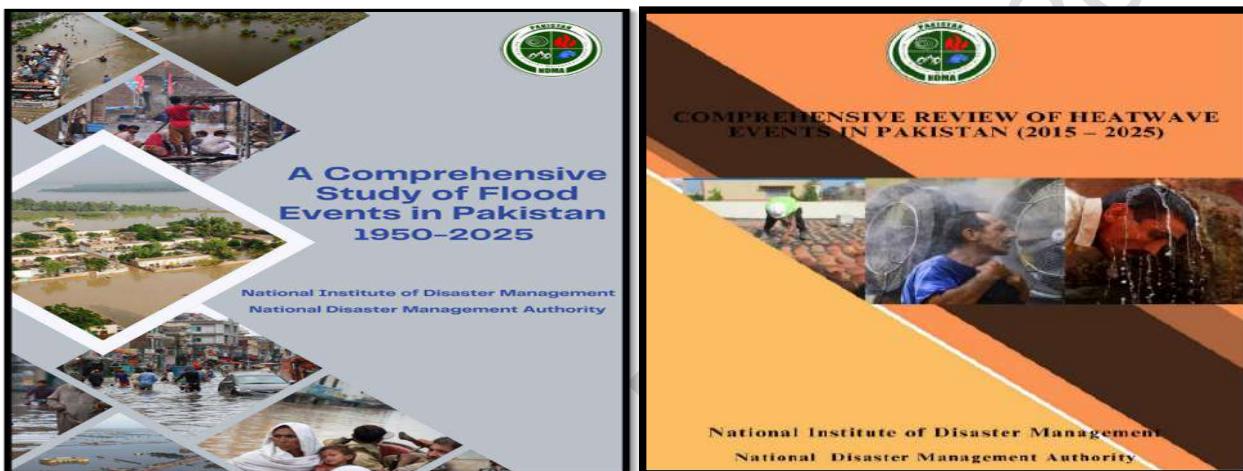


Figure : NIDM Publications in 2025 Focusing on flood and Heatwave Research

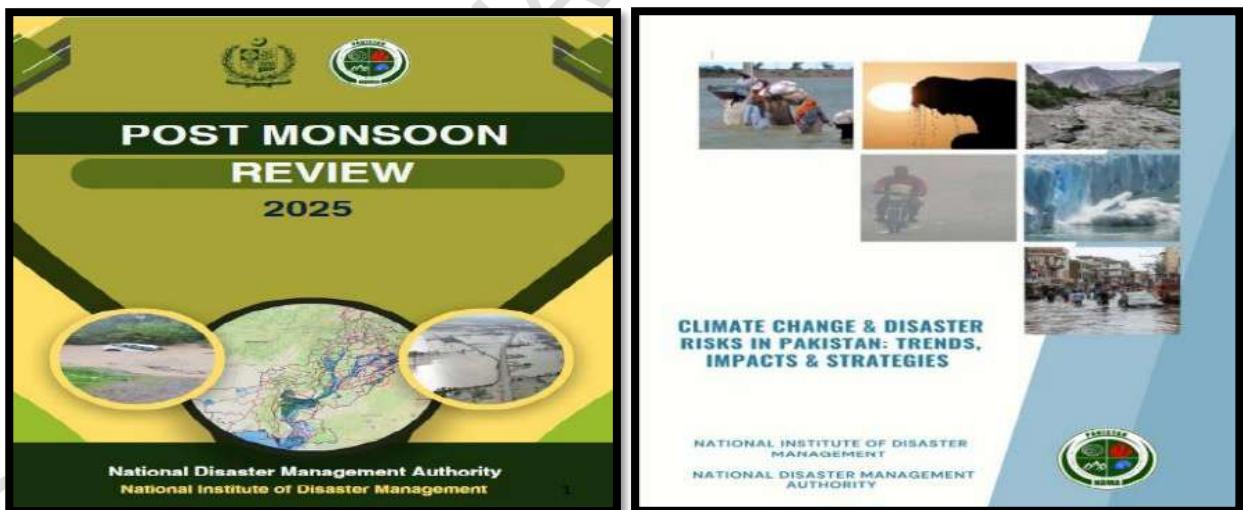


Figure: NIDM Publications (Summer Contingencies in 2025)

6. Local universities played a crucial role during 2025 monsoon response by conducting rapid assessments of flood-prone districts. Under NIDM's guidance, university teams carried out field assessments on inundated areas, vulnerable settlements, embankment conditions, water flow patterns and community needs.

7. In 2025, NIDM strengthened its role as a national knowledge hub by consolidating evidence-based insights from academic partners across Pakistan. UET Peshawar submitted

Buner Post Flood Assessment Report while Islamia University of Bahawalpur (IUB) contributed its detailed disaster impact analysis.

8. Abdul Wali Khan University (AWKU) added further depth through its post flood study, enhancing understanding of localized vulnerabilities. Contributions from COMSATS University Islamabad (CUI) and National University of Sciences and Technology (NUST) further enriched national dataset through technical assessments and analytical inputs. Building on these collaborative efforts, NIDM prepared a comprehensive National Post Flood Report 2025, documenting key findings, sectoral damages and lessons for future preparedness. This integrated documentation marks a significant step toward promoting research driven policy and improving anticipatory and recovery planning across country. These assessments fed directly into district-level planning and provincial coordination processes, helping authorities allocate relief resources more effectively and prioritize areas requiring immediate intervention.

9. By maintaining real time communication through WhatsApp coordination groups, university teams supported actively by DRR societies/ clubs and student volunteers provided continuous situational updates that strengthened operational decision support for NDMA and PDMA control rooms. Involvement of these volunteer groups expanded on ground coverage, enabled rapid verification of field information, supported in early evacuation before flood and enhanced overall reliability of damage and needs data. This engagement not only increased accuracy of reporting but also built local academic capacity in disaster risk research, community level observation and hazard analysis.

10. In addition to academic engagement, NIDM expanded activation of its DRR societies and Community Emergency Response Teams (CERTs) across multiple districts. These community structures, trained under NIDM's capacity-building programs, proved invaluable in strengthening local response capabilities. CERT members/ DRR society volunteers assisted in disseminating EW, guiding household evacuations, providing first aid, managing relief camp logistics and supporting district authorities in transportation, shelter setup and distribution of essential supplies. Their presence at community level reduced response delays and ensured that vulnerable populations including women, children, elderly and persons with disabilities received timely assistance. Volunteer groups supported frontline responders in areas where access was temporarily limited due to road blockages or rising water levels. Increasing role of volunteers highlighted NIDM's success in establishing community centered preparedness systems that empower local populations and ensure faster emergency support.



Figure: NIDM Volunteer Engagement in KP 2025

11. In 2025, NIDM expanded its research and academic collaboration portfolio by partnering with a diverse network of national and international universities to advance multi-hazard risk assessment and resilience-building initiatives. At national level, NIDM worked closely with NUST, COMSATS, Fatima Jinnah Women University, University of Peshawar, University of AJ&K, Shah Abdul Latif University, BUTEMS, leading institutions in GB and to undertake studies on floods, earthquakes, GLOFs, droughts, industrial hazards and climate-induced risks. These partnerships were complemented by international collaborations (IC) with universities in Switzerland, USA, China, Africa and other global research hubs supporting advanced modelling, data-sharing and joint field investigations. Together, these efforts strengthened Pakistan's evidence base for disaster risk management and positioned NIDM as a key knowledge bridge between national research needs and global scientific expertise.



Figure : NIDM Volunteer Engagement in Punjab 2025

12. In 2025, NIDM significantly strengthened national preparedness by actively participating in both National Multi-Hazard SimEx and a Comprehensive International Simulation Exercise (CISE), reflecting its growing role in advancing disaster readiness. These simulations rigorously tested institutional and community response capacities across a wide spectrum of hazards including earthquakes, urban and riverine floods, GLOF events, cyclones, smog episodes and industrial hazards. Through scenario-based drills, coordination rehearsals and technical evaluations, NIDM contributed to identifying operational gaps, validating response protocols and enhancing inter-agency collaboration. Insights generated from these exercises now inform national planning, ensuring that Pakistan's disaster management system evolves with global standards and emerging risks.

13. Ahead of monsoon season 2025, NIDM conducted a series of pre-monsoon preparedness workshops with district administrations such as in Dadu, Khairpur, Karachi and Quetta to improve readiness and strengthen inter-agency coordination. These sessions focused on interpreting hydrometeorological forecasts updating district contingency plans, identifying evacuation routes, preparing relief stockpiles and clarifying institutional roles in ER. Workshops also facilitated coordination between universities and district authorities ensuring that academic teams could support vulnerability mapping, risk communication and rapid assessments during flood season. As part of pre-monsoon contingencies, DRR societies and academic institutions also organized plantation drives and awareness walks, promoting environmental resilience, community

preparedness and public understanding of flood risks. As a result, district-level preparedness improved substantially, with several districts activating their Emergency Operations Centres (EOCs) early, conducting public awareness drives and reinforcing embankments before heavy rains.



Figure: Capacity-Building Training Organized by NIDM for Disaster Preparedness



Figure: Academia and Community Engagement During NIDM's Disaster Awareness

14. To reinforce urban preparedness, NIDM supported mock drills in major cities prior to monsoon 2025. These exercises involved municipal administrations, Rescue 1122, law enforcement agencies, health departments and university DRR societies. Mock drills helped test emergency communication systems, evaluate evacuation route efficiency, identify gaps in floodwater drainage infrastructure and rehearse multi-agency coordination during urban flooding scenarios. Drills proved crucial during subsequent heavy rainfall events as urban districts were able to respond more effectively, coordinate traffic diversions and manage localized flooding in congested neighbourhoods.

15. As part of its 2025 knowledge consolidation efforts, NIDM also documented a comprehensive set of global best practices in DRR with a strong emphasis on nature-based solutions. These included approaches such as watershed restoration, urban green buffers, ecological floodplain management, mangrove rehabilitation and community led ecosystem conservation models that have proven effective internationally. Compiled practices were reviewed for suitability within Pakistan's geographic, climatic and socio-economic context and formally

submitted to NDMA and provincial planning bodies for further integration into national and sub-national preparedness and resilience planning. Initiative supports transition toward sustainable, climate-resilient disaster management frameworks and encourages adoption of environmentally aligned, low-cost and community-driven mitigation strategies.

16. In view of increasing frequency and intensity of disasters in Pakistan coupled with growing demand for trained human resources, NIDM has prioritized development of sustainable institutional capacities in DRR. Upholding its core mandate of training and capacity building, NIDM has undertaken significant initiatives to institutionalize DRR within government organizations to ensure a continuous pool of skilled disaster management professionals. Notably, NIDM has successfully integrated DRR modules into training curricula of Civil Services Academies in provinces of Balochistan and Sindh as well as within training programs of Pakistan Girls Guides Association (PGGA). In addition, NIDM has standardized Community-Based Disaster Risk Management (CBDRM) training manual to ensure a uniform approach to community level resilience building and capacity development across country. These initiatives have collectively contributed to mainstreaming DRR within institutional frameworks and promoting a culture of preparedness and resilience at both institutional and community levels.

17. **Capacity Building Trainings/ Workshops**

Ser	Training Title	Date	Location	Participants		
				Total	Male	Female
a.	AA Training and Employment in Integrated National Search and Rescue (INSAR)	19-21 February 2025	Dadu	82	74	8
b.	District AA Training	22-24 April 2025	Khairpur	55	50	5
c.	Provincial Level Multi Hazard ER SimEx	1-3 July 2025	Karachi	117	87	30

18. Overall, year 2025 demonstrated value of NIDM's integrated approach combining academic expertise, community-based preparedness, institutional capacity building and coordinated EW dissemination. Through expanded university partnerships, real-time communication networks, strengthened CERT teams and evidence-based planning, NIDM enhanced Pakistan's resilience to monsoon hazards. Experiences and lessons from 2025 flood season will continue to guide national disaster management practices ensuring that preparedness and response systems remain adaptive, inclusive and science-driven as climate-related risks evolve.

CHAPTER - 3

TECHNICAL EQUIPMENT & MAINTENANCE WING (TECH E&M)

1. **Mandate and Scope.** Articulation spans all phases of disaster management by ensuring digital readiness, real-time data visualization and robust ICT infrastructure:-
 - a. Proactively disseminate hazard projections and DEWs to public at large including communities and responders through **NDMA Website and Mobile Alert App**.
 - b. Round clock availability of digital environment enabling domain experts to operate timely and optimally.
 - c. Development and publication of coord software system as per emerging needs.
 - d. Provide technical support for real time visualization of disaster impacts and evolving situations through live portals and command centre displays at NEOC.
 - e. Issuance of disaster alerts and advisories based on real-time meteorological data and risk assessment to support timely decision-making.
 - f. Continuous monitoring and updation of SITREP Portal to capture, track and display live data on human casualties (deaths and injuries) and livestock losses.
 - g. Provision of automated reports in tabular and graphical formats with customizable date filters to support rapid and informed decision-making.
 - h. Ensuring network resilience through continuous connectivity and robust backend support for all hardware assets deployed at NDMA.
 - i. Provide customize and periodic data to all other wings of NDMA for Damage & Recovery Needs Assessment within Sitrep Portal.
 - j. Updating, patching and optimize mobile application and website based on performance metrics and system behaviour observed during disaster events.
 - k. Securing, archiving and backing up all disaster-related datasets, SITREPs and response logs to support future analysis.
2. **Key Functions**
 - a. Handles ICT matters at NDMA leading design and implementation of mission-critical IT projects.
 - b. Drives NDMA's modernization through digitization, automation and adoption of cutting-edge technologies for dynamic and efficient operations.
 - c. Launched 'Pak NDMA Disaster Alert Mobile App' providing real-time disaster notifications, safety guidelines and regional language support for public awareness.
 - d. Developed a new, secure, role-based NDMA's website with SSL encryption, automated backups and departmental control.
 - e. Create a centralized dashboard showing real-time alerts, advisories and safety messages to improve decision-making and public information flow.

- f. Established a Mobile Disaster Emergency Operations Centre (MD-EOC) which is a deployable command and communication hub enabling coordinated, real-time disaster response.
 - g. Implement Biometric Attendance with a web-based portal for accurate, transparent employee attendance and performance monitoring.
 - h. Develop a Digital Inventory Management System to automate asset tracking, maintenance logistics and procurement records.
 - i. By integrating secure networks, cloud storage and real-time data systems, Tech (E&M) Wing strengthens NDMA's technical backbone for effective disaster management.

ACTIVITIES OF TECH (E&M) IN 2025

3. Tech E&M Wing of NDMA remains at core of all technological transformation initiatives undertaken during year 2025. Wing's mandate is to strengthen NDMA's operational efficiency through ingestion of contemporary ICT systems in process flows, digitize internal workflows and implement technology driven means disaster information dissemination for all stakeholders. This year witnessed major digital advancements, modernization of legacy processes and deployment of high-impact platforms critical to disaster response and organizational efficiency.

4. Major IT driven initiatives undertaken during period under review witnessed major implementations focused on internal process re-engineering involving transformation to multiple administrative applications and digital records. With advancements in disaster alert systems, website with enhanced features, EW mechanisms, Tech (E&M) continues to supplement stakeholders with technology-driven approach for better disaster response and resilience. In addition, Wing has modernized departmental workflows by replacing manual processes with automated, transparent and data-driven systems to ensure faster decision-making and improved operational accountability.

5. Pak NDMA Disaster Alert Mobile App - New Version.

platforms, app serves as a nationwide digital EW system delivering authentic and multilingual hazard information to public. Multiple features pivoted around mass guidance and assistance during different phases of disaster management have been introduced as under:-

Available on Android and iOS



Figure: Mobile App Alert

- a. **Safety Guidelines.** It offers comprehensive emergency preparedness guidelines for various types of disasters. Content includes detailed instructions for actions to take before, during and after disaster along with essential first aid measures. It also provides practical household safety checklists and specific guidance tailored for vulnerable groups to ensure safety and effective response in emergency situations.

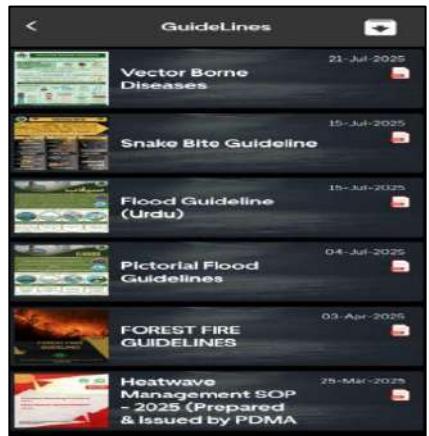


Figure: Mobile App Guidelines

- b. **Best Practice.** Best Practice section is a knowledge-based module that contains internationally recognized disaster management practices along with practical community preparedness tips and resilience-building measures. It also includes localized awareness content tailored for different regions to ensure relevance and effectiveness at community level.



Figure: Best Practices

- c. **DM Plans.** Disaster Management Plans feature is a built-in resource library that provides seamless access to National Disaster Response Plans (NDRPs), official policies, SOPs, manuals and hazard-specific guidelines, along with NDMA publications and reports. This feature enables public, media and professionals to easily obtain authentic and official documents directly from app for reference and preparedness purposes.



Figure: Mobile App Plans

- d. **Shelter Geo-Tagging and Mapping.** Shelter Geo-Tagging and Mapping feature contains a GIS-based map that displays locations of designated shelters and safe sites identified by authorities, along with distance and route guidance for easy navigation. It also highlights evacuation points during monsoon seasons or emergency operations. This feature ensures that citizens can quickly and accurately locate nearest safe facility in times of need.

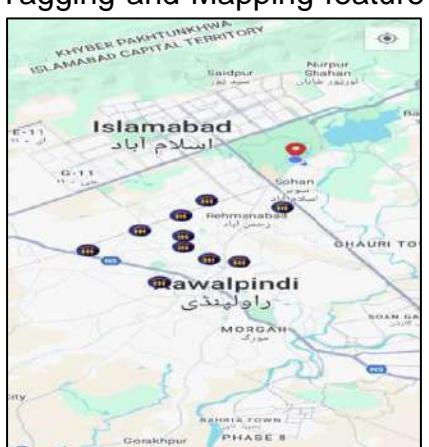


Figure: Mobile App Mapping

- e. **NGO and Hub Geo-Tag Module.** Is a location-based feature that identifies and displays registered NGOs and support hubs within 5 kilometre radius of user. It helps citizens quickly locate nearby disaster response centres, relief organizations, medical aid points and volunteer hubs during emergencies. This ensures faster access to assistance, better coordination and timely support for affected communities.
- f. **New User Interface.** Updated UI of mobile app to modern design for an easy user experience in using application.
- g. **Upgraded NDMA Website.** NDMA website has been enhanced with an updated and modern user interface to improve usability, accessibility and overall user experience. In addition, dedicated pages have developed for different departments as per their specific requirements ensuring better organization of content and easier public access to departmental information, updates and resources.
<https://www.ndma.gov.pk>

6. **EW Dashboard.** EW Dashboard provides a consolidated real-time view of critical alerts and advisories for decision-makers. It strengthens operational coordination through a real-time advisory repository, categorized alerts and warnings, prevention guidelines for both public and authorities and streamlined public service messaging. Additionally, a year-based filter has been added to allow users to easily search, review and analyse advisories from specific time periods. This dashboard now acts as a core decision-support tool for emergency operations.



Figure: NDMA Mobile App

7. **Dynamic Web-Based Sitrep Portal - Monsoon 2025 (Major Achievement).** One of most significant accomplishments this year is development of **fully dynamic SITREP Portal**. This digital platform replaces traditional static PDF Situation Reports (SITREPs) with interactive, real-time data visualization in tabular and graphical form. Developed entirely in-house, this portal ensures transparency, accessibility and accurate situational awareness for stakeholders and public. Main features of portal include:-

- a. Live monsoon data updates.
- b. Relief item distribution.
- c. Relief and medical camps.

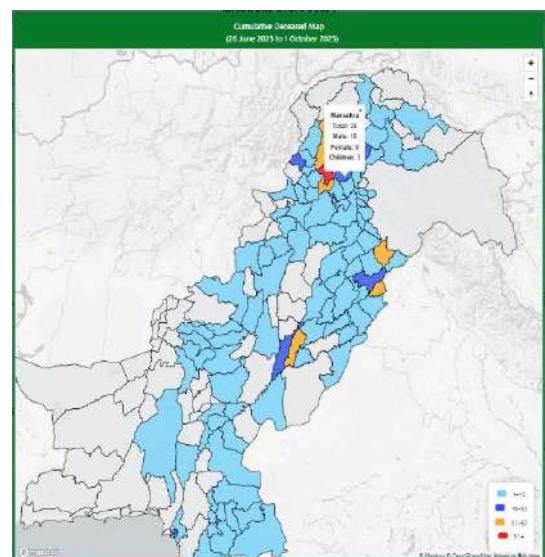


Figure: Monsoon SITREP

- d. Statistics Covered.
- e. Human losses.
- f. Rescue and evacuation activities.
- g. Roads and bridges damages.
- h. Tabular reporting with automated daily inputs.
- i. Interactive Pakistan map with district-level statistics.
- j. Trend graphs and analytical charts.
- k. Date-wise filtering for historical comparison.
- l. Houses damaged and livestock losses.



Figure: Monsoon SITREP 2025

8. **NDMA Digital e-Library.** Wing has also developed a comprehensive Digital e-Library, integrated directly with NDMA official website. This platform digitizes NDMA's knowledge bank and makes disaster-related resources easily accessible. Key Features includes:-

- a. Repository of books, plans, guidelines, manuals, disaster management documents.
- b. Category-wise organization (e.g. DRM guidelines, policies, publications, frameworks).
- c. Year-wise and title-wise filtering options.
- d. Advanced search functionality for quick document retrieval.
- e. Backend system for authorized staff to upload and update resources.
- f. e-Library supports NDMA's mission of knowledge-sharing, capacity building and ensuring public access to vital reference material.

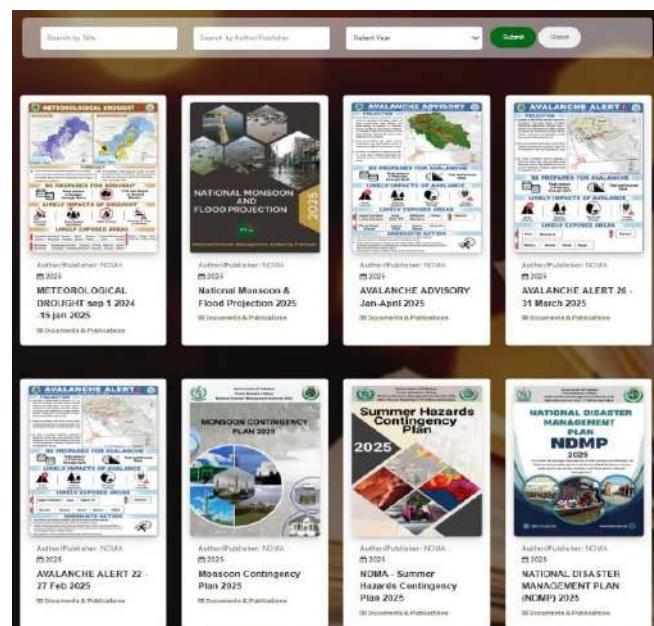


Figure: e-Library 2025

CHAPTER - 4

DISASTER RISK REDUCTION WING (DRR)

1. **Mandate and Scope.** DRR Wing articulates its mandate across all phases of disaster management, focusing on risk-informed preparedness, AA, inclusive systems and policy coherence in line with National Disaster Management Plan (NDMP) - 2026 and National DRR Strategy 2025-2030. Wing integrates AA, Policy, Gender & Community Cell (GCC) and Provincial Coordination to ensure coherent federal-provincial preparedness, response support and recovery alignment:-

a. **Pre-Disaster**

- (1) Multi-hazard risk, exposure and vulnerability monitoring in coordination with NEOC Tech, line ministries, PDMA, State Disaster Management Authority (SDMA), Gilgit-Baltistan Disaster Management Authority (GBDMA) and community systems, supported through regular provincial coordination forums facilitated by Provincial and National Disaster Management Plan Coordination Cell (PNC).
- (2) Strengthening of institutional preparedness through inclusive planning, service readiness, issuance of guidance, SOPs and minimum standards, supported by PNC-led engagement with provincial and district authorities.
- (3) Operationalization of AA through hazard- and district-specific triggers and early action protocols, coordinated with provinces through PNC mechanisms.
- (4) Inclusive dissemination of DEWs through last-mile systems, with PNC supporting verification of provincial and district-level relay to vulnerable populations.
- (5) Needs-based preparedness planning using Disaster Needs Calculator integrated with impact projections, informed by provincial need-gap analyses coordinated by PNC.

b. **During-Disaster**

- (1) Identification of priority protection, access and inclusion gaps affecting vulnerable groups and family clusters, informed by real-time provincial inputs coordinated through PNC.
- (2) Activation and monitoring of anticipatory and early actions where lead time exists or impacts are phased, in coordination with PDMA and district administrations through PNC.

- (3) Policy oversight to ensure consistent application of national DRR frameworks, SOPs and coordination arrangements, with PNC supporting issue escalation and inter-provincial coherence.
 - (4) Use of disaggregated data to guide equitable assistance and protection-sensitive actions, supported by provincial reporting and verification mechanisms facilitated by PNC.
- c. **Post-Disaster**
- (1) Conduct of post-disaster assessments and learning reviews, with PNC coordinating provincial and district-level data collection and consolidation.
 - (2) Review and refinement of AA triggers, protocols and standard action packages, incorporating provincial feedback coordinated by PNC.
 - (3) Updating of DRR policies, SOPs and minimum standards based on evidence and lessons learned from provinces and districts.
 - (4) Integration of findings into improved preparedness, inclusion measures and targeting tools, supported by PNC engagement with provincial stakeholders.

2. **Key Functions**

- a. Formulation, coordination and oversight of national DRR and AA frameworks in alignment with NDMP-2026 and National DRR Strategy 2025 - 2030.
- b. Development, updating and issuance of DRR policies, SOPs, guidance notes.
- c. Institutionalization of AA through impact-based triggers, protocols, decision authorities and coordination mechanisms.
- d. Integration of gender, age, disability and vulnerability considerations across preparedness, EW, needs modelling and response support.
- e. Coordination with NEOC Tech, PDMAs, SDMA, GBDMA, line ministries, UN agencies, INGOs, NGOs and community networks.
- f. Application and refinement of needs assessment and modelling tools to support equitable targeting and efficient resource utilisation.
- g. Participation in SimExs/ CISE to test readiness, coordination/ early action systems.
- h. Conduct of post-disaster learning and accountability processes and incorporation of lessons into preparedness and policy systems.
- i. Provincial coordination and liaison through PNC to support preparedness reviews, AA implementation, response coordination and recovery planning.

ACTIVITIES OF DRR IN 2025

3. DRR Wing at NDMA primarily deals with all matters pertaining to DRR including DRR policy framework, bilateral and multi-lateral relations, provincial coordination, AA and mainstreaming gender and vulnerable groups in disaster risk management. During 2025, DRR Wing initiated

several new interventions and continued work on existing activity portfolio to enhance national resilience against disasters.

4. Regional and Bilateral Cooperation

a. Upcoming Bilateral linkages

Ser	Country	Executing Agency	Title of Instrument	Progress
(1)	EU	To be determined	MoU on cooperation in field of Disaster Management	Legally vetted MoU is shared with European Union for final concurrence.
(2)	Iran	To be determined	"	Legally vetted MoU is shared with Iran for final concurrence.
(3)	Malaysia		"	Legally vetted MoU is shared with Malaysia for final concurrence.
(4)	Russia		"	Legally vetted MoU is shared with Russia for final concurrence.
(5)	Saudi Arabia	King Salman Humanitarian Aid and Relief Centre (KSHARC), KSA	"	Legally vetted MoU is shared with KSA for final concurrence.
(6)	United Arab Emirates	To be determined	"	Legally vetted MoU is shared with United Arab Emirates for final concurrence.

5. International Conferences/ Seminars and Visits. NDMA participated in following meeting/ conferences and international visits:-

a. Visit of Asian Disaster Preparedness Centre (ADPC) Officials to Pakistan.

ADPC nominated Pakistan as a member of Asian Disaster Readiness Fund (ADRF) Committee through Asian Preparedness Partnership (APP) Secretariat. Launched on 30 July 2024, ADRF offers USD 100,000 grants per APP country for 12 month initiatives in following thematic areas:-

- (1) EW Systems.
- (2) Multi-Hazard Contingency Planning.
- (3) Locally-led Climate Change Initiatives CBDRM.
- (4) NDMA submitted ten proposals (NIDM: 5, SPU: 3, Plan: 1, GCC: 1). In Pakistan, grants are accessible through Pakistan Resilience Partnership (PRP), which includes NDMA, HEC, FPCCI, NHN and PID.

- (5) ADRF promotes locally-led disaster risk management through flexible funding, fostering preparedness, risk anticipation and coordinated ER. Each committee member serves two-year term, extendable by another two years.
- (6) An ADPC delegation, led by Ms. Ronilda Rosario Co and Ms. Anusha Pandey, visited NDMA on 17 June 2025 to discuss NDMA's pending ADRF proposals and bilateral matters. ADPC also invited NDMA for a presentation on 19 June 2025 at its Pakistan office.
- (7) During visit, ADPC highlighted PRP's strategy to build local humanitarian networks integrating government, NGOs, private sector, media and academia to enhance coordination during emergencies. Delegation requested NDMA to submit again joined proposal(s) through PRP.
- (8) Member (DRR) NDMA participated in meeting held on 19 June 2025 in ADPC's Pakistan Office.
- b. **CARE for South Asia Project Completion and Dissemination Workshop.** ADPC's Regional Project called "**Climate Adaptation and Resilience for South Asia**" (CARE implementing five year [2020-2025] with support from World Bank), approaches to its conclusion, for said purpose ADPC organized a three-day regional "**Project Completion and Dissemination Workshop**" on **1-3 July 2025, in Bangkok, Thailand** for sharing progress and achievements of project and exploring options for scaling various successful interventions. Chief of Staff, NDMA participated in workshop to represent Pakistan.
- c. **9th Regional Steering Committee Meeting and Reflection Workshop of APP.** 9th Regional Steering Committee Meeting and Reflection Workshop of APP was held in Sri Lanka from 23rd to 25th July 2025. ED-1, Tech (EW) attended workshop.
- d. **6th Meeting of ADPC Board of Trustees (BoT).** 6th Meeting of ADPC Board of Trustees (Board) took place on 12 November 2025. Board members from India, Nepal, Pakistan and China attended meeting in person, while Board members from Cambodia, Sri Lanka and Thailand participated online. Alternate members/ representatives from Bangladesh and Philippines also joined virtually. NDMA participated in event and expressed gratitude to outgoing Chair, India and congratulated incoming Chair, Nepal. Pakistan recognized global issues related to funding gaps and donor ecosystems and highlighted need for countries to step in and accelerate their program implementation. Pakistan also proposed how ADPC can evolve into cooperation for Asian region and how it designs Asia Hazards Calendar and shares best practices among countries. Pakistan also informed that AI-driven EOC can offer technology and support to all countries. Pakistan proposed

that promoting regional S&R capacity exchange through ADPC mechanisms and reach out Asian and regional donors and countries for promoting regional cooperation and appreciated contribution for all member countries and ExCom.

- e. **10th Pakistan-Russia Intergovernmental Commission (IGC) on Trade, Economic, Scientific and Technical Cooperation.** 10th Pakistan-Russia IGC on Trade, Economic, Scientific and Technical Cooperation was held from 25-27 November 2025 in Islamabad. Along with participation in 10th IGC, NDMA also hosted visit of around 32 Russian delegations to NDMA. Delegation was led by Mr. Sergey Tsivilev, Minister of Energy of Russian Federation and Head of Russian Side of Commission. During visit, NDMA represented overview of Pakistan's Disaster Management System, EMERCOM, Russia also delivered its presentations and interacted with survivors of 2005 earthquake and presented souvenirs, marking 20 years of Russian support.

6. **Provincial and National Coordination (PNC).** PNC Directorate continued to perform its mandated role of coordination, liaison and facilitation with Provincial Disaster Authorities including GBDMA and SDMA. Directorate ensured effective linkages between national and provincial tiers for strengthening disaster risk management framework and efforts across country:-

- a. **EW Alerts and Advisories/ AAs.** PNC shared EW Alerts and Advisories/ AAs and Preparedness measures with all PDMA, GBDMA and SDMA to enable pre-emptive measures at provincial and district levels.
- b. **Projection of Latest Provincial Incidents and Activities.** PNC team collected, consolidated hazard/ disaster data from all provinces on daily basis around clock. This real-time data was continuously displayed on NEOC Screens, enabling instant situational awareness and decision making.
- c. **Coordination Support for SimEx.** PNC coordinated all SimExs-2025 that conducted in NDMA aimed at enhancing ER capabilities. PNC Team facilitated provincial participation, ensuring a coordinated and comprehensive approach to disaster preparedness.
- d. **Monsoon Briefings.** During Monsoon 2025, PNC collected data from PDMA and other line departments, compiled and presented it on a daily and weekly basis. Briefings provided regular updates on flood risks, loss and damages caused by Monsoon related flood in Punjab and KP. PNC shared updates with National level stakeholders and NDMA Wings to support timely decision-making and response.
- e. **Disaster Coordination Forum Meetings.** PNC conducted 2nd Disaster Management Coordination Forum (DMCF) Meeting on 29th May 2025, engaging all PDMA representatives to provide strategic guidance and to oversee, coordinate and

monitor disaster management activities at both national and provincial levels, in preparation for monsoon 2025 season. Moreover, a special DMCF meeting was convened in response to devastating 2025 floods in KP and Punjab and held on 2nd September 2025. Moreover, special DMCF Meeting was called during devastating floods 2025 in KPK and Punjab and held on 2nd September 2025. Meeting aimed to review ongoing flood management initiatives across country and to strengthen coordination among all stakeholders for an effective and unified response.

f. **Provincial Visits**

- (1) PNC Directorate, in coordination with relevant NDMA wings, conducted visits to PDMA KP, PDMA Punjab and PMA Balochistan on 18 February, 16 April and 16 November 2025 respectively for need gap analysis, review implementation of issued AAs and assess disaster preparedness for various hazards.
- (2) PNC team facilitated and coordinated NDMA's post-monsoon visits to flood-affected areas of Punjab, KP and GB by liaising closely with Chief Secretary Offices and concerned District Administrations, ensuring smooth planning and effective field engagement.
- (3) On direction of Honourable Prime Minister, NDMA constituted a team to carry out infra damages assessment in GB during 2025 floods. In this regard, PNC team played a key coordinating role by facilitating team's visit to ensure effective assessment.

g. **Senate and National Assembly Starred Questions (Parliamentary Business)**.

PNC Directorate responded various Senate and National Assembly Starred Questions as part of Parliamentary Business and represented NDMA to brief concerned Minister for sessions of National Assembly.

h. **10th Session of Pak-Russia Inter Governmental Commission**. 10th Session of Pak-Russia Inter Governmental Commission was held on 26th November 2025 at NDMA Headquarters, Islamabad. PNC Directorate coordinated session in collaboration with Ministry of Economic Affairs, Economic Affairs Division (EAD), Islamabad and SDMA, AJ&K. PNC also engaged survivors of devastating earthquake of 8th October 2005, who were also presented during session.

i. **Pakistan Expo on Disaster Risk Reduction (PEDRR) 2025 and DEWTE 2025**.

PNC provided coordination support during PEDRR 2025 and DEWTE 2025.

7. **Anticipatory Action (AA)**. AAs continued to be strengthened as a core component of Pakistan's disaster risk management system during 2025. AA focuses on enabling pre-agreed early actions, supported by pre-arranged mechanisms, when forecasts and EWs reach defined

impact thresholds. During year, NDMA, through its DRR Wing, sustained its leadership role in advancing institutionalization of AA, while working with government entities, technical agencies, humanitarian organizations and development partners to support coordinated anticipatory interventions ahead of major flood risks. During 2025 monsoon season, multiple national, provincial and humanitarian actors activated AA protocols ahead of severe riverine flooding, reflecting growing maturity in forecast-based preparedness and coordination across country. Key developments on AAs during 2025 are as follows:-

- a. **National Consultation on AA Strategy.** NDMA convened a National Consultation on AA Strategy at Marriot hotel, Islamabad on 7 October 2025. Consultation brought together federal and provincial stakeholders, technical institutions and partner organizations to review progress on AA implementation, identify operational gaps and agree on priority actions for scaling anticipatory approaches within national disaster risk management frameworks.
- b. **National Coordination Forum on Anticipatory Action (NCF-AA).** During 2025, NDMA operationalized NCF-AA, which served as a coordination and learning platform for government departments, UN agencies and humanitarian partners. Forum also supported post-activation learning and reflection following 2025 flood anticipatory activations.
- c. **Capacity Building on AA.** NDMA supported national-level and provincial-level engagements on AA to strengthen institutional understanding of forecast-based approaches, trigger mechanisms and coordination requirements. These efforts complemented large-scale anticipatory activations implemented by partners, which collectively delivered EW messages to over one million people and supported evacuation assistance for more than 26,000 individuals in high-risk areas.
- d. **Simulation and Preparedness Activities.** AA related simulation and preparedness activities were supported during year to test coordination arrangements, assess operational readiness and strengthen alignment between forecasts, decision-making and early action.
- e. **Financing, Documentation & Policy Alignment.** Initial consultations were undertaken on AA financing and pre-arrangement mechanisms to support timely early actions. In parallel, documentation of AA case studies related to floods was initiated to capture operational lessons from 2025 monsoon. Inputs on AA were also provided to national planning processes, including alignment with NDMP-2026, to ensure continued integration of AA within Pakistan's broader DRR framework. SimEx modality were updated to include AA; in this regard two Provincial (Quetta,

and Karachi) and two District level Simulations (Dadu and Khairpur) were conducted with heavy emphasis on AA and Anticipatory financing.

- f. **International Engagements.** Asia Pacific Dialogue Platform on Anticipatory Humanitarian Action was held from 4 to 6 November 2025 in Yogyakarta, Indonesia.
- g. Similarly, Global Dialogue platform on AA 2025 was held in Berlin, Germany from 2-4 December 2025. NDMA actively participated in both platforms and contributed to discourse on AA.

8. **GCC - Annual Activities**

- a. **NDMA, Gender Task Force and UN Agencies Host National Consultation on Women's Leadership for Climate Resilience.** NDMA's GCC in collaboration with Gender Task Force and United Nations (UN) agencies, convened a two-day national consultation in Islamabad (14-15 January 2025) on women and girls' leadership for climate resilience and gender equality. Consultation reaffirmed women and girls as central actors in community resilience, climate action and disaster risk management. Chairman NDMA emphasized proactive and inclusive DRR, highlighting women and girls' disproportionate exposure to disaster impacts and need to embed their leadership in resilience frameworks. Senator Samina Mumtaz Zehri and UN and non-governmental organization leaders echoed those women and girls' empowerment is indispensable to gender-responsive climate resilience.



Figure: National Consultation

- b. **Quarterly Gender Based Violence (GBV) Sub Working Group Meeting.** GCC NDMA convened focused stakeholder consultations on 30 January and 26 May 2025 to address gender-based violence across all disaster phases. Government, humanitarian partners, academia and civil society reviewed gaps and agreed on stronger coordinated prevention, mitigation and response. Discussions emphasized embedding gender-based violence considerations into national disaster policies and operational frameworks to advance safer, more inclusive resilience.



Figure: GBV Sub working Group Meeting

- c. **NDMA Support for Polio Emergency Program.** As per instructions of Honourable Prime Minister of Pakistan, GCC - DRR Wing was tasked with supporting Polio Emergency program and in this regard a series of meetings with visits of NEOC Polio Program and vice versa were organized from March to April 2025.



Figure: Polio Emergency Program

- d. **PEDRR 2025 Events.** Following events were organized during PEDRR 2025:-

- (1) **Group Discussion: EW Systems in Pakistan.** Capacities, Gaps, Way Forward and Leveraging Smart Technologies.
- (2) **Group Discussion.** Climate Change Adaptation Actions to address impacts of climate change disasters on Sexual and Reproductive Health (SRH) and Gender-Based Violence (GBV).
- (3) **Seminar.** Standardization of Gender-Responsive Emergency Kits in Humanitarian Response.



Figure: PEDRR 2025

- e. **Gender Task Force (GTF) Meetings.** GCC NDMA held first GTF meeting of 2025 on 18 April 2025 with hybrid participation to review priorities and strengthen gender integration across preparedness, R&R. An emergency GTF meeting was convened on 19 August 2025 to discuss GCC-NDMA's Rapid Gender Analysis of Buner cloudburst incident, with attention to female versus male casualties.

f. **Global Platform for Disaster Risk Reduction (GPDRR) 2025**

- (1) **Ignite Talk.** GCC delivered "Building Resilience One School at a Time," presenting Disaster-Resilient School Audit e-Checklist and positioning schools as community DRR hubs, while noting planned expansion of Pakistan School Safety Framework (PSSF) into a broader Educational Institutional Safety Framework.



Figure: Global Platform for GPDRR 2025

- (2) **Side Event.** NDMA, DRR/ GCC hosted "Invisible No More - Adolescent Girls, Disability and Disasters," highlighting NEOC Sex and Age

Disaggregated Data portal, inclusive EW, stronger disability integration in disaster planning (including disability indicators in risk and school safety tools) and a joint action framework with partners.

- g. **National Dialogue on Gender Gap Report and Ground Realities.** On 26 June 2025, National Commission on Status of Women (NCSW), with partners and facilitation by DRR/ GCC at NDMA Auditorium, convened a high-level dialogue to examine World Economic Forum Global Gender Gap Report 2025 and Pakistan's ranking (148/148). Discussions focused on invisible work and care economy, data and accountability gaps and limits of current measurement frameworks. Participants from government, parliament, regulators, private sector, UN agencies and civil society called for localized and inclusive data tools and recommended a Pakistan Gender Parity Tracker, a Shadow Gender Report and a joint national data policy reflecting intersectional realities.



Figure: Facilitation of GCC for High-level Dialogue NCSW

- h. **Meeting with Humanitarian Partners on Monsoon Preparedness.** On 3 July 2025, DRR/ GCC convened an emergency monsoon preparedness coordination meeting at NDMA Board Room with UN agencies, INGOs, NGOs and development partners. Participants shared updates on preparedness actions, flood mitigation, emergency stocks and CBDRM and agreed on consolidating data, addressing operational gaps and strengthening coordinated response for vulnerable populations.

- i. **National Conference on Education in Emergencies, School Safety, Climate Change and AA.** On 8 August 2025, DRR/ GCC organized a two-part event on education in emergencies, school safety, climate change and AAs. First half of conference, featured a high-level meeting at NDMA Headquarters where PSSF was formally handed over to Federal Directorate of Education (FDE) and Federal and Provincial Education Departments, chaired by Member DRR NDMA and co-chaired by Secretary Ministry of Federal Education and Professional Training (MoFE&PT) and Additional Charge DG FDE. Participants from MoFE&PT, FDE, Provincial Education Departments,



Figure: National Conference on Education

PDMA, BECS, United Nations Children's Fund (UNICEF), Save the Children, United Nations Population Fund (UNFPA), PPAF and GADRRRES reaffirmed PSSF as nationally endorsed framework and recognized e-Checklist as a practical tool for disaster-resilient school audits. 2nd half convened National Conference, bringing together policymakers and partners to advance climate-resilient and anticipatory education planning to safeguard schools and ensure continuity of learning, with closing remarks by Minister of State MoFE&PT.

j. **Conference on “Achieving Safe Schools Across Pakistan” by World Bank.**

On 27 August 2025, World Bank hosted a conference in Islamabad on “Achieving Safe Schools Across Pakistan,” where DRR/ GCC delivered a spotlight talk on scaling up PSSF. Presentation shared PSSF’s evolution and e-Checklist with built-in audit functions, referenced NDMA’s recognition at GPDRR Geneva and interest in potential adoption beyond Pakistan and outlined pathways for nationwide uptake through integration with education policies and coordinated action. It also emphasized that PSSF is a living, nationally endorsed framework that should be strengthened rather than duplicated to avoid parallel systems and resource wastage.



Figure: Conference on Safe Schools

k. **Rural Women Leaders Visit NDMA’s NEOC.** On 17 October 2025, a delegation of rural women leaders from 25 districts, affiliated with PODA, visited NDMA’s NEOC as part of ‘18th Annual Rural Women Conference’ on strengthening rural women’s leadership in climate resilience. Participants were briefed on NDMA’s EW and emergency coordination systems and engaged on advancing women’s inclusion in DRR and community preparedness and engaged in a Q&A with NDMA on Flood 2025.



Figure: Rural Women Leaders NEOC Visit

l. **High Level Visits**

(1) **Asian Development Bank Mission (14 February 2025).** DRR/ GCC hosted an Asian Development Bank delegation led by Ms. Zonibel Woods (Senior Social Development Specialist, Gender and Development) to discuss a technical assistance program on strengthening women’s resilience to heat stress in Asia and Pacific and potential collaboration on heatwave EW and

community resilience in Pakistan, with emphasis on protecting women from extreme heat.

- (2) **UNICEF Country Representative Visit (16 October 2025)**. UNICEF Country Representative Ms. Pernille Ironside made her first courtesy call on NDMA leadership, meeting senior officials at Chairman's Office and receiving a briefing at NEOC. Discussed collaboration on child centered DRR, education in emergencies and resilience-building.



Figure: UNICEF Country Representative NEOC Visit

- (3) **Save the Children Leadership Visit (27 October 2025)**. Mr. Patrick Hayden (Deputy CEO and Chief Strategy Officer) met Chairman NDMA to strengthen collaboration on humanitarian response, DRR and child-centered resilience, reaffirming partnership for preparedness and protection of children and vulnerable communities.

m. **Capacity Building Initiatives/ Workshops/ Trainings**

- (1) **Pilot Training for Female First Responders, Islamabad (29 - 30 January 2025)**. DRR/ GCC conducted a two-day pilot training on first aid, cardiopulmonary resuscitation (CPR), DRR and awareness on gender-based violence (GBV) and SRH. A total of 37 participants per day (including Fatima Jinnah Women University students and faculty and NDMA representatives) attended, with sessions led by Mr. Sami Ullah Malik, Mr. Aziz Hassan from AKAH and Ms. Unber Khan from UNFPA.



Figure: Pilot Training

- (2) **Orientation on PSSF e-Checklist, Islamabad (24-25 February 2025)**. DRR/ GCC with UNICEF and Save the Children, delivered a two-day orientation on implementing digitized PSSF e-Checklist for 428 nominated participants from FDE, Private Schools Associations and Army Public Schools and Colleges Secretariat, with partner participation including Ministry of Education, UNICEF and British Council.



Figure: Orientation on Implementing Digitized PSSF

(3) **Workshop on Early Childhood Trauma and Disasters (12 April 2025).**

DRR/ GCC in collaboration with 'Healing Triad', hosted a closed-door workshop under Pakistan's first Baby Matters Conference on trauma-informed disaster response for children, featuring US-based expert Dr Chandra Ghosh Ippen and attended by NDMA staff, psychologists, first responders and child welfare professionals.



Figure: Closed-Door Workshop

(4) **Gender-Based Violence in Emergencies (GBViE) Training (27-29 August 2025).**

A three-day GBViE capacity-building training was held for GBV Sub-Working Group members GCC and UNFPA at NDMA, strengthening concepts, coordination mechanisms, preparedness and survivor-centered response in humanitarian operations.



Figure: GBViE Capacity-Building Training

(5) **Provincial Consultation on NDC 3.0 Implementation Framework, Karachi (12 November 2025).**

DRR/ GCC convened a provincial consultation focused on how climate crisis exacerbates GBV and SRH risks, with active participation from relevant government departments and humanitarian stakeholders.



Figure: Provincial Consultation on NDC

n. **Publications**

- (1) Community Engagement Sketch
- (2) National Policy Guidelines for Vulnerable Groups in Disasters – 2025.

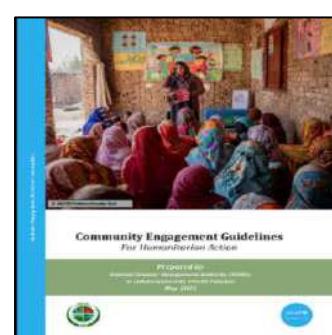


Figure: Guidelines Publications

o. **Innovations**

- (1) **DRR/ GCC Pilots Radio Frequency Identification (RFID) Bands for Tracking Vulnerable Populations (June 2025)**. RFID based prototype to improve identification and real-time visibility of vulnerable groups during disasters was developed. Two prototypes were designed; an individual information band storing personal, CNIC and medical details to support first responders and a geotagging tracker band for real-time location tracking in hazard-prone districts to support safe evacuation, reunification and beneficiary verification for persons with disabilities, older persons and children.

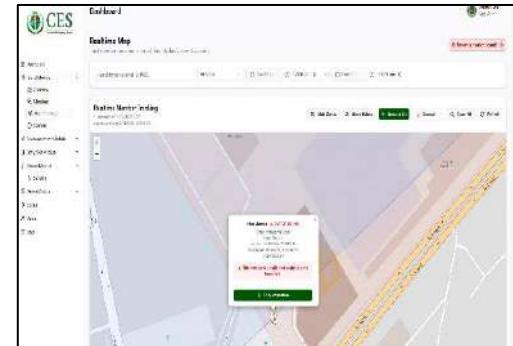


Figure: Radio Frequency Identification (RFID) Bands

- (2) **Indigenous Disaster Needs Calculator**. DRR/ GCC developed an indigenous needs calculator drawing on Pakistan's population bifurcation, international Minimum Initial Service Package (MISP) calculators, local context and Sphere standards to estimate needs of vulnerable populations in all disaster phases.



Figure: Indigenous Disaster Needs Calculator

- (3) **Inclusive EWs**. DRR/ GCC is developing disability-assistive early warning systems using multi-format alerts (visual, audio, tactile, sign language and easy-to-read formats) in collaboration with partners including Age and Disability Diversity Task Force and DeafTawk. Pilot has been finalized and is planned for launch ahead of seasonal hazards, aligning with Sendai Framework Priority-4 on preparedness for effective response.



Figure: Inclusive EWs

p. **Achievements**

- (1) **Disability-Disaggregated Data in Daily SITREPs**. On 3 July 2025, DRR/ GCC issued a recommendation to all PDMA, GBDMA and SDMA to add a dedicated persons with disabilities column in daily SITREPs for more

inclusive ER. PDMA Balochistan incorporated column on 12 July 2025 and shared first sex and disability-disaggregated dataset with NDMA on 12 September 2025.

- (2) **Indigenous Disaster Needs Calculator.** DRR/ GCC developed an indigenous disaster needs calculator using Pakistan's population bifurcation, international MISP calculators, local needs and Sphere standards to estimate requirements for vulnerable populations across all disaster phases.



Figure: Indigenous Disaster Needs Calculator

- (3) **Policy Recognition of Transgender Persons.** Transgenders were formally included and recognized as a vulnerable group in "Revised National Policy Guidelines for Vulnerable Groups in Disasters-2025" and in "NDRP - 2026".

q. **Panel Contributions and Speaking Engagements**

- (1) **VIAMO - Launch of "Voice Companion" Tool.** Served as a panellist highlighting tool's relevance for community engagement and inclusion.
- (2) **UNICEF - Launch of "Ba-Ikhtiar Mustaqbil, Ba-Ikhtiar Pakistan" Alliance.** Served as a panellist at alliance launch, contributing perspectives on empowerment and systems strengthening.
- (3) **UN Women - Gender Talks Podcast (31 July 2025).** Featured as a guest speaker on UN Women-supported podcast, alongside Gift Chatori (United Nations Office for Coordination of Humanitarian Affairs (UN OCHA)).
- (4) **Age and Disability Diversity Task Force (ADDTF) - Webinar on Inclusive Humanitarian Action.** Participated as a panellist, advancing disability and age-inclusive approaches in humanitarian planning and response.
- (5) **COPAIR - Workshop on Gender Equality and Financial Inclusion.** Served as a panellist for "Empowering Women for a Resilient Future," discussing pathways for gender equality and resilience through financial inclusion.
- (6) **Potohar Organization for Development Advocacy (PODA) - 18th Annual Conference.** Served as a panellist, contributing to discussions on rural women's leadership and climate resilience.
- (7) **Human Resource Development Network (HRDN) - 26th Anniversary Event.** Served as a panellist for "People Preserving Planet: Path Ahead," sharing insights on inclusive resilience and sustainable development.

- (8) **Pakistan Institute of Education - Workshop on Pakistan's Comprehensive School Safety Policy Profile.** Delivered opening remarks.
- r. **Official Inputs and Responses**
- (1) **Response to CRPD List of Issues.** NDMA response to List of Issues shared by Committee on Rights of Persons with Disabilities.
 - (2) **Draft Evacuation SOP.** Draft evacuation SOP to Special Committee on Gender Mainstreaming for onward submission to Ministry of Human Rights and Ministry of Interior.
 - (3) **Response to Prime Minister's Office Query (Buner Incident).** NDMA response to Prime Minister's Office regarding female versus male casualties in Buner (18 August 2025) and query was addressed.
 - (4) **Pakistan Economic Survey 2024-25 (Statistical Supplement).** Data inputs for Statistical Supplement of Pakistan Economic Survey 2024-25 (27 October 2025).
 - (5) **NDRP - 2026.** Vulnerable groups inputs for NDRP - 2026.
- s. **Special Monsoon Assignments and Reporting**
- (1) **Verified Data Collection for Monsoon Response (19th September 2025).** Conducted verified data collection and consolidation from PDMAs, GBDMA, SDMA, relevant line departments (health and education) and emergency working groups, covering sex, age and disability disaggregated data, school impacts, disability-disaggregated reporting and gender responsive kits.
 - (2) **Post-Monsoon Report 2025 Data Collation (29th September 2025).** Completed data collation for Post-Monsoon Report 2025 and shared finalized inputs.
- t. **Miscellaneous Activities**
- (1) **Commemorative Tree Plantation Ceremony (26th November 2025).** A commemorative tree plantation ceremony was held at NDMA, where senior leadership from Ministry of Climate Change and Environmental Coordination (MoCC & EC), NCSW, UN Women, UNICEF, United Nations Resident Coordinator (UN RC) Office and UN OCHA jointly planted trees as a symbolic pledge to strengthen climate action and reduce disaster risk.



Figure: Commemorative Tree Plantation Ceremony

(2) **Briefings to UNICEF Senior Leadership (15th December 2025 and 16th December 2025)**. A UNICEF Country Back Office Team meeting and a high-level UNICEF Core Management Team meeting were convened on 6 and 15 December 2025 respectively, facilitated by DRR/ GCC. Comprehensive briefings were delivered to participants, situating Pakistan's evolving risk profile and disaster landscape through an NDMA disaster lens to inform strategic planning and operational coordination.



Figure: Briefings to UNICEF Senior Leadership

NDMA - ANNUAL REVIEW 2024

CHAPTER - 5

INFRASTRUCTURE ADVISORY & PROJECT DEVELOPMENT WING (IA&PD)

1. **Mandate & Scope.** IA&PD Wing supports DRR and resilience by providing technical advisories, audit frameworks, planning guidance and coordination support for infrastructure strengthening, rehabilitation and rebuild before, during and after disasters. Execution and asset ownership remains with federal/ provincial line departments.

a. **Pre-Disaster**

- (1) Infrastructure awareness advisories for at-risk regions.
- (2) Establishing an infrastructure audit mechanism to identify vulnerabilities.
- (3) Setting up Material Hubs for rapid response capability in vulnerable areas.
- (4) Hosting national-level seminars on resilient infrastructure.
- (5) Evaluating international best practices for local adaptation.
- (6) Developing region-specific guidance for implementable designs.
- (7) Conducting cost estimation and damage projection for exposed structures.

b. **During Disaster**

- (1) Issue immediate action advisories linked with EW for infrastructure safety.
- (2) Guide rapid infrastructure surveys through standard templates.
- (3) Provide technical input for temporary protective measures (drainage clearance, barriers).
- (4) Facilitate release of materials from hubs on approved SOPs.
- (5) Support coordination with PDMA, DDMAs through technical inputs.

c. **Post-Disaster**

- (1) Supporting rehabilitation of critical infrastructure through stocks available.
- (2) Supporting damage assessment and verification.
- (3) Providing technical assistance for debris removal.
- (4) Providing engineering support for temporary camp establishment.
- (5) Facilitating reconstruction and rehabilitation with emphasis on resilience and local resources.
- (6) Coordinating with line departments and provincial authorities to streamline recovery operations.

2. **Key Functions**

- a. Infrastructure advisories and technical guidelines.
- b. Infrastructure audit frameworks and risk assessment tools.
- c. Material hub planning and coordination.
- d. Damage assessment support and data consolidation.
- e. Resilient reconstruction guidance (Build Back Better).
- f. Coordination with PDMA, line departments, donors and stakeholders.
- g. Promotion of local materials, cost-effective and climate-resilient designs.

ACTIVITIES OF IA&PD IN 2025

3. Seminar “Role of Development Organizations in Enhancing Infrastructure Resilience in Pakistan” (12th February 2025)

IA&PD organized a national seminar at NDMA, bringing together UN agencies, development organizations, academia and engineering experts to deliberate on building disaster-resilient infrastructure. Session emphasized adoption of smart technologies, climate-adaptive design and risk-informed planning for sustainable infrastructure growth. Presentations by agencies such as UNDP, UNOPS, AKAH and UN-Habitat displayed international best practices in climate-resilient construction, GIS-based hazard mapping and community-driven resilience initiatives. Seminar strengthened multi-stakeholder coordination, promoting integration of resilience-focused policies into national infrastructure frameworks and enhancing institutional linkages for future project collaborations.

4. Seminar “Strengthening Infrastructure Resilience for Sustainable Development in Pakistan” (7th May 2025)

As part of Pakistan Expo for DRR, IA&PD convened a seminar highlighting innovative approaches to resilient infrastructure within context of climate adaptation and sustainable development. Event gathered experts from academia, development organizations and engineering sector who shared insights on AI-based structural monitoring, green construction materials and zone-specific resilience strategies. Discussions underscored significance of public-private cooperation, capacity building and localization of global best practices to Pakistan's diverse geographies. Seminar concluded with consensus on enhancing institutional capacities, promoting indigenous engineering solutions and embedding resilience as a core principle in infrastructure planning and development processes.

5. Publication of "Infrastructure Guideline for Monsoon 2025". In a pivotal move to transition from reactive response to proactive risk mitigation, IA&PD developed and disseminated comprehensive "Infrastructure Guideline for Monsoon 2025." This seminal publication provides actionable, sector-specific strategies to enhance resilience of Pakistan's critical infrastructure against anticipated monsoon threats. Building on data from Infrastructure Risk Atlas and NDMA's rainfall projections, guideline offers detailed recommendations for residential and public buildings, industrial facilities, hydraulic structures and communication networks. It also includes specialized protocols for metropolitan areas and a robust framework for post-monsoon reconstruction, embodying NDMA commitment to pre-emptive disaster management and safeguarding national assets and communities.

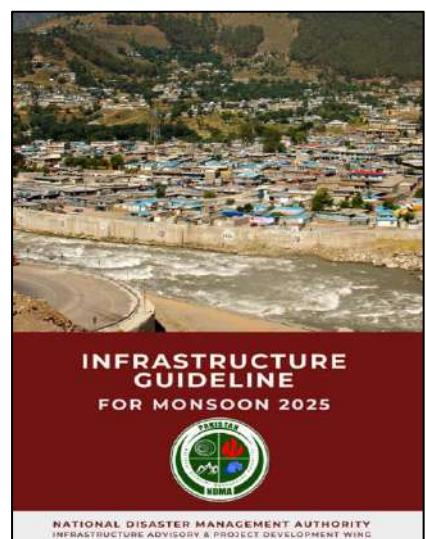


Figure: Guideline

6. Post-Monsoon Infrastructure Damage Assessment in GB. In wake of severe 2025 monsoon, IA&PD conducted a comprehensive post-disaster infrastructure assessment in

monsoon-affected districts of GB. Assessment employed a rigorous statistical sampling methodology to verify reported damages. Verification quantified direct infrastructure losses at approximately PKR 2.4 billion, identifying critical failures in housing sector, transportation network (98 bridges and 35 road sections) and public service facilities (24 schools and 9 health units). A technical analysis revealed root causes including structural deficiencies, geotechnical failures and inadequate drainage systems. Assessment provided 23 recommendations for a tiered response, offering a critical evidence base for immediate recovery efforts and informing long-term strategies for enhancing infrastructure resilience in region.



Figure: Infrastructure Damage Assessment

7. Publication of Pakistan's First Infrastructure Risk Atlas. IA&PD Wing finalized and Published Pakistan's first-ever Infrastructure Risk Atlas, a pioneering national reference that maps structural vulnerability and hazard exposure of residential infrastructure at district scale. Atlas analyses distribution of building typologies and overlays their fragility against earthquake and flood hazards, allowing identification of high-risk districts across country.

- a. Atlas is designed to support evidence-based decision-making by federal and provincial stakeholders. It enables targeted risk reduction by highlighting where structurally weak housing stock is most concentrated and thus where retrofitting, capacity-building and public awareness must be prioritized first. Atlas also directly supports resource allocation, informs post-disaster needs assessments and is intended to guide medium-term resilience investment.
- b. While this represents Pakistan's first structured national view of infrastructure vulnerability, accuracy is still partially constrained by gaps in on-ground structural data and unavailability of verified datasets from GB and AJ&K. Improving granularity through strengthened field surveys, district audits and standardized reporting from provincial departments will further enhance Atlas in subsequent editions.

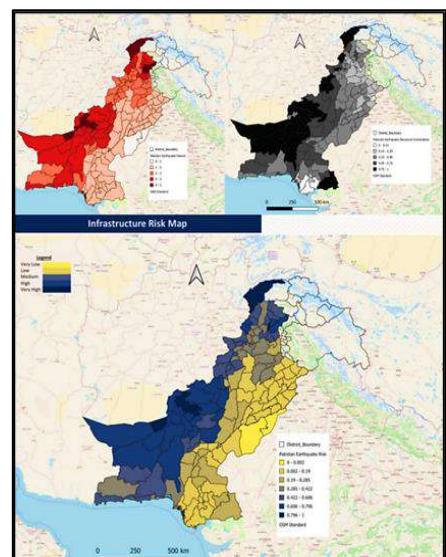


Figure: Infrastructure Risk Atlas

8. Infrastructure Audit Guidelines for Disaster Resilience

- a. During 2025, IA&PD prepared and issued Pakistan's first comprehensive "Infrastructure Audit Guidelines for Disaster Resilience," providing a step-by-step technical pathway for systematic assessment of buildings and critical assets before a disaster occurs. Guidelines define a two-tier audit mechanism (macro and micro audit), covering visual inspection, standardized checklists, rating methodology, non-destructive testing and software-based structural analysis using tools such as ETABS and SAP2000.

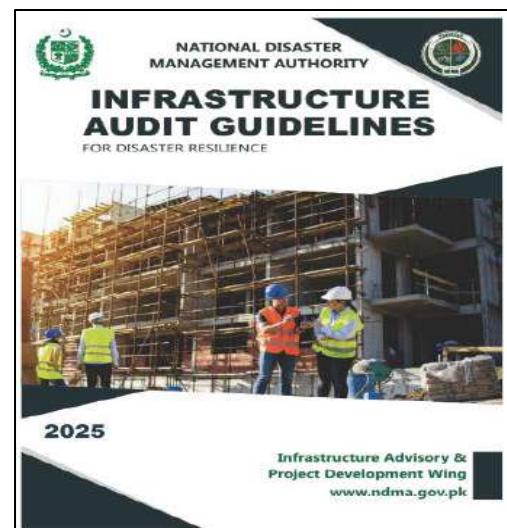


Figure: *Infrastructure Audit Guidelines*

- b. A key output of these guidelines is Infrastructure Resilience Index (IRI), a scoring and categorization tool that enables officials, engineers and facility managers to rate resilience level of a structure, identify structural weaknesses and recommend retrofitting and strengthening measures to improve safety before an event.
- c. Prior to this effort, Pakistan lacked a formal and locally adapted framework for regularized structural auditing at provincial and district levels. Guidelines therefore provide a national reference for PDMA, Works and Services departments and local authorities to institutionalize pre-disaster inspections instead of relying solely on post-disaster damage surveys. This represents a shift from reactive response to proactive risk management in line with NDMA's resilience agenda.

9. Resident-Led Infrastructure Risk Reduction Measures (Urdu & English). Recognizing that most first-line protective actions are taken by residents themselves, IA&PD produced multilingual "Resident-Led Infrastructure Risk Reduction Measures," advising households and communities on low-cost, self-executable steps to protect homes during intense Monsoon 2025 and urban flooding. Key measures included; roof bracing for kacha structures, temporary sandbag thresholds at doors, clearing rooftop and street drains, low-cost waterproofing of roofs and walls, safe elevation of electrical outlets and equipment, emergency documentation of household assets and neighbourhood coordination for pre-monsoon drain cleaning and sandbag stockpiles. Guidance was also issued for strengthening informal settlements and supporting collective mohalla-level action.



Figure: Risk Reduction Measures

10. Risk Reduction Measures for Hydraulic Structures.

For canal systems, barrages, flood embankments and headworks, IA&PD issued urgent instructions to provincial irrigation and local authorities on slope protection, desilting of canals, emergency stockpiling (gabions, sandbags, sheet piles), rapid safety audits of critical structures and deployment of temporary telemetry and watch mechanisms at vulnerable embankment reaches. Advisory emphasized real-time surveillance, embankment stabilization, canal relief planning (controlled breach sites, overflow channels) and encroachment clearance to maintain hydraulic capacity.

11. **Technical Engagement at Pakistan Engineering Council (PEC) Forum.** IA&PD actively contributed to PEC Technical Experts' Roundtable Conference on Flood Resilience Strategy, sharing NDMA's position on climate-adaptive design, structural auditing, embankment defence and resilient reconstruction standards. Through this platform, IA&PD advocated that resilience measures, including flood-adaptive detailing and lifecycle-based maintenance, must be mainstreamed into national engineering practice rather than treated as post-disaster emergency work. This engagement also strengthened IA&PD's interface with PEC to push for enforceable resilience-oriented standards across public works.



Figure: Risk Reduction Measures



Figure: PEC Forum

12. **Seminar on “Build Back Better: Sustainable Pathways for Post-Monsoon 2025 Rebuilding” (5th November 2025)**

- a. Monsoon 2025 season in Pakistan was significantly intense, with rainfall recorded 23% above long-term average. From late June to September, heavy rains triggered flash floods, landslides, glacial outbursts and riverine flooding, resulting in 1,037 deaths, 1,067 injuries and extensive damage to homes, livestock and infrastructure, including over 2,800 km of roads.
- b. Recognizing scale of devastation and need for climate-resilient recovery, NDMA's IA&PD Wing organized a seminar titled “Building Back Better: Sustainable Pathways for Post-Monsoon 2025 Rebuilding.” Event brought together experts and stakeholders to review gaps in planning and infrastructure and to propose practical, policy-driven and resilient reconstruction strategies. Seminar helped shape a forward-looking approach to disaster recovery and contributed to development of a comprehensive report outlining key issues, strategic interventions and recommendations for sustainable rebuilding and enhanced national resilience.



Figure: Seminar

NDMA - ANNUAL REPORT

CHAPTER - 6

OPERATIONS AND LOGISTICS WING (OPS & LOG)

1. Ops & Log Wing NDMA comprises three Directorates: **Response, Logistics** and **Recovery & Rehabilitation**. Wing is mandated to perform disaster management functions in accordance with national policies, plans, strategies and programmes across all phases of disaster management cycle; pre-disaster, during disaster and post-disaster.

- a. Response Directorate is responsible for developing contingency and response plans to address impacts of disasters and for ensuring timely and coordinated actions during emergencies to minimize human, economic and infrastructural losses.
- b. Logistics Directorate provides critical logistical support during and after disasters, including mobilization, transportation and distribution of relief supplies and resources.
- c. Recovery and Rehabilitation Directorate formulates policies and programmes for compensation of affected populations and leads efforts for rehabilitation and restoration of livelihoods, infrastructure and assets of disaster-affected communities.

2. **Mandate and Scope**. Operations Wing has a mandate that spans all phases of disaster management cycle including pre-impact preparedness, on-impact response operations and post-impact recovery and rehabilitation efforts.

- a. **Pre-Disaster**
 - (1) Mid-term Response and contingency plans.
 - (2) Issuance of advisories.
 - (3) Coordination measures for preparedness and SimExs.
 - (4) Procurement, stocking and international relief.
 - (5) Advisories and alerts.
- b. **During Disaster**
 - (1) National Response, rescue and evacuation.
 - (2) Relief operations - need, transportation and distribution.
 - (3) Establish relief/ medical camps.
 - (4) Emergency Procurements, International Relief/ Assistance.
- c. **Post Disaster**
 - (1) Need assessment.
 - (2) Ex-gratia assistance/ compensations.
 - (3) Coordination for foreign assistance.
 - (4) Early recovery measures.

3. **Key Functions**

- a. Formulation, coordination and generation National response in face of any disaster.
- b. All coordination/ liaison with stakeholders, including federal/ provincial ministries, departments, armed forces, rescue departments, PDMA etc.
- c. Formulation and issuance of response SOPs, guidelines and contingency plans.
- d. Participate in SimEx and CISE.
- e. Formulation and issuance of advisories and alerts.
- f. Issuance of SITREPs/ situational updates and progress on response operations.
- g. Coordinate and conduct of conferences/ meetings/ visits etc.
- h. Preparation and conduct of briefs and presentations on operation matters.
- i. Coordination for aviation assets and required support.
- j. Employment of SAR assets within and outside country.
- k. Need assessment and coordination for requirement of logistics support.
- l. Provision of Ex-Gratia assistance to affectees of natural and man-made disasters.
- m. Issuance of tax exemption certificate for import/ export of relief items by donors/ UN agencies, INGOs and NGOs as per SROs issued.
- n. Redressal of grievances.
- o. In case of major disaster/ international appeal, coordinate with UN and government stakeholders for Recovery Needs Assessment (RNA).
- p. Coordinate with relevant INGOs/ NGOs through Plans Wing for recovery and rehabilitation activities.
- q. Formulation, updating and implementation of national stocking policy.
- r. Maintenance of national reserves of relief items and initiate timely replenishments.
- s. Monitor, supervise and ensure/ oversee all warehouse operations i.e. receipt, delivery, transportation, storage, security, emergency action plans.
- t. Formulation, approval, issuance and coordination of relief receipts and distribution.
- u. Allocation, re-allocation and adjustment of resources as per disaster.

ACTIVITIES OF OPERATION & LOGISTICS IN 2025

Response Directorate

4. **Winter Overview (JFM 2025)**. During January - March 2025, Pakistan experienced a predominantly warmer than normal winter early spring period, accompanied by high rainfall variability across regions. January was marked by severe rainfall deficiency (-55%), particularly in Sindh and Punjab, under persistent dry continental

Month	Rainfall (mm)	Departure (%)	Rainfall Status
January	8.5	-55%	Extremely below normal
February	20.0	-19%	Slightly below normal
March	31.1	+15%	Above normal

Figure: Rainfall Summary January – March 2025

air and weak Western systems. February showed a sharp rise in temperatures, ranking among warmest Februaries on record, while rainfall remained slightly below normal (-19%), with extreme dryness in Sindh (-97%). In contrast, March recorded above-average rainfall (+15%), especially over Northern regions (GB and AJ&K) due to active Western Disturbances, though southern Pakistan remained relatively dry. Throughout

5. period, temperature anomalies steadily increased, culminating in early heat extremes in March, including 43.0°C at Shaheed Benazirabad, while La Niña conditions (~ -0.6°C SST anomaly) and a neutral to weak IOD influenced suppressed rainfall early in season and enhanced Northern precipitation toward March. In response to these evolving climatic patterns, NDMA through NEOC

maintained close coordination with PDMA, PMD and line departments issuing timely advisories and EW, enhancing preparedness for cold waves, avalanches, drought, flash flood risks reinforcing a proactive, impact-based disaster risk management approach during 1st quarter of 2025.

Month	Mean Temp (°C)	Departure from Normal (°C)
January	11.92	+0.69
February	15.67	+2.07
March	19.60	+1.63

Figure: Temperature Overview January – March

Indicator	January	February	March
Hottest Day	32.5°C (Mithi)	37.0°C (Mithi)	43.0°C (Shaheed Benazirabad)
Coldest Night	-12.0°C (Astore)	-8.0°C (Kalat)	-6.5°C (Astore)
Highest 1-Day Rainfall	72.6 mm (Chitral)	83.0 mm (Muzaffarabad)	94.0 mm (Kotli)
Wettest Station	Chitral (146.9 mm)	Dir (182.0 mm)	Dir (190.0 mm)

Figure: Weather Extremes January – March 2025

6. **Heat Wave.** In 2025, Pakistan faced an unprecedented and early-onset summer heatwave with cities such as Jacobabad, Dadu and Turbat repeatedly ranking among hottest places on Earth. According to PMD, May recorded average daytime temperatures 6 to 8 °C above seasonal norms across Southern and Central Pakistan signalling a severe departure from historical climate patterns. Temperatures in many regions surpassed 50 °C breaking previous records while Lahore recorded highs 43 °C, placing significant stress on public health, power supply and water availability. Sindh, Southern Punjab and Balochistan experienced temperatures 4 to 6 °C above normal between 15 to 20 May and whereas Northern Areas such as Central and Upper Punjab, Islamabad, KP, Kashmir and GB faced 5 to 7 °C above normal temperatures from 15 to 19 May 2025. Temporary relief from extreme heat was expected with arrival of a Westerly weather system on evening of 19 May 2025 bringing rain, thunderstorms, isolated heavy falls and occasional hailstorms to Kashmir, Islamabad, Potohar Region, Northeast Punjab, Upper KP and

GB from 19 to 20 May 2025. Early onset, intensity and geographic spread of this heatwave underscored escalating climate volatility and reinforced urgency for strengthened heat resilience, EW dissemination and adaptive preparedness measures nationwide. In response, NDMA Operation Wing remained in continuous coordination with federal ministries, PDMA, district administrations and relevant line departments to manage emerging heat-related risks. Throughout summer season, Operations Wing issued timely heatwave alerts, impact-based advisories and public safety guidelines, emphasizing proactive preparedness, protection of vulnerable populations, continuity of essential services and coordinated response planning to mitigate potential health, infrastructure and livelihood impacts.

7. Forest Fire Overview. In 2025, wildfires emerged as a recurrent environmental and disaster management challenge particularly across Northern and Western Regions. Wildfire activity peaked during pre-monsoon months of May and June with KP recording highest concentration of incidents, notably across Abbottabad, Buner, Lower Dir, Kohat, Malakand and Swat. Balochistan also experienced significant and widespread forest fires in Sherani, Hazarganj, Duki, Hub and Darbani Mountains, reflecting persistent vulnerability within its forested, mountainous and semi-arid belts. Additional incidents were reported in Punjab, including Kasur, Palah Forest and Kahuta as well as in Islamabad Capital Territory particularly in Margalla Hills and Sinyari Village posing serious ecological, health and public safety risks. Throughout these incidents, NDMA's Operations Wing remained in continuous coordination with PDMA, district administrations, forest departments, Pakistan Armed Forces and other relevant agencies to facilitate timely response, deployment of firefighting resources and logistical support. Through NEOC, NDMA conducted real-time situation monitoring, information sharing and coordination of ground and aerial response efforts where required while issuing operational advisories and alerts to ensure responder safety, minimize fire spread and support effective containment operations.



Figure: Forest Fire 2025

Indicator	April 2025	May 2025	June 2025
Mean Temp	27.91	31.07	32.45
Mean Temp Anomaly	+3.37°C	+2.12°C	+0.47°C (above average)
Max Temp	49.0°C (Sindh)	50.5°C (Balochistan)	50.5°C (Sindh)
Rainfall Anomaly	-59% (7th driest)	+16% (slightly above)	+31% (above average)
Rainfall Pattern	Widespread deficit	Highly uneven	Monsoon onset

Figure: Average Mean Temperature for months of January – March 2025

8. **Monsoon 2025.** Monsoon 2025 Season spanning from 25 June to 30 September was among most intense and variable in recent years bringing above-normal rainfall 23 % higher than long-term average across Punjab, Sindh, KP, Balochistan, GB, AJ&K and ICT. Season was characterized by nine distinct rainfall spells of moderate to high intensity triggering widespread flash floods, riverine flooding, urban inundation, landslides, lightning incident and glacial lake outburst events across almost all regions of country:-

- a. During July-August-September (JAS) 2025 season, normal to above-normal rainfall was recorded across most parts of Pakistan reflecting an overall active and wetter-than-average monsoon pattern. Early spells in late June and early July marked an aggressive onset with heavy rainfall over upper catchments triggering flash floods, early-season casualties and tourist rescue operations in KP, AJ&K, GB, Punjab and Islamabad including a glacial lake outburst near Shisper Glacier. Mid-July phase emerged as a critical turning point as intense cloudbursts and prolonged downpours caused severe urban flooding and landslides across upper Punjab and Islamabad-Rawalpindi region prompting a flood emergency declaration and large-scale evacuations. Late July spells sustained widespread impacts with deadly flash floods in Islamabad and Babusar, major infrastructure damage in GB and compounding inundation in already saturated basins.
- b. August was characterized by hill torrents, riverine flooding, glacier-melt-induced flash floods and landslides across KP, GB, AJ&K, Punjab and parts of Sindh and Balochistan while critically high reservoir levels at Tarbela and Mangla intensified downstream flood risks. Final spell from late August to mid-September proved most severe as extreme river flows in Indus and Eastern rivers triggered controlled breaches, mass evacuations of nearly three million people and widespread disruption to transport, health services and livelihoods, placing exceptional pressure on national and provincial ER systems.

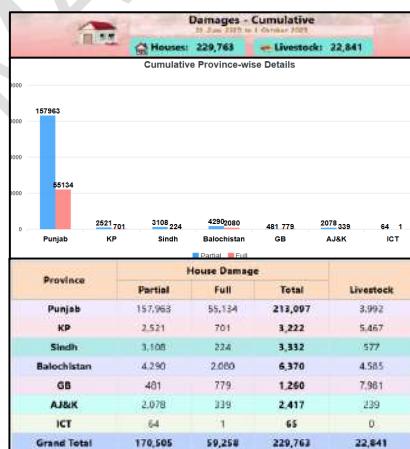


Figure: Monsoon Damages Cumulative 2025



Figure: Road & Bridge Damage Cumulative 2025

Portals can be accessed through NDMA website <https://www.ndma.gov.pk>

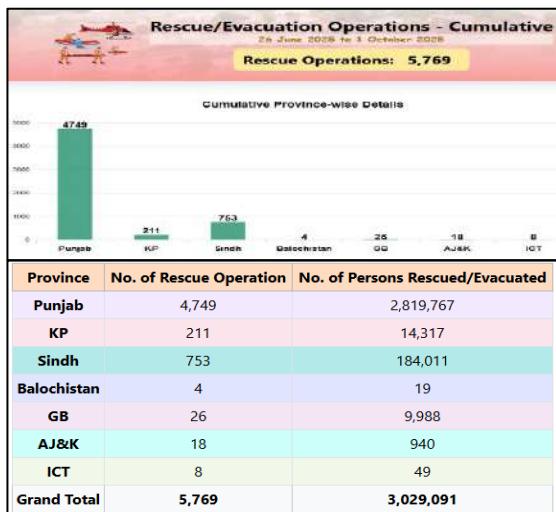


Figure: Monsoon Rescue/ Evacuation Ops 2025

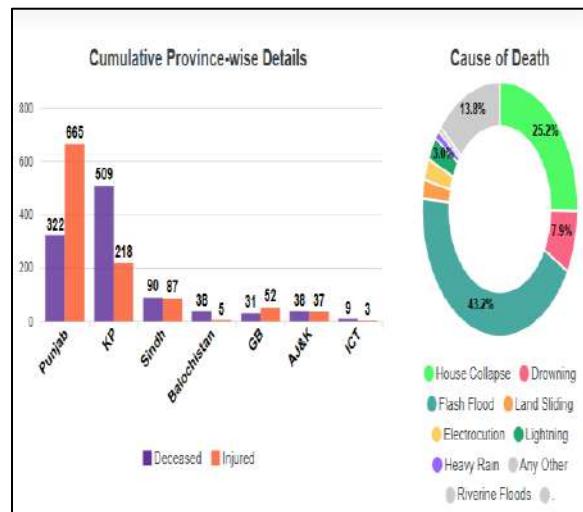


Figure: Cumulative Deceased/ Injured 2025

- c. In anticipation of Monsoon, NDMA's Operations Wing conducted a comprehensive pre-monsoon coordination conference with all provincial and federal stakeholders and organized a mobilization SimEx to enhance early, active and synchronized response. Operations Wing also issued "Monsoon Contingency Plan 2025" to guide preparedness and resource allocation. Throughout season, NDMA Operations Wing organized daily National Monsoon Coordination Conferences at NEOC facilitated real-time situation monitoring and issued SITREPs to federal and provincial authorities. A Private Sector Coordination Conference was also convened to ensure corporate and community preparedness. Field visits to flood-affected areas were conducted to assess ground realities, coordinate relief deployment and provide technical guidance to PDMA and district administrations. Following season Operations Wing compiled and disseminated a Post-Monsoon Report, summarizing impacts, lessons learned and operational recommendations for future flood preparedness and DRR and during Monsoon NDMA performed/ coordinated 5,769 rescued Operations and evacuated 3,029,091 peoples.



Figure: Monsoon Coordination Conference 2025

9. **Late Winter (October–December 2025).** Between October and December 2025, Pakistan experienced marked seasonal variability in temperatures, precipitation and atmospheric conditions reflecting influence of cyclonic activity, Westerly disturbances and prevailing continental air masses. These months showcased contrasting climate patterns from above-normal rainfall in October to below-average precipitation in November and December

accompanied by a persistent rise in temperature anomalies, fog and air quality concerns. Understanding these patterns is crucial for assessing disaster risk, water resource management and agricultural planning.

10. Temperature Patterns

- a. **October 2025.** October recorded warmer-than-average temperatures nationally with mean of 24.43°C ($+0.9^{\circ}\text{C}$ anomaly) and pronounced nighttime warming at 17.23°C . Regional anomalies were highest in Balochistan ($+1.5^{\circ}\text{C}$) and lowest in Punjab and Sindh. Daytime maximums remained near normal at 31.59°C ($+0.1^{\circ}\text{C}$).

Region	Mean Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)	Max Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)	Min Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)
Pakistan	24.43	+0.9	31.59	+0.1	17.23	+2.0
Balochistan	24.79	+1.5	32.46	+0.9	17.08	+2.5
AJ&K	18.08	+0.7	25.20	+0.7	10.90	+0.6
Sindh	28.68	+0.7	35.18	-1.0	22.10	+2.3
KP	21.28	+0.6	28.56	+0.3	13.96	+0.8
GB	15.37	+0.5	23.31	+0.8	7.46	+0.2
Punjab	25.79	+0.2	32.26	-1.2	19.30	+2.2

Figure: Temperature Summary (October 2025)

- b. **November 2025.** In November, cooler-than-average conditions prevailed with a national mean of 17.49°C (-0.37°C anomaly). Daytime maximums were near normal (26°C). Night-time minimums dropped slightly to 9.03°C (-0.30°C). GB experienced strongest cooling (-0.83°C) whereas Sindh remained near normal ($+0.08^{\circ}\text{C}$).

Region	Mean Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)	Max Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)	Min Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)
Pakistan	17.49	-0.37	26.00	+0.08	9.03	-0.30
GB	7.32	-0.83	16.43	+1.19	-1.81	-2.80
AJ&K	11.50	-0.10	19.56	+0.95	3.45	-1.08
KP	14.49	-0.29	23.12	+0.78	5.85	-1.36
Punjab	19.00	-0.48	27.06	-0.66	10.87	+0.35
Sindh	22.79	+0.08	31.01	-0.60	14.53	+0.65
Balochistan	17.47	-0.47	26.23	+0.23	8.86	-0.35

Figure: Temperature Summary (November 2025)

- c. **December 2025.** December saw significant warming with a national mean temperature of 14.28°C ($+1.52^{\circ}\text{C}$, 7th highest in 65 years), daytime maximums at 22.01°C ($+1.76^{\circ}\text{C}$) and night time minimum at 6.46°C ($+1.61^{\circ}\text{C}$, 8th highest). GB ($+2.58^{\circ}\text{C}$) and AJ&K ($+2.16^{\circ}\text{C}$) recorded highest regional anomalies indicating a continuation of long-term warming trends.

Region	Mean Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)	Max Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)	Min Temp ($^{\circ}\text{C}$)	Anomaly ($^{\circ}\text{C}$)
Pakistan	14.28	+1.52	22.01	+1.76	6.46	+1.61
GB	5.21	+2.58	11.79	+3.50	-1.44	+1.62
AJ&K	8.77	+2.16	14.96	+2.24	2.55	+2.07
KP	11.22	+1.58	18.49	+2.09	3.86	+1.02
Sindh	19.01	+1.54	27.27	+1.10	10.71	+1.86
Punjab	15.19	+1.10	22.44	+0.52	7.85	+2.24
Balochistan	14.62	+1.47	22.85	+2.17	6.27	+1.19

Figure: Temperature Summary (December 2025)

Region	October		November		December	
	Rainfall (mm)	Departure (%)	Rainfall (mm)	Departure (%)	Rainfall (mm)	Departure (%)
Pakistan	12.2	+53	7.6	-43	7.6	-43
Punjab	20.9	+159	2.5	-76	2.5	-76
Sindh	9.6	+123	13.1	-56	13.1	-56
AJ&K	48.4	+56	23.6	-43	23.6	-43
KP	29.1	+16	7.6	-28	7.6	-28
GB	7.4	-5	8.9	-31	8.9	-31
Balochistan	1.6	-45	5.1	+48	5.1	+48

Figure: Rainfall Summary (October – December 2025)

11. **Rainfall and Precipitation Patterns (OND 2025).** During last quarter of 2025, Pakistan experienced significantly variable precipitation patterns with above-average rainfall recorded nationwide in October near-average in November and slightly below-average in December. October stood out as wettest month with a national area-weighted total of 12.2 mm (+53% anomaly) largely driven by heavy rainfall events in northern and North Eastern regions particularly at Muzaffarabad Airport (AJ&K) which received 129.6 mm for month including a one-day maximum of 75.0 mm on 7 October. November saw moderate rainfall across most provinces

supporting soil moisture recovery in Southern and Central regions. In December, precipitation was generally below normal though scattered rainfall contributed to localized flooding in Northern and Western mountainous areas. Rainfall patterns indicate a combination of Westerly disturbances and residual monsoon activity influencing spatial and temporal distribution highlighting variability and regional concentration of precipitation during quarter.

12. Weather Extremes

- a. **October**. Turbat (Balochistan) recorded hottest day at 43.0°C on 1st October and warmest mean maximum of 37.7°C. Skardu (GB) marked coldest nights at 0.0°C (29th - 31st) and mean minimum of 3.8°C; Kalam (KP) had coldest day at 9.3°C on 6th. Multan Airport noted warmest night at 28.3°C on 4th.
- b. **November**. Turbat in Balochistan marked hottest day at 38.5°C on 2nd November with Mithi (Sindh) and Lasbela (Balochistan) tying as warmest sites (mean max 33.2°C). Skardu, GB logged coldest night at -11.1°C on 30th and mean minimum of -6.0°C; Kalam, KP, had coldest day at 6.5°C on 4th. Badin, Sindh, recorded warmest night at 22.5°C on 2nd.
- c. **December**. Hottest day registered 34.5°C at Mithi, Sindh on both 10th and 20th December, with Mithi also warmest location (mean max 31.4°C). Skardu, GB, recorded coldest night at -9.6°C (1st December) and mean minimum of -4.0°C. Rohri, Sindh, saw heaviest one-day rainfall of 32.0 mm (31st December), while Kalam marked coldest day at 2.5°C (31st).

13. Synoptic and Global Influences

- a. **Hottest Days**. Turbat reached 43.0°C on 1st October; Mithi recorded 38.5°C on 2nd November and 34.5°C on 10th and 20th December.
- b. **Coldest Nights**. Skardu had -11.1°C on 30th November; -9.6°C in December 1st.
- c. **Significant Rainfall Events**. Muzaffarabad (7 October, 75 mm), Rohri (31 December, 32 mm).
- d. **Fog and Smog**. Central and Southern Punjab experienced persistent smog in November, degrading air quality to hazardous levels; dense fog persisted in December, affecting transportation and daily life.
- e. **Cyclonic and Westerly Systems**. Cyclone "SHAKTI" in early October intensified rainfall; weak westerly disturbances in November and December contributed limited rainfall to Northern regions.
- f. **Oceanic Drivers**. Neutral ENSO conditions in October transitioned toward weak La Niña by November - December (-0.87 to -0.91°C SST anomaly) accompanied by a negative Indian Ocean Dipole, reinforcing dry conditions and fog prevalence.

g. **Long-term climate trend.** Rising mean temperature anomalies, especially in December, underscore continued warming across Pakistan's hilly and Northern regions.

14. **Smog 2025.** In 2025 smog continued to pose a serious and recurring environmental and public health challenge in Pakistan, particularly across major urban centres such as **Lahore, Faisalabad, Gujranwala and parts of Islamabad** during winter season. Prolonged temperature inversions, low wind speeds and limited rainfall trapped pollutants near ground sharply elevating concentrations of fine particulate matter (PM2.5). Emissions from **vehicles, industries, brick kilns, crop residue burning and cross-border pollution** collectively pushed air quality to **hazardous levels**, triggering widespread respiratory health impacts, reduced visibility, transport disruptions and intermittent closures of schools and businesses:-

a. Notably December 2025 brought some relief in Lahore compared to extreme smog of November 2024, with Pakistan Air Quality Initiative data indicating a **56 % reduction in peak PM2.5 levels from 539 $\mu\text{g}/\text{m}^3$ to 237 $\mu\text{g}/\text{m}^3$ and no days classified as "hazardous" (AQI >300)**. Monthly average PM2.5 levels improved by **approximately 37 percent** and year-to-date pollution remained lower than in 2024. However, these improvements were largely attributable to favourable meteorological conditions rather than sustained emission reductions, as air quality in **November 2025** still remained "very unhealthy" and consistently exceeded national environmental standards, highlighting persistent structural challenges and urgent need for sustained preparedness and mitigation measures.

b. Period from October to December 2025 highlighted Pakistan's climate variability, ranging from extreme rainfall to severe dryness, alongside rising temperatures and atmospheric hazards. Understanding these seasonal trends is vital for DRR, agricultural planning, water resource management and climate adaptation strategies. October's cyclonic rainfall, November's drought and December's foggy, warmer conditions collectively demonstrate country's vulnerability to both hydro-meteorological extremes and slow-onset climatic changes.

c. **In response, NDMA's Operations Wing issued timely smog alerts, advisories and public safety guidelines** to federal, provincial and district authorities, emphasizing proactive measures such as limiting outdoor exposure, temporary school closures, traffic management and coordination with health departments. Through the period Operations Wing monitored air quality data in real-time, facilitated inter-agency coordination with PDMA, environmental authorities and municipal administrations and supported dissemination of public advisories to reduce population exposure and mitigate health impacts during peak smog periods.

15. **Operations Wing Actions**

- a. In 2025, NDMA, in close coordination with provincial and district disaster management authorities (PDMA, GBDMA, SDMA), district administrations, Pakistan Armed Forces and Rescue 1122, maintained continuous operations through **NEOC**.
- b. Operations Wing coordinated **5,769 x Rescue Operations** in which **30,29,091 people** were evacuated during Monsoon Season.
- c. Issued **7x Guidelines and Multiple brochures, 88 Advisories/ Alerts** (Weather, heatwave, Flood, GLOF, Land slide, low pressure(cyclone), Drought, Rain & Thunder storm, Hailstorm, Snow to all Federal departments and provinces from January to December 2025.
- d. Operations Wing organized **Monsoon 2025 Coordination Conference** to enhance inter-provincial preparedness.
- e. NDMA **Conducted SimExs for Floods and GLOF**, including a CISE with global partners for disaster response coordination.
- f. Conducted a **Private Sector Conference to support Monsoon 2025** preparedness planning across all provinces.
- g. Participated in National Disaster Coordination Conference (NDMCF) to strengthen **National-level disaster management coordination**.
- h. Issued **Contingency Plan 2025** (Monsoon, Summer, Winter)
- i. Issuance of **daily SITREP** during Monsoon Season.
- j. Issuance of **Flood Guidelines** (Vector/ Viral disease Guidelines, Snake Bite)
- k. Preparation/ compilation and dissemination of **Daily SITREPs** to all stake holders including Govt Organization, NGO, UN Agencies, Armed Forces, National and International media.
- l. Attended **Army Flood Coord Conf 2025 (DEW-3)**, 60th Annual Meeting of FFC to Review Monsoon Season 2025 (Chaired by Min of Water and Power), Climate Application Forum PMD.
- m. Organized **40x Daily National Monsoon Coordination Conferences** at **NEOC** onwards during monsoon season.
- n. Issued **post-monsoon 2025 Report**, providing a comprehensive assessment of monsoon impacts, response measures and lessons learned for improved disaster preparedness.
- o. Activation of **WhatsApp groups** of all federal and provincial stakeholders and continuous updating of situation in coordination with all Federal level departments.

- p. Several **field visits were carried-out** by NDMA officers/ officials during monsoon in flood affected areas.
- q. NDMA successfully conducted **drone testing to strengthen disaster management** operations, demonstrating capability of drones in rapid damage assessment, real-time monitoring and support for search and rescue operations during emergencies. Initiative also encouraged PDMAs to adopt innovative technologies to enhance preparedness and response.
- r. Operations Wing also provided **disaster relief and humanitarian assistance** to neighbouring countries, demonstrating regional cooperation and support during emergencies.



Figure: NDMA Briefings/ Coordination



Figure: PM Visit NEOC / NDMA



Figure: Drone Trial

Logistics Directorate

16. **Core Responsibilities.** Logistics Directorate is responsible for ensuring availability, mobilization and effective management of national relief and response assets in accordance with NDMA policies and national disaster preparedness objectives. Directorate's core responsibilities:-

- a. **Strategic Stockpiling & Warehousing.** Planning, maintenance and management of national relief stockpiles in accordance with Revised Stocking Policy 2023 to ensure readiness for rapid disaster response.
- b. **Operational Logistics Support.** Timely mobilization, transportation and distribution of relief items to affected areas during emergencies.
- c. **National & International Humanitarian Assistance.** Planning and execution of humanitarian logistics for both domestic disaster response and international relief missions in coordination with relevant stakeholders.
- d. **Data-Driven Logistics & Coordination.** Development and utilization of digital platforms for need assessment, stock monitoring, gap analysis and coordinated logistics planning at national and provincial levels.

17. **NDMA Stocks of Relief Items.** In accordance with Stocking Policy 2023, NDMA maintains a comprehensive range of essential relief and response items to address immediate humanitarian needs of disaster-affected populations. These include family tents, winterized tents, shelter tents, blankets, life jackets, boats, water tanks, water filtration plant, dewatering pumps, generators and wheel chairs. These stockpiles are well structured to support large-scale humanitarian caseloads across all provinces and regions, ensuring timely response to both sudden-onset and slow-onset disasters.

18. **National Warehouse Network & Geographic Coverage.** NDMA maintains a network of strategically located national warehouses to support rapid mobilization and nationwide coverage. These facilities enable pre-positioning of critical relief stocks and facilitate quick dispatch to affected areas in coordination with provincial authorities. National warehouse network is designed to optimize response time, support inter-provincial logistics and ensure redundancy for large-scale emergencies.

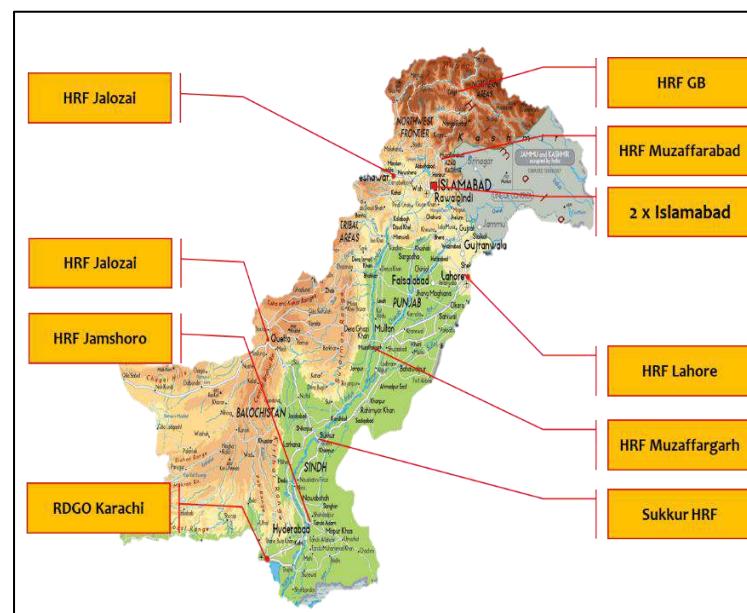


Figure: National Warehouse Network

19. **National Operations - Disaster Response & Logistics Support (2025)**

a. **Logistic Operations - Monsoon 2025.** Monsoon 2025 season commenced earlier than usual and it was characterized as medium to high-intensity rainfall spells, resulting in widespread flooding, landslides and glacial lake outburst events across various regions of Pakistan. In response, Logistics Directorate ensured timely mobilization and issuance of relief stocks to provincial authorities, enabling rapid humanitarian response and mitigation of impacts on affected populations. Key operational achievements during Monsoon -2025 are as under:-

- (1) Timely issuance of tents, blankets, ration packs, medical supplies, water filtration plants, boats and other essential relief items to GB, KP, Punjab and other affected areas.
- (2) Effective coordination with PDMA for demand-based allocation of stocks.
- (3) Multi-dimensional logistics planning to ensure uninterrupted supply chains during access constraints.
- (4) Support to large-scale displacement and shelter requirements through mobilization of relief items.
- (5) Details of assistance provided to affected areas in monsoon is given below:-

Relief Items	GB (86 Tons)	KP (304 Tons)	Punjab (2,271 Tons)	Total
Generators	-	50	-	50
D. Pumps	-	50	-	50
Water Tanks	-	5	-	5
Blankets	1,000	13,120	20,000	34,120
Shelter Tents	-	10	0	10
Family Tents	200	2000	36,000	38,200
Ration Packs	-	900	3200	4,100
Boats	-	0	17	17
Mosquito Nets	-	0	10,000	10,000
Medicine (Kgs)	-	3855	3,450	7,305
Water Filtration Plant	-	-	36	36
Quilts	-	-	4,000	4,000
Folding Bed	-	-	3,000	3,000
Kerosene Heaters	-	-	3,000	3,000

Relief Items	GB (86 Tons)	KP (304 Tons)	Punjab (2,271 Tons)	Total
Jerry Can	-	-	5,000	5,000
Bubble Mats	2,000	-	-	2,000
Sleeping Bags	2,000	-	-	2,000
Cotton Coats	1,500	-	-	1,500
Camping Lamps	1,000	-	-	1,000
Accumulated Tons				2,661

- b. **Mobilization of National Resources & Multi-Stakeholder Support During Monsoon - 2025.** During Monsoon 2025, NDMA, with support of other Wings, mobilized national resources and utilized their reserves to provide timely relief assistance to affected areas. In addition to federal resources, NDMA coordinated with Provincial Governments, Armed Forces, NGOs and national stakeholders including private sector, government corporations, industry and philanthropic organizations to augment national response capacity. Details of Relief items (Tons) are as under:-

Province	Armed Forces Support	National Resource						Total (Tons)
		NGOs	Pvt	Govt Corp	Industry	Philanthropist		
GB	20	896	45	118	50	250		1,379
KP	181	4,066	11 8	395	150	16		4,926
AJ&K	8	-	-	233	15	-		256
Punjab	405	6,170	25 9	1,28 2	352	15		8,483
Sindh	5	999	-	119	-	-		1,123
Total (Tons)	619	12,131	422	2,147	567	281		16,167

20. **Stock Replenishment & Compliance with Stocking Policy 2023.** Following major relief operations, NDMA initiated replenishment of its relief stocks in accordance with Stocking Policy 2023. This policy defines:-

- Planned stock levels for national preparedness.
- Minimum reserve levels for international humanitarian assistance i.e., maintaining stocks of selected items at levels up to 25% over and above national policy.
- Mechanisms for post-operation replenishment and replacement

- d. Replenishment process ensures that NDMA remains operationally ready for future emergencies while maintaining strategic reserves for international humanitarian commitments.
- e. Key aspects include:-
 - (1) Replacement of stocks utilized during Monsoon 2025 operations.
 - (2) Alignment of national stock levels with approved policy targets.
 - (3) Maintenance of designated reserves for international relief missions.
 - (4) This structured replenishment mechanism ensures sustained readiness and institutional resilience.

21. **Digital Logistics Systems & Data-Driven Planning**

- a. Logistics Directorate has operationalized e-Logistics Calculator, a national digital tool for relief planning and coordination. System enables:
 - (1) Integration with EW systems to estimate exposed populations.
 - (2) Disaster-specific relief requirement calculations.
 - (3) Automated need-gap analysis.
 - (4) This tool has significantly improved accuracy, coordination and speed of logistics decision-making.
- b. NDMA e-Logistics Dashboard provides real-time visualization of:-
 - (1) National and regional caseloads.
 - (2) Stocking levels against national targets.
 - (3) Resource allocation across provinces.
 - (4) Supply gap analysis.
 - (5) International aid utilization.

22. **International Humanitarian Operations - 2025**. In addition to domestic response, Logistics Directorate successfully planned and executed multiple international humanitarian relief operations, reflecting Pakistan's commitment to global humanitarian solidarity and NDMA's growing logistical capability:-

- a. **Major International Operations - 2025 (Outbound)**
 - (1) **Palestine**. NDMA dispatched 1,354 tons of relief assistance through 16 consignments, utilizing multiple chartered flights and air cargo missions delivering tents, blankets, medical supplies, MREs, hygiene kits and food items through Jordan and Egypt corridors.
 - (2) **Lebanon**. NDMA sent maritime shipment of 44 tons of relief, comprising of winterized tents, blankets, filtration plants, dry milk, hygiene kits, medicines and family packs through Beirut Port.

- (3) **Afghanistan (Earthquake - 2025).** NDMA provided 105 tons of relief assistance including tents, food, blankets and medicines through Torkham border to support affected population.
- (4) **Myanmar (Earthquake - 2025).** NDMA dispatched two chartered flights of 40 tons each to assist Myanmar in Earthquake relief effort. Chartered flights consisted of family tents, blankets, water tanks, medicines and MREs.
- (5) **Sri Lanka (Floods - 2025).** NDMA, in coordination with Pakistan Armed Forces and key stakeholders, delivered a swift humanitarian response to floods in Sri Lanka (238 Tons). Different resources utilized by NDMA are mentioned below:-
- (a) Pakistan Navy ship deployment for SAR and relief delivery.
 - (b) Airlift via C-130 (PAF) of Army USAR teams and equipment.
 - (c) Commercial and maritime shipments of large-scale humanitarian consignments.
 - (d) 4 x Flights of relief items by commercial airline bailey space.



Figure: Send-off Ceremonies for International Humanitarian Assistance

- b. **Major International Operations - 2025 (Inbound).** Logistics Directorate also facilitated receipt, warehousing and onward distribution of international humanitarian assistance from friendly countries and development partners:-
- (1) Monsoon rains of 2025 caused widespread damage across large parts of Khyber Pakhtunkhwa, Punjab and Sindh, resulting in significant humanitarian needs. During this period of crisis, China extended timely humanitarian assistance in support of affected population. Assistance comprised essential relief items including tents, blankets, life jackets and sleeping bags. In addition, delivery of modular steel bridges is currently

underway. This support reflected depth of enduring friendship, mutual trust and strategic partnership between Pakistan and China, particularly in times of national emergency.

- (2) In addition, Russian Federation also extended humanitarian support to Pakistan by providing of relief assistance during winter of 2025. This contribution helped alleviate hardships faced by vulnerable communities affected by extreme weather conditions and demonstrated Russia's goodwill and solidarity with people of Pakistan.



Figure: Send-off Ceremonies for International Humanitarian Assistance

- c. **Policy on International Requisition of Relief Assistance.** Furthermore, Logistics Directorate undertook a comprehensive review of its policy on requisitioning international relief assistance. In line with revised approach, future international requests will be limited to high-end and specialized equipment such as Bailey bridges, field hospitals and water filtration plants. Requirements for low-cost and commonly available items, including tents and blankets, will be met through local procurement and domestic resources. Notwithstanding this policy shift, international assistance was received during 2025 as a goodwill gesture from friendly countries and partners, further strengthening NDMA's response and humanitarian outreach.

23. **Procurement, Replenishment & Provincial Stock Compliance.** Logistics Directorate works in close coordination with Procurement Directorate to ensure that relief items consumed during operations are replenished in a timely manner. Following completion of each major operation:-

- a. Deficiencies in national stock levels are formally identified.
- b. Procurement is initiated to restore stocks to policy-mandated levels.

- c. Replenishment plans are aligned with Revised Stocking Policy 2023.
 - d. Furthermore, NDMA ensures that PDMAAs maintain their respective relief stockpiles in accordance with approved stocking guidelines. This coordinated approach strengthens national preparedness and ensures that provincial capacities are aligned with federal response frameworks.
24. **Operational Analysis - 2025**
- a. Operational performance of Logistics Directorate during 2025 reflects strengthened institutional capacity for preparedness, response and humanitarian outreach. Early onset and high intensity of Monsoon 2025 tested national logistics systems; however, timely mobilization of relief stocks, enhanced coordination with provinces and utilization of digital logistics tools enabled NDMA to effectively mitigate humanitarian impacts.
 - b. Implementation of Stocking Policy 2023 has significantly improved stock management and replenishment planning. Integration of e-Logistics Calculator and Dashboard has further strengthened transparency, need-gap analysis and real-time decision-making.
 - c. Simultaneously, NDMA's international humanitarian engagements demonstrate Pakistan's growing logistical maturity and NDMA's ability to balance domestic priorities with international commitments.

Recovery & Rehabilitation Directorate

25. **Ex-Gratia Assistance (Monsoon - 2025)**

- a. During Monsoon (26 June to 30 September 2025), Pakistan experienced widespread and unprecedented rainfall resulting in extensive flash floods, riverine inundation and landslides across multiple provinces, including GB, KP, Punjab, Sindh and Balochistan. Extreme weather events led to significant human casualties, injuries, displacement of populations and destruction of property, infrastructure and agricultural assets. A total of **1,037 death** cases were reported across country.
- b. In line with Federal Government's commitment to provide immediate financial support to disaster-affected families, Honourable Prime Minister directed NDMA to issue Ex-Gratia assistance of **Rs.2.0 million** to Next of Kin (NoK) of



Figure: Distribution of Ex-Gratia Cheques

each deceased person in accordance with “NDMA Guidelines for Minimum Ex-Gratia Assistance to Persons Affected by Natural and Man-Made Disasters”, across country in addition to provincial ex gratia assistance.

26. Humanitarian Projects Undertaken in Collaboration with King Salman Humanitarian Relief and Aid Centre (KS relief). In coordination with NDMA, KS relief implemented recovery and rehabilitation projects across Punjab, KP and AJ&K with support from respective PDMA for site selection, beneficiary verification and security and administrative facilitation. Key interventions include:-

- a. **Construction of 1,000 x Low – Cost Housing Units in Floods – 2022 Affected Areas of Punjab and KP.** KSrelief in coordination with NDMA is implementing construction of 1,000 x low-cost housing units for families affected by 2022 floods in Punjab and KP. These housing units are designed to provide safe and sustainable shelter to vulnerable communities, ensuring long-term recovery and improved living conditions for affected populations.
- b. In Punjab, substantial progress has been achieved with approximately **97%** of housing units completed while in KP preparatory work is underway and construction is scheduled to commence in coming months. Site selection and beneficiary verification is being finalized in close coordination with PDMA to ensure timely execution. This initiative forms a critical component of broader recovery and rehabilitation efforts by NDMA and KSrelief, aimed at restoring livelihoods, rebuilding communities and enhancing resilience against future disasters in flood-affected regions.

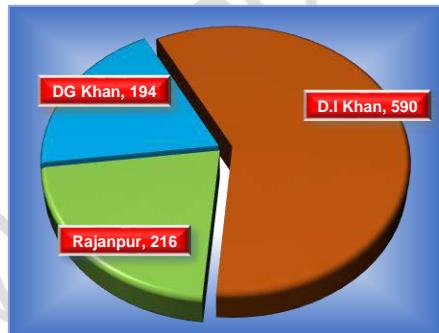


Figure: Distribution of House Unit



- 27. Reconstruction and Rehabilitation of Education, Health and Water Schemes.** In coordination with R&R Directorate, KSrelief is implementing of 22x rehabilitation projects previously constructed by former Saudi humanitarian organizations across Punjab, KP and AJ&K alongwith 4x school reconstruction projects in AJ&K. All projects formally handed over

Figure: Low-Cost Housing Units by KS Relief in Punjab

to respective contractors and have achieved notable physical progress, with province-wise updates outlined below:-

Province/ State	Project	No. of Sites	Facilitates			Physical Prog
			Edu	Health	Water	
KP	Renovation/ Rehabilitation	6	2	4	-	More than 90 %
AJ&K		7	3	4	-	More than 90 %
Punjab		9	2	1	6	Being renovated
AJ&K	Reconstruction	4	4	-	-	More than 49%

28. **Redressal of Grievance Cases.** R&R Directorate manages receipt and processing of grievance cases from applicants nationwide. Cases are reviewed, forwarded to relevant departments and regularly pursued to ensure timely resolution. 56 x cases were handled during 2025 with a province-wise summary of cases is given below.



Figure: Province Wise Summary - Ex Gratia Assistance

CHAPTER - 7

PLANS WING

1. **Mandate and Scope.** Plans Wing articulation spans across all phases of disaster i.e Pre-Disaster Phase, During Disaster Phase and Post Disaster Phase:-

a. **Pre-Disaster**

- (1) Preparedness and community readiness.
- (2) Coordination and inter-agency planning.
- (3) Search, Rescue and Response Readiness (INSA).
- (4) Needs analysis and targeted interventions.
- (5) Resource mobilization and donor engagement.
- (6) Cluster and operational preparedness.

b. **During Disaster**

- (1) Cluster activation and field deployment.
- (2) Coordination with government agencies.
- (3) Relief and camp management support.
- (4) Support INSA operations.
- (5) Needs assessment and information management.
- (6) Resource mobilization and appeals.

c. **Post Disaster**

- (1) Transition and handover of responsibilities.
- (2) Data consolidation and lessons learnt.
- (3) Recovery and shelter support.
- (4) Human Resource retention and capacity building.
- (5) Recovery needs and PDNA support.
- (6) Sustained relief and resource flow.
- (7) Reconstruction planning and appeals.

2. **Key Functions**

- a. Lead multi-stakeholder preparedness planning with NGOs, INGOs and INSA through contingency rehearsals, CBDRM activities, DEW-based pre-surveys, volunteer roster management and establishment of camps in high-risk zones.
- b. Act as central coordination platform to integrate NGO, INGO, UN, cluster and INSA plans with NDMA, PDMA, DDMAs, military, law enforcement and local governments in line with national directives.
- c. Ensure preparedness and operational readiness of INSA teams by overseeing equipment inspections, deployment planning, logistical support and coordinated area control during high-impact emergencies.

- d. Activate approved contingency plans during disasters, deploy trained NGO/ INGO teams with DDMA, support PDMA in initial relief and camp management and enable coordinated field operations under unified command.
- e. Coordinate Rapid Needs Assessments, track emerging humanitarian gaps, consolidate response data from NGOs, INGOs and INSA and ensure timely information sharing with authorities, clusters and donors.
- f. Engage donors and UN agencies to support preparedness, response and recovery; facilitate NGO/ INGO participation in national and Pakistan-level appeals; and support targeted reconstruction appeals.
- g. Manage transition from response to recovery by coordinating handover of responsibilities, supporting shelter rehabilitation, sustaining relief flows and assisting Government of Pakistan in digitized PDNA and recovery planning.
- h. Recalibrate training programs, retain and incentivize technical human resources, integrate lessons learned and strengthen long-term operational readiness of NGOs, INGOs and INSA.

ACTIVITIES OF PLANS IN 2025

3. **Overview.** In 2025, Plans wing led extensive capacity-building programs and multi-hazard SimExs, boosting coordination and operational readiness across federal, provincial and district stakeholders. Additionally, it promoted AAs and community-centered preparedness by integrating EW systems and inclusive planning approaches. Collectively, these efforts reinforced Pakistan's disaster management architecture and contributed to a more resilient and coordinated national response framework. It prioritized data-driven planning through enhanced digital tools and standardized assessment systems, improving quality and consistency of risk information nationwide. A brief account of activities carried out by Plans Wing during period from 1st January 2025 is as under:-

- a. **Capacity Building and AAs through INSA Concept - Dadu" (19th - 21st February 2025).** A training session aimed at enhancing disaster preparedness and response capabilities. Topics included EW systems, evacuation procedures, SimEx and community-based risk assessment. Special focus was given to water rescue techniques, gender vulnerabilities and livelihood restoration. Goal was to improve coordination among responders and foster a culture of resilience.



Figure: Training Session - Dadu

- b. **Consultative Workshop on Development of Provincial level MHVRA Guidelines and Review of Existing MHVRA Noshki (24th February 2025) - Quetta.** Consultative Workshop on Development of Provincial-Level MHVRA Guidelines and Review of Existing MHVRA in District Noshki in collaboration with WFP and FAO was held on 24th February 2025, at PDMA Balochistan. Workshop aimed to standardize -MHVRA process across Balochistan by developing comprehensive guidelines. It also included a review and updating of existing MHVRA for District Noshki, with a focus on creating an e-MHVRA portal as a model study.



Figure: Workshop Balochistan

- c. **Basic Level MHVRA Training, (25th February 2025) - Quetta.** Basic Level Multi-Hazard Vulnerability and Risk Assessment (MHVRA) training was conducted in Quetta from February 25th - 27th February 2025, as part of Work Plan 2025 in collaboration with World Food Programme (WFP). Objective of this training was to strengthen technical capacities of Balochistan in disaster risk assessment and management. Training focused on AAs at national, provincial and district levels, multi-hazard SimExs and enhancing logistical capacity for disaster response.



Figure: Training Quetta

- d. **National SimEx-1/2025 “Summer Resilience” (26th February 2025).** NDMA conducted first National SimEx of 2025 titled “Summer Resilience”, focusing on four key summer hazards - Cyclones, Heatwaves, Forest Fires and Sea Water Intrusion. Exercise involved key stakeholders from federal ministries, PDMA, armed forces, humanitarian organizations, media and academia. It emphasized scenario-based decision-making, inter-agency coordination and strategic planning to enhance national preparedness. Exercise contributed to strengthening contingency planning and improving response mechanisms for climate-induced emergencies.

- e. **Launch of MHVRA for Rawalpindi, Islamabad and Nowshera, (26th March 2025).** NDMA in collaboration with UN-Habitat, organized a Project Dissemination Workshop under Adaptation Fund Project titled “Enhancing Community, Local and National-Level Urban Climate Change Resilience to Water Scarcity Caused by Floods and Droughts” in Rawalpindi/ Islamabad and Nowshera. Workshop shared

findings from MHVRA study conducted under Adaptation, which identified vulnerabilities and mitigation strategies for floods, droughts and earthquakes. Event featured official launch of MHVRA reports for three districts, highlighting a key milestone in data-driven decision-making for climate resilience and disaster preparedness.



Figure: Launch of (MHVRA)

- f. **AA Training - Khairpur (22nd - 24th April 2025)**. AA Training was conducted by NDMA and World Food Programme (WFP) to enhance disaster preparedness and response through standardized training, community engagement and realistic SimExs based on AAs and INSaR concept. Training aimed to enable communities to identify local hazards and associated risks, enhance skills of INSaR as first responders and improve coordination and collaboration among disaster management responders.



Figure: Training - Khairpur

- g. **Pakistan's 2nd Expo on DRR - 2025 (PEDRR-25/ 6th - 8th May 2025)**. 2nd Pakistan Expo on DRR (PEDRR-25), organized by NDMA, was held from 6th to 8th May 2025 in Islamabad under theme "Pakistan's Resilience Vision 2030." Event aimed to strengthen disaster preparedness, promote collaboration and highlight innovative risk reduction solutions. Inaugurated by Federal Minister Dr. Musadiq Malik, Chairman NDMA and Acting UNRC Ms. Coco Ushiyama. Expo featured strategic policy debates, Green Talks on sustainability, AI and technology showcases, expert seminars, artistic exhibitions and over 52 capacity-building displays from national and international organizations, government departments, academia and armed forces. PEDRR-25 concluded with a reaffirmation of Pakistan's commitment to building a disaster-resilient nation, emphasizing innovation, coordination and sustainability as key drivers of country's Resilience Vision 2030.



Figure: 2nd Expo on DRR

- h. **National SimEx-2/2025: “Monsoon Floods and GLOF Scenario” (20th - 21st May 2025)**. 2nd National SimEx focused on Monsoon Floods and GLOF scenarios. It tested interoperability among federal, provincial and international partners, including armed forces and humanitarian agencies. Key objectives included identifying systemic gaps in coordination and resources, improving technical capacity for managing flood and GLOF emergencies and ensuring alignment of provincial and national disaster plans.



*Figure: National Sim Ex
“Monsoon Floods & GLOF”*

- i. **Provincial Level Multi Hazard ER SimEx (1st-3rd July 2025)**. NDMA in partnership with WFP, PDMA Sindh, FAO and with support from EU Civil Protection and Humanitarian Aid brought together over 100 people for a three-day ER simulation in Karachi. Exercise united disaster management authorities, humanitarian agencies and responders to strengthen Sindh's disaster preparedness and resilience. Over three days, participants engaged in strategic discussions, scenario-based simulations and live drills focused on monsoon hazards, urban floods and cyclones. Event enhanced inter-agency coordination, AAs planning and on-ground preparedness, reaffirming a strong commitment to local and national resilience.



Figure: Provincial Level Sim Ex

- j. **Baseline Data Validation Workshop for MHVRA District Nushki**. On 18th July 2025 a baseline data validation workshop for MHVRA of District Nushki was held at BUITEMS. Session focused on reviewing collected data for accuracy and completeness. Several discrepancies were identified, particularly in administrative boundaries and sector-specific datasets such as education, health and telecom. Local stakeholders also highlighted need for simpler, user-friendly data collection formats. Moving forward, NDMA developed a simplified baseline data collection form to assist PDMA and district officials in standardizing data gathering.



Figure: Workshop for MHVRA District Nushki

- k. **National SimEx-3/2025: “Monsoon Floods, GLOF & Landslides Scenario” (22nd July 2025)**. 3rd National-level exercise, held at NEOC, addressed Monsoon Floods, GLOFs and Landslides. It brought together federal ministries, PDMA, armed forces, academia, humanitarian partners and media. Exercise focused on testing coordination and interoperability, identifying gaps in communication and EW systems and strengthening technical and operational capacities for a multi-hazard response. It also promoted inclusive disaster management planning.



Figure: National Sim Ex-3

- l. **Humanitarian Conferences - Monsoon 2025 (24th July 2025)**. In 2025, NDMA held two major humanitarian conferences to enhance coordination and preparedness for monsoon-related disasters. Pre-Monsoon Conference held on 24th July 2025 focused on EW, data integration and proactive response strategies, while Post-Monsoon Conference on 2nd October 2025 reviewed flood response efforts, captured lessons learned and emphasized stronger institutional collaboration. Overall, both conferences reinforced NDMA's commitment to building a proactive, data-driven and resilient disaster management framework, strengthening coordination among stakeholders and promoting community-centered preparedness across Pakistan.



Figure: Humanitarian Conferences - Monsoon 2025

- m. **INSARAG Asia Pacific Regional Meeting Japan (6th - 8th August 2025)**. INSARAG Asia-Pacific (AP) Regional Meeting was held in Tokyo, Japan from 7th - 8th August 2025. Event brought together regional disaster management authorities, international search and rescue stakeholders and INSARAG member states to

review regional progress, discuss strategic priorities and strengthen coordination mechanisms for effective disaster response. Purpose was to enhance regional disaster response, focusing on Urban Search and Rescue (USAR) practices, international standards and strengthening preparedness NDMA Pakistan shared important recommendations:-



Figure: INSARAG Asia Pacific Meeting

- (1) Streamline and expedite deployment of mentors for newly established USAR teams.
- (2) Replicate INSAIR model in other regional countries during 2nd half of 2026.
- (3) Offer support to any nation interested in adopting Pakistan's mentoring model.
- (4) Propose expanding scope of USAR to cover all disaster types, not just structural collapse.

n. **National SimEx-4/2025: "Winter Freeze (29th October 2025)**. NDMA conducted its 4th National-level SimEx, SimEx-4/2025 "Winter Freeze", focusing on disaster-prone areas vulnerable to severe winter hazards. Exercise aimed to strengthen multi-tier contingency planning, coordination and response readiness across all national and provincial stakeholders. Exercise emphasizes real-time decision-making supported by multi-platform EW systems, technology-enabled hazard monitoring and NEOC's integrated watch centres.

o. **Provincial Level Multi-Hazard ER SimEx (17th - 19th November 2025)**. NDMA, in collaboration with PDMA Balochistan, Balochistan Civil Services Academy (BCSA), WFP, academic institutions, National and International partners, conducted a comprehensive three-day Multi-Hazard SimEx in Quetta to strengthen national preparedness and response capacities. Exercise engaged Probationary Assistant Commissioners and Section Officers through scenario-driven sessions, expert-led trainings, exposure visits to Provincial Emergency Operation Centre (PEOC) and hands-on mock drills focused on winter contingencies, multi-sectoral planning, rapid needs assessment and coordinated ER.



Figure: Provincial Level SimEx

p. **Joint Pak-UN Multi-Hazard SimEx (3rd-4th December 2025)**. NDMA, in collaboration with UN, successfully conducted a two-day Joint PAK-UN Multi-Hazard SimEx held from 3rd - 4th December 2025 at NEOC, NDMA Headquarters, Islamabad. SimEx aimed to assess and improve Pakistan's coordinated response capacity during large-scale emergencies by testing decision-making, interoperability, information management and resource planning. Objectives of SimEx were to redefine humanitarian interventions for natural disasters, crisis situations and to recalibrate coordination between Pakistan's relief system under NDMA and UNRC-led global humanitarian network. They also included shaping innovative risk-financing mechanisms, strengthening AAs through improved EW, community training and realistic needs-gaps analyses, along with developing a practical responsibilities-distribution matrix based on domain expertise and financial capacity.



Figure: Joint PAK-UN Multi-Hazard SimEx

q. **Formulation of e-NDMP Portal**. e-NDMP Portal provides a unified digital platform offering real-time insights into Pakistan's disaster management progress under NDMP-2025. It presents an integrated overview of sectoral performance, strategic goals and coordination status across federal and provincial levels. Portal highlights NDMA's mission to strengthen resilience, enhance preparedness and promote adaptive capacity through collaboration with PDMAs, INGOs, academia and development partners. Featuring visual progress indicators across key thematic areas including ER, DRR, resilience building, coordination and infrastructure; e-NDMP serves as a dynamic tool for informed decision-making and monitoring Pakistan's journey toward sustainable disaster risk governance.



Figure: e-NDMP Portal

CHAPTER - 8

REGIONAL AND MILITARY COLLABORATION & MEDIA WING (RM&M)

Regional and Military Collaboration (RMC) Directorate

1. **Mandate and Scope.** Regional and Military Collaboration (RMC) Directorate acts as a conduit between NDMA and its global counterparts, regional organizations and military components of friendly countries for proactive disaster management. It serves as a vital link for global DRR coordination and provides a platform for strengthening cooperation through bilateral visits, joint trainings, enhancing interoperability matrices and refining response strategies. CISEs are conducted with Global partners and serves as a collaborative learning and planning platform for an all-inclusive Disaster Management at Global and Regional arena.

a. **Pre-Disaster**

- (1) Continuous liaison with Lead Disaster Management (DM) bodies, Regional Organizations and Military components of friendly countries.
- (2) Sensitization about specific projected Hazard.
- (3) Conduct of CISE with partner countries and lead Disaster Management stakeholders.
- (4) Sharing of Post Exercise Reports and lessons learnt for proactive DRR.

b. **During Disaster**

- (1) Sharing of updated DEW with all DM Stakeholders.
- (2) Sensitization of DA's about prevalent situation.
- (3) Sharing of required Logistic demands (in case of need).
- (4) Coordinating High End Equipment with partner countries.

c. **Post Disaster**

- (1) Sharing of information with all DM partners.
- (2) Intimate additional support (if any) in coordination with Operation wing.
- (3) Coordinate for sequential recovery of international support.
- (4) Assimilation of realistic disaster data.
- (5) Conduct of CISE and sharing post exercise report with all concerned.

2. **Key Functions**

- a. Coordinate and liaison with all Regional Organization, DM bodies and Military components of friendly countries.
- b. Strengthen coordination and cooperation among different nations and their respective disaster response agencies.
- c. To pro-actively workout modalities of joint employment between military components of participating countries to reduce reaction time in wake of any disaster.

- d. Foster trust and build strong working relationships among disaster response teams of Pakistan and partner countries.
- e. Plan and conduct of CISE.
- f. Dissemination of Global Disaster Early Warning (GDEW) advisories alerts and EW to regional organization, DM bodies and military components of friendly countries.
- g. Planning, coordination and conduct of bilateral and multilateral visits of Military components and DM bodies aimed at strengthening proactive DRR.

ACTIVITIES OF RMC DIRECTORATE IN 2025

3. RMC Directorate remained consistently active throughout year. Sustained engagement and close coordination were maintained with lead disaster management agencies of world, regional organizations and military components of partner countries. These efforts aimed to address emerging climate change challenges and effectively reduce impact of disasters by identifying pre-determined threats, enhancing early preparedness and strengthening resource mobilization capabilities.
4. **CISE.** Regional and Military Collaboration wing successfully conducted 8 CISEs in year 2025 with total 57 countries spanning across globe:-

- a. 1st Multilateral CISE was conducted on 27 February 2025 with participation of representatives from US ARCENT and ODRP, Ministry of Emergency Management Azerbaijan, Department of Disaster Management Bangladesh, NDMA Maldives, NDRRMC Nepal, DMC Sri Lanka, NADMA Malaysia, NCSCM Jordan and Defence Attaché

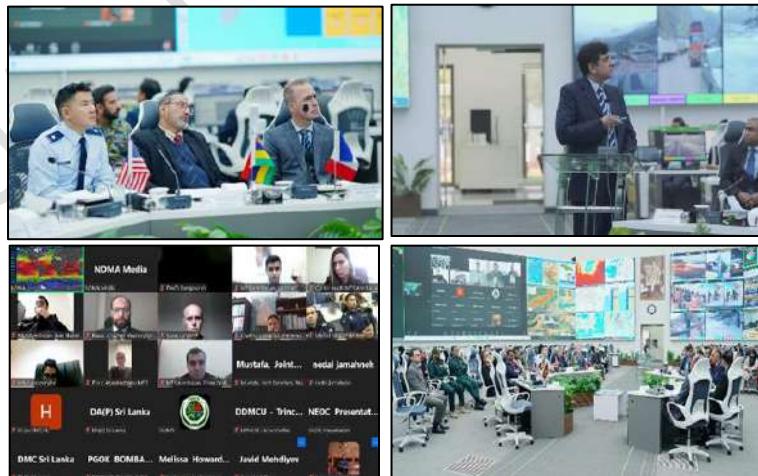


Figure: Multilateral CISE-1 on Cyclone/ Hurricane and Forest Fire Scenario

- of France. Exercise was organized in a hybrid format, with national representatives positioned at NEOC NDMA, while international participants joined virtually. Two primary scenarios Cyclone/ Hurricane and Forest Fire were simulated during exercise. NDMA, along with partner countries, provided their respective responses and observations on simulated events.
- b. 2nd Multilateral CISE was conducted on 25th March 2025, participants from Ministry of Emergency Management Uzbekistan, JICA Japan, National Defence Force South Africa and Defence Attaché of Kazakhstan joined exercise. Exercise simulated a scenario of earthquake. Exercise served as a platform for sharing of

best practices and response strategies to mitigate challenges of earthquakes.



Figure: Multilateral CISE-2 on Earthquake Scenario

- c. 3rd Multilateral CISE was conducted on 22 May 2025 with participation from representatives of CPJRC China, PATH (Team Gladia) from United Kingdom, Adenium Risk UAE, DMC Sri Lanka, Defence Attaché Sri Lanka, High Commissioner of Mauritius and NDRRMA Nepal. Exercise simulated a large-scale flood scenario based on Pakistan's terrain and was executed in a hybrid format, with participants joining both in person at NEOC and virtually.



Figure: Multilateral CISE-3 on Flood Scenario

- d. 4th Multilateral CISE was conducted on 24th June 2025, participants from AFAD Turkiye, Ministry of Emergency Situations Uzbekistan, Ministry of Emergency Situations Kazakhstan, Ministry of Emergency Situations Azerbaijan, CESVI (Italy), Defence Attaché Japan, Ambassador of Jordan to Pakistan joined exercise in hybrid

mode. CISE simulated a large-scale earthquake scenario on terrain of Pakistan.



Figure: Multilateral CISE-4 on Earthquake Scenario

- e. 5th Multilateral CISE, conducted on 30 July 2025, simulated a large-scale flood scenario and included participation from Griffith University Australia, Gold Coast Disaster and Emergency Management Centre Queensland (Australia), Organization of Islamic Cooperation (OIC-SESRIC), Ministry of Emergency Situations Kazakhstan, Disaster Management Centre Sri Lanka, ICIMOD and National Office for Risk and Disaster Management (BNGRC) Madagascar. Additionally, Defence Attachés of Philippines, Maldives and Mauritius also joined exercise. Activity was carried out in a hybrid format, with NDMA syndicates and representatives from partner countries providing their respective responses and concluding remarks.

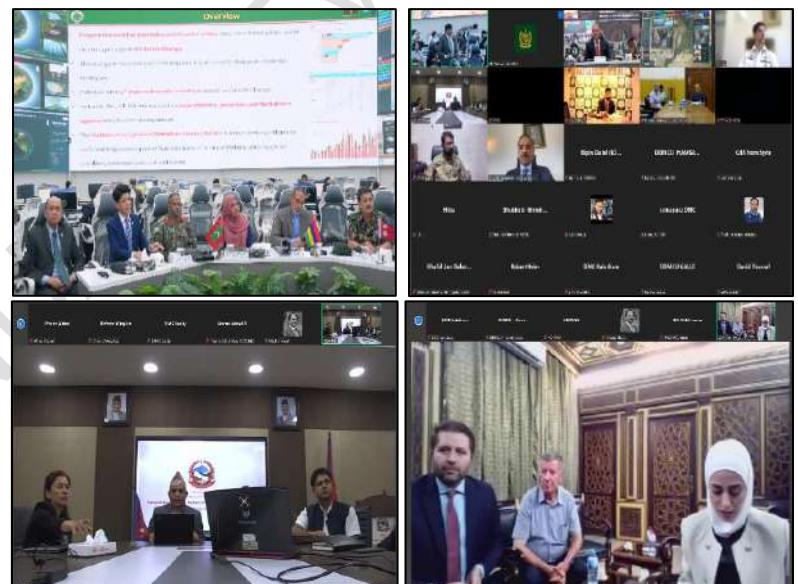


Figure: Multilateral CISE-5 on Flood Scenario

- f. 6th Multilateral CISE was conducted on 30th September 2025, scenario of cyclone was simulated in this exercise. This CISE witnessed diverse range of participants from Economic Cooperation Organization (ECO), NGOs, INGOs and Multiple Disaster Management Organizations of friendly countries including DDPM Thailand, Ministry of Emergency Situations Kazakhstan, NIDM Mozambique, Ministry of

Emergency Situations Azerbaijan and NDMO Iran joined exercise. Moreover, government representatives from Sri Lanka, Bangladesh and Charge D Affairs representatives from Kyrgyzstan, Turkmenistan and Azerbaijan joined exercise. Huge number of participations from defence representatives from Maldives, Iran, Turkiye, Sri Lanka, Egypt, Bangladesh, Tajikistan, Uzbekistan, Azerbaijan, Turkmenistan and China. Syndicates from both NDMA Pakistan group and friendly countries gave their response, shared their thoughts and best practices utilized around world to cater to challenges of cyclonic disasters.



Figure: Multilateral CISE-6 on Cyclone Scenario

- g. 7th Multilateral CISE was conducted on 31st October 2025 simulating scenario of Smog, Fog and Heavy Snowfall mainly focusing on winter contingencies. Participants from 19 countries, NGOs, INGOs, PDMA, IPOP participated in exercise. Representatives from lead disaster management bodies including National Centre for Risk and Disaster Management (CENAD/SEDEC) Brazil, Crisis Management Organization Iran, Civil Protection Department (DPC) Italy, Ministry of Emergency Situations Kyrgyzstan, Ministry of Emergency Situations Kazakhstan, National Disaster Risk Reduction and Management Authority (NDRRMA) Nepal, Adenium Risk UAE and Zhejiang University Beijing, China participated in CISE. Hybrid mode of exercise was followed and participants from both syndicates (NDMA, Pakistan and partner countries) gave their response to simulated scenarios. Exercise served as a platform for participants to mutually learn from best practices and proactively prepare and mitigate challenges of winter contingencies.



Figure: Multilateral CISE-7 on multi-Winter Hazards Scenario

- h. 8th Multilateral CISE was conducted on 3rd and 4th December 2025 under ambit of UN. SimEx continued for span of two days however CISE component was covered on 4th of December (2nd day) simulating scenario of earthquake. Participants from Ministry of Emergency Situations Uzbekistan, National Disaster Management Agency (NADMA) Malaysia, SMART Team from Malaysia, NDMO Iran, ADPC China and Defence Attachés of Pakistan in Foreign countries joined exercise online while Defence Attaché of friendly countries Participated in exercise in-person.



Figure: Multilateral CISE-8 on Earthquake Scenario

5. CISE underscored critical role of multistakeholder engagement in effective disaster mitigation and management. Scenario-based simulations provided a valuable platform to assess national response strategies, readiness levels and inter-agency coordination mechanisms. Pakistan and participating countries shared best practices, contributing to improved adaptability and refinement of contingency plans tailored to specific operational and cultural contexts. A key takeaway was effectiveness of centralized planning with decentralized execution, enabling flexible, localized responses. Exercises underscored strategic deployment of national assets

across defined disaster phases, highlighting value of timely and well-calibrated interventions. CISE also served as a practical model for collaboration between public institutions and disaster response agencies, fostering a unified and cohesive operational framework. This approach enhanced understanding of resource optimization, coordination mechanisms and necessity of scalable, context-specific strategies for effective disaster management. Prior to exercise, multiple preparatory Zoom meetings were conducted to ensure clarity of roles and seamless execution. Furthermore, CISE strengthened regional-level coordination in disaster management and contributed to refinement of proactive, climate-responsive strategies aligned with EW for all initiative of UNDRR. It also supported Pakistan's commitments under National Climate Policy (2021) and National Adaptation Plan (2023), both of which emphasize implementation of robust climate adaptation measures through reinforced institutional and operational capacities.

6. NDMA NEOC Capability Exposition through Bilateral Visits

a. **High Level Delegations' Visits.** Another significant task of RM&M wing has been conduct of various High- level delegations from across globe on round the year basis. US Army, Deputy Chief of Mission of USA to Pakistan, Principal Staff Officer Armed Forces Division Bangladesh and Defence/ Military Attachés/ Advisors from different countries visited NDMA to witness NEOC capability. Delegations from US, Kazakhstan, Nepal, Bangladesh, Nigeria, Sri Lanka, Maldives, France and multiple other countries visited NDMA NEOC. During these visits avenues of mutual collaboration and coordination for effective disaster management and pro-active streamlined DRR were discussed:-

- (1) Visit of US ARCENT Commander Lt General Patrick D Frank, Deputy Chief of Mission in Pakistan Natali Baker.
- (2) Visit of Delegation of Sri Lankan National Defence College (Commodore Nimal Ranasinghe).
- (3) Visit of Delegation Sri Lanka Defence Services Command and Staff College (DSCSC).
- (4) Visit of Delegation, Armed Forces Division Bangladesh – Lt General S M Kamrul Hassan (Counterpart Chairman JCSC).
- (5) Visit of Nigeria Foreign Study Tour of National Defence College (Brig General Adams Jibrin Bawa).
- (6) Visit of Maldives Delegation (DG Department of International Defence Cooperation MoD, (HoD) General Dr Hussain Ibrahim.
- (7) Bangladesh- Foreign Study Tour Armed Forces War Course (Brig General Muhammad Syeedur- Rahman, HoD).

- (8) Visit of Kazakhstan - Defence Attaché (Col Timur- Tokeurauly), Deputy Defence Attaché (Lt Col Zharasbay Kuanysh).
- (9) Visit of France - Defence Attaché (Col Jerome Mancel), Assistant Defence Attaché (Major Frederic Jean).
- (10) Visit of Nepal Army Command and Staff College.
- (11) Visit of NDU Pakistan Delegation - comprising students from 28 friendly countries.
- (12) Visit of US ODRP Team - Maj Adam Steinmetz - Director Exercises Engagements and training (EET) Branch, MSgt Latoya S.RW - Programme Superintendent Exercises Engagements and training (EET) Branch, Mr.Raja Rafaqat Ali – Programme Specialist.
- (13) Visit of US Diplomats - Colonel Josh Stephenson – Army Attaché, Colonel Justin B. Rex-Air Attaché.
- (14) Visit of Mauritius High Commissioner - Mr. Munsoo Kurrimbaccus.
- (15) Visit of Kazakhstan - Deputy Defence Attaché (Lt Col Zharasbay Kuanysh).
- (16) Visit of US ODRP Team - LTC Justin Knox - Programs Director, MAJ Stephen Jordan - Country Desk Office, MSgt Latoya RW - Programs Superintendent, Gregory Shaw -PRM Director, Nazim Ali - Senior PRM Specialist.
- (17) Visit of Head of Mission/ Chief Military Observer UN in Pakistan - Major General Ramon Guardado Sanchez.
- (18) Visit of Italian delegation – Rear Admiral Marco Montoneri Deputy Chief of Three Division of Italian Division general Staff (IDGS) HoD.
- (19) Visit of 8th round of Pakistan -Thailand Senior Staff talks – Maj Gen Chatree Chanpitak - Dy Dir Jt Ops Dte, Gp Capt Amnaj Plasawan - Dir of Intl Coop Div, Col Warakan Supinajaroen - Asst Dir of Policy and Strategy Div, Gp Capt Wih Srikraew - Dir of Edn Div, Office of Mil Edn, Col Nuttawut Sukyat - Staff Officer, Directorate of Operations, Capt Nara Khunthom - Dy Dir of Policy and Strategy Div, Gp Capt Kitjapot Sukpetch -Dy Dir of Special Operations Division, Directorate of Operations, Col Nikhom Chumpoo - Defence and Military Attaché, Col Shahadat - DA (Pak) to Thailand.

b. **Virtual/ in Person Meetings with Stakeholders (National/ Regional/ Global)**

- (1) Virtual meeting with Iran (Mr Kambod Ameni Hosseini)- Director of regional Education and Research Centre of Earthquake Risk Management and resilience for West and Central Asia (RCECWA).

- (2) In Person Meeting with US ODRP, Maj Adam Steinmetz (Director Exercises, Engagements and Trainings), MSgt Latoya S. RW (Programs Superintendent, Exercises, Engagements and Trainings EET Branch), Raja Rafaqat Ali (Programme Specialist).
- (3) Virtual Meeting with Cem Vural (Disaster Management Expert) AFAD Turkiye.
- (4) Virtual Meeting with Ministry of Emergency Situations Kazakhstan.
- (5) In Person meeting with US Team for Bilateral CISE coordination, LTC Justin Knox (Programs Director), Maj Stephen Jordan (Country Desk Officer), MSgt Latoya RW (Programme Superintendent), Gregory Shaw (Programme Director), Nazim Ali (Senior Programme Specialist).
- (6) Virtual meeting with Ms. Palida Puapun - Plan and Policy Analyst, Ms Thanchanok Nuntatikul-Plan and Policy Analyst (Thailand - DDPM).
- (7) In Person meeting with Col. Umut Onol- Defence Attache (Turkiye).
- (8) Virtual meeting with Dr. Carlotta Rodriguez – Managing Director Adenium Risk (UAE).
- (9) Virtual meeting with Mr. Nabeel Goheer – Chief of Asia Program for Appropriate Technology in Health (PATH).
- (10) Virtual meeting with Mr. Nematov Nordirbek Ilkhomjonvih-Head of Department of International Cooperation, Mr.Sadirov Khurshid Ergashovich Head of Operations Department.

c. **Pakistan NDMA – Supported Global Multi-Hazard Alerts/ Advisories**

- (1) NDMA Pakistan, as federal apex body for disaster management, maintains a robust, technology driven EW capability through its dedicated technical teams, providing advance alerts of impending disasters based on continuous multi-hazard monitoring and risk analysis. NDMA actively contributes to regional and international early-warning and information-sharing mechanisms by conducting real-time tracking of meteorological, hydrological, tropical cyclone and seismic developments. By synthesizing data from multiple national and global sources, NDMA identifies evolving risks such as heavy rainfall, flooding, cyclones/hurricanes, heat waves and earthquakes across globe.
- (2) This systematic monitoring enabled timely dissemination of situation-specific alerts covering affected countries, including Australia, Bahrain, Central Asian Republics (CARs), China, Colombia, Iran, Indonesia, Kazakhstan, Myanmar, Philippines, Qatar, Sri Lanka, Saudi Arabia, Thailand, Türkiye, Taiwan,

Japan, New Zealand, United States, Mexico, UAE and Venezuela. By consolidating hazard intelligence and issuing structured alerts, NDMA supported AAs, preparedness planning and cross-border coordination among disaster management stakeholders.

- (3) In event of recent disasters affecting friendly countries, NDMA engaged with global and regional disaster management authorities through established coordination channels. In this context, NDMA's Regional and Military Collaboration (RMC) Wing acted as a key conduit, facilitating civil-military coordination, diplomatic engagement and operational liaison with international and regional partners. When a disaster-stricken country required assistance, RMC Wing coordinated with global and regional partners to align response efforts, share situational information and enable timely humanitarian or technical support. Collectively, these mechanisms underscored NDMA's central role in strengthening international disaster preparedness, response coordination and informed decision-making at both national and global levels.
- d. **Regional Humanitarian Assistance and Disaster Response Coordination.** Regional and Military Collaboration (RMC) of NDMA Pakistan plays a proactive role in coordinating humanitarian assistance during disaster and serves as key agency for collaboration with lead disaster management bodies, military components of friendly countries and liaison with regional organizations. With timely and proactive information sharing by RMC Wing with concerned agencies, NDMA effectively coordinated humanitarian assistance during recent cyclone and flood disasters in Sri Lanka, ensuring prompt planning, intergovernmental liaison and efficient delivery of support. In parallel, NDMA also maintained information-sharing mechanisms with disaster management authorities in Indonesia and Thailand to support regional situational awareness. Throughout these operations, RMC Wing provided regular daily situation updates to consolidate real-time hazard information sharing, strengthen preparedness and response planning across region.

- e. **Impact of Bilateral Visits, meetings and engagements on Disaster Management Mechanisms.** In 2025, bilateral visits and engagements significantly contributed to strengthening Pakistan's disaster management framework. NDMA Pakistan hosted delegations from partner countries including United States, Kazakhstan, Nepal, Bangladesh, Nigeria, Sri Lanka, Maldives and France. These interactions enabled exchange of best practices, facilitated knowledge transfer and supported technical cooperation, leading to improved capacity building and

expanded avenues for collaboration. Strengthened relationships deepened mutual trust and created pathways for timely assistance during emergencies. Furthermore, these engagements promoted joint training opportunities, mutual learning and technology sharing, allowing Pakistan to align its disaster management systems with international standards and enhance overall national resilience against future disasters. Strengthened coordination mechanisms with disaster management counterparts of friendly Countries as that with ARCENT USA, EMERCOM Russia, AFAD Turkiye National Disaster Risk Reduction and Management Authority (NDRRMA) Nepal, Ministry of Emergency Situations Uzbekistan and Kazakhstan, National Disaster Management Organization (NDMO) Iran, National Disaster Management Agency (NADMA) Malaysia, Department of Disaster Prevention and Mitigation (DDPM) Thailand were pivotal. These efforts were geared towards securing targeted and reliable support from friendly countries in times of disasters.

Media Directorate

7. **Mandate and Scope.** Media Directorate's articulation spans across all phases of disaster management, i.e. Pre-Impact (Pre-Disaster), On-Impact (During Disaster) and Post-Impact (Recovery). Media Directorate is responsible for planning, coordination and execution of national disaster risk communication to ensure timely, accurate and unified dissemination of information before, during and after disasters. It serves as central communication focal point for NDMA and maintains coordination with relevant federal ministries, regulatory authorities, media organizations, telecom operators and digital platforms.

a. **Pre-Disaster**

- (1) Develop national risk communication and public awareness strategies.
- (2) Disseminate EW and preparedness messages.
- (3) Simplify technical risk information for public action.
- (4) Coordinate with ministries, media and telecom operators.
- (5) Activate standardized emergency communication protocols.

b. **During Disaster**

- (1) Issue centralized, real-time crisis communication.
- (2) Share safety instructions and evacuation advisories.
- (3) Coordinate messaging with NDMA, PDMAAs and responders.
- (4) Monitor and counter misinformation.
- (5) Maintain two-way communication with media and communities.

c. **Post-Disaster**

- (1) Communicate damage, relief and restoration updates.
- (2) Publicize government support and recovery measures.

- (3) Document NDMA response through media content.
- (4) Promote resilience and risk-informed recovery narratives.

8. **Key Functions**

- a. Formulation and implementation of national disaster risk communication strategies.
- b. Coordination and liaison with federal/provincial ministries, regulatory authorities, media organizations, telecom operators and digital platforms.
- c. Development and issuance of public advisories, alerts and EW messages.
- d. Centralized management of crisis communication during emergencies.
- e. Issuance of official updates, media briefs, press releases and situational communication products.
- f. Monitoring and management of misinformation and disinformation related to disasters.
- g. Coordination and facilitation of media coverage for NDMA activities, events and response operations.
- h. Preparation of communication briefs, key messages and media content for senior leadership.
- i. Maintenance of communication protocols and media partnerships for ER.
- j. Documentation, archiving and dissemination of disaster-related media content to support public awareness and institutional learning.

ACTIVITIES OF MEDIA DIRECTORATE IN 2025

9. **Overview.** Year 2025 presented Pakistan with a range of seasonal and climate-induced challenges from intense **heatwaves** in early summer to **severe monsoon hazards** and potential **smog-related health and visibility risks** in upcoming winter months. Throughout year, NDMA's Media Directorate played a central role in risk communication by employing a **multi-platform, integrated public information strategy** to ensure timely dissemination of warnings, advisories and safety messages to public, media and institutions.

10. Directorate's approach remained focused on **awareness, EW dissemination, public preparedness and institutional credibility** ensuring that risk information reach right audience at right time through right channel.

11. **Strategic Objectives**

- a. **Timely Dissemination.** Deliver EW and advisories to vulnerable communities via mass media and telecom networks.
- b. **Public Awareness.** Educate communities and institutions on preparedness and safety measures.
- c. **Amplification of NDMA Updates.** Enhance visibility of NDMA's situational monitoring and response operations.

- d. **Credibility Enhancement.** Reinforce NDMA's role as Pakistan's central disaster management authority.

12. **Key Activities and Outputs**

- a. **Heatwave Risk Communication (May - June 2025).** As temperatures surged across country, NDMA proactively launched a nationwide **Heatwave Preparedness and Risk Communication Campaign** to minimize heat-related casualties and promote protective behaviour among communities.
- b. **Television Engagements.** Over **30 television interviews** and talk shows appearances were organized for NDMA experts and spokespersons across national and regional channels. Key topics included heatwave identification, public health protection, workplace safety, water intake guidance and urban cooling measures.



Figure: Interviews

c. **SMS Alerts through Jazz**

- (1) Two **geotagged SMS campaigns** were conducted in **high-risk districts of Sindh, South Punjab and Baluchistan** focusing on extreme temperature alerts and protective instructions.
- (2) Alerts reached **millions of mobile users**, providing short, actionable guidance on hydration, shade-seeking and vulnerable group protection.

d. **Public Service Messages (PSMs)**

- (1) A series of **digital and broadcast PSMs** were produced and circulated on NDMA's **social media channels, YouTube and partner TV networks.**
- (2) Messages emphasized **Stay Indoors During Peak Hours, Check on Elderly and Children and Avoid Dehydration and Outdoor Labour.**



Figure: Public Service Messages

- e. **Social Media Outreach.** Daily posts, infographics and short videos were shared across NDMA's verified platforms including **Facebook, X, Instagram, LinkedIn and WhatsApp Channel.**

f. **Coordination with Provincial Authorities.** Heatwave alerts and guidance were shared with **electronic, print and social media platforms**, ensuring synchronized communication and effective local implementation.

13. **Pre-Monsoon Risk Communication Initiatives.** To strengthen preparedness before onset of 2025 Monsoon, NDMA launched a series of **strategic pre-monsoon communication activities** aimed at building institutional coordination, enhancing outreach capacity and ensuring effective EW dissemination.

a. **Partnership with Telecom Sector.** NDMA formalized a **Letter of Agreement with Jazz**, one of Pakistan's leading telecom operators to deliver **geotagged SMS alerts** directly to at-risk communities. Agreement set a precedent for broader telecom engagement in DRR.



Figure: Letter of Agreement

b. **Leveraging DMCF.** DMCF was actively utilized as a platform to integrate provincial and district administrations into NDMA's communication framework. This process ensured that messaging was consistent, contextual and operationally relevant.

c. **Establishment of United Disaster Media Support Groups (UDMSGs).** NDMA spearheaded establishment of UDMSGs. These groups brought together media professionals, communication officers and disaster managers across federal and provincial levels as well as global media.



Figure: Media Interview

d. **Knowledge Sharing and Capacity Building.** NDMA organized a **National Seminar on Risk Communication** engaging multisectoral stakeholders including government departments, humanitarian agencies, academia and media. Seminar focused on best practices for preparedness messaging, audience segmentation

and leveraging technology for disaster awareness. Complementing this a **Provincial Disaster Risk Communication Coordination Conference** was held to align provincial messaging strategies with NDMA's national framework.

- e. **International Engagement.** Recognizing importance of global best practices, NDMA hosted a **webinar with international stakeholders** from global media, ICIMOD, INGOs and global disaster communication networks.



Figure: International Engagement

14. **Development of Documentary Series.** As part of targeted communication for high-risk regions, NDMA developed a **10 x specialized series of documentaries** on GB. Productions focused on role of Community Based Disaster Risk Management (CBDRM) and CERTs in local disaster management. Importantly, series also addressed psychosocial challenges linked with disasters, including post-traumatic stress disorder (PTSD) and gender-based violence (GBV), underscoring need for inclusive, holistic approaches to disaster preparedness.



Figure: Documentary Series

15. Monsoon Risk Communication Initiatives

a. **Press Releases and Tickers.** Issued **800 +** tickers and press releases from June - September 2025. These media releases were broadcasted in real-time across **141 satellite channels** under attribution of NDMA Media Wing.

b. Contents Included

- (1) **DEW-3** and catchment-specific forecasts.
- (2) **Situation** of rivers, hydrological structures and reservoirs
- (3) **Hazard projections** such as flash floods, torrential rains, snowmelt, landslides, GLOFs and riverine flooding.
- (4) Prime Minister, Federal Ministers, Parliamentarians, Secretaries and heads of **Institutions briefings** at NEOC.
- (5) Briefing of **Ambassadors and Foreign Missions** on monsoon impacts.
- (6) **International delegations' visits** to NEOC.
- (7) **Relief dispatches** to PDMA Punjab & KP and **related updates**.

c. SMS Alerts

- (1) Campaigns Conducted: **10 SMS Alert campaigns**, (Duration of each campaign was one week).
- (2) **Partners:** Pakistan Telecommunication Authority (PTA) + telecom operators.
- (3) Coverage: **High-risk districts with localized instructions.**
- (4) **SMS Campaigns Overview**



Figure: SMS Alerts

Campaign No.	Target Districts	Content Focus	Estimated Reach (Mn)
1-3	Northern Areas	Flood warnings, landslides, travel advisories	200
4-6	KP, GB and Punjab	Travel Advisories, Evacuation guidance and Riverine flooding	
7-10	Sindh and South Punjab	Riverine flooding	

d. Ring-Back Tones (RBTs)

- (1) Total Activated: **2 monsoon safety tones (Jul- Sep).**
- (2) Coverage: **Nationwide.**
- (3) Impact: Passive but repetitive reinforcement of preparedness messages.

e. **Public Service Messages (PSMs)**

- (1) Produced around 15 thematic broadcast PSMs, aired through **social media platforms** and **TV Channels** including **YouTube**.
- (2) Themes included: **rain emergencies** and **flood preparedness**, **safety guidelines**, **evacuation guidance**, **health emergencies** and **NDMA mobile application** information.



Figure: Public Service Messages

f. **Media Engagements (Pressers, Media briefings and TV Interviews)**

- (1) Coordinated and broadcast **20x Press Conferences and Media Briefings** by Honourable Prime Minister, Federal Minister, Chairman NDMA and National Leadership.
- (2) Coordinated more than **100 television interviews** of NDMA experts on national and regional channels.
- (3) Interviews were aimed at sensitizing general public about hazards, vulnerabilities and risk reduction measures during monsoon season.



Figure: Media Engagements

- g. **Social Media Outreach.** During 2025 monsoon season, NDMA's official social media platforms including Facebook, X, Instagram, LinkedIn, TikTok, WhatsApp channel played a pivotal role in **real-time risk communication** and **public engagement**. Content projected through these channels included **EW**, **rainfall and flood advisories**, **preparedness infographics**, **short educational**



Figure: Social Media Outreach

videos, live updates on relief operations and coverage of high-level briefings.

Use of **Urdu** expanded accessibility, while interactive posts and video messages ensured higher audience retention.

- h. **Local Language Radio Broadcasts.** NDMA utilized Pakistan Broadcast Cooperation (PBC) and Radio Pakistan **regional radio stations broadcasting in local languages** including Pashto, Sindhi, Saraiki, Hindko, Dari, Shina, Chitrali, Punjabi during 2025 monsoon season. Alerts and advisories were tailored into **simple, culturally relevant messages** that resonated with rural populations, many of whom have limited access to television or digital media. These broadcasts provided **real-time rainfall and flood warnings, evacuation instructions and preparedness guidelines**, ensuring inclusivity in communication outreach.



Figure: Radio Broadcasts

- i. **Alert Dissemination through Religious Institutions (e.g., Mosques).** Recognizing influence and reach of religious institutions in community life, NDMA collaborated with local authorities and religious leaders to utilize Mosques and other places of worship for timely dissemination of flood alerts and evacuation guidance. Through Mosque loudspeakers and community announcements, especially in remote or digitally disconnected areas, urgent advisories were broadcast to maximize outreach. This approach enhanced trust, localized engagement and rapid mobilization for early evacuation efforts.

Communication Tools	Outreach/Audience	Effectiveness (Qualitative)
TV Interviews and Press Briefs	National and International	Established NDMA as authoritative voice and Strengthened credibility and transparency
Press Releases and Urdu Tickers	Nationwide	Enhanced public visibility and awareness, provided updates to public
Social Media Updates	Digital-first	Engaged youth and urban audiences
SMS Alerts	Vulnerable districts	Provided life-saving, actionable guidance
Ring-Back Tones	Nationwide	Reinforced disaster preparedness through NDMA voice

16. **Post-Monsoon and Winter Season Risk Communication (October - December 2025).**

Following conclusion of monsoon 2025, NDMA transitioned its communication strategy toward addressing **winter season hazards**, particularly **smog, fog and cold wave-related health and traffic risks.**

a. **Objectives**

- (1) **Enhance Public Awareness** on causes and impacts of smog and fog.
- (2) **Promote Preventive Behaviour** to mitigate health and road safety risks.
- (3) **Discourage Human-Induced Factors** contributing to winter pollution.
- (4) **Maintain Consistent Engagement** across media platforms for seasonal preparedness.

b. **Pre-Smoke and Smog Awareness Campaign (Pre-Season Initiative)**

- (1) As part of proactive preparedness, NDMA launched a **national awareness campaign ahead of winter season** before onset of smog.
- (2) Campaign, titled "**سمog آکابی مہم**" (**Smog Awareness Drive**), focuses on preventing smog formation and raising awareness before season begins.
- (3) Messaging highlights human-induced causes such as **crop residue burning, vehicular emissions and industrial pollutants**, with an emphasis on collective responsibility and community protection.

CHAPTER - 9

NATIONAL RESOURCE WING (NR)

1. **Mandate & Scope.** Across all phases of disaster management, NR Wing performs following core actions:-

a. **Pre-Disaster**

- (1) Formally engage private sector partnerships through engagement frameworks and MoUs.
- (2) Promote integration of DRM in business continuity planning processes of private sector.
- (3) Maintain a national database of leading private sector entities.
- (4) Align CSR, ESG and philanthropic investments with national DRM and preparedness priorities.
- (5) Conduct joint capacity-building, simulations and industrial disaster preparedness initiatives.

b. **During Disaster**

- (1) Mobilize private sector financial, in-kind, logistical and technical support aligned with NDMA response priorities.
- (2) Coordinate and facilitate private sector contributions with NDMA, provincial and district authorities.
- (3) Track, document and report private sector contributions in real time.
- (4) Ensure structured engagement and visibility of private sector partners during response operations.

c. **Post Disaster**

- (1) Consolidate and assess private sector contributions, utilization and response impact.
- (2) Facilitate private sector participation in recovery, rehabilitation and reconstruction initiatives.
- (3) Conduct post-disaster reviews to capture lessons and good practices.
- (4) Transition response-based partnerships into long-term resilience and risk reduction initiatives.

2. **Key Functions**

- a. Serve as NDMA's national focal point for engagement with private sector, industry, chambers of commerce and philanthropic organizations.
- b. Develop, operationalize and periodically update policy framework, SOPs and engagement protocols for non-governmental resource mobilization.
- c. Maintain national-level databases for private sector contributions and capacities.

- d. Timely sharing of EW, advisories and guidelines/ SOPs with private sector stakeholders for wider dissemination.
- e. Facilitate policy alignment and coordination with relevant ministries, regulators and sectoral bodies to embed DRM within economic and industrial systems.
- f. Support capacity building and knowledge exchange with support of NIDM.
- g. Promote transparency, accountability and recognition of private sector contributions to national resilience.
- h. Strengthen coordination between NDMA, PDMA, DDMAs and private sector stakeholders to ensure coherence across all tiers of disaster management.
- i. Support NDMA leadership through regular reporting, analysis and strategic advice on non-government resource mobilization.

ACTIVITIES OF NR IN 2025

3. National Resource (NR) Wing was established in June 2025 to streamline and coordinate efforts of non-government key steps:-

- a. **Supporting national response to Monsoon-induced Floods 2025.** During 2025, NR Wing played a pivotal role in mobilizing, coordinating and channelling critical support for national response to Monsoon-induced Floods. Through proactive engagement with private sector partners, government corporations, industry stakeholders and philanthropic organizations, Wing facilitated substantial resource providers, namely private sector, industries, state-owned enterprises and philanthropist organizations/ foundations. NR Wing aims to transform disaster risk management (DRM) from a reactive, state-led approach into a proactive, multi-stakeholder system grounded in preparedness, partnership and innovation. During brief period since its establishment, NR Wing has undertaken following in-kind contributions amounting through government corporate partners, to strengthen immediate response mechanisms and replenish emergency reserves. Structured coordination efforts ensured transparent tracking, equitable distribution and efficient deployment of all contributions.
- b. **Successful Conduct of National Resilience Day - 8th October Commemorative Event.** Government of Pakistan has marked 8th October as National Resilience Day in remembrance of devastating Kashmir Earthquake 2005 that claimed over 73,000 lives and caused extensive infrastructure damages and to emphasize strength, resolve and resilience of people of Pakistan in face of adversity. To observe this year's National Resilience Day, NDMA organized a Commemorative Event on 8th October at NDMA Auditorium at NDMA Headquarters. Event was widely attended by representatives from government stakeholders, diplomatic community, UN agencies,

development and humanitarian partners, academia and private/ industrial sector. Event highlighted spirit of resilience shown by public to support affectees of Kashmir Earthquake 2005 and subsequent disasters including Floods 2010, 2022 and 2025. Event also highlighted NDMA efforts during national response to monsoon 2025.

- c. **Development of NDMA - Private Sector Engagement Framework for Disaster Risk Management.** NR Wing has drafted a 'NDMA Private Sector Engagement Framework for Disaster Risk Management' to move from episodic relief to sustained resilience. This Framework represents a strategic shift from assistance to co-investment, aligned with Sendai Framework for DRR (particularly Priority-3: Investing in DRR), National DRR Policy (2013), National DRR Strategy 2025-2030 (2025) and SECP Voluntary CSR Guidelines (2013). This collaborative engagement approach aims to institutionalize public-private partnerships for disaster risk management, provide recognition, incentives and transparency tools, while aligning CSR, environmental, social and governance (ESG) and philanthropic capital with national resilience goals and position private sector as a core partner in building a disaster-resilient Pakistan.
- d. **NDMA Participation in COP-30 in Belem, Brazil.** Annual Conference of Parties (COP) of United Nations Framework Convention on Climate Change (UNFCCC) is apex decision-making body for UNFCCC. 30th meeting (COP-30) was held from 10 - 21 November 2025 in Belem, Brazil. Four-member NDMA delegation attended COP30 and actively participated in multiple side events. NDMA also hosted a panel discussion on "From EW to Early Action: DEW" in Pakistan Pavilion on 19 November 2025, showcasing NDMA's NEOC EW capabilities.
- e. **Established Linkages with Key Stakeholders.** In brief time, NR Wing has successfully worked to forge linkages with key stakeholders including Minister of Commerce, Minister of Industries and Production, Federation of Pakistan Chambers of Commerce and Industry (FPCCI), Rawalpindi Chamber of Commerce and Industry and leading organizations from private sector and industries.
- f. **National Industrial Disaster Preparedness/ Response Exercise.** As part of its commitment to enhancing disaster preparedness, NR Wing, NDMA conducted National Industrial Disaster Preparedness/ Response Exercise 2025 on 26th November 2025 at NEOC, NDMA. Exercise brought together more than 85 representatives from key federal ministries, PDMAs, Rescue 1122 teams and leading industrial partners from chemical, fertilizer, oil and gas and FMCG sectors. Through realistic scenario-based simulations involving hazardous material incidents, large-scale fires, chemical leaks and community-level impacts, activity

rigorously tested contingency plans, command-and-control arrangements and cross-sectoral coordination mechanisms. Industrial syndicates and provincial authorities jointly assessed response pathways, firefighting strategies, decontamination processes and evacuation requirements under evolving emergency conditions. Exercise not only strengthened operational readiness but also generated actionable lessons for improving multi-tier response planning, enhancing public communication strategies and ensuring better alignment of industry and government roles in managing industrial hazards. By identifying gaps in resource deployment, risk assessment and inter-agency interoperability, Industrial Exercise 2025 contributed significantly to Pakistan's broader agenda of building a safer, more resilient industrial landscape in line with NDMA's all-hazards preparedness approach.

- g. **Development of Ready-Projects Pipeline.** NR Wing developed a comprehensive Prospective Projects Pipeline to position NDMA for strategic engagement with development partners and donors. Pipeline consolidates priority initiatives across multi-hazard EW, DRR, preparedness and climate-resilient infrastructure, structured around national resilience framework. By presenting a coherent portfolio of investment-ready projects, NR Wing has strengthened NDMA's ability to articulate national needs, mobilize financing and pursue partnerships aimed at enhancing resilience against various hazards. This pipeline now serves as a cornerstone for NDMA's resource mobilization efforts and donor outreach.

CHAPTER - 10

INTERNATIONAL COLLABORATION WING (IC)

1. **Mandate and Scope.** IC Wing's articulation spans across all phases of disaster, i.e., pre-impact actions, on-impact and post-impact recovery:-

- a. **Pre-Disaster.** Proactive Sensitization; Apprising international community through formal briefings on potential hazards and delineating high-level support required in event of a major calamity. Objective is to expand partnerships with international entities to enhance disaster resilience and prepare stakeholders for potential hazards through EW systems and capacity- building initiatives.
- b. **During Disaster**
 - (1) **Need Gap Analysis.** Conducting rapid assessments to identify shortages in national resources, capabilities and response mechanisms during an active disaster event.
 - (2) **Resource Mapping.** Cataloguing and tracking available international resources, including aid from foreign governments and international organizations, to align them with identified needs.
 - (3) **Mobilize Pre-Coordinated Assistance.** Activating pre-established agreements and networks to deploy international support promptly.
- c. **Post Disaster**
 - (1) Diplomatic Liaison for Affected Foreign Nationals; Facilitating communication and support for foreign citizens impacted by disaster, including coordination with embassies for evacuation, medical aid and repatriation.
 - (2) Post Disaster Recovery Support; Coordinating international funding, expertise and resources for rehabilitation efforts, including infrastructure rebuilding and long-term community resilience programs.

2. **Key Functions**

- a. Formulation and coordination of measures to address national resource gaps through international cooperation.
- b. Liaison with Federal Ministries, including Ministry of Foreign Affairs (MoFA) and other key stakeholders.
- c. Keep federal government and parliament updated on evolving situations.
- d. Handover and management of logistical support.
- e. Provision of diplomatic support.
- f. Engagement with Pakistani and foreign missions, as well as diaspora communities.

- g. Sensitize global community regarding global and national hazards, such as avalanches, heatwaves, forest fires, cyclones, GLOF, landslides, floods, smog and blizzards, based on DEW levels 1-4 across seasonal patterns
- h. Promotion of risk resilience through international partnerships.

ACTIVITIES OF IC IN 2025

3. Diplomatic Engagements

- a. SCO, ECO and SAARC Diplomats visit, 7 January 2025.
- b. Secretary General SCO visit, 18 April 2025.
- c. Visit of Turkish Ambassador, 15 April 2025.
- d. Visit of ECHO Delegation, 24 April 2025.
- e. Visit of Foreign Ambassadors to PEDRR, May 2025.
- f. Visit of Azerbaijan CD'A, 3 June 2025.
- g. Australian Delegation visit, 15 July 2025.
- h. Syrian Delegation visit, 24 July 2025.
- i. Visit of HOMs of Eastern European Countries, 28 July 2025.
- j. Meeting with JICA's focal person for High End Support, 2 August 2025.
- k. Visit of delegates from Irish Embassy, 4 August 2025.
- l. Meeting with Qatar Charity for High End Support, 15 August 2025.
- m. Visit of Head of Political Affairs, Indonesian Embassy, 20 August 2025.
- n. Meeting with Netherlands Ambassador-Designate, 2 September 2025.
- o. Visit of Italian Ambassador, 4 September 2025.
- p. Monsoon Appraisal for Foreign Missions (Ambassadors/ HCs) in Pakistan and Pakistan Missions Abroad (Virtual Attendance), 11 September 2025.
- q. Visit of CDA China, 12 September 2025
- r. High-Level Delegation visit from Kazakhstan and Uzbekistan, 30 September 2025.

4. Virtual Meet. Virtual Meet with Pak Missions in Centre and East zone, 23 April 2025.

5. Bureau Engagements

- a. Federal Ministers visit, 3 July 2025.
- b. Federal Secretaries visit, 10 September 2025.

6. Parliamentary Engagements

- a. Visit of Senate Standing Committee on CC and EC, 23 May 2025.
- b. Visit of NA Standing committee on Climate change, 3 July 2025.
- c. NA Speaker along with Parliamentarians Visit, 1 September 2025.

7. Foreign Parliament Engagement. Visit of Speaker Pakistan National Assembly, speaker Milli Majlis, Azerbaijan and Speaker Grand National Assembly, Turkiye.

8. **Cooperation with Italian Civil Protection**
 - a. Virtual Meeting; Italy Civil Protection Department - high end items, 25 August 2025.
 - b. One day workshop on Strengthening National Capacities for Building and Managing Resilient Infrastructure from Natural Disasters, 30 October 2025.
 - c. Bilateral Meet with Italian Civil Protection, 31 October 2025.
9. **Diaspora Engagements**
 - a. Virtual meet; British Pakistan Welfare Association (BPWA), 29 July & 8 August 2025.
 - b. Virtual meet with Pak Diaspora APPNA, US, 13 August 2025.
 - c. Meeting with BPWA focal person, 19 August 2025.
 - d. Signing of Letter of Agreement with APPNA, US, 17 September 2025.
 - e. Signing of Letter of Agreement with BPWA, UK, 24 September 2025.
10. **Sharing Advisories to Pak and Foreign Missions**
 - a. Virtual Meeting; Pak Missions in Zone East & Centre, 4 November 2025.
 - b. Visit of Turkish Interior Minister and President AFAD, 6 November 2025.
 - c. Visit to Italian Civil Protection in Italy, 22-29 November 2025.
 - d. Meeting; Head of International Cooperation, EMERCOM Russia, 27 November 2025.
 - e. Virtual Meet with Pak missions in East and Centre Zone (2nd week of December 2025).
11. **Virtual Workshops**
 - a. SAARC Workshop on Building Resilient Cities, 29 January 2025.
 - b. SAARC Workshop on Water Infrastructure, 27 February 2025.
 - c. AADMER Workshop (ASEAN Agreement on Disaster and ER), 11 June 2025.

CHAPTER - 11

RISK FINANCE WING (RF)

1. **Mandate & Scope.** Provide strategic and technical support to strengthen Pakistan's disaster risk financing architecture, ensuring financial preparedness, rapid liquidity during disasters and resilient recovery through coordination with federal, provincial and development partners:-

a. **Pre-Disaster**

- (1) Support development of national disaster risk financing frameworks and instruments.
- (2) Assess fiscal exposure to disaster risks.
- (3) Promote ex-ante financing, insurance and AA mechanisms.

b. **During Disaster**

- (1) Facilitate rapid mobilization of pre-arranged financial resources.
- (2) Provide technical inputs for activation of financing instruments.
- (3) Support financial coordination within national response mechanisms.

c. **Post-Disaster**

- (1) Contribute to recovery and reconstruction financing strategies.
- (2) Support resource mobilization and linkage to resilient rebuilding.
- (3) Document lessons learned to strengthen future financial preparedness.

2. **Key Functions**

- a. Technical advisory and coordination on disaster risk financing.
- b. Stakeholder engagement with government and development partners.
- c. Analytics, policy inputs and capacity building on risk finance.

ACTIVITIES OF RF IN 2025

3. **Financing Recovery: Integrating DRR and Climate Strategies in Recovery**

Opportunities (Sindh People's Housing for Affected Population [SPHF]). As part of its ongoing engagement on risk-informed recovery and reconstruction financing, NDMA led and contributed to a high-level policy dialogue on integrating DRR and climate strategies into post-disaster recovery opportunities, with a strong focus on economic impacts of disasters and scale of financing required for resilient recover:-

- a. Dialogue examined how recurrent climate-induced disasters are generating systemic economic shocks in Pakistan, including damage to public infrastructure, productivity losses, fiscal stress and diversion of development resources. Participants emphasized that recovery and reconstruction must be approached not only as humanitarian or engineering challenges but as macroeconomic and fiscal policy issues requiring structured, risk-informed financing solutions.

- b. Key discussion areas included:-
 - (1) Cumulative economic costs of disasters including indirect and long-term impacts on growth, employment and public finances.
 - (2) Role of recovery investments as an opportunity to embed DRR and climate adaptation measures thereby reducing future exposure and losses.
 - (3) Need for predictable and pre-arranged recovery financing, moving beyond ad-hoc post-disaster budget reallocations and emergency appeals.
 - (4) Strengthening coherence between recovery programming, national disaster risk financing frameworks and climate finance instruments.
- c. Dialogue also underscored importance of institutional coordination between national disaster management authorities, provincial recovery entities, economic ministries and development partners to ensure that reconstruction investments are fiscally sustainable, climate-resilient and development-oriented. High-level dialogue was organized by SPHF as part of its broader engagement on housing recovery and reconstruction following 2022 floods with NDMA contributing national-level perspectives on disaster risk governance and financing.

4. **Regional Policy Panel on Climate Action and Financing (ICIMOD Regional Conference, Islamabad)**. As part of its continued engagement in regional climate and disaster risk finance discourse, NDMA contributed to a high-level regional panel titled “Status of Collaborative Climate Actions and Financing in Pakistan”, held during International Centre for Integrated Mountain Development (ICIMOD) Regional Conference in Islamabad:-

- a. Panel provided a strategic platform to assess Pakistan’s progress in collaborative climate action with a particular focus on financing pathways for adaptation, DRR and resilience-building in climate-vulnerable contexts. Discussions highlighted interconnected nature of climate risks across Hindu Kush Himalaya region and underscored need for coordinated, multi-stakeholder financing approaches.
- b. Key discussion themes included:-
 - (1) Economic and fiscal implications of climate-induced disasters for Pakistan, particularly in mountain and downstream flood-prone regions.
 - (2) Gaps between climate ambition and available financing, especially for adaptation, EW systems and risk reduction investments.
 - (3) Importance of regional cooperation and pooled knowledge in mobilizing climate and disaster risk finance.
 - (4) Aligning national disaster risk financing efforts with regional climate initiatives, development finance and emerging global mechanisms.

c. NDMA's contribution emphasized need to move beyond fragmented project-based financing toward integrated, risk-informed financing frameworks that link EW, AA, recovery and long-term resilience. Panel reinforced importance of positioning disaster risk finance as a core enabler of climate action rather than a downstream response tool.

5. **1st National Resilience Dialogue on Climate and Disaster Risk Financing (National Resilience Day - 8 October)**. On occasion of National Resilience Day (8 October), NDMA convened 1st National Resilience Dialogue on Climate and Disaster Risk Financing marking a significant step in advancing national discourse on financial dimensions of climate and disaster resilience. Dialogue brought together senior representatives from international organizations, diplomatic missions, public sector institutions, development partners and private sector, reflecting a whole-of-system approach to resilience financing. Forum aimed to elevate climate and disaster risk financing from a technical discussion to a national resilience and development priority. Participating institutions included United Nations Office for Disaster Risk Reduction (UNDRR), Embassy of Azerbaijan in Pakistan, Sehat Sahulat Program, Ministry of National Health Services, Government of Pakistan, Biowaste Energy Ventures Ltd and Insurance and Risk Finance Facility (IRFF), UNDP:-

a. Strategic Significance 1st National Resilience Dialogue reinforced NDMA's role as a national convener and strategic anchor for climate and disaster risk financing in Pakistan. Discussions contributed to:-

- (1) Building national consensus on financial preparedness as a pillar of resilience.
- (2) Strengthening linkages between disaster risk management, climate finance and development planning.
- (3) Advancing policy dialogue aligned with Pakistan's emerging National Disaster Risk Finance Strategy and international climate finance engagements.

6. **NDMA Participation at COP-29 (29th Conference of Parties to UNFCCC)**. As part of Pakistan's engagement in global climate negotiations, NDMA participated in Conference of Parties (COP-29) contributing to policy dialogue on climate and disaster risk financing, loss and damage, AA and resilience building. NDMA's participation focused on advancing recognition of disaster risk financing as a core enabler of climate action, particularly for highly vulnerable countries facing recurrent climate-induced shocks. Engagements emphasized need to move beyond fragmented project-based approaches toward systemic, pre-arranged and scalable financing frameworks that link EW, preparedness, response and recovery:-

- a. Strategic Significance NDMA's participation at COP-29 reinforced Pakistan's position as a climate-vulnerable country advocating for equitable and effective global climate finance solutions. Engagement contributed to:-
 - (1) Strengthening international awareness financial dimensions of disaster risk.
 - (2) Aligning global climate finance discussions with national disaster risk financing priorities.
 - (3) Supporting ongoing national processes related to disaster risk finance strategy, AA and recovery financing.

7. **Resilience through Collaboration; Transforming Disaster and Agriculture Insurance (SECP Annual Conference on Insurance Karachi)**. As part of its continued engagement on risk transfer, insurance and financial resilience, NDMA participated in Annual Conference on Insurance organized by Securities and Exchange Commission of Pakistan (SECP) in Karachi. Conference focused on advancing collaborative approaches to disaster and agriculture insurance as critical instruments for managing climate and disaster risks in Pakistan. Forum brought together senior representatives from government, financial regulators, public sector risk funds, commercial banks and insurance industry, reflecting a multi-stakeholder approach to strengthening insurance penetration and risk transfer solutions in climate-vulnerable sectors. Participating institutions included; NDMA, Agriculture Department Punjab, State Bank of Pakistan (Agricultural Credit and Financial Inclusion), National Disaster Risk Management Fund (NDRMF), Bank of Punjab, National Insurance Company Limited (NICL) and Jubilee General Insurance:-

- a. **Strategic Relevance**. NDMA's participation in SECP Annual Conference reinforced its role in bridging disaster risk management and financial sector solutions, particularly in context of climate change. Engagement contributed to:-
 - (1) Advancing dialogue on insurance-based disaster risk financing.
 - (2) Strengthening coordination between public institutions & insurance market.
 - (3) Supporting national efforts to diversify disaster financing instruments beyond post-disaster public expenditure.

8. **Financing a Greener Future Reimagining Pakistan's Financial Architecture (Green Talk at PEDRRR 2025)**. A Green Talk at PEDRRR - 2025, titled "Financing a Greener Future; Reimagining Pakistan's Financial Architecture" was delivered. Session focused on need to realign Pakistan's financial systems to respond effectively to climate risks, disaster-induced economic shocks and long-term resilience needs. It emphasized that climate change and disasters are no longer peripheral environmental concerns, but central macroeconomic and fiscal challenges that require structural reforms in how public and private finance is mobilized, allocated and governed:-

- a. **Strategic Significance**. Green Talk at PEDRRR 2025 reinforced NDMA's role as a national thought leader on financial dimensions of resilience, contributing to:-

- (1) Advancing national discourse on green finance and disaster risk financing integration.
- (2) Strengthening understanding of disasters as economic and financial risks.
- (3) Supporting ongoing efforts to embed resilience considerations into Pakistan's financial and development architecture.

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CHAPTER - 12

CENTRE OF EXCELLENCE CLIMATE CHANGE AND DISASTER MANAGEMENT (CoE-C2DM)

1. **Mandate & Scope.** Centre of Excellence in Climate Change and Disaster Management (CoE-C2DM) is established as a strategic institutional mechanism to translate technological maturity and operational excellence of NEOC into structured capacity building, professional training and knowledge transfer.

2. **Key Functions**

- a. CoE-C2DM functions as NDMA's institutional platform for bridging knowledge gaps by building national and partner capacity at global, federal, provincial and district levels.
- b. CoE-C2DM strengthens preparedness, ensuring that coordination gaps are addressed before emergencies occur.
- c. CoE-C2DM serves function of aligning response trajectories of multiple national and international stake holders for proactive disaster management.

ACTIVITIES OF CoE-C2DM IN 2025

Overview

3. In line with directive of Honourable Prime Minister to enhance standard of specialized technical human resource (HR), ensure structured career progression and sustain capacity development, NDMA has established a CoE-C2DM. Specialized building for CoE-C2DM Block is designed to strengthen institutional capacity by providing advanced training, education and career development opportunities for specialized hi-tech HR engaged in disaster management and ER. Construction of CoE-C2DM Block was successfully completed in December 2025. Block has been equipped with capacity to conduct 54x officers training and 2x Hi-Tech Labs facility with capacity of 64x stations.

4. Pakistan CoE-C2DM serving as national hub for capacity building of human resource based on integrated preparedness, EW and collaboration imparts trainings sessions through 'Subject Matter Experts'. It bridges real time operational coordination with evidence based innovation and technology thereby strengthening and sustaining NDMA's transition from a reactive to a proactive knowledge-driven disaster management framework.

5. During 2025, 2x training and certifications wing interfacing with government departments, provincial stakeholders, UN organization, development agencies and National/ international partners NGOs to support learning trained 32x officers.

6. **Vision and Mandate.** CoE-C2DM envisions a regime of resilience, enabled through innovation, trained human capital and integration of science and technology in climate change adaptation, disaster preparedness and response. Its mandate includes:-

- a. Institutionalizing climate and disaster-risk knowledge through structured academic

and professional training.

- b. Developing sustained streams of trained human resources in DRR, EW, humanitarian coordination and climate adaptation.
- c. Integrating applied research in NEOC technology and policy to advance human capital in AA, geospatial decision-support and risk communication.

7. **Strategic Objectives**

- a. **Capacity Development.** Establish structured 'Officer Training Courses (Basic Course N-1 & C2DM 01-25)' to build a continuous national cadre of disaster-management professionals representing NDMA, PDMAs, UN agencies, NGOs and INGOs.



Figure: Basic Course N-1 & C2DM 01-25

- b. **Disaster Calendar Synchronizing.** Enhance relevance and efficacy of training through synchronization of modules with disasters and vulnerability spread over calendar year so each batch is prepared and enabled ahead of impending crises.



Figure: CoE-C2DM Courses

- c. **Knowledge Integration.** Standardize curricula on climate resilience, humanitarian coordination and technology application in DRR in collaboration with universities and international partners.



Figure: Integration Session

- d. **Technology and Innovation.** Expand operational link between NEOC and CoE-C2DM to utilize AI-enabled EW dashboards, satellite data and multi-hazard vulnerability assessments for real-time decision support.

8. Key Initiatives and Achievements - 2025

- a. **Officer Training Course Series (N1 & C2DM 01-25)**. Two courses successfully conducted at NDMA HQ, focusing on practical exposure to EW, field coordination and humanitarian logistics. A total of 31 officers have been trained for year 2025.



Figure: Officer Training Course Series (N1 & C2DM 01-25)

- b. **Integration of Space-Based Tools**. A visit to Space Application Centre for Response in Emergency and Disasters (SACRED-SUPARCO) familiarization visit is institutionalized within curriculum to demonstrate applications of remote sensing, satellite imagery and spatial modelling for ER.



Figure: SACRED-SUPARCO Familiarization Visit

9. Sustaining Human Resource Development. A key strategic priority for establishing CoE-C2DM in 2025 is to ensure a sustained stream of trained professionals in disaster management and climate change domains. Centre institutionalizes this through:-

- a. Continuous professional development programs and refresher modules.
- b. Orientation of officers to NDMA proactive approach with partner agencies (UN, INGOs, NGOs, FBOs, PDMAs etc).
- c. In-house training modules on digital hazard monitoring and forecast-based actions and EW.
- d. Approach ensures that Pakistan maintains knowledge-ready workforce capable of managing complex and compound hazards in alignment with global best practices.

10. Innovation. CoE-C2DM functions as an applied research and knowledge transmission hub within NDMA, focused on imparting:-

- a. Concepts of AI-assisted risk analytics and spatial dashboards.
- b. Early action models integrating multiple data.
- c. Use of data visualization, simulation models and virtual reality (VR) training tools for immersive learning.



Figure: CoE-C2DM Classes

CHAPTER - 13
ADMINISTRATION AND FINANCE WING (A&F)
ACTIVITIES OF A&F IN 2025

Admin Directorate

1. **Overview.** Admin Directorate is responsible for providing robust administrative, logistical and infrastructural support to enable NDMA's core mandate of effective DRR, preparedness, response and recovery. In 2025, directorate prioritized high-impact capital projects to address long-standing infrastructure needs, enhance security, create modern training spaces and improve working environment for staff and visitors. All works were carried out with strict adherence to quality standards, safety regulations and timelines, resulting in fully operational new facilities ready for immediate use.

2. **Addition of 300-Seat Auditorium Hall.** A modern, fully equipped auditorium with a seating capacity of 300 has been completed. Hall features high-quality acoustic treatment, advanced audio-visual systems (including large LED screens, professional sound reinforcement and presentation facilities), tiered ergonomic seating and stage lighting. Supporting amenities include separate, well-appointed washroom sets for ladies and gents, a dedicated VIP lounge for dignitaries and senior officials and an exclusive ladies' room for enhanced comfort and privacy. This facility is now operational and will serve as a premier venue for national-level conferences, disaster management workshops, media briefings and large-scale training programs.

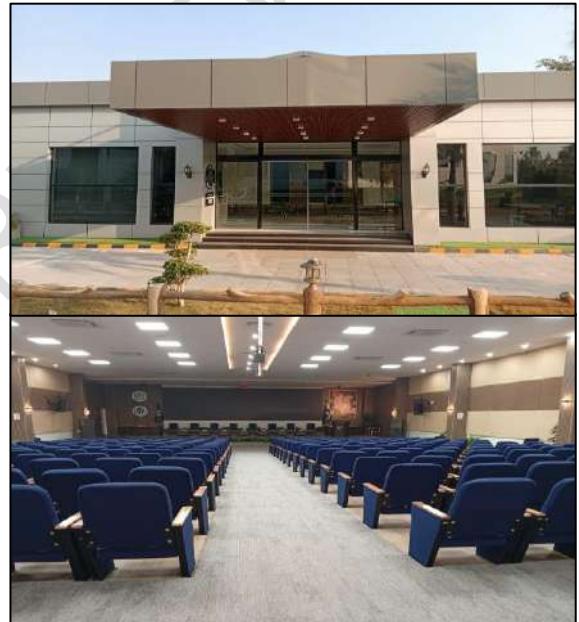


Figure: Auditorium Hall

3. **Establishment of CoE-C2DM.** A dedicated CoE-C2DM has been constructed, comprising multiple modern classrooms, specialized simulation laboratories, computer labs and research spaces. Centre is equipped with state-of-the-art furniture, interactive smart boards, high-performance computing systems and disaster simulation tools. This facility positions NDMA as a leading hub for capacity building, knowledge sharing, research and collaboration with national and international stakeholders in disaster management.



Figure: Center of Excellence

4. Security and Access Enhancements

a. Installation of 2 x New Gates with Smart Entry System.

Two new entrance gates have been constructed and commissioned, integrated with an advanced smart entry system. System incorporates automated barriers and real-time CCTV monitoring linked to central security control room. These upgrades provide enhanced access control, improved traffic flow and significantly strengthened perimeter security.

b. Addition of 3 x Security Check Posts. Three strategically located security check posts have been built. These posts ensure round clock observation of all incoming personnel and vehicles.



Figure: NDMA Gates

5. Parking, Access and Aesthetic Improvements

a. Addition of Car Parking Sheds. Modern covered car parking sheds have been constructed to offer secure, weather-protected parking facilities for staff vehicles and official visitors. Among these, one particularly spacious parking shed stands out with a substantial capacity to accommodate up to **60 vehicles**. This large shed is specially designed to serve dual purposes; routine daily parking as well as versatile use for major events. It can be effectively transformed into an exhibition space for international-level Expos, conferences or similar large gatherings where it can comfortably house stalls, display booths and related setups.



Figure: Parking Sheds

- b. **Additional Access Road from Main Gate to Gate No. 3.** A new external access road has been developed from main gate directly to Gate No. 3 improving vehicular movement, reducing congestion on main routes and facilitating faster internal circulation during emergencies and to accommodate large movement of vehicles.
- c. **Installation of 3 Fountains.** Three elegant decorative fountains have been installed at prominent locations across complex, adding aesthetic value, creating tranquil spaces and contributing to a pleasant campus environment.



Figure: Fountains

- d. **Addition of 2 Gazebo Sheds.** Two attractive gazebo sheds have been built in green area offering shaded outdoor spaces for informal meetings, relaxation and team-building activities.



*Figure: Gazebo
(Outdoor Light Refreshment Facility)*

6. Maintenance and Operational Upgrades

- a. **Roof Repairing of 5 x Office Blocks.** Comprehensive roof repairs were carried out on five administrative blocks including waterproofing, replacement of damaged sheets, structural strengthening and drainage improvements to prevent future leaks and ensure building longevity.
- b. **Installation of Furniture in Auditorium and CoE-C2DM.** Premium, purpose-built furniture has been installed throughout auditorium (including auditorium chairs, tables and podium) and CoE-C2DM (desks, chairs, lab benches and storage units), enabling immediate and comfortable utilization of these facilities.
- c. **Repairing of Mobile NEOC.** Mobile NEOC underwent thorough repairs and upgrades, including chassis and mechanical restoration, electrical system overhaul, communication equipment enhancement, satellite linkage restoration and interior refurbishment. Unit is now fully operational and ready for rapid deployment in disaster-affected areas.

Legal Directorate

7. **Litigation Cases - NDMA.** Legal Directorate of NDMA has demonstrated commendable dedication in effectively settling court cases across Pakistan. By proactively engaging with concerned authorities and responding promptly to court directives, Directorate has successfully resolved numerous cases, mitigating potential legal risks and liabilities. This proactive approach has not only protected interests of NDMA and government but also ensured timely justice for affected parties. Legal Directorate's efforts underscore NDMA's commitment to accountability, transparency and good governance in disaster management operations nationwide.

8. **Parliamentary Business - NDMA.** Various activities/ tasks were undertaken during Calendar Year in respect of Parliamentary Business including (Mostly matters were based on Monsoon 2025):-

- a. Briefings to Senate/ NA Standing Committee meetings.
- b. National Assembly & Senate Starred/ Un-starred Questions.
- c. Motions, Adjournment Motions, Resolutions, Budgetary Cut Motions, Calling Attention Notices.
- d. Coordination with PMO regarding Parliamentary Business.
- e. Briefings to Minister Incharge (Minister for Parliamentary Affairs on Parliamentary Business) for defending NDMA related matters in NA/ Senate.

Finance Directorate

9. Finance matters related to pay and allowances and procurements.
10. Audits.

Procurements Directorate

11. Matters related to procurements.
12. Recoupment of relief items.

CHAPTER - 14

ESTABLISHMENT WING (ESTB)

1. **Mandate & Scope.** Establishment Wing is responsible for effective management of human resources, administrative coordination, security arrangements and logistical support to ensure NDMA's operational readiness during routine operations and disaster situations. Wing supports preparedness, response and recovery functions by ensuring availability of trained manpower, secure working environments and uninterrupted administrative and HR support in compliance with applicable rules and policies:-

a. **Pre-Disaster**

- (1) Identification of critical HR gaps and facilitation of recruitment, deputation and temporary hiring to strengthen preparedness.
- (2) Coordination with CoE-C2DM for capacity building, trainings, simulations and skill enhancement of NDMA personnel.
- (3) Administrative and logistical planning for HR, including availability of vehicles, transport, accommodation and office support.
- (4) Review and strengthening of security arrangements for NDMA premises, NEOC and key installations.
- (5) Facilitation of preparatory meetings, briefings, seminars and workshops at NEOC Auditorium.
- (6) Coordination with relevant Wings to support implementation of preparedness plans and SOPs.

b. **During Disaster**

- (1) Rapid deployment and redeployment of NDMA officials to affected areas in coordination with Ops & Log Wing.
- (2) Maintenance of updated HR rosters, duty assignments and deployment readiness.
- (3) Facilitation of security arrangements for NDMA facilities, senior leadership, visiting delegations and emergency operations.
- (4) Provision of vehicles, transport, accommodation and logistical support for field operations.
- (5) Expedited processing of overtime, field allowances, special duty approvals and emergency HR matters.
- (6) Continuous administrative and HR support to field teams, operation centres and relief campuses.

c. **Post-Disaster**

- (1) Processing of TA/DA, allowances and remaining staff-related entitlements in coordination with Finance Wing.
- (2) Review of staff performance, deployment effectiveness and administrative support mechanisms.

2. **Key Functions**

- a. Human resource planning, staffing, deployment and readiness management
- b. Coordination of recruitment, deputation and temporary engagement of staff.
- c. Security coordination for NDMA premises, events and official activities.
- d. Administrative support for trainings, seminars, workshops and national/international events conducted at NEOC Auditorium.
- e. Coordination with CoE C2DM for capacity building and skill development initiatives.
- f. Liaison with Finance Wing for salaries, allowances, TA/DA and staff entitlements.
- g. Issuance of administrative orders, notifications and approvals in compliance with NDMA policies and government rules.
- h. Inter-wing coordination to support disaster preparedness, response and recovery operations.

ACTIVITIES OF ESTB IN 2025

3. **Overview.** During 2025, Estb Wing played a pivotal role in ensuring availability, readiness, safety and effective management of human resources, infrastructure support and administrative coordination. These efforts significantly strengthened NDMA's disaster preparedness, response and recovery operations. Estb Wing supported both routine operations and ER including extensive engagement during Floods and Monsoon Season 2025. Additionally, Establishment Wing contributed to major events such as PEDER-2025 and DEW Technical Expo (DEWTE) 2025.

4. **Human Resource Management, Readiness and Security Support**

- a. Maintained an updated HR roster, detailing staff strength, skills inventory and deployment readiness.
- b. Identified critical HR gaps and addressed them through timely hiring, deputation and temporary engagement of staff and volunteers.
- c. Ensured comprehensive security arrangements for high-profile visits, official delegations, routine operations and mega events, in close coordination with law enforcement agencies, ensuring round-the-clock coverage.

5. **Capacity Building, Training and NEOC Expansion**

- a. Conducted periodic capacity-building initiatives to ensure trained manpower for relief and response operations.

- b. Initiated expansion plans for NEOC, including a dedicated Auditorium and CoE-C2DM aimed to strengthening NDMA's institutional capacity for awareness, trainings, seminars, workshops, simulations and national/ international engagements.
- c. Optimized NEOC Auditorium facilities for trainings, seminars, workshops, briefings and capacity-building programs for NDMA personnel and relevant stakeholders.

6. **Deployment, Logistics and Emergency Operations**

- a. Facilitated rapid deployment of NDMA officials during disaster and emergency situations, including Floods and Monsoon Season 2025.
- b. Provided transport facilities and logistic support to ensure smooth field operations.
- c. Expedited approvals for overtime, field allowances, special duty assignments and other emergency HR matters to maintain continuity of relief operations.

7. **Compliance, Governance and Staff Welfare**

- a. Ensured all HR and administrative actions complied with NDMA policies, employment contracts and government rules.
- b. Facilitated issuance of special orders, notifications and administrative approvals.
- c. Provided guidance on HR matters to Wings as when required.
- d. Maintained accessible mechanisms to address staff concerns and grievances.

8. **Inter-Wing Coordination**

- a. **Ops and Log Wing**. Deployment planning, duty rosters and field requirements.
- b. **Finance Wing**. Salaries, allowances, claims and emergency financial approvals.
- c. **Adm Wing**. Security, transport, logistics, accommodation and office support.
- d. **NEOC Auditorium Facilities**. Trainings, seminars, workshops, briefings, capacity-building initiatives and national/international expos in collaboration with development partners.
- e. **CoE-C2DM**. Skill development, specialized courses and advanced training programs for HR capacity building.

CONCLUSION

1. Year 2025 marked a decisive consolidation of Pakistan's disaster management system, reflecting a clear transition toward anticipatory, technology-enabled and risk-informed governance. Disaster management actions were driven by advanced EW architectures integrating satellite remote sensing, hydrological and meteorological modelling, artificial intelligence and climate projections enabling timely alerts, high-precision flood forecasting and proactive preparedness across riverine, urban, coastal, mountainous and transboundary risk zones. Real-time operational platforms, national dashboards and automated situation reporting enhanced situational awareness and enabled coordinated decision-making during monsoon floods, flash floods, hill torrents, heatwaves, smog episodes, seismic risks, GLOF threats and evolving multi-hazard scenarios.
2. Operational readiness and institutional coordination were strengthened through continuous NEOC Centre functionality, SimExs, AA protocols and structured engagement with provincial governments, district administrations, armed forces, academia and humanitarian partners. Data-driven planning, exposure mapping and infrastructure risk analysis supported targeted early actions, evacuation planning and resource prioritization while sustained monitoring of national and regional hydrological systems enhanced preparedness for both domestic and transboundary hazards demonstrating increased institutional maturity in managing complex, cascading and climate-amplified disasters.
3. Human capital development and knowledge generation remained central to resilience-building efforts supported through strong linkages with universities, research institutions, volunteers and CERTs. These partnerships strengthened EW dissemination, localized preparedness, rapid damage and needs assessments and post-disaster learning. Training programs, standardized curricula and simulation-based capacity building expanded national cadre of skilled responders and planners, embedding DRR within institutional systems and community structures alike.
4. Digital transformation and governance reform significantly improved efficiency, transparency and service delivery across disaster management functions. Modernization of public alert mechanisms, interactive reporting platforms and internal administrative systems replaced manual workflows with integrated digital solutions, enabling real-time data sharing, institutional accountability and informed decision-making. These reforms enhanced organizational agility while ensuring timely access to reliable information for decision-makers, responders and public.
5. DRR efforts were further reinforced through AA frameworks strengthened policy coordination and sustained regional and international cooperation. National platforms, bilateral engagements and participation in global DRR forums facilitated knowledge exchange, resource mobilization and alignment with international best practices. Gender-responsive and inclusive

approaches ensured that women, children, persons with disabilities and other vulnerable groups remained integral to preparedness, response and recovery processes reinforcing resilience as both a social and technical imperative.

6. Collectively, these efforts demonstrate a disaster management system that increasingly prioritizes foresight over reaction, integration over fragmentation and prevention over response. Operational experiences, technological advancements and institutional reforms achieved during 2025 have strengthened national resilience and established a durable foundation for managing future climate-induced, multi-hazard and complex emergencies supporting protection of lives, livelihoods and national stability in an era of growing uncertainty.

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