

ANNUAL REPORT | 2018



STRIVING FOR A DISASTER RESILIENT PAKISTAN



Government of Pakistan
Prime Minister's Office
National Disaster Management Authority



Government of Pakistan
Prime Minister's Office
National Disaster Management Authority

PREVENTION



MITIGATION



PREPAREDNESS

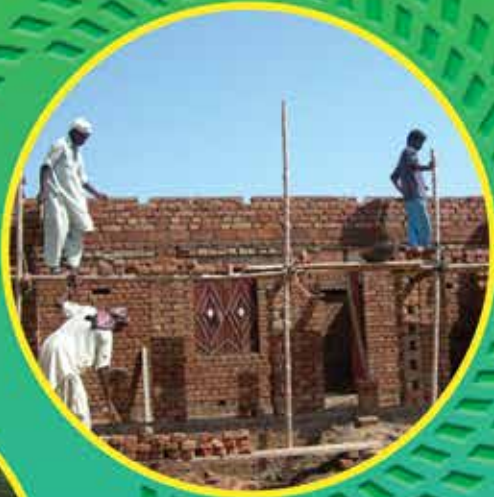


NDMA's Annual Report 2018

This report has been prepared under the overall guidance of Lieutenant General Omar Mahmood Hayat, HI (M), Chairman NDMA, An editorial team working under Brigadier Mukhtar Ahmed, Member (Operations), comprised of Major Muhammad Amjad Iqbal (Deputy Director Response) and Farhan Ahmad (Assistant Director Response) compiled the report Designing was supported by Ms Reema Zuberi (Media Advisor)

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RESCUE & RELIEF



RECONSTRUCTION



RECOVERY & REHABILITATION



Government of Pakistan
Prime Minister's Office
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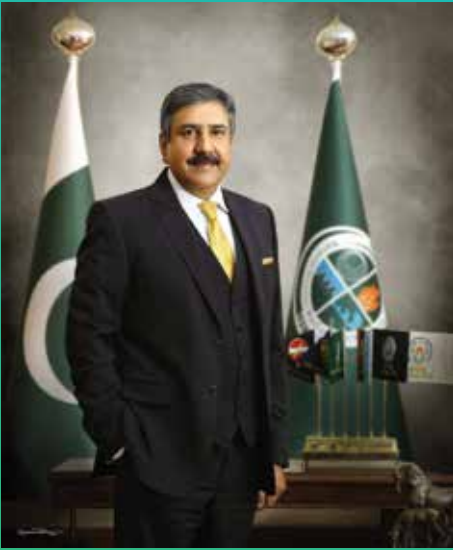
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Foreword by

Chairman NDMA



Lieutenant General
Omar Mahmood Hayat, HI (M)
Chairman NDMA

NDMA is privileged to share Annual Report 2018 with its Partners, Stakeholders and followers. In retrospect, a number of significant events outlined the Year ranging from Floods, Forest Fires, Land Slides and Drought like situation in Balochistan and Sindh.

During 2018, NDMA's focus remained on Preparedness for Disasters, Disaster Risk Reduction and Resilience. In this regard, 5th meeting of the NDMC was held under the chairmanship of the Prime Minister of Pakistan for strengthening Disaster Management Structures in the Country. In order to prepare for well-coordinated/ effective Emergency Response, Pakistan Resilience Partnership (PRP) was formed involving Government, Local Humanitarian Organizations, Private Sector and other Stakeholders. For improving partnership with Regional Countries, NDMA hosted an International Conference on Disaster Management and 6th Regional Technical Group (RTG) meeting in Islamabad.

During the year, NDMA efficiently responded an Earthquake, Forest Fires (on Margalla Hills & Lehtrar Range Forest), Heatwave in Sindh and Drought like situation in Balochistan and Sindh. NDMA also effectively managed Monsoon Season (June – September 2018) where a number of Flash Flooding (in Chitral, Neelum Valley, Skardu & Ghizer), Landslides and houses collapsed incidents took place due to heavy rains. I appreciate the well-integrated National efforts in the shape of timely weather forecast by PMD, apt analysis & timely issuance of National Monsoon Contingency Response Directive by NDMA and configuring correct and timely response by all relevant Stakeholders which led to effective response at the National level.

Throughout the year, NDMA remained committed in formulation of National level documents like Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters, National Disaster Response Plan (NDRP-2019), NDMA's Guidelines on Minimum Cash Compensation to Disaster Victims, NDMA's Guidelines on Stocking, Maintenance and Supply of Relief and Rescue Items, National Industrial Hazard Risk Assessment (NIHRA) at macro level and Coffee Table Book (A Journey through Resilient Pakistan).

Disaster Management is a shared responsibility and a sacred National Obligation. No single individual or institution can efficiently manage disasters; however, it is only possible with working in synergy, enhanced coordination, dedication, commitment, good will and sincerity. I thank all partners and stakeholders for their generous support to NDMA towards realization of our shared vision of "Resilient Pakistan".

Acronyms

ADB	Asian Development Bank	C&W	Communication & Works
ADPC	Asian Disaster Preparedness Centre	DC	Deputy Commissioner
A&F	Administration and Finance	DDMA	District Disaster Management Authority
AFAD	Asian Federation against Involuntary Disappearances	DEOC	District Emergency Operation Centre
AJ&K	Azad Jammu & Kashmir	DFID	Department for International Development
AKDN	Agha Khan Disaster Network	DM	Disaster Management
AMCDRR	Asian Ministerial Conference on Disaster Risk Reduction	DO	Direct Observatio n
ANDMA	Afghan National Disaster Management Authority	DRM	Disaster Risk Management
ANF	Anti Narcotic Force	DRR	Disaster Risk Reduction
ATR	Avions de Transport Regional	DSS	Decision Support System
AWS	Automated Weather Stations	EAD	Economic Affairs Division
BDRP	Building Disaster Resilient Programme	ECMWF	European Centre for the Medium Range Weather Forecasting
BHU	Basic Health Unit	ECNEC	Executive Committe of National Economic Council
BSS	Beacon House School System	ECO	Economic Cooperation Organisation
CAA	Civil Aviation Authority	ERC	Emergency Relief Cell
CAF	Charities Aid Foundation	ERT	Emergency Response Team
CADD	Capital Admistration & Development Division	ERRA	Earthquake Reconstruction and Rehabilitation Authority
CADRE	Community Action for Disaster Response	EWS	Early Warning System
CBDRM	Community Based Disaster Risk Management	FAB	Frequency Allocation Board
CBM	College of Business Management	FAO	Food and Agricultural Organizatio n
CBRNe	Chemical, Biological, Radiological and Nuclear Emergencies	FATA	Federally Administered Tribal Areas
CBRNE	Chemical, Biological, Radiological, Nuclear and Explosive	FC	Frontier Corps
CBS	Capacity Building Specialist	FEWS	Flood Early Warning System
CBT	Community Base Training / Capacity Building Training	FFC	Federal Flood Commission
CDA	Capital Development Authority	FGD	Focused Group Discussion
CDKN	Climate and Development Knowledge Network	FPCCI	Federation of Pakistan Chamber of Commerce & Industries
CESDRR	Centre for Epidemiologic Studies Depression Scale Revised	FWO	Frontier Works Organisation
CHASHNUPP	Chashma Nuclear Power Plant	GB	Gilgit Baltistan
COAS	Chief of the Army Staff	GBV	Gender Based Violence
COD	Central Ordinance Depot	GCC	Gender & Child Cell
COP	Conference of the Parties	GCISC	Global Change Impact Studies Centre
CM	Chief Minister	GDP	Gross Domestic Product
CMT&SD	Central Mechanical Transport and Store Depot	GIS	Geographic Information System
CPM	Country Planning Meeting	GHTF	Gender Humanitarian Task Force
CSSR	Collapsed Structure Search & Rescue	GLOF	Glacial Lake Outburst Flood
CTHMRCP	Custodian of Two Holy Mosques Relief Campaign for Pakistan	GOERE	Government Officers Emergency Response Exercise
		GOP	Government of Pakistan
		GSP	Geological Survey of Pakistan
		GBDMA	Gilgit Baltistan Disaster Management Authority
		HEC	Higher Education Commission
		HFA	Hyogo Framework for Action



Acronyms

HoA	Heart of Asia	NDMA	National Disaster Management Authority
HFI	Housing Foundation of Iran	NDMC	National Disaster Management Commission
HR	Human Resource	NDMF	National Disaster Management Fund
HRF	Humanitarian Response Facility	NDMP	National Disaster Management Plan
HOPE	Hospital Preparedness for Emergencies	NDRF	National Disaster Response Force
ICT	Islamabad Capital Territory / Information & Communication Technology	NDRIS	National Disaster Risk Information System
IDI	In-depth Interview	NDSDI	National Disaster Spatial Data Infrastructure
IEC	Information, Education and Communication	NEMA	National Emergency Management Agency
IFAS	Integrated Flood Alert System	NEOC	National Emergency Operations Centre
Imp	Implementation	NESPAK	National Engineering Services Pakistan
INGO	International Non-Governmental Organisation	NFI	Non Food Item
INSARAG	International Search and Rescue Advisory Group	NFPP	National Flood Protection Plan
IOWave	Indian Ocean Wave	NHA	National Highway Authority
JICA	Japan International Cooperation Agency	NHEPRN	National Health Emergency Preparedness & Response Network
KANUPP	Karachi Nuclear Power Project	NHN	National Humanitarian Network
KARCPP	King Abdullah Relief Campaign for Pakistani People	NIDM	National Institute of Disaster Management
KI	Key Informant	NIDMIS	National Integrated Disaster Management Information System
KKH	Karakoram Highway	NGO	Non-Governmental Organisation
KP	Khyber Pakhtunkhwa	NOC	No Objection Certificate
KRL	Khan Research Laboratory	NoK	Next of Kin
LED	Light Emitting Diode	NSET	National Society of Earthquake Technology
LEAD	Leadership for Environment and Development	NSMC	National Seismic Monitoring & Early Warning Centre
LoA	Letter of Agreement	OBMs	Out Board Motors
LoC	Line of Control	PAEC	Pakistan Atomic Energy Commission
MCII	Munich Climate Insurance Initiative	PAF	Pakistan Air Force
MERLIN	Medical Emergency Relief International	PC	Project Cost
MFR	Medical First Responder	PDMA	Provincial Disaster Management Authority
MHVRA	Multi Hazard Vulnerability and Risk Assessment	PEC	Pakistan Engineering Council
MIRA	Multi Sectoral Initial Rapid Assessment	PEOC	Provincial Emergency Operations Centre
Moi	Ministry of Interior	PEER	Programme for Enhancement of Emergency Response
MoU	Memorandum of Understanding	PHF	Pakistan Humanitarian Forum
MoFA	Ministry of Foreign Affairs	P&IC	Policy and International Cooperation
MSF	Medicine Sans Frontier	PID	Pakistan Irrigation Department / Press Information Department
MOVEER	Mobilization of Volunteers Emergency Response Exercise	PIMS	Pakistan Institute of Medical Sciences
NADRA	National Database Registration Authority	PM	Prime Minister
		PMD	Pakistan Meteorological Department

Acronyms

PPE	Personal Protection Equipment	NFCCC	United Nations Framework Convention on Climate Change
PRCS	Pakistan Red Crescent Society	UNISDR	United Nations International Strategy for Disaster Reduction
PSC	Provincial Steering Committee	UNICEF	United Nations International Children's Emergency Fund
PSDP	Public Sector Development Programme	UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
PSSF	Pakistan School Safety Framework	USAR	Urban Search and Rescue
PT	Pakistan Telecommunication Authority	VCC	Virtual Call Centre
PTV	Pakistan Television	VG	Vulnerable Group
PWDs	Persons with Disabilities	WAPDA	Water and Power Development Authority
RCC	Regional Consultative Committee	WHS	World Humanitarian Summit
RGDO	Relief Goods Dispatch Organisation	WFP	World Food Programme
RNA	Recovery Needs Assessment		
R&R	Recovery and Rehabilitation		
RRI	River Flow Inundation Model		
RTG	Regional Technical Group		
SAARC	South Asian Association for Regional Cooperation		
SAADMX	South Asian Annual Disaster Management Exercise		
SCO	Shanghai Cooperation Organisation		
SDC	Swiss Development Cooperation Agency		
SDMA	State Disaster Management Authority		
SDMC	SAARC Disaster Management Centre		
SEEC	SAARC Environment & Energy Centre		
SERT	Surge Emergency Response Team		
SFDRR	Sendai Framework for Disaster Risk Reduction		
SHO	Station House Officer		
SIMEX	Simulation Exercise		
SITREP	Situation Report		
SMRFC	Specialised Medium Range Weather Forecasting Centre		
SMS	Short Message Service		
SOPs	Standard Operating Procedures		
STI	Secretariat Training Institute		
SUPARCO	Space and Upper Atmosphere Research Commission		
TOTs	Training of Trainers		
TVCs	Television Commercials		
UN	United Nations		
UNDP	United Nations Development Programme		
UNESCO	United Nations Education, Scientific and Cultural Organisation		



Section - I

General

Section - I

General

1. Outlook of National Disaster Management System

- a. **NDMA's Mandate as per NDM Act 2010.** NDMA, the executive arm of NDMC is assigned following roles and responsibilities as per Article 9 of NDM Act 2010:-
- (1) Act as the implementing, coordinating and monitoring body for disaster management.
 - (2) Prepare the National Plan to be approved by the National Commission.
 - (3) Implement, co-ordinate and monitor the implementation of the National Policy.
 - (4) Lay down guidelines for preparing disaster management plans by different Ministries or Departments and the Provincial Authorities.
 - (5) Provide necessary technical assistance to the Provincial Governments and the Provincial Authorities for preparing their disaster management plans in accordance with the guidelines laid down by the National Commission.
 - (6) Coordinate response in the event of any threatening disaster situation or disaster.
 - (7) Lay down guidelines for or give directions to the concerned Ministries or Provincial Governments and the Provincial Authorities regarding measures to be taken by them in response to any threatening disaster situation or disaster.
 - (8) For any specific purpose or for general assistance requisition the services of any person and such person shall be a co-opted member and exercise such power as conferred upon him by the Authority in writing.
 - (9) Promote general education and awareness in relation to disaster management.
 - (10) Perform such other functions as the National Commission may require to perform.

2. **NDMA's Organisation.** NDMA was established in 2007 as a lead Agency at Federal level to implement, coordinate and monitor the whole spectrum of disaster management including prevention, Preparedness, Mitigation, Response, Recovery, Rehabilitation and Reconstruction programmes. As per the NDM Act 2010, the Authority is headed by Chairman further having three Members heading three Wings. The Chairman also acts as an ex-officio Secretary of the NDMC which is chaired by Prime Minister of Pakistan and NDMA serves as a Secretariat of NDMC. NDMA's Organisation is given at **Annex A**.

- a. **Functions of Various Wings.** In order to carry out the assigned tasks / functions, NDMA is organised into three Wings each headed by a Member with following tasks:-
- (1) **Operations (Ops) Wing**
 - (a) Contingency and response planning for both Natural and Human Induced hazards.
 - (b) Development of National Policies / Guidelines on Rescue, Relief, Early Recovery and Rehabilitation.
 - (c) Activation / Functioning of National Emergency Operations Centre (NEOC).



- (d) Rescue, Relief, Recovery, Rehabilitation and Reconstruction operations for all disasters (inland and foreign).
 - (e) Coordination of humanitarian assistance and Rescue, Relief, Recovery and Rehabilitation efforts with Federal / Provincial authorities & Organisations as well as all stakeholders including UN agencies, INGOs & NGOs.
 - (f) All issues related to training and deployment of Urban Search and Rescue Teams, Country wide.
 - (g) Briefs / presentations for PM and other dignitaries.
 - (h) Planning and conduct of Simulation Exercises for Natural and Human Induced disasters.
- (2) **Disaster Risk Reduction (DRR) Wing**
- (a) Handles all matters related to DRR Policies concerning all types of disasters, Risk Insurance and disaster awareness.
 - (b) National Disaster Management Plan (NDMP) including its implementation and progress.
 - (c) Planning, coordination, execution, management and monitoring of all projects executed by NDMA with donor (s) / development partner'(s) assistance.
 - (d) Monitoring and Evaluation of Plans, Strategies at National, Provincial and District level as well as Civil Sector.
 - (e) Mainstreaming of DRR, especially into development sector as well as all other sectors.
 - (f) Management of international cooperation, global frameworks, Regional Organisations and all conferences / meetings in this regard.
 - (g) Coordination with UN Agencies, Bilateral / Multilateral Organisations and INGOs / NGOs with respect to all matters in given domain.
 - (h) Preparation of all PC-II related to NDMA, concerning any Wing.
 - (i) Coordination with all stakeholders in given domain.
- (3) **Administration and Finance (A&F) Wing**
- (a) Provides all admin and logistics support for NDMA's Operations.
 - (b) Deals with procurement, transportation and record keeping of relief goods.
 - (c) Management of Admin, Transport and HR matters of NDMA.
 - (d) Make arrangements for external audit by AGP.
 - (e) Deal with all audit matters / issues including matters related to Public Accounts Committee.
 - (f) Financial advises on all finance related matters of NDMA.
 - (g) Ensures financial propriety through implementation and observance of prescribed financial rules and NDMA rules in utilization of all financial resources at the disposal of the organization.
 - (h) All matters related to NDMC.
 - (i) All legal matters.

3. 5th Meeting of National Disaster Management Commission (NDMC)

- a. The 5th meeting of the NDMC was held under the Chairmanship of the Prime Minister of Pakistan on 28 March 2018 at Prime Minister's Office. Chairman NDMA (Secretary NDMC) presented the Agenda Points in a presentation to give detailed account of each agenda items for consideration and decisions by the commission.
- b. Following Agenda Points were discussed during the meeting:-
 - (1) Confirmation of Minutes of 4th Meeting of NDMC.
 - (2) Progress on the decisions of 1st, 2nd, 3rd and 4th Meeting of NDMC.
 - (3) Ratification of Relief / Aid Provided to the Friendly Countries.
 - (4) Ex-Post facto ratification of expenditures of Rs. 104.200 Million on account of Compensation – LOC Firing.
 - (5) Ratification of Policy Guidelines.
 - (6) Approval of Pakistan School Safety Framework (PSSF).
 - (7) Proposed Revision in NDM Act 2010.
 - (8) Grant of Financial Incentive to NDMA Employees.
 - (9) Capacity Enhancement of NDMA.
 - (10) Raising of National Disaster Response Force (NDRF).
 - (11) Approval of Dedicated Aviation Assets for NDMA for Disaster Management.
 - (12) Construction of NDM Complex.

4. Consolidation of Disaster Management Legislation/ Revision of NDM Act 2010.

With the approval of the Prime Minister during the 5th NDMC Meeting, NDMA is working on consolidation of disaster management legislations. The purpose of the amendment is to merge / repeal / reconfigure all disaster management related Acts, including Civil Defence Act 1952, National calamities Act 1958, NDM Act 2010 and ERR Act 2011 to make one comprehensive disaster management legislation at National level. A constitutional law firm was hired for development / consolidation of all disaster management legislation into a comprehensive National Disaster Management Act. The draft amendment of the Act has been finalized and submitted to Ministry of Law & Justice for vetting.



Section - II

Response to Disasters

Section - II

Response to Disasters

5. Policies, Plans & SOPs Formulated During the Year

Serial	Title	Type	Wing
a.	National Monsoon Contingency Response Directive 2018	Plan	Operations
b.	Draft National Disaster Response Plan (NDRP)-2019	Plan	
c.	Draft NDMA's Guidelines on Minimum Cash Compensation to Disaster Victims	Policy	
d.	Draft NDMA's Guidelines on Stocking, Maintenance and Supply of Relief and Rescue Items	Policy	
e.	Host National Support Guidelines for Foreign Assistance to Pakistan during Disasters	Guidelines	
f.	Multi Hazard Vulnerability Risk Assessment (MHVRA) Punjab Atlases for District Jhang, Bahawalpur, Khushab, Multan and Rahim Yar Khan	Atlas	DRR
g.	Multi Hazard Vulnerability Risk Assessment (MHVRA) Sindh Atlases for District Tando Allah Yar, Badin, Thatta, Sujawal, Mirpur Khas and Tando Muhammad Khan	Atlas	
h.	A Journey through Resilient Pakistan (Coffee Table Book)	-	A&F

6. Disasters Managed. NDMA managed following disasters during the Year 2018:-

Serial	Date/Month	Type of Disaster	Provinces Affected
a.	31 January 2018	Earthquake	Khyber Pakhtunkhwa and Balochistan
b.	March – April 2018	Formulation of Glacial Lake in Shimshal Valley	Gilgit-Baltistan
c.	March 2 May 2018	Margalla Hills Fires	Islamabad
d.	17 May 2018	Heatwave	Sindh
e.	25 May 2018	Kotli Sattian Forest Fire	Punjab
f.	18 July 2018	Sunday Market Fire	Islamabad
g.	June –September 2018	Monsoon 2018	All Pakistan
h.	November 2018	Land Erosion due to Indus River in District DI Khan	District DI Khan, KP
i.	November 2018	Formulation of Glacial Lake by surge of Shishper Glacier	District Hunza, GB
j.	November - December 2018	Drought like situation in Balochistan and Sindh	Balochistan and Sindh

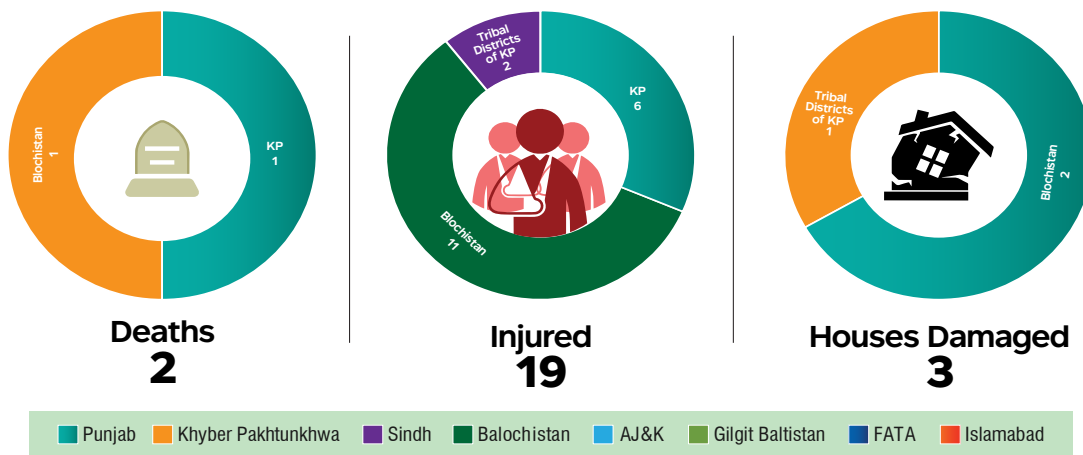


7. **Losses / Damages Due to Disasters.** Summary of major losses/damages is as under:-

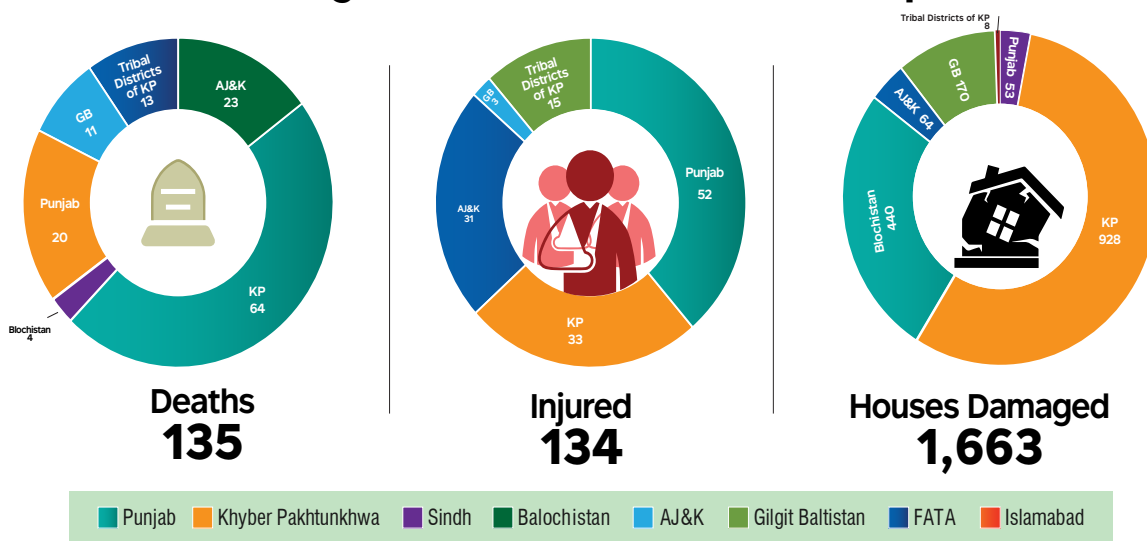
Serial	Disasters	Damages / Losses										
		Disasters				Injured				Houses Damaged		
		M	F	C	T	M	F	C	T	P	F	T
a.	Earthquake 31 Jan 2018	1	-	1	2	4	4	11	19	1	2	3
b.	Monsoon 2018	49	38	48	135	61	44	29	134	1219	444	1663

Key: Male (M), Female (F), Children (C), Total(T), Partially (P), Fully (F).

Losses / Damages - Earthquake 2018 (31 January 2018)



Losses / Damages - Monsoon 2018 (June - September 2018)



8. Disaster Response Activities

a. Earthquake 31 January 2018

(1) **General.** On 31 January 2018, two earthquakes were felt in different regions of Pakistan.

Detail of earthquakes are as under:-

- (a) **Earthquake in District Lasbela, Balochistan.** Earthquake of 4.9 Magnitude, 23 km depth, epicentre 20 km east of Bela originated at 1059 hours.
- (b) **Across the Country.** Earthquake of 6.2 Magnitude, 169 km depth, epicentre 35 km South of Jurm, Badakshan Province, Hindukush Region, Afghanistan at 1207 hours.

(2) **Actions Taken by NDMA.** Following actions were taken by NDMA:-

- (a) National Emergency Operation Centre (NEOC) was activated to monitor the situation.
- (b) Contact was established with DMAs and HQ 10 & 11 Corps to get first-hand information regarding losses / damages.
- (c) Pakistan Railways was contacted for update on Railway routes.
- (d) NHA / PHAs were contacted for update on all Highways.
- (e) Advisory regarding aftershocks were issued.
- (f) On the assessment of PMD, NDMA issued advisory on Risk of Avalanches to concerned authorities for taking precautionary measures.
- (g) NDMA Media Tickers were broadcasted for awareness by all Media Channels.

b. Shimshal Valley GLOF Risk

(1) The Glacial lake formation in Shimshal Valley was reported by GBDMA for the 1st time on 1 February 2018 during a presentation in NDMA. After analysis, NDMA recommended/ suggested few important immediate actions/ preventive measures to GBDMA. Subsequently, basing on the provided data, a summary for the approval of Prime Minister was initiated by NDMA on 9 February 2018, proposing following:-

- (a) Formulation of Team of Experts (ToE) to evaluate the situation at site.
- (b) Release of Funds (7.051 Mn) for establishment of a Permanent Monitoring Base, installation of Early Warning System.
- (c) Provision of Food Stuff and release of Rs 10 Million for relocation of public infrastructure subject to recommendations of ToE.

(2) The Prime Minister approved NDMA's proposals as following:-

- (a) Formulation of ToE under Chairman NDMA or senior official of NDMA to evaluate the situation at site.
- (b) Chairman NDMA to decide the question of the provision of funds to the GBDMA from out of the NDMF as warranted by the critical situation, in accordance with provisions of the NDM Act 2010 and rules / regulations made thereunder.
- (c) The Prime Minister further directed that a specialized state of the art Centre for Glaciology and Climate Change Studies shall be established at the Karakorum International University, Gilgit. Ministry of Federal Education & Professional Training shall prepare & submit a feasibility study through HEC for the Prime Minister's



orders within eight weeks.

- (3) 1st Meeting of Team of Experts (ToE) was organised on 20 March 2018 in NDMA to discuss the modalities for neutralising the Glacial Lake before outburst/ outflow.
- (4) ToE under Brigadier Mukhtar Ahmed (Member Operations, NDMA) visited Shimshal Valley via Helicopter generously provided by AKDN (Agha Khan Development Network) on 28 March 2018. After the visit, all Experts forwarded their assessment/ input for compilation of comprehensive Post Visit Report. The final report was presented to Chairman NDMA by DG GBDMA at NDMA on 14 May 2018.
- (5) The Glacial Lake drained through a narrow channel near the glacier terminus without causing any damage.
- (6) Following recommendations were also given to mitigate the GLOF risks in future:-
 - (a) Continuous monitoring of Glacier by GBDMA.
 - (b) Establishment of Early Warning System.
 - (c) Mitigation of GLOF Risk & Preparedness and formulation of Policy Response measures.
 - (d) Establishment of Centre for Glaciology (Glacier Hazard Forum).

c. **Margalla Hills Forest Fire (29-31 March 2018)**

- (1) On 29 March 2018, Forest Fire erupted at scattered places on Margalla Hills, Islamabad. Emergency Services of Islamabad had been attempting to control/ extinguish the fire till 30 March 2018, however due to limited resources, steep incline, remote locations of fires and high wind velocity, the Emergency Services could not extinguish the fire. Resultantly, the fire spread over vast area even endangering the population of village Kalinjar.
- (2) On 30 March 2018, Ops Wing NDMA mobilized National Resources (Helicopters of Pakistan Army, Air Force and Troops from Pakistan Army and Navy) to protect natives of Village Kalinjar & Sector E-8 and National Forest. By 1900 hrs 30 March 2018, approximately 80% Fire was controlled/ extinguished by helicopter efforts, however, further operation could not continue due to dark hours.
- (3) Firefighting operation was resumed at 0700 hrs 31 March 2018. Helicopters of Pakistan Army, Air Force and Cabinet Division actively participated in the operation and Fire was completely extinguished by 0900 hrs 31 March 2018. NDMA officials Maj Muhammad Amjad Iqbal and Mr Farhan Ahmad visited the site and interacted with participants of firefighting effort. Summary of resources (Human, Vehicles and Helicopters) employed for firefighting is as following:-
 - (a) Helicopters Sorties by Pakistan Army - 16
 - (b) Helicopter Sorties by Pakistan Air Force - 6
 - (c) Helicopter Sorties by Cabinet Division - 6
 - (d) Firefighting Staff by CDA - 300
 - (e) Pakistan Army Troops employed - 250

- | | | | |
|-----|---------------------------------------|---|-----|
| (f) | Pakistan Army Troops employed | - | 100 |
| (g) | Fire Tender Vehicles of Pakistan Navy | - | 12 |
| (h) | Fire Tender Vehicles of Pakistan Navy | - | 10 |
- d. **Kotli Sattian Forest Fire (25 May 2018).** On 25 May 2018, an accidental Fire erupted on Lehtrar Range Forest, Tehsil Kotli Sattian (in the vicinity of village Kerl, Dera and Prinje). NDMA mobilized AC Kahuta, AC Kotli Sattian, DFO Kotli Sattian and Fire Fighting resources of KRL & Rescue 1122 (Punjab) which helped extinguish the fire.
- e. **Margalla Hills Forest Fire (29 – 31 May 2018).** On 29 May 2018, once again Forest Fire erupted at scattered places on Margalla Hills, Islamabad. Due to limited resources, steep incline, remote locations of fires; Emergency Services of Islamabad could not extinguish the fire. Fire spread over a vast area endangering village Imam Bari, Mandiala, Ratta Hottar and Monal Hotel Area. NDMA once again mobilized the National Resources (Helicopters of Pakistan Armed Forces) and extinguished the fire by 1 June 2018. Summary of firefighting effort is as following:-
- | | | | |
|-----|--|---|-----|
| (1) | Helicopters Sorties by Pakistan Army | - | 62 |
| (2) | Helicopter Sorties by Pakistan Air Force | - | 13 |
| (3) | Fire Tender Vehicles of CDA | - | 05 |
| (4) | Firefighting Staff by CDA | - | 250 |
- f. **Heatwave in Sindh.** On 17 May 2018, The PMD issued heatwave alerts for Sindh. The weather in Karachi and surrounding areas got hot as compared to previous years. Therefore, sensing the urgent need to deal the situation NDMA in collaboration with HANDS offered PDMA Sindh all out assistance for establishment of 30 x Heat Stroke Centres along with launching awareness campaign in Karachi (Malir, Surjani Town & Korangi).
- g. **Sunday Market Fire.** On 18 July 2018, sudden Fire erupted in Sunday Market Islamabad. On the request of Additional DC Islamabad, NDMA mobilized the firefighting resources of Pakistan Navy and Rescue 1122 Rawalpindi. The fire was under controlled within 4-5 hours.
- h. **Monsoon 2018.** NDMA efficiently managed Moonsoon Season from 15 June to 15 September 2018. Post Monsoon Season-2018 Report covering all details of relief and response activities attached at **Annex B**.
- i. **Drought like Situation in Balochistan and Sindh**
- (1) In view of below normal rainfall during January to May 2018, PMD predicted Drought like situation in Southern parts of Country (southern Punjab, Balochistan and Sindh). From June to September 2018, PMD issued three Drought Alert/ Warning for Moderate to Severe drought like situation in Southern parts of Country (Southern Punjab, Balochistan and Sindh).
 - (2) On the direction of President Secretariat (Public), Islamabad, NDMA with assistance of PDMA Sindh and Board of Revenue (Govt of Sindh) prepared a comprehensive report on drought like situation in 8x Districts of Sindh (Tharparkar, Umerkot, Sanghar, Dadu, Thatta, Kamber, Jamshoro & Badin) and forwarded to the President Secretariat (Public).



- (3) On 30 October 2018, NDMA in coordination with PDMA Sindh held a meeting with the relevant Provincial Departments and Armed Forces to discuss situation in Thar and mitigation measures taken to combat the situation.
 - (4) On 31 October 2018, NDMA in coordination with PDMA Sindh, organised one day seminar in Karachi to analyze the current drought situation in said districts and subsequent recommend of immediate short term and long term measures to combat the situation. The Seminar was attended by the representative from various Federal/ Provincial Government stakeholders, UN agencies and NGOs/INGOs.
 - (5) NDMA coordinated with NADRA and provided lists of head of families (households) residing in different Dehs of 8 x affected Districts of Sindh.
 - (6) In November 2018, Govt of Sindh declared these 8x Districts as “Calamity Affected” and distributed Wheat/ Ration amongst 420,946 affected families.
 - (7) NDMA, shared a comprehensive report containing short and long term recommendations/ measures to tackle the drought situation in Sindh with President & Prime Minister’s Secretariats, PDMA Sindh and other stakeholders (Joint Staff Headquarters, GHQ, M/o National Health Services and NHEPRN) to formulate a comprehensive strategy to effectively handle drought situation in the light of recommendations of the report.
 - (8) NDMA has planned a National Consultative Workshop on Drought in the third week of January 2019 to discuss the intensity and extent of drought situation across Pakistan and to formulate a comprehensive National strategy to effectively mitigate the adverse effects of drought.
 - (9) NDMA offered all out support to all PDMAs to address drought like situation and requested to share sector-wise consolidated situation report containing remedial measures.
- j. **Land Erosion along Indus River, District D.I. Khan**
- (1) On 3 September 2018, NDMA received an application reporting Land Erosion of thousands of Kenals of agricultural land along River Indus at Mozas Shah Nawaz, Jhok Basharat, Thohta, Kanyal, Murad Noon, Laghari, Kat Shehani, Wahya, Basti Balochanwali and others adjoining villages of Teshil & District Dera Ismail Khan.
 - (2) In coordination with PDMA KP, a meeting under Chairman NDMA was held on 13 November 2018 to discuss the emerging Hazard and remedial measures. Representatives of FFC, PDMA KP, C&W, Irrigation Departments, Additional DC DI Khan and the Complainant attended the meeting.
 - (3) On 14 November 2018, Chairman NDMA brought the matter into the notice of Chief Minister KP and proposed that NDMA will assist financing of 70% of the total estimated cost (Rs.700 million) from NDRMF for construction of protective Bunds etc if, Govt of KP may bear 30% of the total estimated cost to protect precious human lives and agricultural land.
- k. **Formulation of Lake near Hassanabad Nullah due to Surge of Shishper Glacier**
- (1) In 3rd week of November 2018, GBDMA reported formulation of a Lake due to blockage

- of Hassanabad Nullah because of surging of Shishper Glacier.
- (2) NDMA requested technical inputs / opinions from PMD, GSP, SUPARCO, WAPDA, GHQ, FFC & MoCC.
 - (3) NDMA also constituted a Team of Experts from PMD, GSP, SUPARCO, FWO, WAPDA, Engineers Directorate (GHQ), National Engineering Services Pakistan (NESPAK) and NDMA to assess the situation and recommend preventive/ mitigation measures.
 - (4) The Team of Experts (under DG GBDMA) assembled on 14 December 2018 in GB House Islamabad to workout modalities for onsite visit. The team will submit Post-visit Analysis/ Recommendations to address the issue before any untoward incident.

9. Recovery and Rehabilitation Activities

a. Housing Foundation of Iran (HFI)

- (1) After expiry of extended period of MoU between NDMA and HFI for construction of 17 x Projects (Educational & Health) on 28 February 2018, NDMA sought advice from Ministry of Law & Justice on 5 March 2018 whether MoU can be further extended or a fresh MoU between NDMA and HFI needs to be signed. Ministry of Law & Justice advised NDMA to sign a fresh MoU as Article 4 of MoU provides one time extension.
- (2) After approval of Minister for Climate Change, NDMA had taken up the case with concerned stakeholders i.e. MoFA, MoI, EAD, PDMA Punjab and PDMA Sindh for NOC. EAD, PDMA Punjab and PDMA Sindh have granted NOC for signing of fresh MoU, whereas MoFA has requested for NOC from security agencies.
- (3) On the basis of reports from security agencies, Ministry of Interior (MoI) on 28 August 2018 declined to grant NOC for signing of MoU between HFI and NDMA. Thereafter, NDMA requested MoFA on 28 September 2018 to formally convey Government of Pakistan's decision to its Iranian counterpart regarding closure of remaining / under construction projects initiated by HFI in Flood-2010/11 affected areas in Punjab and Sindh. MoFA was also requested to take up the matter with Iranian counterpart for early release of outstanding bills of contractors amounting to approximately Rs.500 million alongwith handing over of 3x completed and 6x under construction projects.
- (4) In response, MoFA on 10 December 2018 requested NDMA to share a consolidated list of the contractors alongwith their outstanding claims, enabling MoFA to effectively pursue the matter with the Iranian Government for prompt payment of outstanding dues.
- (5) Subsequently, NDMA requested HFI on 14 December 2018 to furnish details of pending liabilities of contractors working on HFI's 3 x completed and 6 x under construction projects for onward sharing with MoFA.

- b. NOC's Issued during the Period. 2x NOC's for the import of relief items for distribution amongst victims of drought in Balochistan and firing by Indian Army on LoC in AJ&K.

Section - III

Disaster Preparedness

Section - III

Disaster Preparedness

Major Preparedness Activities for Monsoon 2018

10. Coordination Conferences for Monsoon Season – 2018

- a. **National Post Monsoon Review Conference – 2017.** In order to compile lessons learnt, good practices established, grey areas identified and valuable experience gained during handling of Monsoon Season 2017 and share it with all stakeholders for future preparations, National Post Monsoon Review Conference 2017 was organized on 9 January 2017. Minutes of the Conference comprising recommendations for preparation of Monsoon 2018 were shared with all stakeholders.
- b. **Post Monsoon 2017 Report.** To analyse major events of consequence, lessons learnt and good practices adopted during management of Monsoon 2017 and recommend future strategy for preparedness activities of Monsoon 2018, comprehensive Post Monsoon 2017 Report was prepared and shared with all stakeholders by NDMA.
- c. **Rationalized Demand of Flood Fighting Equipment by Pakistan Army.** Flood fighting equipment demand of Pakistan Army was rationalized by NDMA. Optimum demand was met, however, NDMA is pursuing concerned Provincial Governments for procurement of balance demand and subsequent handing over to Pakistan Army.
- d. **National Monsoon Preparedness Conference – 2018.** On culmination of Provincial / Regional consultative process, National Monsoon Preparedness Conference 2018 was held on 7 June 2018 at Islamabad. The forum facilitated compilation of Provincial / Regional Plans and input to build a well-coordinated National response against impending Monsoon Season.
- e. **National Monsoon Contingency Response Directive 2018.** To lay down National response guidelines for all stakeholders at Federal and Provincial level, ensure sound disaster management against possible floods and configure a coherent response against visualized contingencies of Monsoon 2018, National Monsoon Response Directive 2018 was issued to all stakeholders on 28 June 2018.
- f. **Activation of NEOC for Monsoon Season – 2018.** To ensure constant monitoring of Monsoon 2018, swift liaison with relevant stakeholders and rapid rescue and relief operations during any emergency situation, Emergency Operation Centre's at Provincial and National Emergency Operation Centre (NEOC) at NDMA were activated. These Emergency Operation Centre's remained active till culmination of the Monsoon Season i.e 15 September 2018.
- g. **National Post Monsoon Review Conference - 2018.** In order to compile lessons learnt, good practices established, grey areas identified and valuable experience gained during handling



of Monsoon Season 2018 and share it with all stakeholders for future preparations, National Post Monsoon Review Conference 2018 was held on 12 December 2018. Minutes of the Conference comprising recommendations for preparation of Monsoon 2018 were shared with all stakeholders.

- h. **Post Monsoon Report 2018.** Post monsoon report was compiled and shared with all relevant stakeholders in December 2018.

11. **Establishment of Pakistan Resilience Partnership (PRP)**

- a. At Regional level six countries of Asia (Cambodia, Myanmar, Nepal, Pakistan, Philippines, and Sri Lanka) have established the Asian Preparedness Partnership (APP) for strengthening the capacity on preparedness for emergency response in Asia.
- b. Considering the need for a partnership of Government, Local Humanitarian Organizations, Private Sector and other Stakeholders for strengthening the capacity on preparedness for well-coordinated/ effectiveness emergency response in Pakistan, Pakistan Resilience Partnership (PRP) was formed by NDMA with the assistance of ADPC/ NHN on 7 February 2018. Representatives of Government (NDMA), Local Humanitarian Organizations (NHN), Private Sector (FPCCI) and other Stakeholders (PID & Academia) signed an agreement to improve the interface and partnership for enhancing capacities through Knowledge Resources, Training, and Networking opportunities.
- c. PRP will initially comprise of members from following organizations/ stakeholders and committee consisting of member from these organizations would be referred as the National Steering Committee (NSC), however the number of representatives will be increase subsequently:-
 - (1) Government (NDMA).
 - (2) Local Humanitarian Network (NHN).
 - (3) Private Sector (Federation of Pakistan Chamber of Commerce & Industries).
 - (4) Academia (Higher Education Commission).
 - (5) Media (Press Information Department).
- d. The following activities were planned/ conducted in year 2018 under Pakistan Resilience Partnership:-
 - (1) **Disaster Preparedness for Effective Response Trainings.** Ops Wing NDMA in collaboration with ADPC/ NHN commenced training of Govt Officials and reps of other stakeholder at District level to offset existing inadequacies in response against disasters. These trainings helped strengthening the coordination mechanism horizontally and vertically within the Govt departments. During the Phase-I of the program, one training for each KP, AJ&K, GB and Balochistan were conducted in April & May 2018. In the 2nd phase, 1x Training each was conducted for Sindh and Punjab in September & November 2018 respectively.

Serial	Course	Dates	Trained Strength
(a)	Training for KP held in Peshawar.	17 – 19 April 2018	28
(b)	Training for AJ&K held in Muzaffarabad.	8 – 10 May 2018	26
(c)	Training for GB held in Gilgit	12 - 14 September 2018	42
(d)	Training for Balochistan held in Quetta	24 - 26 September 2018	50
(e)	Training for Sindh held in Karachi	26 - 29 October 2018	40
(f)	Training for Punjab held in Multan	13 - 15 November 2018	44

- (2) **Revision of National Disaster Response Plan (NDRP).** National Disaster Management Response Plan was formulated in 2010. Since then, changing environment, technologies, merger of old departments & raising of new departments demanded revision of NDRP-2010. NDMA with the financial assistance from ADPC took the initiative of revision of NDRP-2010 to align the Disaster Response Plans with latest disaster situation/ environment, experiences and organizational changes in Government Departments. 1st draft of the Plan has been prepared/ analysed in NDMA in December 2018. Finalisation of revision/ Plan is expected in January 2019.
- (3) **Media Workshop – National Workshops on role of Media in Preparedness for Response and Climate Change Adaptation.** NDMA in collaboration with ADPC & NHN, held a Workshop on reporting at a time of Disasters, for awareness and advocacy of Media Personnel on 27 June 2018. Media Workshop was attended by more than 50 x Media persons. Chairman NDMA emphasized the importance/ role of Media for preparedness and disaster response.
- (4) **National Workshops Business Resilience and Role of Private Sector in Preparedness and Response.** On 18 July 2018 NDMA in collaboration with ADPC & NHN, held a Workshop on Business Resilience and Role of Private Sector in Preparedness & Response. The workshop was attended by more than 30 Private Sector personals.

12. Inspection of Urban Search and Rescue Team (USAR) and Equipment of MCI/ CDA. NDMA with the assistance of Capital Development Authority (CDA) and donor Agencies raised USAR Team for ICT in 2008/09 from the existing human resource of CDA Fire Staff. The USAR Team was placed/ remained under operational/ administrative control of CDA. During management of various disasters, USAR Team proved/ became mainstay of NDMA. With the passage of time this National level asset got depleted in its strength & equipment and presently; facing serious administrative issues pertaining to Organisational Structure, Training & Equipment. In order to take stock of situation and recommend measures for improvement, NDMA team inspected the CDA's USAR Team on 21 February 2018.



13. SERT – National Roster. Disaster Management is a shared responsibility and mainly hinges upon integration of National Assets including Human resource. NDMA has formulated a National level strategy for bringing all volunteers under National Umbrella to achieve synergy of response during disasters. NDMA with collaboration of NHN and ActionAid Pakistan, has launched Surge Emergency Response Team (SERT) National Roster on 23 February 2018, completed the 1st Phase of membership of 1st National Roster of Pakistan SERT by conducting training workshop for 111x selected Roster Members. Under the National Framework, NDMA has also started maintaining database of all the human and technical resources available with all stakeholders and other organization operating in the Disaster Management System of Pakistan. This database would not only be helpful in deployment of resources in case of any emergency at National level but will also be useful while collaborating our resources during extension of aid to the other countries in emergency situations.

14. Programme for Enhancement of Emergency Response. Ops Wing NDMA alongwith NHEPRN in collaboration with ADPC/ NHN under PEER Stage-IV program conducted 1x HOPE (Hospital Preparedness for Emergencies) training each in Sindh and AJ&K from January to June 2018. Details are as following:-

Serial	Course	Dates	Trained Strength
a.	Hospital Preparedness for Emergencies (HOPE) Training, Karachi.	23 – 27 April 2018	19
b.	Hospital Preparedness for Emergencies (HOPE) Training, Muzaffarabad.	8 – 11 May 2018	19

15. Raising of National Disaster Response Force (NDRF)

- a. In pursuance to Prime Minister's approval during the 5th NDMC meeting, a Committee under Chairman NDMA was constituted to finalise Concept Paper incorporating estimate of Financial Implications for Raising Smart Specialised Force at Federal Level (named as NDRF).
- b. Meeting of above mentioned Committee was held on 4 May 2018 in NDMA; Ops Wing of NDMA presented the Concept of raising of NDRF. The representatives of all stakeholders agreed with the Concept in principal; however, recommended fresh recruitment of individuals instead of merger of various components of already existing outfits.
- c. Basing on the recommendations of the Committee, a Summary for the approval of Prime Minister was moved proposing following:-
 - (1) Creation of 200x Posts (14x Officers, 186x Staff) under NDMA for raising of National Disaster Response Force. These vacancies will be filled by deputation from Armed Forces, MCI/ CDA, Civil Defence and Fresh Recruitment.
 - (2) Release of Rupees 914.99 Millions to NDMA to meet Employees' Pays, Occupancy Cost, Training of NDRF and Construction of critical infrastructure.
 - (3) Taking over Emergency & Disaster Management Academy from CDA (MoU will be processed/ signed with CDA) and sanction for construction of accommodation for NDRF in the land.

16. Provision of Dedicated Aviation Assets for NDMA

- a. Non-availability of dedicated aviation assets with NDMA is one of the major limitations in disaster response. Aviation support to NDMA from Armed Forces (Army, Navy & PAF), MoI, ANF and Cabinet Division are always available for Disaster Response. However, at times assets of Armed Forces are inextricably/ extensively engaged in security/ defence regime operations and procedural delays in requisitioning the assets of Cabinet Division, MoI and ANF etc, impede the commencement of Disaster Response.
- b. Dedicated Aviation Assets will equip NDMA with versatile platform providing multi-dimensional flexibility during disaster management. Pursuant to aforementioned, MoCC constituted a Committee comprising members of MoI, Cabinet Division, Army Aviation Command and NDMA with the mandate **“to be rationale in view of resource constraints and avoid duplication wherein such facilities/ resources were available with other National institutions”**. The Committee analysed the available options at National level including procurement of new aviation assets for capacity building of MoI’s Air Wing to support NDMA for disaster management.
- c. Based on the recommendation of Committee; NDMA placed the proposal before National Disaster Management Commission (NDMC) during 5th NDMC Meeting on 28 March 2018. The Honourable Prime Minister of Pakistan very kindly approved NDMA’s proposal and directed immediate purchase of 2x New MI-17 Helicopters in the first phase. A summary to this effect was forwarded on 5 July 2018 for approval of the Prime Minister for release for Funds.
- d. Subsequently, in order to address the impediments, cut short lengthy procedures and streamline the coordination mechanism between NDMA and Aviation Asset Holders (Armed Forces, MoI, ANF & Cabinet Division) for timely availability/ utilisation of aviation assets during disasters, a meeting of all the stakeholders was held at NDMA on 2 August 2018. The participants assured priority availability of Aviation Assets for disaster management.

17. Preparation of Tsunami Policy Guidelines and Preparedness and Response Plan.

NDMA is in the process of developing National Policy Framework Guidelines on Coastal Earthquake and Tsunami Hazards with the cooperation of UNDP and UNESCO. In this regards, a National Stakeholders’ Conference on Coastal Earthquake & Tsunami Preparedness and Policy Framework was held at NDMA on 4 June 2018. All relevant stakeholders i.e. Pak Navy, Port Authorities, PMSA, Pakistan Coast Guard, PMD etc. participated in the conference and presented their Early Warning System and Response Plans regarding Tsunami preparedness. All concerned appreciated the effort and committed to fully support this national endeavour. The 1st draft of the Policy has been prepared and is under Analysis in NDMA.

18. Host Nation Support Guidelines (HNSG). NDMA in collaboration with ADPC and Australian High Commission at Islamabad prepared comprehensive guidelines for Foreign Assistance in disaster response in Pakistan named **Host Nation Support Guidelines (HNSG)**. These guidelines were launched on 21 June 2018 at Islamabad. Orientation workshops on Host Nation Support Guidelines were



held at Islamabad, Lahore and Karachi for familiarization of Government officials and other stakeholders, details are as following:-

Serial	Locations	Dates	Trained Strength
a.	Islamabad	28 August 2018	46
b.	Lahore	30 August 2018	49
c.	Karachi	4 September 2018	46

19. **National Industrial Hazard Risk Assessment (NIHRA)**. NDMA initiated industrial hazard risk assessment at macro level in August 2017. M/S Tambro was assigned the Project with the aim to carry out industrial hazard assessment, exposure analysis, and calculate/ assess vulnerabilities and risk based on primary/ secondary data and field assessments. During the study mapping of all industries across Pakistan was undertaken. Furthermore all possible hazards of industries were also identified. After the finalization of report in February 2018, input from all Provinces and concerned stakeholders was sought. All stakeholders endorsed the report and appreciated the step taken by NDMA. The final report was presented to Chairman NDMA on 29 June 2018. Printing of final document is under process.

20. **NATO's Disaster Management Field Exercise in Serbia (SRBIJA 2018)**

- Consequence Management Exercise is organised/ conducted by Euro-Atlantic Disaster Response Coordination Centre (EADRCC) of NATO in European Countries every year. The scope of the Exercise includes Crisis/ Disaster Management (Earthquake, Flood/ Water Rescue, Chemical-Biological-Radiological & Nuclear Incidents) in Urban Areas with the aim to train the participants in Disaster Management Scenarios. Previously, Joint Staff Headquarters had attended few Exercises; however, in view of the relevancy to NDMA, Chairman Joint Chiefs of Staff Committee (CJCSC) and EADRCC Civil Preparedness Section invited/ gave lead role to NDMA for participation in 18th Exercise "SRBIJA-2018" held from 8 - 11 October 2018 in Serbia. NDMA organised Pakistani Team of 17x Rescuers/ Managers (pooling from NDMA, CDA USAR Team, Rescue 1122 KP, Rescue 1122 Punjab and PAF) lead by Major Muhammad Amjad Iqbal, Deputy Director (Response-I) for participation in the Exercise.
- The Team was imparted refresher/ scenario based training in Emergency Services Academy at Lahore from 3 - 7 September 2018 and equipped with required Rescue Equipment.
- Pakistani Team participated in the Exercise from 8-11 October 2018 and performed exceptionally well in the field work. The team came back to Pakistan on 12 October 2018.
- Participation in Exercise has helped Pakistan/ NDMA in strengthening Response Mechanism and collaboration with NATO/ EADRCC.***

21. **Installation of Weather Radar in Sialkot**

- In order to strengthen existing Weather Surveillance System, on the request of Govt of Punjab, Pakistan Meteorological Department (PMD) is perusing installation of Weather Radar at Sialkot since 7 July 2017. To this end, PMD initiated request for NOC from Cantonment Board Sialkot

for construction of Building/ Tower for Radar. Cantonment Board Sialkot could not issue NOC for construction of new Radar building due to absence of Policy on the subject (*as per Govt Policy no new construction or sale shall be allowed in case of Old Grant/ Cantonment Code Leases*).

- b. During 5th National Disaster Management Commission's (NDMC) meeting held on 28 March 2018, Prime Minister desired that matter may be resolved at priority.
- c. NDMA coordinated with Headquarters 30 Corps, Gujranwala and liaised with DG Military Land & Cantonments (MoD) for resolving the issue. The matter is likely to be resolved in near future.

22. Exercise Barracuda-IX. Oil spillage exercise (Barracuda-IC) at Karachi was conducted by Pakistan Maritime Security Agency (PMSA) from 4-6 December 2018. The exercise was attended by NDMA Officials and representatives of various stakeholders including PDMA Sindh and Balochistan.

23. Earthquake Simulation Exercise. NDMA in collaboration with UN-OCHA is planned a National Level Earthquake Simulation Table Top Exercise at Islamabad for participation by representatives of Federal & Provincial Govt, UN Organisations and Humanitarian Organisations (NGO/ INGO). In this regard, various planning meetings were held between NDMA Officials and Planning Team of UNOCHA/ UN ROAP for finalization of Scenario and conduct modalities of Simulation Exercise. However, due management of Monsoon Season and certain unavoidable commitments of various departments, exercise was postponed. The same will be organised in 1st quarter of 2019.

24. Enumerators' Training on Multi Sector Initial Rapid Assessment Guidelines

- a. After launching of MIRA Guidelines on 31 May 2017 and Training of the Trainers (ToT) on MIRA Guidelines was held on 6-8 November 2017 for further training of the nominated officers of DDMA's, Line Departments, INGOs / NGOs at district level. Subsequently. Provincial/ Regional and State DMAs were requested to identify the most vulnerable districts under their jurisdiction. NDMA launched 1st Phase of 2 x days Enumerators' trainings program on MIRA Guidelines in collaboration with Tearfund, Trocaire, IOM and UNOCHA in 8 x most vulnerable districts viz. Muzaffargarh, Quetta, Swat, Rajanpur, Sukkur, Tharparkar, Karachi and Muzaffarabad. The 2nd Phase of 2 x day Enumerators' training was launched in collaboration with IOM in 4 x districts i.e. Multan, Chitral, Gwadar and Nowshera.
- b. NDMA successfully trained 443 x officials (334 x Male and 109 x Female) of District Disasters Management Authorities, Line Departments (i.e. Education, Health, Irrigation & Agricultural etc.), INGOs/NGOs.

25. Guidelines for Cash Transfer Programme in Disasters (CTPiD). NDMA is in process of finalizing Guidelines for CTiDM in consultation with Federal Ministries/ Divisions, Attached Departments, PDMA's and other relevant stakeholders. The aim of the Guidelines is to draw on more recent experience and expertise developed within country and world. The Guidelines will ensure well-targeted and timely conditional or multi-purpose cash transfers and make vulnerable persons affected by disasters less likely



to fall into poverty. The Guidelines were revised in the light of discussion/ input of Programme Manager, (TDP-ERP Project), Economic Affairs Division (having experience of 14 x cash transfer projects) and shared with all PDMA's and Benazir Income Support Programme (BISP) for input/ consent. After receipt of views / comments, the draft will be finalized and put up for approval for the National Authority at NDMA so that it may be presented in one day workshop to all stakeholders for ratification before official launching.

26. National Guidelines on Management of Dead in Emergencies. NDMA in collaboration with International Committee of Red Cross (ICRC) is formulating 'Guidelines on Management of the Dead in Emergencies' for handling of realities. NDMA started a consultation process with all the relevant stakeholder for finalization of Guidelines. The consultation process with focal persons from all concerned Ministries / Divisions / Departments / PDMA's, Law Enforcement Agencies and Pak Army was completed by ICRC's Forensic Coordinator. The 1st draft of Guidelines is under review by ICRC.

27. Recovery Need Assessment (RNA) Guidelines. After the floods-2014, RNA was initiated in AJ&K and Punjab in October 2014 and report was presented to donors and Federal Finance Minister on 11 November 2014. RNA-2014 describes the strategic basis for a response to the 2014 floods in Pakistan. The document identifies and estimates the cost steps to bridge the gap between emergency relief and rehabilitation. As a follow up, NDMA in collaboration with UNDP is formulating RNA Guidelines. The First draft of RNA Guidelines was received from UNDP which was reviewed. UNDP asked to furnish revised draft after input from NDMA.

28. Logistic Matters

- a. **Relocation of NDMA Stores and Storage Accommodations.** On the request of Army, 1x Flospan and 2 x Rub Halls were dismantled and shifted to I-11 warehouse while stores of these sheds shifted to remaining Sheds / Rub Halls within CMT&SD.
- b. **Enhancement of Storage Capacity.** An additional storage capacity i.e 400 MT for NDMA relief stores has been developed through RCC flooring measuring (70 x 80 ft) for installation of 2x Flospans at NDMA warehouse located in Sector I-11, Islamabad.
- c. **Maintenance of Stock Level.** NDMA stocking level is maintained through procurement of following relief items:-
 - (1) 5000 x Family Tents.
 - (2) 350 x Kitchen Utensils for Kitchen Sets.
- d. **Shifting of Stores**
 - (1) Shifting of stores from I-11 to H-11 warehouse.
 - (2) Shipping containers were relocated at H-11 warehouse.
 - (3) 5,000 x tents were shifted from CMT&SD Golra to HRF Sukkur.
 - (4) Evacuation from CMT&SD Golra (dismantling of 2 x Flospan and 3 x Rub halls alongwith stores) is in progress.

e. **Construction / Maintenance of I-11 NDMA Warehouse**

- (1) Guard Room (14x14 sq ft) was constructed by M/s AKB Enterprises.
- (2) Internally painted/distempered by M/s Muhammad Afzal and Brothers.

f. **Issuance of NDMA Relief Items**

- (1) NDMA issued following relief / rescue items to PDMA for their preparedness with regards to enhancement of their rescue / relief capacity before upcoming monsoon Season 2018:-

Serial	Issued to	Plastic Mats	Water Purification Units	Dewatering Pump
(a)	PDMA Punjab	-	-	30
(b)	PDMA Sindh	-	30	20
(c)	PDMA KP	-	8	12
(d)	PDMA Balochistan	13,555	18	26
(e)	GBDMA	9,364	-	8
(f)	SDMA	7,000	7	-
(g)	FDMA	12,000	-	-
Total		41,919	63	96

- (2) NDMA issued following Generators to PDMA for use/ distribution in case of disasters:-

Serial	Issued to	Generators				Total
		2 - 3.5 KVA	5 KVA	50 KVA	120 KVA	
(a)	PDMA KP	100	10	2	-	112
(b)	PDMA Balochistan	100	20	3	1	124
(c)	GBDMA	100	10	2	-	112
(d)	SDMA	100	10	2	-	112
(e)	FDMA	50	10	1	-	61
Total		450	60	10	1	521

- (3) Disposal of Redundant Stores held with NDMA. Redundant stock including Sleeping Bags, Mattresses, Jerry Cans, Water Filters, Water Bladders, Cutting Discs and Clothing items were issued to PDMA KP, Sindh, Balochistan, GBDMA, SDMA, CDA USAR, 1122 Lahore and SOS Islamabad.
- (4) Miscellaneous items. NDMA issued following relief items to different stakeholders:-
 - (a) 500x Plastic Mats were issued from I-11 warehouse to the needy persons of Gadoon and Swabi.
 - (b) 1x 32 KVA Generator was issued to District Turbat from COD Karachi.
 - (c) Releasing of 2 x 120 KVA generators to District Karachi for their operational use was formalized in Aug 2018.
 - (d) 1x 32 KVA Generator was issued to District Gujranwala from H-11 warehouse.



29. Advocacy and Awareness

a. Observance National Resilience Day (8 October) & International Day for Disaster Reduction (13th October). Lack of awareness amongst masses, has emerged as a catalyst losses due to disasters. Dire need for a consistent public awareness at National level to strengthen the response mechanism at community level and grant much needed relief to mitigation measures was felt. Therefore, NDMA started observing “Disaster Awareness Day on 8th October”. Recently, the day was named as National Resilience Day as directed vide Government of Pakistan notification. On the other hand, in the light of United Nation General Assembly’s decision international community observes 13 October as **International Day for Disaster Reduction** every year. Whereas, NDMA has not been observing the same. Therefore, in order to join hands and express solidarity with international community, Chairman NDMA decided to observe 8 October 2018 as National Resilience Day and 13 October 2018 as International Day for Disaster Reduction. Following activities/ events were organised on 8 October and 13 October respectively:-

- (1) **8 October 2018.** 8 October 2018 (National Resilience Day) was observed (indoor in Prime Minister’s Office) in a sober manner, Federal Minister for Education, Mr. Shafqat Mehmood graced the occasion as Chief Guest. The participants paid homage to the people of Pakistan who unfortunately lost their lives in disasters and to those who relentlessly extended helping hand to the affectees. While appreciating NDMA for renaming this day as **National Resilience Day**, Mr. Shafqat Mehmood expressed that people of Pakistan have braved recurring disasters over the past two decades with courage and fortitude. Taking advantage of the opportunity, MHVRA of 5 Districts of Punjab and Sindh, Decision Support System (DSS), and Pakistan School Safety Framework (PSSF) and Coffee Table Book were launched on this occasion.
- (2) **13 October 2018.** 13 October 2018 (International Day for Disaster Reduction) was observed outdoor in Fatima Jinnah Park Sector F-9. Mr Naeem UI Haq advisor to Prime Minister of Pakistan graced the occasion as Chief Guest. Following activities were organised:-
 - (a) Awareness Campaign by advertisements.
 - (b) Cycling Rally and Flag March by Emergency Response Units (USAR Team, Rescue 1122 and Traffic Police).
 - (c) Short Walk within F-9 Park by UN representatives, Senior Govt Officials, General Public, School Children and Boy Scouts/ Girl Guides.
 - (d) Equipment Display by Boy Scouts, Girl Guides, CDA USAR Team and setting up of stalls by NHN, PHF, ICRC, PRCS, WWF and UN Organisations.
 - (e) PSSF Stalls and Children Speech and Drawing Competition.
 - (f) Endorsement of Pledge on a Pledge Wall, Candle Lighting and Lighting of Lantern at F-9 Park.
 - (g) Tree Plantation by Chief Guest and participants.

- (h) On the request of NDMA, all the PDMA's also observed/ organised similar activities at respective Provincial Capitals.
- b. **Coffee Table Book.** Gender and Child Cell of NDMA prepared Coffee Table Book that features personal stories of individuals whose enduring spirit remained steadfast to overcome the multitude of challenges. NDMA launched Coffee Table Book on 8 October 2018 during celebration of National Resilience Day. Federal Minister for Education, Mr Shafqat Mehmood graced the launching. The Prime Minister of Pakistan in his message appreciated NDMA for adopting a multi-pronged approach in combating disasters through effective mitigation and response strategies that are in line with the government's manifesto to strengthen federation and revolutionize social services; by protecting the rights of minorities, promoting gender parity and caring for people with special needs.
- c. **Child-Inclusive Climate Change Adaptation (CCA) Tools.** Child inclusive Climate Change Adaptation (CCA) tools were developed, designed and printed to strengthen the capacity of children within the education sector by mainstreaming climate change adaptation and disaster risk reduction.
- d. **Media Toolkit.** Media Toolkit developed, designed and printed to sensitize media personnel with key disaster management principles and crisis management journalism, as well as on the role of media in disaster risk management.
- e. **Consultative Media Dialogue.** A consultative Media Dialogue on Role of Media in DM / preparing resilient Nation was conducted by GCC to engage Media personnel an interactive dialogue that defined the role of Media in protecting our generation.
- f. **Meeting with Leading Anchors.** Meetings was arranged with following leading anchors of different channels with Chairman NDMA as part of awareness & advocacy and to brief them on roles, responsibilities, priorities of NDMA and overall Disaster Management System in Pakistan:-
- (1) Anwar Hassan, PTV.
 - (2) Adil Abbasi and Kashif Abbasi, ARY News.
 - (3) Moeed Pirzada, Dunya TV.
 - (4) Samar Abbas, DAWN News.
 - (5) Saleem Safi and Talat Hussain, Geo News.
 - (6) Dr. Shahid Masood and Rana Mubashir, News 1.
 - (7) Sadia Afzal, Channel 92.
 - (8) Asim Raza, Such TV.
- g. **Press Releases, Advertisements & Tickers**
- (1) Important events of NDMA were projected in print media through press release. 46x Press Releases were prepared and issued while coverage appeared in 223 x newspaper covering these press releases.
 - (2) NDMA issued 9x advertisements during the period.
 - (3) Over 100x tickers were aired of different NDMA events on electronic and social media as per requirement.

Section - IV

Disaster Risk Reduction

Section - IV

Disaster Risk Reduction

Major Projects Undertaken in Collaboration with Implementation and Development Partners

30. **Major Projects Undertaken.** Implementation Directorate of NDMA has successfully acted as NDMA interface with International Development partners, donors and UN agencies. Project proposals were discussed and shared with various donors and entities including NDRMF, KSA etc. Meetings for future collaborations were held with various entities.

a. **Collaboration with Implementation Partners.** NDMA is working in close collaboration with UN and International partners mainly Donor Agencies. Following collaborations are in hand:-

- (1) **Finalization of Project requirements for NIDM with Swiss Agency for Development and Cooperation (SDC).** As per the contract signed between SDC and NDMA for the period of two years 2017 – 2019 for the Institutional Capacity of NDMA/ NIDM, a detailed organizational assessment of NDMA was carried out by PWC engaged by SDC for the task. Series of meetings were held and the requirements of NDMA were conveyed to SDC for their consideration. Based on organizational assessment, SDC has provided support for Institutional Capacity Building and conduct of training activities/ plans. The signing of revised contract with SDC is in the process.
- (2) **Collaboration with World Food Programme (WFP).** WFP has concerted to extended support to NDMA for Human Resource and institutional Capacity Building and trainings/ capacity building of stakeholders to handle disaster management activities across the country.
- (3) **Collaboration with United Nation Development Program (UNDP)**
 - (a) Under Building Disaster Resilient Project, NDMA with the support of UNDP is implementing specific activities in selected project districts by creating robust and well-coordinated information management system. In all four project Districts (Kashmore and Ghotki in Province, Rajanpur and Muzaffargarh in Punjab), existing, information management systems would be assessed, including the level of operationalization and the relevance and quality of outputs. Based on the assessment, critical gaps and additional requirements will be identified, prioritised and implemented.
 - (b) UNDP will further support officials, DDMA staff and community members of 4 x selected Districts in providing on-the-job mentoring to improve existing coordination mechanism and exchange of information mechanism. Information groups will be formed and trained at all levels in these Districts and mechanism will be developed



and linked with DEOC for exchanging information even during peace times on preparedness level. The information groups will perform the following core function:-

- i. In-time Coordination and communications.
 - ii. Improve emergency response.
 - iii. Manage and mitigate disasters.
 - iv. Analyse, disseminate and manage all the information.
 - v. Preparing operational updates, situation reports.
 - vi. Facilitating the higher authority in making better estimation for relief and rehabilitation.
- b. **Revised Work Plan Signed with UNFPA.** Revised Work Plan has been signed between NDMA and UNFPA for Integration of Gender Based Violence (GBV) activities.

31. 3rd Meeting of Building Disaster Resilience in Pakistan (BDRP) Steering Committee

- a. NDMA in consultation with DFID has formulated Programme Steering Committee (PSC) to provide oversight, guidance and strategic direction for effective and efficient programme delivery. The PSC will guide and advise BDRP in order to maximize resilience impacts for Pakistan. The 3rd meeting of Steering Committee under Building Disaster Resilience in Pakistan (BDRP) Programme was held on 16 May 2018 under Chairman NDMA, attended by representatives of P/R DMAs, Ministry of Climate Change, Ministry of Food & Security, UNDP and WFP, etc.
- b. The United Kingdom Department for International Development (DFID) has provided approximately £40.8 million to strengthen resilience to disasters at community and institutional levels in line with the Government of Pakistan's National Disaster Management Plan (NDMP, 2012-2022). The Building Disaster Resilience in Pakistan (BDRP) Programme is running (for six years) since 2016 till 2021 and will be directly supporting the implementation of Pakistan's National Disaster Risk Reduction Policy – 2012 and NDMP. The BDRP Programme is contributing towards the achievement of the overall goal and outcome of the Sendai Framework for Disaster Risk Reduction (SFDRR) and NDMP.
- c. The goal of BDRP is to increase Pakistan's capability to reduce disaster risk, through better planning, preparedness, response, and resource allocation at the governmental and community levels. BDRP will work through two main delivery areas:-
 - (1) Community Based Disaster Risk Management (CBDRM).
 - (2) Capacity building of disaster management bodies at the Federal, Provincial and District levels.

32. PC-1 for DRM Services Project with support of World Bank. In view of the vulnerability of the Country to multiple disasters, strengthening of the disaster risk management system in Pakistan is considered very strategic. To build the resilience of the Country by enhancing the delivery of Disaster Risk Management Services, NDMA Pakistan has proposed a project worth USD 92 Million with

the support of World Bank. This Project has three main components i.e. Legal Framework, institutional strengthening, infrastructure development for resilience and project management component. This project has been approved by CDWP in principle in its meeting of 24 May 2018 for negotiation by EAD with World Bank. Presently, the project is awaiting approval of ECNEC. In view of the importance of the project and our need to start implementing the activities as soon as possible, the Ministry of Planning, Development and Reforms has been requested to facilitate early approval of the project from ECNEC.

33. MHVRA and SHVRA Activities

- a. **MHVRA of District Ghotki and Kashmore, Sindh.** MHVRA exercise for 2x districts of Sindh namely Kashmore and Ghotki, has been successfully completed with the financial support of World Food Program (WFP). Designing and composing of work is in progress for formal publication. The activity during exercise covered the following modules:-
 - (1) Assessment of Earthquake, Flood and Drought Hazards.
 - (2) Exposure / Vulnerability Assessment (Physical, Social & Food Insecurity).
 - (3) Capacity & Risk Assessment.
- b. **MHVRA of District Chitral.** NDMA, with the support World Food Program (WFP), is in process of undertaking MHVRA Study of District Chitral. The activity covers vulnerability/ capacity assessment against Earthquake, Glacial Lake Outburst Flooding (GLOF), Avalanche, Landslide, Flood & Drought Hazards. NDMA's Team undertook field visit from 9–19 September 2018 of District Chitral to hold consultation meetings with local authorities, communities & humanitarian organizations, assessment/ survey of 28 selected schools as well as visit to vulnerable locations for hazard assessment and collection of data for calculation of exposure and vulnerabilities in the study area. The first deliverable of the study has been prepared and shared with WFP.
- c. **Hazard & Risk Assessment Report of Karimabad Village, Chitral District.** As part of the MHVRA Chitral Field Visit, PMU team visited Karimabad, a highly landslide vulnerable location in the North West of Chitral. After a detailed field assessment of the area, PMU has submitted a comprehensive report, highlighting the findings and technical recommendations for further necessary action to be taken by the relevant departments.
- d. **Launching of Disaster Management Decision Support (DM - DSS) System.** NDMA's DM-DSS is a web based GIS application that analyse spatial data and facilitates in decision making by carrying out the complex analytical calculations and generating results in any easy to comprehend format. It is an integrated platform that utilizes cutting-edge analytic and computational capabilities to provide ability to plan, manage and recover from disasters. NDMA started working on the desktop version in 2015-2016, while the web interfaces were configured in 2017 followed by internal demonstrations and testing. NDMA launched the DM DSS alongwith the MHVRA study of 5 x Districts of Punjab (Multan, Jhang, Bahawalpur, Rahim Yar Khan & Khushab) on National Resilience Day (8 October 2019).
- e. **MHVRA & SHVRA (28 Selected Schools) of District Chitral**
 - (1) NDMA's Project Execution Plan covering two major activities i.e. Multi Hazard Vulnerability & Risk Assessment (MHVRA) & School Hazard Vulnerability & Risk Assessment (SHVRA) for 28 selected schools in Union Councils of Charum and Mulko) is prepared for District Chitral to assess hazards, vulnerability and risk factors in regards to natural hazards



that endanger the safety of students and has a potential to disrupt educational activities. Major focus is being given to devise mechanisms that shall ensure physical, social and academic safeties of the targeted schools. The Project is funded by WFP and is currently being executed.

- (2) In order to provide an overview of the project, working strategy and various technical parameters of the project, an inception meeting was held at NDMA on 7 March 2018.
 - (3) On 12 September 2018, NDMA Team also organized a Workshop/ Seminar on MHVRA and SHVRA in District Chitral to seek necessary participation of all relevant stakeholders for smooth execution of MHVRA study in Chitral.
- f. **MHVRA in Balochistan and KP.** NDMA has prepared proposal for the conduct of MHVRA in 7x Districts of Balochistan, 8x Districts of KP. The activity is planned for duration of 18 x months and will cover several impending hazards in the selected Districts. The hazard selection are based on historical profile of the districts as well as consultation with respective district level stakeholders.

34. Implementation of Pakistan School Safety Framework (PSSF) in ICT

- a. Pakistan School Safety Framework was developed after a series of National level consultative meetings with Government and private sector stakeholders. The findings & reports of PSSF was finally presented on 28 March 2017 in a conference held at Islamabad which was attended by all stakeholders. It was pretested through a Pilot in 68 Public and Private Schools across Pakistan, AJ & K and GB to view its effectiveness in disaster risk management in the Education Sector in Pakistan. 263 teachers were trained and 50,000 students benefitted from the programme.
- b. Owing to the monumental success of the Pilot, it has been decided to Scale-Up PSSF in ICT as Model Pilot in 500 Public, Private Schools and informal educational institutes, where 1500 teachers will be trained. In this regard, a MoU has been signed for partnership with FDE for the roll-out of Pakistan School Safety Framework (Project) in 391 schools that fall under FDE jurisdiction.
- c. A meeting was held with British Council on 13 September 2018 to review the planning for the following activities:-
 - (1) Evaluators Training.
 - (2) Provincial Launches.
 - (3) 2nd Phase of ICT Scale up.
- d. Development of PSSF Document and Training Toolkit in English & Urdu version (Teacher's Guide, Trainer's Guide, Evaluator's Guide, Evaluator's Handbook) for implementation of PSSF in 500x Schools of Islamabad in two phases have been finalized and printed.
 - (1) A meeting was held with British Council and FDE on 1 October 2018 to discuss and plan upcoming events i.e. Evaluators Training, Provincial Launches and 2nd Phase of ICT Scale up.
 - (2) A presentation was delivered to the Federal Minister for Federal Education Mr. Shafqat

Mehmood to apprise on development of PSSF, ICT Scale Up, Provincial Launches and Communication Campaign.

- (3) A Master Trainer Refresher Course/Session on PSSF was held from 22 to 24 November 2018.
- (4) Two days orientation session of PSSF was organized for FDE Officials and Area Education Officers on 29-30 November 2018.
- (5) Head Teachers Orientation session for ICT Scale up was held from 3-7 December 2018.
- (6) Phase 2 Training of Teachers on PSSF in Islamabad started from 10th December and will end on 4 January 2019 at 7 different locations.

35. Preparing Women for Leadership Roles in Humanitarian Response. NDMA supported the first response training conducted by Oxfam, Pakistan targeted to build capacity of women humanitarian responders to take leadership roles and improve the disaster response preparedness of mid management level women professionals working in National/ Local NGOs and Local Government departments across Pakistan. 24 x participants from across Pakistan were identified and nominated through NHN and NDMA. The training was held in Kanpur (Islamabad) from 5 - 9 March 2018.

36. Education in Emergencies. Emergency preparedness planning within the Education Sector is a critical step towards ensuring access to quality education for all learners in times of crises. NDMA is striving hard to develop comprehensive guidelines. In this regard, following have been done so far:-

- a. Meetings were conducted with Government stakeholders, Hope 87 and NHN to review the progress of Education Sector Contingency Planning Guidelines (ESCPG).
- b. First draft of ESCPG guideline was shared by H&H Consultants on 25 August 2018 for review by NDMA and Hope 87. The draft document has been vetted from foreign consultant.
- c. The draft documents (Gap Analysis & Education Sector Contingency Planning Guidelines) are being forwarded to International Consultants for vetting.
- d. NDMA hold National Consultative Meeting in which all stakeholders were invited to share their relevant input for the finalization of draft document.
- e. A Meeting was conducted with Hope 87 on 25 October 2018 to discuss National Consultative Meeting and possibility of further projects.
- f. National Consultative Meeting was held on 20 December 2018.
- g. A presentation was delivered to UNICEF on 21 December 2018 to share the progress on PSSF and Education in Emergencies.

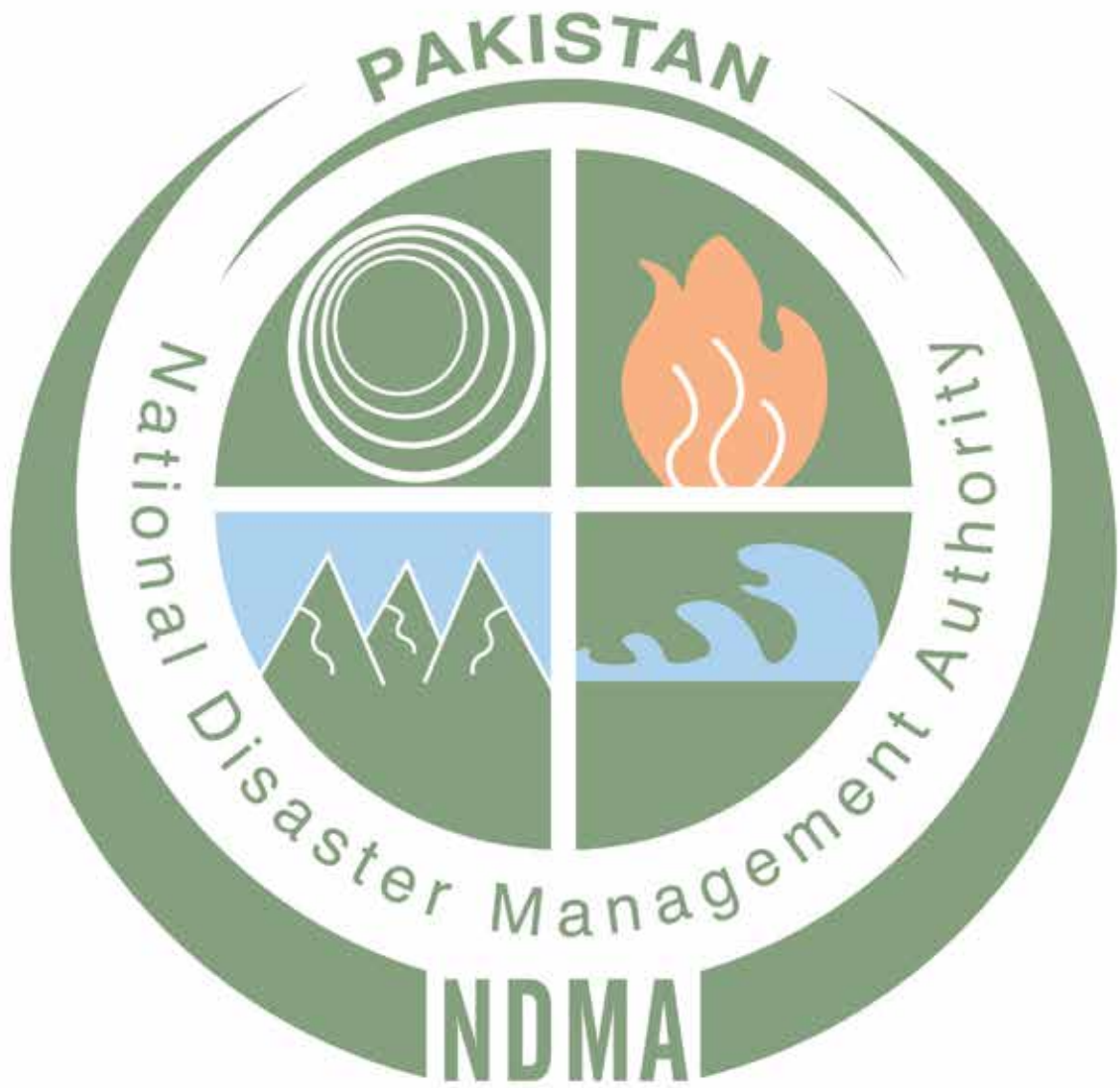
37. Minimum Initial Service Package (MISP). MISP is an international standard of care which is normally implemented at the onset of every emergency to reduce mortality, morbidity and disability among populations (particularly women and girls) affected by crises. This can be achieved by increasing the Provincial and District Capacity to implement the MISP during disasters, creating a data bank of trainers and trainings, strengthening the coordination stakeholders for responding in a timely and effective manner.



NDMA is trying to develop detailed guidelines on MISP. In this regard, following steps have been taken so far:-

- a. Assessment checklist and tools developed for MISP, GBV and Sexual & Reproductive Health (SRH) in Emergencies and workshops were conducted in Quetta, Balochistan on 10 October 2018 and in Peshawar, Khyber Pakhtunkhwa on 23 October 2018.
- b. Consultant has been hired for contextualization of Minimum Initial Service Package (MISP) Manual in Pakistan.
- c. Minimum Initial Service Package (MISP) Task Force has been notified for contextualization of the MISP Manual in Pakistan.
- d. MISP mainstreaming into Contingency Planning meetings were held across Pakistan, with key Government Departments i.e PDMA, P&D, Education, Social Welfare, health and Women Empowerment.

38. Consultative meeting & Workshop on the SFDRR monitoring. NDMA organized a consultative meeting and Workshop on the SFDRR monitoring tool on 30 October 2018 wherein all National and Provincial stakeholders were invited to collect relevant data on the format shared by UNISDR for reporting of SFDRR as per obligation of Government of Pakistan.





Section - V

**National Disaster
Management Plan
(NDMP)**

Section - V

National Disaster Management Plan (NDMP)

39. Background. NDMP was formulated in February 2013 after an exhaustive effort of two years in collaboration with Japan International Cooperation Agency (JICA). The Plan has various components of execution involving multiple stakeholders. NDMA being the lead Federal agency has the overarching role of monitoring the various components as well as implementation of the component concerning NDMA and PDMA's.

40. Vision. Enhancing capacity of the Country to prepare for and respond to disasters (Flood, Earthquake, Tsunami, Drought, Avalanches, GLOFs, Cyclone, Storm Surge) using a comprehensive National approach.

41. Outline Plan. NDMA formulated 10 years prospective NDMP which was approved by National Disaster Management Commission (NDMC) on 1 February 2013. NDMP is a comprehensive document covering all aspects of disaster management in the Country which will be implemented with approximate budget of around Rs 92 Billion (as calculated in 2012). For its effective execution, an implementation roadmap was unveiled on 19 October 2015 which is being implemented since 2016 in a phased manner as under:-

Serial	Phase	Timeframe	Implementation Strategy
a.	Phase-I	2016 – 2018	39 High Priority Districts
b.	Phase-II	2019 – 2023	55 Priority Districts
c.	Phase-III	2023 – 2030	63 Remaining Districts

42. Salient Features. The salient features of NDMP are:-

- | | | | |
|----|---------------|---|----------------------|
| a. | Interventions | - | 10 |
| b. | Strategies | - | 41 |
| c. | Projects | - | 118 |
| d. | Timeframe | - | 10 Years (2013 – 22) |

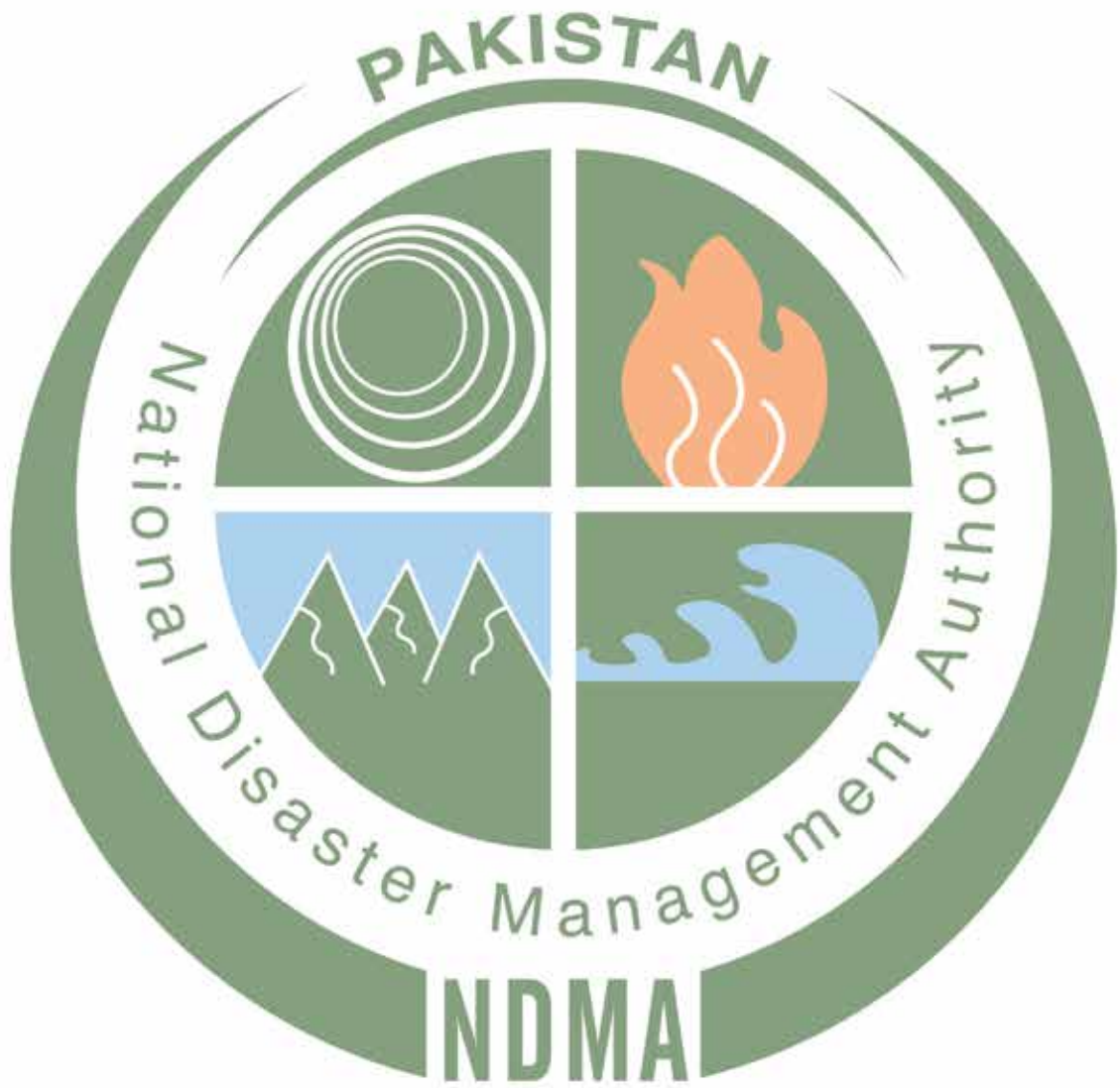
43. Finance Matters. Details of financial outlay of NDMP at **Annex C.**

44. Implementation Progress

- a. **Planned Interventions.** Target interventions of NDMP Roadmap are:-
- (1) Multi Hazard Vulnerability Risk Assessment (MHVRA).



- (2) Community Based Disaster Risk Management (CBDRM).
 - (3) Capacity Building through Government Officers in Emergency Response Exercise (GOERE), Mobilization of Volunteers Emergency Response Exercise (MOVEER).
 - (4) Awareness and Advocacy.
 - (5) Integrate needs & concern of vulnerable of groups.
- b. **Implementation Strategy (Donors, Bilateral & Multilateral Organizations)**. NDMA is in active consultation / collaboration with UN Agencies, World Bank, DFID, Asian Development Bank & JICA etc for implementation of NDMP.





Section - VI

Regional & Bilateral Cooperation

Section - VI

Regional & Bilateral Cooperation

45. Regional and International Collaboration

- a. **MoU between Pakistan and Kazakhstan on Disaster Management.** NDMA on behalf of Government of Pakistan signed a MoU on 22 June 2018 with Kazakhstan Government in the field of Disaster Management. The MoU was signed by Chairman NDMA and Deputy Chairman Kazakhstan.
- b. **Bilateral Meetings with UK Academia and DFID.** NDMA participated in Bilateral meetings held from 27 August 2018 to 2 September 2018 with UK Academia and DFID. The major agenda was to build the capacity and strengthen the existing structures of Government Officials in terms of effective preparedness and response in the entire DRM cycle and to enhance the short and long term potential of NIDM in supporting response for DRR/ DRM through technology transfer and capacity building initiatives.

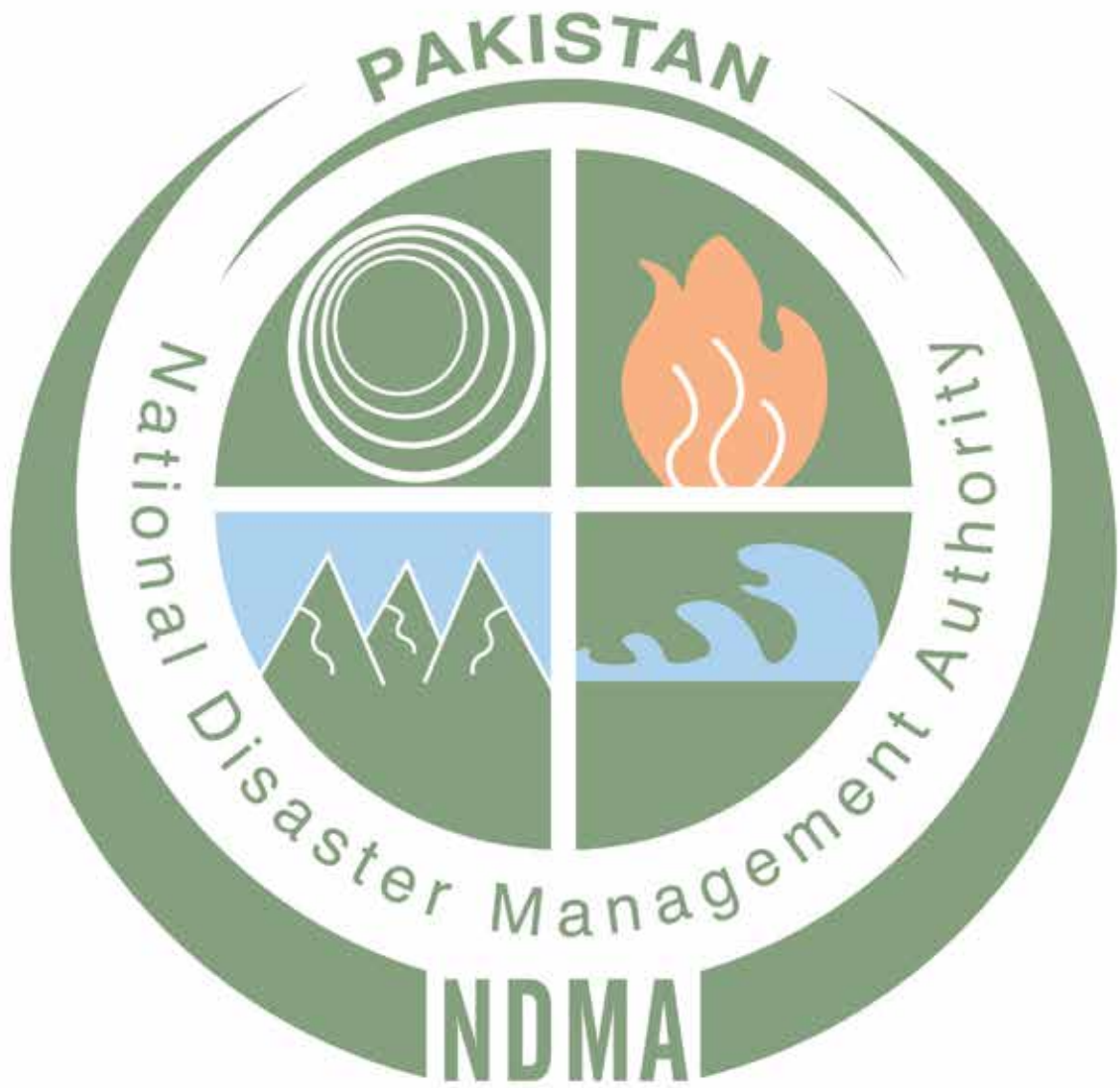
46. **Existing Bilateral Linkages.** NDMA has initiated number of bilateral cooperating agreements/ MoUs to enhance disaster management in the region. NDMA is in continuous liaison with MoFA for implementation of these MoUs. Details of these MoUs are as under:-

Serial	Country	Executing Agency	Time Period	Signing Date
a.	Republic of Sri Lanka	Ministry of Disaster Management, Sri Lanka	5 Years	6 April 2015
b.	Kyrgyz Republic	Ministry of Emergency Situation, Republic of Kyrgyz	5 Years	21 May 2015
c.	SAARC Countries	Agreement on Rapid Response to Natural Disaster	Remains valid unless terminated	9 September 2016
d.	Republic of Cuba	General Staff of National Civil Defense	Remains valid unless terminated	5 July 2017
e.	Republic of Kazakhstan	Committee for emergency situation of the Ministry of International Affairs	Remains valid unless terminated	22 June 2018



47. Bilateral Linkages in Process

Serial	Country	Executing Agency	Progress
a.	Republic of Afghanistan	ANDMA, Afghanistan	After seeking consultation with all stakeholders, the revised draft has been shared with Afghanistan for concurrence.
b.	People's Republic of China	Ministry of Civil Affairs of the People's Republic of China	MoU is under negotiation between two countries. After agreement on text of MoU, it will be finalized.
c.	Republic of Azerbaijan	Ministry of Emergency Situations Government of Republic of Azerbaijan	MoU is under negotiation between two countries. After agreement on text of MoU, it will be finalized.
d.	Republic of Tajikistan	Committee of Emergency Situation and Civil Defence	MoU is under negotiation between two countries. After agreement on text of MoU, it will be finalized.
e.	Kingdom of Saudia Arabia	King Salman Humanitarian Aid and Relief Centre (KSHARC)	MoU is under negotiation between two countries. After agreement on text of MoU, it will be finalized.



Section - VII

Capacity Building

Section - VII

Capacity Building

48. Foreign Trainings / Workshops / Conferences. NDMA sends officers from PDMAs, USAR Teams and own officers to attend inland and Foreign Trainings/ Workshops/ Conferences to build capacity of its officers.

49. Inland Trainings

a. NIDM Inland - Government Officials Capacity Building Training

(1) 27 x Trainings were conducted by NIDM, details are as follows:-

Serial	Training	Dates
(a)	DPRP Training for Sindh	14-16 March 2018
(b)	Policy Dialogue on DPRP	21 March 2018
(c)	DPRP - Training of Facilitators at Islamabad	8-10 May 2018
(d)	Policy Dialogue on DPRP at Lahore	20 June 2018
(e)	Policy Dialogue on DPRP at Quetta	25 June 2018
(f)	DPRP Training at Quetta	26 – 28 June 2018
(g)	Mainstreaming DRR into Development at Peshawar	28 - 29 June 2018
(h)	Training Need Assessment (TNA) – Gilgit	6 August 2018
(i)	DRR, Preparedness and Response Planning Training at Gilgit	7 – 9 August 2018
(j)	Training Need Assessment (TNA) - Lahore	3 September 2018
(k)	DRR, Preparedness and Response Planning Training at Lahore	4 – 6 September 2018
(l)	Disaster Preparedness and Response Planning Training at Swat	11 – 13 September 2018
(m)	DPRP Training at Skardu	2 - 4 October 2018
(n)	Gender Mainstreaming in DM & CP at Peshawar	10 - 11 October 2018
(o)	Training Need Assessment (TNA) at Quetta	22 October 2018
(p)	DRR, Preparedness and Response Planning Training at Quetta	23 - 25 October 2018
(q)	Policy Dialogue on DPRP at Karachi	31 October 2018
(r)	DPRP Training at Sargodha	6 - 8 November 2018
(s)	Training Need Assessment (TNA) at Peshawar	12 November 2018
(t)	DRR, Preparedness and Response Planning Training at Peshawar	13 - 15 November 2018
(u)	Training Need Assessment (TNA) at Islamabad	26 November 2018
(v)	DRR, Preparedness and Response Planning Training at Islamabad	27 - 29 November 2018



Serial	Training	Dates
(w)	Training Need Assessment (TNA) at Karachi	10 December 2018
(x)	DRR, Preparedness and Response Planning Training at Peshawar	11 - 13 December 2018
(y)	Gender Mainstreaming in DM & CP at Islamabad	18 - 20 December 2018
(z)	Training Need Assessment (TNA) at Muzaffarabad	24 December 2018
(aa)	DRR, Preparedness and Response Planning Training at Muzaffarabad	11 - 13 December 2018

(2) Details of participants in above trainings are as under:-

Serial	Training	Govt.	INGO	NGO	Academia	Media	Others	Total
(a)	DPRP Training for Sindh	14	4	16	-	-	-	34
(b)	Policy Dialogue on DPRP	12	-	3	-	-	-	15
(c)	DPRP - Training of Facilitators at Islamabad	24	13	2	-	-	-	39
(d)	Policy Dialogue on DPRP at Lahore	24	2	-	-	-	-	26
(e)	Policy Dialogue on DPRP at Quetta	29	5	5	5	-	-	44
(f)	DPRP Training at Quetta	28	5	8	9	-	1	51
(g)	Mainstreaming DRR into Development at Peshawar	22	3	2	2	-	-	29
(h)	TNA – Gilgit	19	-	11	-	-	-	30
(i)	DPRP Training at Gilgit	25	-	8	4	-	3	40
(j)	TNA - Lahore	18	7	4	13	-	3	45
(k)	DPRP Training at Lahore	21	12	4	7	-	-	44
(l)	DPRP Training at Swat	25	3	6	2	-	-	36
(m)	DPRP Training at Skardu	14	1	3	28	1	-	47
(n)	GM in DM & CP at Peshawar	32	-	4	8	2	-	46
(o)	TNA at Quetta	23	3	7	-	1	-	34

Serial	Training	Govt.	INGO	NGO	Academia	Media	Others	Total
(p)	DPRP Training at Quetta	23	3	6	1	2	-	35
(q)	Policy Dialogue on DPRP at Karachi	13	1	11	3	3	-	31
(r)	DPRP Training at Sargodha	27	3	6	36	-	-	72
(s)	TNA at Peshawar	31	-	2	1	-	-	34
(t)	DPRP Training at Peshawar	29	5	5	17	-	-	57
(u)	TNA at Islamabad	21	1	3	3	-	1	29
(v)	DPRP Training at Islamabad	38	1	3	8	-	1	51
(w)	TNA at Karachi	5	13	4	-	1	-	23
(x)	DPRP Training at Peshawar	21	10	8	3	2	3	47
(y)	GM in DM & CP at Islamabad	25	3	11	7	1	-	47
(z)	TNA at Muzaffarabad	30	-	1	-	-	2	33
(aa)	DPRP Training at Muzaffarabad	38	-	7	4	-	-	49
Grand Total		631	98	151	161	13	14	1,068

- b. **Gender Based Violence (GBV) SOPs Validation Workshop.** GBV SOPs developed and following validation workshop were conducted:-

Serial	Location	Date
(1)	Lahore, Punjab	9 October 2018
(2)	Quetta, Balochistan	10 October 2018
(3)	Peshawar, Khyber Pakhtunkhwa	24 October 2018
(4)	Karachi, Sindh	30 October 2018

- c. **Training Manual on GBV.** Training manual on GBV integration into Health, Education in Emergencies, Child Protection and Nutrition developed and ToTs were conducted in KP and ICT.
- d. **PSSF Communications Strategy Consultative Workshop.** Communication Strategy Consultative Workshop was organized on 26th November 2018 to gather inputs from key government counterparts and stakeholders in the education sector in order to formulate the PSSF communications strategy and allow a broad assessment of the existing structures, policies and programs in relation to Disaster Risk Reduction (DRR) education and communication in humanitarian development and emergency scenarios in schools.



Section - VIII

**International
Conferences
& Seminars**

Section - VIII

International Conferences & Seminars

50. International Conference on Disaster Management in Islamabad. NDMA organized an International Conference on Disaster Management – Confidence Building Measures under Heart of Asia – Istanbul Process. The overarching theme of the Conference was “Capitalizing on Pakistan’s Vast Experience in Handling Disasters, Creating Synergies among Global Frameworks for Resilience-Lessons and the Way Forward for The Region”. The theme gave a chance to disaster experts of countries/organizations to discuss implementing the Sendai Framework including challenges, opportunities, gaps and to discuss how other global tools created, can assist in the disaster risk management of countries. The event was organised from 20 - 21 June 2018 in Islamabad, Pakistan in which delegates from Kyrgyzstan, Iran, Turkey, Sweden, Denmark, Kazakhstan, Afghanistan, Azerbaijan & China and local partners participated. A large number of International partners participated in the event. In order to gather the experience of managing disasters and latest practices being implemented by different countries and organization this conference way very important part to defuse the negative misconceptions about extremist image of Pakistan.

51. 6th Regional Technical Group (RTG) Meeting. The Istanbul Conference for Afghanistan; Security and Cooperation in the Heart of Asia, held on 2nd November, 2011 adopted a Declaration (also called the Istanbul Process Document) and enlisted 43 Confidence Building Measures (CBMs) for implementation by Heart of Asia Countries, Subsequently, the 7 Confidence Building Measures were short listed for implementation in the first phase including Disaster Management Confidence Building Measures (DM-CBM). The lead countries are expected to steer the process of implementation of the initiatives under their respective CBMs by convening meetings of the Technical Group involving the technical focal points of all the participating countries and organizations to work on developing the relevant CBM implementation plans. So far 6 meetings of DM-CMB has been held in which Pakistan hosted 4 meetings. Pakistan hosted 6th RTG meeting of DM-CBM on 22 June 2018 with International Conference. It was a run-up Meeting for SOM & Ministerial Conference and mainly focused on gathering information for the progress achieved so far under Disaster Management – CBMs, and future course for implementation of the approved activities deliberation on the future road map of DM-CBM. The participating counties of DM-CBM are Afghanistan, China, India, Iran, Kazakhstan, Kyrgyzstan, Pakistan and Turkey while supporting countries are the Kingdom of Sweden, Denmark, France, Japan, Norway, United Kingdom and the United States. There are 9 supporting Organizations for this CMB which are mainly UN organizations, the World Bank and European Union etc.

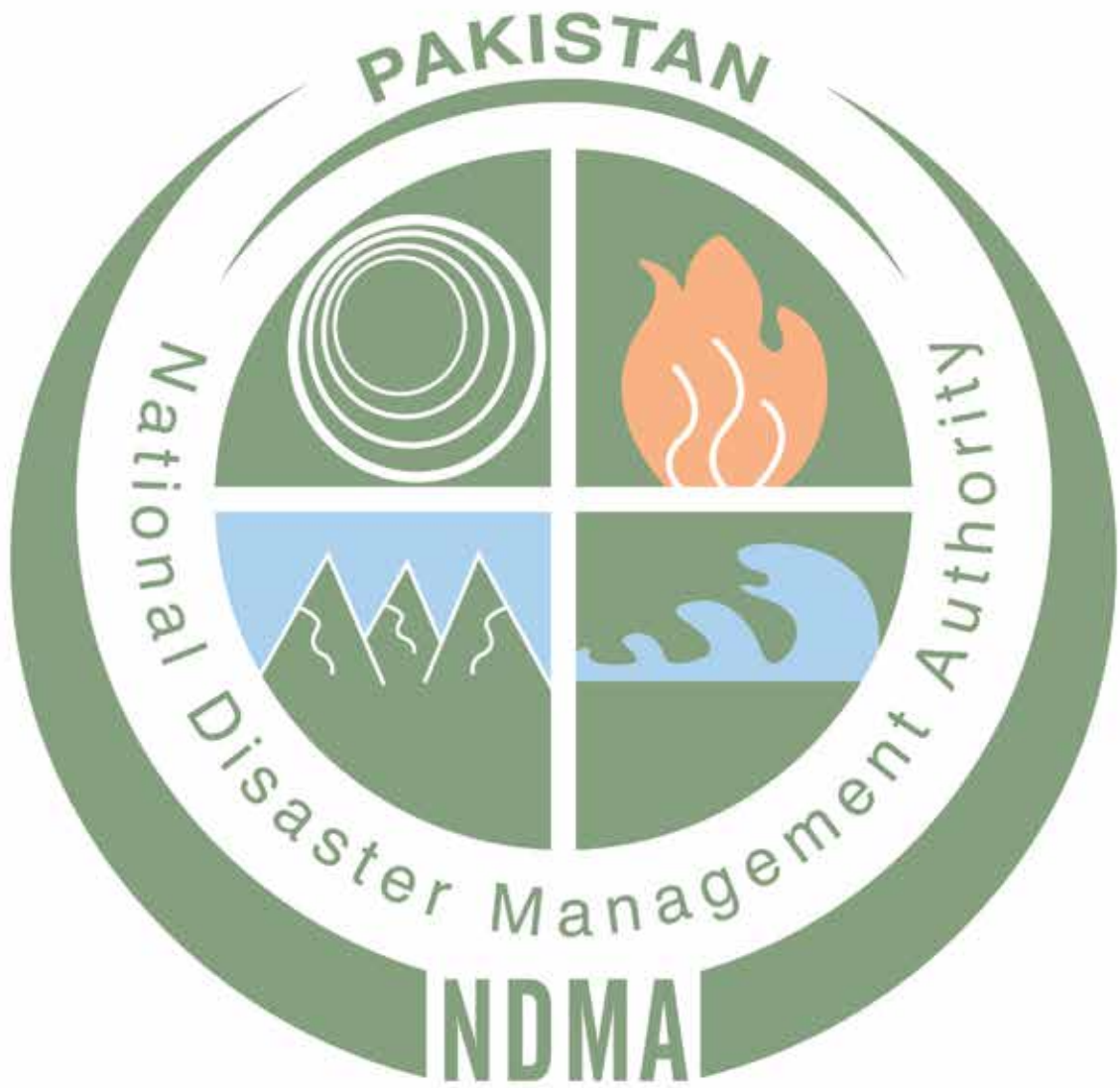
52. Strategic Coordination Forum – Disaster Management. Strategic Coordination Forum – Disaster Management was held in UNOCHA on 11 December 2018 Co-Chaired by Chairman



NDMA. During the conference Member (Ops) NDMA apprised the house on prevailing Drought like situation in Balochistan and Sindh and efforts being made to address / handle the situation.

53. 4th Meeting of Strategic Coordination Forum – DM (SCF – DM). 4th meeting of Strategic Coordination Forum - DM (SCF - DM) was held on 11 December, 2018 in the UNOCHA Conference Room, Islamabad. The meeting was co-chaired by Chairman NDMA and UNRC. Various issues like El Nino Impact and the drought situation in the country were discussed during the meeting.

54. Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR). NDMA participated in Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) that was held from 3 – 6 July 2018 at Ulaanbaatar, Mongolia. A documentary was developed on vulnerable groups in PSSF by NDMA and played for competition held during conference presentation/ discussion session on PSSF at Safe School Event organized by the UNICEF Regional Office.



Section - IX

Financial Overview

Section - IX

Financial Overview

55. Non Developmental Budget

Major Head of Accounts	Allocated (PKR) (FY 2017-18)	Expenditure (PKR) (FY 2017-18)	Balance (PKR) (FY 2017-18)
A01-Employees Related Expenses	151,037,000	150,941,671	95,329
A03-Operating Expenses	90,863,000	88,805,209	2,057,791
A04-Employees Retirement Benefits	11,010,000	11,002,397	7,603
A05-Grant Subsidies and Write Off Loans	100,000	-	100,000
A06-Transfers	1,801,000	1,688,216	112,784
A09-Physical Assets	8,500,000	8,482,724	17,276
A13-Repair & Maintenance	9,151,000	8,985,521	165,479
Total	272,462,000	269,905,738	2,556,262

56. National Disaster Management Fund (NDMF)

a. Opening Balance as on 1-1-2018	-	1,457,922,694.36
b. Other Receipts / Interest up to 31-12-2018	-	21,571,965.61
c. Government Funding up to 31-12-2018	-	-
d. Donations upto 31-12-2018	-	200,000.00
e. Total Receipt up to 31-12-2018	-	1,479,694,659.97
f. Expenditure from 1-1-2018 to 31-12-2018	-	67,066,699.56
g. Closing Balance as on 31-12-2018	-	1,412,627,960.41

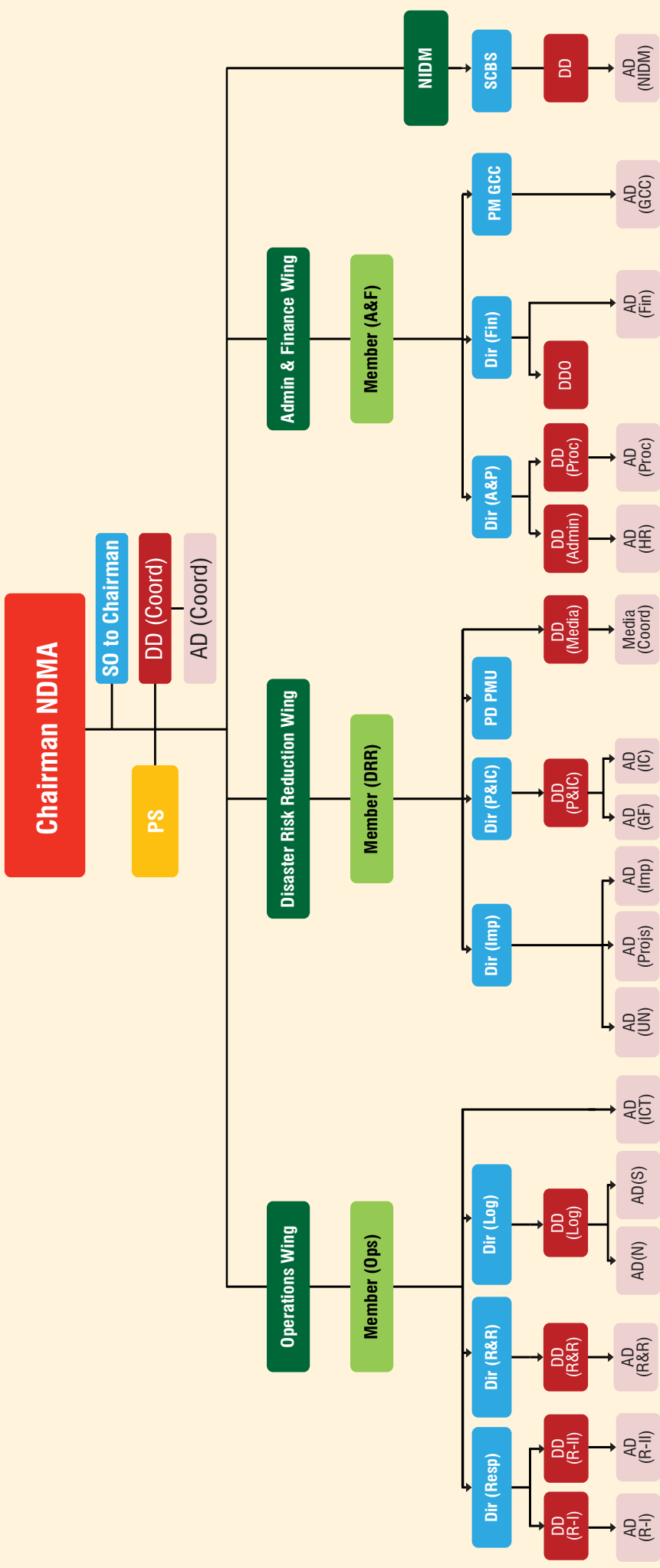
57. Audit & Finance

- Internal Audit for the Financial Year 2017-18 was carried out by the Internal Audit team.
- External Audit conducted for FY 2017-18 from 3 August 2018 to 3 September 2018 by DG Audit (DM).

Conclusion

58. Pakistan faced unprecedented disasters in the recent past which led to a paradigm shift from reactive to proactive approach. Despite resource constraints, National efforts are now shifted to Prevention, Mitigation, Preparedness and Capacity enhancement against varying disasters. Maintaining record of past experiences with objectivity will not only protect the chronology of events as they unfolded but also serve as future reference during such recurring phenomenon.

NDMA ORGANOGRAM



Annex B

To NDMA Annual Report 2018

Post Monsoon – 2018 Report

1. **Background.** Monsoon Season 2018 unfolded with four rain spells at regular intervals starting from 26 June to 15 September 2018. As per Pakistan Meteorological Department (PMD), Monsoon 2018 remained -31% Below Normal against prediction “**normal rainfall in July 2018 and less than normal rainfall in August and September 2018**”. During the month of July and August, rainfall was largely in excess across the Country. Significant events of the Season included Urban Flooding (Lahore, Rawalpindi & Islamabad), Flash Flooding (Chitral and GB), Flooding in District Sialkot (Deg Nadi, Aik Nullah), Landslides (GB & KP) and house collapsed incidents due to heavy rains. A well-integrated National effort in the shape of timely forecast by PMD, apt analysis by NDMA and configuring correct response by disaster management bodies at Provincial / District levels led to mitigate hydro-meteorological hazards of the Season.

2. **Aim.** To document major events of Monsoon 2018, analyse lessons learnt and good practices adopted during management of the Season and recommend future course of action.

3. **Significant Events of Monsoon 2018.** Significant events of Monsoon 2018 included flash/ Urban Flooding, Canal Breaches, Landslides, House collapse incidents due to rains and vehicles/ persons drowned in Flash Flood water. Details of events during Monsoon Season 2018 are attached as **Appendix I to Annex B.**

4. **Major Rainfall Record.** Summary of significant rainfall during Monsoon Season 2018 is attached as **Appendix II Annex B.** Monsoon 2018 unfolded in four major rain spells, details are as under:-

a. **1st Monsoon Spell (26 June – 6 July 2018)**

- (1) All Rivers maintained normal flow.
- (2) On 28 June, heavy rains in Punjab (Lahore, Sargodha, Nankana Sahib, Jhelum, Hafizabad, Sheikhpura, Pakpattan, Khanewal, Okara, Jhang, Faisalabad, Bahawalpur & Sahiwal) and KP (District Mardan) caused damages to lives and property.
- (3) On 2 July, heavy rains caused Urban Flooding in Lahore.
- (4) On 4 July, breaches were reported in Saiem Nullah on Lahore Road and Behkan Minor Canal in District Bahawalpur.

b. **2nd Monsoon Spell (10 July – 29 July 2018)**

- (1) River Kabul attained Low Flooding Level.
- (2) Due to rains in GB & AJ&K, landslides / heavy mud flow were reported along KKH, Gilgit-Skardu Road & Shimshal Valley Road.
- (3) Torrential / heavy rains were reported in Punjab, KP, AJ&K and GB.
- (4) On 13 July, a breach in a Canal Minor at RD 35/ 36 in District Khanewal.
- (5) On 17 July, heavy Debris Flow and Flash Flooding took place in Batswat Nullah, River Immit (Tributary of River Ishkoman) in District Ghizer, GB.



c. **3rd Monsoon Spell (6 – 18 August 2018)**

- (1) River Chenab attained Medium Level and River Kabul & River Indus attained Low Levels.
- (2) Due to rains, landslides / heavy mud flow reported in GB along KKH, Gilgit-Skardu Road & Hisper Valley Road, KP (roads in Abbottabad) & AJ&K.
- (3) Torrential / heavy rains were reported in Punjab, KP, AJ&K and GB.
- (4) On 6 August, water level in Nullah Lai reached up 14.8 ft at Kattarian and 12.5 ft at Gawalmandi.
- (5) On 9 & 18 August, Flash Flooding was reported in Southern and North Western Valleys of District Chitral.

d. **4th Monsoon Spell (21 – 31 August 2018)**

- (1) River Indus attained Low Level.
- (2) Maximum Conservation Level recorded in Reservoirs:-
- (3) Tarbela Dam - 1550.00 ft (20 August 2018)
- (4) Mangla Dam - 1178.60 ft (15 September 2018)
- (5) Landslides / Heavy mud flow reported in GB along KKH & KP.
- (6) Torrential / heavy rains reported in Punjab and KP.

5. Significant Peak Discharge Reported on Various Hydraulic Structures / Reservoirs

Serial	Date	Dam / Headwork	Peak Discharge (Cusecs)	River	Flood Category
a.	24 July 2018	Nowshera	105,300	Kabul	Medium Flood
b.	13 August 2018	Marala	168,278	Chenab	Medium Flood
c.	15 August 2018	Kalabagh	311,154	Indus	Low Flood
d.	15 August 2018	Chashma	319,912		Low Flood
e.	17 August 2018	Taunsa	276,215		Low Flood
f.	25 September 2018	Jassar	66,641	Ravi	Low Flood

6. Maximum Conservation Level of Major Hydraulic Structures / Reservoirs

Serial	Dam / Reservoir	Design Capacity (Feet)	Maximum Level (Feet)	Date
a.	Tarbela Dam	1550.00	1550.00	20 August 2018
b.	Mangla Dam	1242.00	1178.60	15 September 2018

7. Affected Areas. During the Monsoon 2018 (mainly in July & August), following areas of the Country experienced significant rains resulting into Flash Flooding, Urban Flooding, Landslides, Road Blockage, drowning and house collapse incidents:-

Serial	Province	Districts
a.	Punjab	Bahawalpur, Jhang, Hafizabad, Gujrat, Sialkot, Khanewal, Khushab, Layyah, Mianwali, Multan, Pakpattan and Rawalpindi.
b.	KP	Battagram, Chitral, Dir Lower, Dir Upper, Hangu, Karak, Mardan, Malakand, Peshawar, Shangla, Swabi & Swat.
c.	Balochistan	Musakhail, Kachi, Sherani, Zhob, Sibbi, Barkan & Kohlu.
d.	AJ&K	Muzaffarabad, Jhelum Valley, Bagh, Rawalakot, Haveli, Sudhnoti, Bhimber & Kotli.
e.	GB	Gilgit, Skardu, Astore, Hunza, Shigar, Ghizer, Ghanche, Kharmang & Diamer.
f.	FATA	South Waziristan Agency, Orakzai Agency, Kurram Agency, Khyber Agency & Bajour Agency.

8. Monsoon Season – 2018

a. Human Losses

Provinces	Deaths				Injured				Houses Damaged		
	M	F	C	T	M	F	C	T	P	F	T
Punjab	9	8	3	20	31	21	-	52	53	-	53
KP	13	19	32	64	5	7	21	33	746	182	928
Balochistan	4	-	-	4	-	-	-	-	264	176	440
AJ&K	13	7	3	23	20	9	2	31	37	27	64
GB	8	3	-	11	3	-	-	3	113	57	170
FATA	2	1	10	13	2	7	6	15	6	2	8
G. TOTAL	49	38	48	135	61	44	29	134	1,219	444	1,663

- b. **Relief Provided.** Summary of relief effort by all sources is attached as **Appendix III to Annex B.**

9. Salient Aspects

- a. **Timely Initiation of Monsoon Preparations.** Preparedness activities were started well in time which led to better preparation to face the challenges of Monsoon. Some of the highlights are:-
- (1) **National Post-Monsoon Review Conference 2017.** The Conference was organized on 9 January 2018 at Islamabad. Lessons learnt, good practices established, bottle necks identified and valuable experience gained during management of Monsoon 2017 were compiled and shared with all stakeholders for better preparations.
 - (2) **National Pre-Monsoon Review Conference.** On culmination of provincial / regional consultative process, National Monsoon Preparedness Conference 2018 was held on 7 June 2018 at Islamabad. The forum facilitated compilation of provincial / regional plans and input to build a well-coordinated National response against impending Monsoon Season.
 - (3) **National Monsoon Contingency Response Directive 2018.** To lay down National response guidelines for all stakeholders at Federal and Provincial level, ensure sound



disaster management against possible floods and configure a coherent response against visualized contingencies of Monsoon 2018, National Monsoon Response Directive 2018 was issued to all stakeholders on 28 June 2018.

- (4) **Activation of National Emergency Operation Centre (NEOC).** To ensure constant monitoring of Monsoon, swift liaison with relevant stakeholders and rapid rescue and relief operations during any emergency situation, emergency operation centres at Provincial and National Emergency Operation Centre (NEOC) at NDMA was activated from 20 June to 15 September 2018.

- b. **Search & Rescue Operations by Pakistan Navy.** Pakistan Navy diving teams were deployed to provide Diving / Search and Rescue Operation as requested by PDMAs / DDMA's at following locations during Monsoon 2018:-

Serial	Area / Place	Date
(1)	Rohri Canal, Tando Masti near District Khairpur, Sindh.	17 – 18 June 2018
(2)	Mirah Canal, District Khairpur, Sindh.	19 – 20 June 2018
(3)	Qazi Wah Mirpur near District Ghotki, Sindh.	19 – 21 June 2018
(4)	Mahi Wah Dahirki near District Ghotki, Sindh.	21 – 22 June 2018
(5)	Mir Wah Canal near District Khairpur, Sindh	23 – 24 June 2018
(6)	Indus River near Sukkur, Sindh	28 – 29 June 2018
(7)	Nara Canal near Rohn, District Sukkur, Sindh.	3 – 4 July 2018
(8)	Rohri Canal, District Khairpur, Sindh.	15 – 16 July 2018

- c. **Timely Evacuation during Flash Floods and GLOF Events.** Owing to awareness drive through a series of preparedness activities before start of Monsoon Season 2018, local administration evacuated considerable population of following districts before devastation by flash floods events:-

- (1) Khyber Pakhtunkhwa (Chitral).
- (2) AJ&K (Neelum Valley).
- (3) Gilgit Baltistan (Gilgit, Ghizer, Astore, Ghanche, Skardu, Kharmang & Diamer).

- d. **Swift Clearance of Landslides.** Due to continuous monitoring, timely coordination and a well-integrated response by NDMA, NHA, Pakistan Army, FWO and concerned Provincial / District Administration, frequent landslides along following important National arteries were cleared in time:-

- (1) Kara koram Highway at Jalipur, Dardang, Tattapani, Besham and Pattan.
- (2) Gilgit – Skardu Road at different locations.
- (3) Chilas – Naran Road at Babusar Top.
- (4) Sadpara – Deosai Road.
- (5) Chitral – Shandur Road.
- (6) Chitral – Arkari Road at Berr Nullah.

- (7) Hunza – Shimshal Road, District Hunza, GB.
 - (8) Road to Batswat village, Tehsil Ishkoman, District Ghizer, GB.
 - (9) Swat to Buner Road at Karakar Buner, District Buner, KP.
 - (10) Timergara to Chakdara Road at Kalash Bazar, KP.
 - (11) Hisper Valley Road, GB.
 - (12) 23 x District Roads, District Abbottabad, KP.
- e. **Timely Plugging of Breeches.** Following breeches at different locations were reported and timely plugged by local administration during Monsoon 2018:-
- (1) Saime Nullah near Sherazabad Lahore Road, District Sheikhpura, Punjab.
 - (2) Behkan Minor Canal near Bhutto Colony, District Bahawalpur, Punjab.
 - (3) Canal Minor, Makhdoom Pur, District Khanewal, Punjab.

10. **Strengths / Best Practices**

- a. **Analysis of Rainfall Data by PMD.** PMD regularly analysed progress of rainfall data against predicted rainfall and reflected the same on its website on daily / monthly basis. The initiative assisted to ascertain trend of Monsoon Season and initiate corresponding measures.
- b. **Activation of Emergency/ Crisis Management Cells.** Activation of Emergency/ Crisis Management Cells of all Services including JS HQ and Engineers Directorate (GHQ) remained functional and forthcoming.
- c. **NDMA's Virtual Call Centre.** To ensure round the clock availability of NDMA's Response Team and information sharing by callers (all over the Country), NDMA set up Virtual Call Centre (VCC) before onset of Monsoon Season and ensured response by NEOC.
- d. **Monsoon Coordination Conferences.** In order to monitor weather pattern/ significant developments during Monsoon Season, coordination conferences of all relevant stakeholders (PMD, SUPARCO etc) were regularly organized in NDMA. These meetings assisted in effective decision making and issuance of key instructions to relevant stakeholders.
- e. **Establishment of Social Media Cell by NDMA.** In order to involve well-read youth on social media for disaster management, NDMA launched awareness campaigns on dedicatedly established Social Media Cell. It not only provided updated weather forecast, latest prevailing situation/ ground conditions (road blockages, landslide events etc) rather also provided useful recommendations to foreign and domestic travellers/ tourists.
- f. **Information Sharing (WhatsApp Groups).** PDMA's established different Coordination Groups which greatly aided in overall coordination efforts.
- g. **Constant Watch & Proactive Decision Making.** All PDMA's/ GBDMA/ SDMA continuously monitored the seasonal activities, provided updated information to the locals and basing on the analysis/ recommendations of NDMA/ PMD timely evacuated the locals (where required) to safer locations.
- h. **NDMA Daily Situation Report.** Considering existing weather behaviour and weather forecast, NDMA included "Recommendations" in the "daily situation report" to provide valuable



analysis (input/ courses of action) to the relevant stakeholders.

- i. **Mock Exercises.** Flood Mock Exercises conducted by PDMA Punjab in different districts which not only raised awareness rather also helped improve drills/ procedures of Rescue-1122 during response to flood.

11. **Weaknesses/ Shortfalls**

- a. **Inadequate Capacity for Urban Flooding.** Continuous rains during 1st week of July 2018, led to Urban Flooding in Lahore on 4 July 2018. PDMA Punjab in close coordination with local administration and Pakistan Army managed Urban Flooding. Shortage of high powered de-watering pumps, lack of training of operators and inefficient sewerage water disposal system were identified.
- b. **Lack of Awareness/ Complacency/ Negligence by the Locals.** Lack of awareness coupled to negligence / complacent approach of locals claimed several precious lives when locals ventured Nullah / River crossing in flash flood, bathing in flood/ rain water/ canals.
- c. **Non-Adoption of Standardized Situation Report (SITREP) Format.** In order to compile error free data, analyse, plan and assist quick decision making NDMA issued a well deliberated and comprehensive SITREP Format. However, the effort did not yield desired results as PDMAs did not follow given format for reporting.
- d. **Provision of Flood Fighting Equipment to Army by PDMAs.** Non provision of 100% Flood Fighting equipment to Pakistan Army by PDMAs can have severe repercussions on future flood management.

12. **Way Forward.** To refine response mechanism, pertinent recommendations based on the management of Monsoon 2018 are as under:-

- a. **Enhanced Response Mechanism.** Following measures are likely to enhance refinement in response mechanism for management of Monsoon Season:-
 - (1) Provision of timely information regarding incidents and response.
 - (2) Innovative use of modern technology.
 - (3) Special conferences by relevant stakeholders on occurrence of any extreme events will assist timely decision making process.
- b. **Provision of Flood Fighting Equipment to Army.** PDMAs are required to provide phase-2 equipment to Pakistan Army before commencement of Monsoon 2019.
- c. **Displacement of Earth Moving Resources.** Placement of earth moving machinery in remote mountainous districts of AJK, GB & KP for timely clearance of roads / landslides will be of immense importance.
- d. **Resolution of Major Issues.** Following issues need to be resolved by relevant stakeholders at priority:-
 - (1) Flood mitigation measures downstream Mangle Dam.
 - (2) Protective measures against erosion by River Chenab in District Sargodha and River Indus in District Layyah.

- e. **Rehabilitation of Shori Nullah Protection Bund**
- (1) In order to ensure effective drainage system, Kachi Canal authorities and PID Punjab are required to carry out joint survey for construction/ repair of existing protection work on northern side of Kachi Canal.
 - (2) PID Sindh is required to expedite completion of Bund along Kashmore Cantonment.
- f. **Protective Measures against Urban Flooding.** Following protective measures based on experiences of previous Monsoon Season will help mitigate such losses in future:-
- (1) Identification of low lying areas prone to ponding / inundation in congested areas of mega cities.
 - (2) Preparation of hazard maps of major cities against Urban Flooding based on recorded history or envisaged circumstances for sensitization, awareness, early warning and evacuation of vulnerable communities.
 - (3) Capacity building of Municipal Corporation with priority to Municipal Corporations of mega cities. Attention must be given to availability of requisite number of heavy duty de-watering pumps, generators and training of operators.
 - (4) Widening / dredging and desilting of sewerage drains.
 - (5) Removal of encroachments from sewerage drains thus reclaiming original extents of such drains.
- g. **Protective Measures against Flash Flood.** Following protective measures based on experiences of previous Monsoon Seasons will help mitigation of losses due to flash floods in future:-
- (1) Awareness drive of recorded flash flood history in known water channels.
 - (2) Signposting of waterways in local language with known flash flood history. It should clearly demarcate threat level of waterways preventing any misadventure to cross.
 - (3) Long term planning for rehabilitation of population under threat of flash floods.
 - (4) Exercise community based vigilance mechanism for settlements near or inside waterways as under:-
 - (a) Placing of round the clock lookouts especially at night during the period of intense rain.
 - (b) Use of sirens or announcements on loud speakers of mosques.
 - (c) Drum beating by the people living at higher places in an area.
- h. **Adoption of Standardized Situation Report (SITREP) Format.** In order to provide error free data, assist analysis & quick decision making and preparation of plans PDMA's to make use of NDMA's Standardized Situation Report (SITREP) Format & system of incident reporting has to be made more efficient.
- i. **Lessons of Flash Floods/ GLOF -2018.** Management of Flash Floods/ GLOFs has resonated the need to keep district administration in special focus. Following measures are necessary:-
- (1) Placement of response measures before the onset of Monsoon. This may not only be



considered for Monsoon Season but also as part of preparedness activities for other disasters, as accessibility across certain areas of Country becomes questionable especially after onset of Winter Season.

- (2) Procurement and placing of heavy earth moving machinery for Balochistan, KP (District Chitral), AJ&K and Northern Areas.
- (3) Commissioning of Rescue 1122 service where required.
- (4) Feasibility for construction of a warehouse for forward placing of Provincial relief assets. As an interim measure, placing of a FLOSPAN each at tehsil level especially in tehsils of District Chitral may be considered.

13. Conclusion. Year 2018 saw relatively less intense Monsoon Season due to which no major disastrous events occurred; however lack of awareness coupled with complacency of general public resulted into men/ material losses and posed challenges for disaster management structure of the Country. Proactive approach alongwith work in synergy, enhanced coordination, dedication & commitment, good will and sincerity by all stakeholders can help prevent and mitigate future crisis management.

Appendix-I to Annex B

Chronological Events of Monsoon 2018

Serial	Date	Event / Incident	Location
1.	27 June 2018	Heavy Rains	Mardan KP.
2.	2 July 2018	Heavy Rains / Building Collapse	Saad Mitha Bazar District Lahore, Punjab.
3	3 July 2018	Heavy Rains / Electric Shock	Mazang Chowk Gulberg Main Boulevard Road, District Lahore, Punjab.
		Drowning incident in River	Village Ghagha, Tehsil Bhera, District Sargodha, Punjab.
		Breach	Saime Nullah Near Sherazabad Lahore Road, District Sheikhpura Punjab.
		Roof Collapse	Village Jhok Balochan, District Nankana Sahib, Punjab.
		Electric Shock	Civil Lines District Jhelum, Punjab.
		Breach	Behkan Minor Canal Near Bhutto Colony, District Bahawalpur, Punjab.
		Roof Collapse / Heavy Rains	District Faisalabad, Punjab.
		Roof Collapse / Heavy Rains	District Sahiwal, Punjab.
4.	4 July 2018	Wall Collapse	Village Seoki, District Hafizabad, Punjab.
		Roof Collapse / Heavy Rains	Aman Pura near Shamakay Stop Tehsil Muridke, Sheikhpura, Punjab.
		Roof Collapse / Heavy Rains	Chak Shafi (75/D) Sahiwal Road, District Pakpattan, Punjab.
		Roof Collapse / Heavy Rains	Chak 10/EB Kamir Road, District Pakpattan, Punjab.
		Roof Collapse / Heavy Rains	Chak Gouspur Qureshian, Tehsil Abdul Hakim, District Khanewal, Punjab.
		Roof Collapse / Heavy Rains	Adda Shabbirabad, Chiniot Road District Jhang, Punjab.
		Roof Collapse / Heavy Rains	Pattan Choke Garhmharaja Road, District Jhang, Punjab.
		Roof Collapse / Heavy Rains	Dharma Adda Basirpur Road, Depalppur, District Okara, Punjab.
		Roof Collapse / Heavy Rains	Purana Chapa Jandyala Road, District Sheikhpura, Punjab.
		Roof Collapse / Heavy Rains	Chak No 104 Awandabad, Faisalabad Road, District Sargodha, Punjab.



Serial	Date	Event / Incident	Location
5.	5 July 2018	Roof Collapse / Heavy Rains	Chak No 43 / EBB Yazman Road, District Bahawalpur, Punjab.
6.	10 July 2018	Heavy Rains / House Collapsed	District Kotli, AJ&K.
7.	11 July 2018	Rise of Water Level / Stranded	Sawan River Near Bahria Town, Islamabad.
		Heavy Rains / House Damaged	Harnoi, District Abbottabad, KP.
8.	12 July 2018	Heavy Rains / Van Trapped / Landslide	Fateh Pur, Thakyal, District Kotli, AJ&K
		Land sliding	Village Hudabari, District Bagh, AJ&K.
		Torrential Rains / Roof Collapsed	Alisherazi, Kurram District, FATA.
9.	13 July 2018	Heavy Rains / Overflow of Water / Drowned	Malach, Murree Expressway District Rawalpindi, Punjab.
		Breach	Canal Minor, Makhdoom Pur, District Khanewal, Punjab.
		Land Sliding	Village Chatrora, District Bagh, AJ&K
		Heavy Mud Flow / Thunderstorm/ Road Blockage	Village Nilt, District Nagar, GB.
		Medium Level Flood	Doongsar Nullah, Majni Mohalla Gorikot District Asotre, GB.
10.	14 July 2018	Torrential Rains / House Collapsed	Tirah (Upper Barah), FATA
11.	15 July 2018	Heavy Rains / House Damaged	Village Ismaila, District Swabi, KP.
		Heavy Rains	Village Surizi Panayan, District Peshawar, KP.
		Water Thrust / Road Washed Away	Naltar Valley, GB.
12.	16 July 2018	Heavy Downpour / Breach	Paharang, Sidhupura, District Faisalabad, Punjab.
13.	17 July 2018	Flow of River / Debris Flow	Village Badswat, Union Council Immit, Tehsil Ishkoman, District Ghizar, GB.
		Heavy Rains	Dagai, Tehsil Razar District Swabi, KP.

Serial	Date	Event / Incident	Location
14.	18 July 2018	Flash Flooding	Gonar Farem Nullah at Gonat Farm District Diamer, GB.
		Road Blocked	KKH, Tatapani, Batsulai and Daran Das between Chilas and Gilgit.
		Land Slide / Road Blockage	Shingus and Malolpa.
		Mudslide	Pir Qayum, Kurram Agency, FATA KP.
15.	19 July 2018	Road Blockage	Raikot – Tato Valley.
		Roof Collapsed	Dir Colony, Kohat Road, District Peshawar, KP.
		Heavy / Torrential Rains	Jamrud, Shakas, Khyber Agency FATA, KP.
		Heavy / Torrential Rains	Lala China, Khyber Agency FATA, KP.
16.	20 July 2018	Heavy Debris Flow	Batswat Nullah, River Immit (Tributary of River Ishkoman) Tehsil Ishkoman, District Ghizer, GB.
		Flash Flooding	Belhanz Nullah, Tehsil Ishkoman, District Ghizer, GB.
		Torrential Rains / Flash Flooding	Bara Subdivision, Khyber Agency, FATA, KP.
17.	21 July 2018	Flash Flooding	Bara Subdivision, Khyber Agency, FATA, KP.
		Heavy Rains / Flash Flooding	Brep Nullah, Upper Chitral Yarkoon Road, KP.
18.	22 July 2018	Rains / House Damaged	District Haveli, AJ&K.
		Flash Flooding	Balmay Nullah Village Makyal District Astore, GB.
		Heavy Rains / House Collapsed	UC Ratta Kulachi, District D.I. Khan, KP.
		Heavy Rains / House Damaged	Village Cargin, Tehsil Mastuj, District Chitral, KP.



Serial	Date	Event / Incident	Location
19.	23 July 2018	Heavy Rains / Drowned	Pioneer Cement Factory, Chanki Area, Jabi Road, District Khusab, Punjab.
		Heavy Rains	Village Karpa District Buner, KP.
		Heavy Rains / House Collapsed	Gilbandi, District Buner, KP.
		Heavy Rains / House Damaged	Asharbagh, Gilbandi, District Swat, KP.
		Heavy Rains / House Collapsed	Village Jamrah, Chamtar, District Mardan, KP.
		Flash Flooding	Thagas Nulah, Khaplu, District Ghanache, GB
		Heavy Flow of Water / Erosion	Ghursay Village,, Khaplu, Distirct Ghanche, GB.
		Torrential Rain	District Haveli, AJ&K.
20.	24 July 2018	Flash Flooding / Mud Flow	Jugote Colony, Jutal, District Gilgit, GB.
		Flash Flooding / Road Blockage	Hussainabad Nullah, District Skardu, Road GB.
		Landslide	Loer Ajmir, Tehsil Alpuri, District Shangla, KP.
		Heavy Rains	Village Shapano Korona, Nissata, District Charsadda, KP.
		Heavy Rains	Village Shapano Korona, Nissata, District Charsadda, KP.
		Heavy Rains	District Charsadda, KP.
		Heavy Rains	Village Akbarabad, Maira Pang, District Charsadda, KP.
		Heavy Rains	Village Khawai Koran, District Charsadda, KP.
		Heavy Rains	Village Kangra and Malakbad, District Charsadda, KP.
		Heavy Rains	District Sudhnoti, AJ&K.
21.	25 July 20z18	Flash Flooding	Nakot Area, Tehsil Leepa District Jhelum Vally, AJ&K.
		Increase of local Stream	District Rawalakot, AJ&K.
		Flash Flooding / Landslide / Road Blockage	Astore Road at Bulan, GB.
		Flash Flooding / Landslide	CMH Gamba Area District Skardu, GB.
		Flash Flooding	Chandaa / Tandal Valleys District Skardu, GB.
		Flash Flooding / Landslide	Madordu Nullah District Karmang, GB.

Serial	Date	Event / Incident	Location
22.	27 July 2018	Heavy Rains / House Collapsed	Village Bhikhi Mohallah Dara's Wala Fiasalabad District Sheikhpura, Punjab.
		Heavy Rains / House Collapsed	Village Sahoke Mallian District Sheikhpura, Punjab.
		Heavy Rains / House Collapsed	Kotli Ameer Sing Alipur Road, District Hafizabad, Punjab.
		Flash Flooding	Gulmuti, District Ghizer, GB.
		Flash Flooding	Bargo Pain District Gilgit, GB.
		Heavy Rains / House Collapsed	Burjiwal Chowk Gojra Road, District Jhang, Punjab.
		Heavy Rains / House Collapsed	Basti Malah, Cha Kacha, District Jhang, Punjab.
		Heavy Rains / Gusty Winds	Chamdhere Stop District Mardan, KP.
		Heavy Rains / House Collapsed	Kopar District Mardan, KP.
		Heavy Rains / House Collapsed	Kopar, District Malakand, KP.
		Thunder-strike	Sarkool, Chakisar, District Shangla, KP.
		Heavy Rains / Gusty Winds	District Mardan, KP
		Flash Flooding	Bargo Pain, District Gilgit, GB.
		Road Blockage	KKH at Tatta Pani, GB.
23.	28 July 2018	Breach	Village Daoke, Tehsil Muridke, District Sheikhpura, Punjab.
		Breach	Village Madhora Kalan, Tehsil Pindi Bhattian, District Hafizabad, Punjab.
		Heavy Rains	NADRA Office, Tehsil Naushera District Khushab, Punjab.
		Heavy Rains / House Collapsed	Chamkani, District Peshawar, KP.
		Heavy Rains / Storm	Tabee Urad, UC Teetar Kheil, District Lakki Marwata, KP.
		Heavy Rains	Village Khadgal UC Barikot, Tehsil Kalkot, District Upper Dir, KP.
		Heavy Rains / Gusty Winds	District Charsadda, KP.
		Heavy Rains / House Collapsed	Village Peera-Kalwal Dakhil Dhokri, Tehsil Quaidabad, District Khushab, Punjab.



Serial	Date	Event / Incident	Location
24.	29 July 2018	Heavy Rains / House Damaged	Tehsil Mardan, District Buner, KP.
		Land sliding	District Heveli, AJ&K.
25.	2 August 2018	Heavy Rains / House Collapsed	Village Yar Hussain, District Swabi, KP.
		Heavy Rains / House Collapsed	District Kotli, AJ&K.
26.	6 August 2017	Heavy Rains/ Rise of Nullah Lai	Kattarian Rawalpindi, Punjab.
		Heavy Rains / Land slide	Kahori, District Muzaffarabad, AJ&K
27.	7 August 2017	Flood / Dusty Rains / House Damaged	District Buner, KP.
		Flood / Dusty Rains / Electric Shock	District Karak, KP.
		Flood / Dusty Rains	District Abbotabad, KP.
		Heavy Rains / House Damaged	District Sudhnoti, AJ&K.
		Heavy Rains / House Damaged	District Kotli, AJ&K.
		Heavy Rains	District Jhelum Vally, AJ&K.
		Heavy Rains / House Collapsed	Khar, Bajur Agency, KP.
		Torrential Rains	District Muzaffarabad, AJ&K.
28.	8 August 2018	Heavy Rains / House Damaged	District Buner, KP.
		Heavy Rains / House Damaged	Tehsil Makhuzi, District Shangla, KP.
		Heavy Rains / House Damaged	Tehsil Alpuri, District Shnagla, KP.
		Heavy Rains / House Damaged	Tehsil Lahore, District Swabi, KP.
		Heavy Rains / House Collapsed	District Swabi, KP.
		Torrential Rains	District Sudhnoti, AJK.
		Flash Flooding	Kurid Nullah, UC Gulapur District Shigar, GB.
		Road Blockage	Timergara – Chakdara Road at Kalash Bazar.
		Road Blockage	KKH Blocked at District Gilgit, Hunza and Chilas .
		Torrential Rains / Drowned	Ban Nullah, Tehsil Khoi Ratta, District Kotli, KP.
29.	9 August 2018	Flash Flooding	Drosh-Madaklasht Road Blocked, District Chitral KP.
		Heavy Rains / House Damaged	Tehsil Dagar District Buner, KP.

Serial	Date	Event / Incident	Location
30.	12 August 2018	Landslide	Dara Tehsil Alpuri, District Shangla, KP.
		Roof Collapsed	Village Imar Khel, Tehsil Makin, South Waziristan Agency, FATA.
31.	13 August 2018	Overflow of Water	Deg Nullah at Kingra, Tehsil Daska, District Sialkot.
		Bridge Collapse	Village Kaliayn Bani, District Bhimber, AJ&K.
		Flash Flooding	Village Lati Darel, District Diamer, GB.
		Mud Flow Landslide / Road Blockage	KKH Attabad Tunner, Talichi and Tattaponi, KP.
		Road Blockage / Landslide	Gilgit – Skardu Road.
		Heavy Rains	Tehsil Razzar, District Swabi, KP.
		Heavy Rains	District Bhimber, AJ&K.
		Road Blockage / Land Sliding	Hisper Valley Road, GB.
32.	15 August 2018	Flash Flooding	
33.	16 August 2018	Rains / Collapsed	Village Min Isa Kili, Tehsil Takht Bai, District Mardan, KP.
		Land sliding	District Kotli, AJK.
34.	17 August 2018	Rains / house Collapsed	Moza Zarbab Garhi, District Charsadda, KP.
35.	18 August 2018	Road Blockage	Gahkuch – Ishkoman Road, GB.
		Flash Flooding	Tehsil Drosh, District Chitral, KP.
36.	21 August 2018	Land sliding	District Upper Dir, KP.
		Rains / Roof Collapsed	Basti Noorpur Faislabad Road District Jhang, Punjab.
37.	22 August 2018	Cloud Burst / Torrential Rains / Flash Flooding	Drosh District Chitral, KP.
38.	24 August 2018	Heavy Rains / Flash Flooding	UC Pirkhana, District Shangla, KP.
39.	26 August 2018	Heavy Rains	District Swabi, KP.
40.	31 August 2018	Heavy Rains	Kurram Tribal District, FATA.
41.	6 September 2018	Road Blockage	KKH, Hasanabad, GB.



Appendix-II to Annex B

Rainfall Record – June 2018

Station	Date Wise Rainfall in mm (June 2018)									
	21	22	23	24	25	26	27	28	29	30
Punjab										
Alexandra Bridge	2	-	-	-	-	-	-	-	7	18
Bahawalnagar	20	-	-	-	-	-	-	1	8	5
Bahawalpur	9	-	-	-	-	-	-	-	-	-
Barkhan	-	-	-	-	1	-	-	-	-	-
Bhakkar	10	-	-	-	-	-	-	-	-	-
Barnala	-	-	-	-	-	-	-	-	19	48
Chakwal	26	-	-	-	-	-	-	-	-	-
Chattar Kallas	25	-	-	-	7	-	-	-	-	-
Chakothei	12	-	-	-	-	-	-	-	-	5
DG Khan	-	-	-	-	10	-	7	-	-	-
Faisalabad	-	-	-	-	-	-	-	-	2	63
Fort Munro	6	-	-	-	-	-	-	-	-	-
Gujrat	2	-	-	-	-	-	-	-	6	43
Gujranwala	-	-	-	-	-	-	1	3	28	35
Jhang	-	-	-	-	7	-	-	-	-	19
Jhelum	-	-	-	-	-	-	-	-	-	30
Joharabad	7	-	-	-	-	-	-	-	-	-
Kasur	-	-	-	-	1	-	2	-	38	56
Kot Addu	-	-	-	-	5	-	-	-	-	-
Kotnaina	-	-	-	-	-	-	-	-	-	1
Lahore	-	-	-	-	-	-	71	5	27	38
Layyah	-	-	-	-	-	-	3	-	-	-
Mangla	-	-	-	-	-	-	1	-	-	7
Mandibahaudin	-	-	-	-	-	-	-	-	-	63
Marala	-	-	-	-	-	-	-	-	36	68
Mari	47	-	-	-	-	-	-	-	-	-
Norpur Thal	25	-	-	-	-	-	-	-	-	-
Okara	-	-	-	-	-	-	1	-	18	-
Rajanpur	-	-	-	-	5	-	-	-	-	-
Ravi Syphon	-	-	-	-	-	-	3	-	20	35
Sahiwal	-	-	-	-	-	-	-	-	8	27
Said Pur	7	-	-	-	-	-	-	-	-	-
Sargodha	14	-	-	-	-	-	-	-	-	4
Sialkot	-	-	-	-	-	-	1	-	45	20
Shadiwal	7	-	-	-	-	-	-	9	-	19
Shorkot	-	-	-	-	-	-	-	-	-	103
Sialkot	5	-	-	-	-	-	-	-	-	-
TT Singh	5	-	-	-	14	-	-	-	-	144
Ura	-	-	-	-	-	-	-	2	-	-
Vehove	4	-	-	-	-	-	-	-	-	-
Zain Sanghar	21	-	-	-	-	-	-	-	-	-
Zafar Wal	-	-	-	-	-	-	-	5	-	1

Station	Date Wise Rainfall in mm (June 2018)									
	21	22	23	24	25	26	27	28	29	30
Balochistan										
Barkhan	-	-	-	-	-	-	7	3	-	-
Khuzdar	-	-	-	-	-	-	-	-	-	13
Lasbela	-	-	-	-	-	-	-	-	-	11
Zhob	-	-	-	-	-	-	-	8	-	-
KP										
Balakot	2	-	-	-	9	-	6	23	-	-
Bannu		-	-	-		-	-	2	-	1
Barkot	21	-	-	-	1	-	-		-	-
Besham		-	-	-	3	-	1	3	-	3
Daggar		-	-	-	-	-	-	8	-	-
DI Khan	2	-	-	-	-	-	-	-	-	-
Dir		-	-	-	-	-	-	5	-	-
Kalam		-	-	-	-	-	-	-	-	4
Kakul	23	-	-	-	-	-	1	-	-	-
Lower Dir	4	-	-	-	-	-	-	6	-	-
Malam Jabba		-	-	-	-	-	-	7	-	5
Nauseri	3	-	-	-	3	-	-	-	-	-
Parachinar		-	-	-	2	-	3	-	-	12
Pattan		-	-	-	-	-	2	-	-	-
Oghi	4	-	-	-	-	-	-	-	-	-
Rawalakot		-	-	-	-	-	4	-	-	-
Saidu Sharif		-	-	-	-	-	-	23	-	22
Shinkhari	2	-	-	-	-	-	-	13	-	-
Tandali	4	-	-	-	8	-	-	-	-	-
Sind										
Badin	-	-	-	-	-	-	-	-	7	29
Chhor	-	-	-	-	-	-	-	-	44	44
Hyderabad	-	-	-	-	-	-	-	1	-	-
Jacobabad	-	-	-	-	-	-	2	-	-	2
Larkana	-	-	-	-	-	-	27	-	-	-
Mirpur Khas	-	-	-	-	-	-	18	-	-	-
Mithi	-	-	-	-	-	-	-	5	33	-
Moen-jo-Daro	-	-	-	-	-	-	2	-	-	-
Padidan	-	-	-	-	-	-	2	-	-	-
Rohri	-	-	-	-	-	-	20	-	-	-
Sibi	-	-	-	-	-	-	2	-	-	-
Sukkur	-	-	-	-	-	-	9	-	-	-
Thatta	-	-	-	-	-	-	-	25	-	-



Station	Date Wise Rainfall in mm (June 2018)									
	21	22	23	24	25	26	27	28	29	30
AJ&K										
Domel	10	-	-	-	2	-	2	-	-	-
Chakoti	-	-	-	-	8	-	8	-	-	-
Garhaidupata	3	-	-	-	6	-	6	-	-	-
Hattian Bala	4	-	-	-	-	-	-	-	-	2
Kotli	-	-	-	-	-	-	-	1	-	18
Mirpur Khas	-	-	-	-	-	-	-	-	-	19
Muzaffarabad	5	-	-	-	10	-	10	-	-	-
Pattan	-	-	-	-	-	-	-	-	-	2
Palandri	-	-	-	-	-	-	-	-	-	1
Palote	-	-	-	-	-	-	-	-	-	1
Rawalakot	12	-	-	-	-	-	-	-	-	3
GB										
Astore	3	-	-	-	-	-	-	-	2	7
Bargorte	6	-	-	-	-	-	-	-	-	-
Bunji	-	-	-	-	-	-	1	-	-	-
Gupis	-	-	-	-	-	-	-	-	6	-
Skardu	1	-	-	-	1	-	-	3	12	14

Rainfall Record – July 2018

Station	Date Wise Significant Rainfall in mm (July 2018)																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alexandra Bridge	8	-	-	5	-	-	-	-	-	-	-	20	-	6	-	-	-	-	-	-	-	-	-	14	13	42	1	1	-	-	-	
Bahawalnagar	9	-	-	23	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	60	-	-	-	-	-	-	-	-	-	
Bahawalpur	-	-	-	1	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	
Bhakkar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	1	-	-	-	-	
Bandi Abbaspur	-	-	-	-	-	-	-	-	-	-	38	12	1	-	-	-	11	1	31	17	51	60	27	1	4	22	-	-	-	-	-	
Barkhan	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bhakkar	-	-	-	72	-	-	-	-	-	-	-	-	-	-	-	12	42	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
Bahawalnagar	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bamala	11	-	17	-	-	-	-	-	-	2	15	-	-	-	-	-	-	-	-	-	-	-	6	-	-	25	-	-	-	-	-	
Chakwal	-	-	11	3	-	-	-	-	-	-	-	-	-	62	-	2	4	4	-	-	-	-	-	-	-	-	30	24	-	-	-	
Dara-e-Tang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	18	-	-	-	-	-	-	-	-	3	-	13	-	-	-	
DG Khan	-	-	-	3	7	10	3	-	-	-	-	-	-	-	-	4	-	2	-	14	21	16	3	-3	1	-	-	9	-	-	-	
Faisalabad	12	-	-	14	-	-	-	-	-	-	-	-	-	-	-	56	-	-	-	-	-	-	-	-	-	1	1	38	2	-	-	
Fort Munro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ghariaala	-	-	-	-	-	-	-	-	-	-	-	-	2	-	5	-	-	-	-	-	-	2	10	-	-	3	-	7	-	-	-	
Gujrat	28	-	36	-	-	-	-	-	-	7	-	10	1	-	-	6	1	-	-	-	-	-	6	2	16	16	-	4	-	-	-	
Gujranwala	31	-	33	5	-	-	-	-	-	34	-	-	2	-	-	-	-	-	-	-	-	-	4	15	31	-	8	23	-	-	-	
Haraman	-	-	14	-	-	-	-	-	-	12	45	-	2	-	-	90	17	-	-	14	91	4	44	1	38	24	-	-	-	-	-	
Islamabad	-	-	39	22	22	-	-	-	-	-	21	73	-	32	53	60	57	-	8	9	8	115	24	9	77	56	44	19	-	-	-	
Jhang	16	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	29	-	-	-	-	
Jhelum	3	-	49	10	-	-	-	-	-	3	12	-	-	-	-	17	-	-	7	-	-	-	11	2	44	38	7	1	-	-	-	
Joharabad	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	8	-	35	103	13	-	-	-	-	
Kamra	-	-	1	16	40	-	-	-	-	-	-	47	2	31	53	-	47	-	15	-	15	-	90	10	19	33	47	9	-	-	-	
Kasur	1	-	19	70	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	-	-	-	14	38	7	-	-	-	-	-	
Khanpur	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kot Addu	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kotmainan	5	1	-	8	5	3	-	-	-	3	3	4	11	8	5	3	4	1	-	-	-	-	9	3	2	5	-	4	4	-	-	
Kund	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lahore	-	-	177	169	1	-	-	-	-	3	-	35	29	-	-	8	10	29	60	137	-	32	33	31	5	80	-	25	2	-	-	
Layyah	-	-	-	12	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mangla	1	-	74	2	-	-	-	-	-	3	4	14	-	-	-	-	-	-	-	-	-	8	33	6	43	95	11	10	-	-	-	

Punjab



Station	Date Wise Significant Rainfall in mm (July 2018)																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mandibahaudin	1	-	11	6	2	-	-	-	-	-	23	34	-	-	-	33	-	-	5	-	-	-	5	1	8	19	1	-	-	-	
Marala	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	46	2	3	-	-	-	9	8	1	5	9	1	-	-	-	
Mari	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mianwali	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	22	2	-	-	-	-	-	5	9	1	-	7	-	14	-	
Multan	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	
Murree	31	-	20	-	47	7	-	-	-	-	57	17	43	-	-	3	28	1	17	20	12	40	12	8	76	17	-	-	-		
Norpur Thal	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	1	-	-	24	-	-	-	33	12	-		
Oghi	-	-	12	5	-	-	-	-	-	-	-	-	34	2	-	2	3	-	1	2	6	-	-	-	-	-	-	-	-		
Okara	-	-	-	60	9	-	-	-	-	-	-	-	-	-	-	-	2	-	64	-	-	21	1	-	-	-	58	-	6		
Rajanpur	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	27	-	13	19	7	-	-	1	-	-	-	-	3	-		
Ravi Syphon	6	-	-	12	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	7	-	-	-	13	73	-	2	-			
Rasheedabad	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	15	-	-	4	8	4	10	25	1	42	9	-	1	-		
R.Y Khan	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sahiwal	13	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	1	-	-	-	-	-	-	39	2	4		
Said Pur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sargodha	3	-	-	83	-	-	-	-	-	-	-	-	-	8	-	-	7	-	9	-	58	-	12	7	-	28	20	65	-		
Sehrakota	-	-	-	-	-	-	-	-	-	-	15	48	-	-	-	-	-	-	-	-	24	-	-	-	43	-	-	-	-		
Sialkot	1	-	16	-	-	-	-	-	-	-	61	70	12	12	-	-	24	-	-	-	-	1	43	16	66	18	-	8	1	-	
Shadiwal	26	-	-	-	-	-	-	-	-	-	1	26	13	11	-	-	1	-	-	-	-	-	40	3	68	-	1	-	-		
Shorkot	3	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	41	-	-	34	-	-	-	-	-	-	-	-	-		
Sialkot	-	-	-	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	
TT Singh	10	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	49	-	-	-	-	-	-	-	-	-	-	4	-	-	
Ura	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vehove	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zain Sanghar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zafar Wal	-	-	-	29	-	-	-	-	-	-	59	-	5	-	-	-	-	-	-	7	62	-	-	-	2	-	-	-	-	-	
Balochistan																															
Barkhan	-	-	-	-	7	-	-	-	-	-	-	-	2	-	-	25	-	1	22	4	-	12	7	8	-	-	11	-	-	-	
Dalbandin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
Kalat	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Khuzdar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	9	6	10	3	-	-	8	8	-	-	-	-	-	
Lasbela	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	16	1	-	-	-	-	-	-	-	-	-	-	-	-	
Panjgur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-	-	-	-	-	-	
Sibbi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	10	-	-	
Zhob	-	-	-	-	14	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	4	-	-	-	-	-	-	10	-	

Station	Date Wise Significant Rainfall in mm (July 2018)																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Attock Khairabad	-	-	-	-	-	-	-	-	-	-	-	-	42	23	12	4	5	-	-	2	51	1	3	10	7	12	4	-	-	-	
Balakat	-	-	28	13	1	-	-	-	-	23	17	16	-	-	3	9	25	19	-	2	1	42	-	27	6	30	27	2	-	-	
Bannu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	10	28	-	-	-	-	-	-	-	-	-	
Barakot	-	-	-	-	-	-	-	-	-	-	55	7	-	-	-	-	24	-	-	-	49	1	9	92	60	11	-	-	-	-	
Besham	-	-	-	6	1	-	-	-	-	-	-	-	-	-	-	4	-	4	-	9	2	18	14	4	3	-	-	-	-	-	
Cherat	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	22	12	17	68	3	-	53	1	48	3	2	-	-	-	-	
Daggar	-	-	-	3	1	-	-	-	-	-	-	7	-	-	-	3	44	-	-	30	-	-	21	-	20	27	17	41	-	-	
DI Khan	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	
Drosh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	
Ghariatala	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dir	-	-	-	4	15	-	-	-	-	4	-	1	-	-	-	44	2	2	13	-	1	47	4	-	9	3	11	-	-	-	
Kalam	-	-	-	-	7	2	-	-	-	-	-	-	-	-	3	-	-	-	-	-	2	5	2	2	9	9	-	-	-		
Kakul	-	58	13	-	11	18	-	-	-	-	61	6	-	-	-	-	10	-	2	2	18	5	5	2	6	24	21	3	2	-	
Kohat	-	-	5	-	-	16	-	-	-	-	-	-	-	-	5	31	-	11	-	15	3	14	3	5	-	20	-	-	-	-	
Kurram Garhi	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower Dir	-	-	-	3	12	2	-	-	-	-	-	5	-	-	-	6	-	-	-	-	-	22	2	-	5	18	35	-	-	-	
Malam Jabba	-	-	41	-	17	26	-	-	-	8	20	23	-	-	-	5	47	3	15	2	37	42	11	2	10	25	13	1	16	-	
Mirkhani	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Nauseri	-	-	-	-	2	1	-	-	-	-	-	3	-	-	-	-	9	3	-	-	-	-	2	-	-	-	-	-	-	-	-
Palote	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Parachinar	-	-	-	-	-	10	-	-	-	-	-	-	-	1	-	13	4	9	-	8	-	14	-	-	-	-	-	9	5	7	-
Pattan	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	7	22	-	-	-	-	-	-	-	-
Peshawar	-	-	13	-	-	-	-	-	-	-	-	2	-	-	-	5	6	20	32	-	-	82	2	1	-	17	-	-	-	-	
Oghi	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	24	21	5	15	12	19	-	-	-	
Rawalakot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	-	-	-	-	-	-
Risalpur	-	-	-	5	2	-	-	-	-	-	-	3	4	10	95	-	2	13	10	7	18	51	-	-	38	7	36	-	-	-	
Saidu Sharif	-	-	-	21	7	3	-	-	-	-	22	4	-	-	-	-	22	-	-	21	-	26	26	-	8	12	1	-	-	-	
Shirkakota	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shinkari	-	-	13	2	-	-	-	-	-	-	41	56	-	-	-	-	41	96	-	4	-	49	18	1	5	41	12	-	-	-	
Tandali	-	-	-	-	-	-	-	-	-	-	-	12	1	1	1	1	-	-	-	-	55	58	-	-	-	-	-	-	-	-	-
Tanda Dam	-	-	-	3	-	43	-	-	-	-	-	-	-	-	-	22	-	-	-	3	9	-	9	-	-	-	-	-	-	-	-
Tarbela	-	-	-	-	3	-	-	-	-	-	-	5	-	-	-	-	35	-	-	-	-	-	37	5	-	1	43	4	-	-	-
Warsak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	1	9	-	-	7	-	-	-	-	10	-	-	-	-



Date Wise Significant Rainfall in mm (July 2018)

Station	Sindh																															GB							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
Badin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Chhor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Dahli	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Diplo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Mithi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Moen-jo-Daro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Nagar Parker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Rashidabad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Rohri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Shaheed Benazirabad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Tandojam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Thatta	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
AJ&K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Brarkot	-	4	74	32	1	-	-	-	-	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-		
Daggar	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Domel	-	2	-	36	3	-	-	-	-	47	4	14	3	-	-	-	-	18	11	1	4	-	59	8	7	-	5	47	23	-	-	-	-	-	-	-			
Chakoti	-	2	31	17	17	6	-	-	-	23	15	6	20	-	-	-	-	31	28	-	8	18	8	14	10	15	-	-	-	-	-	-	-	-	-	-			
Chattar Kailas	-	1	24	13	1	1	-	-	-	2	16	15	8	-	-	-	-	32	13	-	3	6	2	-	-	14	12	-	-	-	-	-	-	-	-	-			
Garhaidupata	-	1	11	18	1	-	-	-	-	10	63	11	15	-	-	-	-	-	12	-	-	-	-	-	29	3	16	-	-	-	-	-	-	-	-	-			
Hattian Bala	-	-	19	-	9	-	-	-	-	38	53	49	2	-	-	-	-	-	10	-	-	-	-	6	-	9	3	-	-	-	-	-	-	-	-	-			
Hajira	-	-	-	-	-	-	-	-	-	-	24	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Kallar	-	-	24	-	-	-	-	-	-	-	-	9	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Kotli	3	24	36	-	9	-	-	-	-	22	21	14	44	22	-	-	-	-	-	-	1	-	13	91	1	3	14	6	3	4	-	-	-	-	-	-			
Mirpur Khas	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Muzaffarabad	-	4	6	34	-	-	-	-	-	3	26	20	23	-	-	-	-	47	20	-	3	-	70	63	23	1	13	59	3	1	-	-	-	-	-	-			
Pattan	-	2	-	10	-	12	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Palandri	4	8	23	-	-	-	-	-	-	30	40	3	12	25	-	-	-	35	4	29	-	32	25	62	33	-	2	1	-	-	-	-	-	-	-	-			
Palote	-	-	-	-	-	-	-	-	-	-	-	1	9	-	-	-	-	-	-	6	-	9	7	-	-	-	14	7	5	-	-	-	-	-	-	-	-		
Pangera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	7	11	-	38	1	5	8	-	-	-	-	-	-	-	-	-	-	-		
Phulra	-	6	17	14	4	-	-	-	-	-	-	9	-	-	-	-	2	15	-	-	-	29	1	4	-	32	10	2	-	-	-	-	-	-	-	-	-		
Rawalakot	5	-	17	2	26	6	-	-	-	38	18	14	17	3	-	-	-	30	2	14	13	13	14	16	15	80	7	-	-	-	-	-	-	-	-	-			
Sherkakarta	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tandali	-	12	12	9	27	-	-	-	-	-	61	8	-	-	-	-	-	-	1	-	1	-	-	-	15	1	12	12	2	-	-	-	-	-	-	-	-		
Astore	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	2	18	1	-	-	-	-	-	-	-	-	-	
Bagrote	-	-	-	-	-	9	-	-	-	-	-	3	-	-	-	-	5	-	-	-	-	-	-	-	7	-	-	16	12	6	-	-	-	-	-	-	-	-	
Bunji	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	2	7	5	-	-	-	-	-	-	-	-	
Chillas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	4	-	-	10	-	-	-	2	4	2	-	-	-	-	-	-	-	-	
Gilgit	-	-	-	3	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7	-	-	-	-	-	-	-	-	-	
Gupis	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Hunza	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-
Skardu	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-	-	1	-	-	-	-	-	-	-	-	-	-

Rainfall Record – August 2018

Station	Date Wise Rainfall in mm (July 2018)																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Punjab																																	
Alexandra Bridge	-	-	-	-	-	-	-	-	-	6	8	8	14	-	-	-	-	-	-	-	19	11	-	-	-	6	-	-	-	-	-	-	
Aik Nullah (Ura)	-	-	-	-	-	-	1	-	2	-	-	8	9	2	-	-	-	-	-	-	68	-	4	3	-	1	-	-	-	-	-	-	
Bahawalnagar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bahawalpur	-	-	-	-	-	-	-	-	52	-	-	-	-	5	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bhandu Wala	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Barkhan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bhakkar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bahawalnagar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chakwal	-	-	-	-	-	-	-	21	-	-	-	-	8	-	-	-	-	10	-	-	-	52	-	-	-	1	-	-	-	-	-	-	
Dara-e-Tang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	13	-	-	-	-	-	
DG Khan	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	3	-	-	-	-	-	-	-	-	-	6	-	-	-	-	
Faisalabad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fort Munro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghariala	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gujrat	-	-	-	-	-	-	1	-	-	-	3	8	17	-	-	-	-	-	-	-	37	5	8	-	-	-	-	-	-	-	-	-	-
Gujranwala	-	-	-	-	-	-	-	-	-	5	25	30	-	30	-	-	-	-	-	-	80	-	9	4	-	-	-	-	-	-	-	-	-
Haraman	-	-	-	-	-	-	64	20	25	-	-	49	-	4	3	-	4	-	-	-	-	-	-	-	21	5	-	-	-	-	-	-	-
Islamabad	18	56	4	4	11	206	62	1	-	32	14	74	91	6	-	-	59	2	-	17	8	89	64	71	30	-	-	-	-	-	-	-	
Jhang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	3	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-
Jhelum	-	-	-	-	-	-	48	12	1	-	-	-	95	-	-	-	-	-	-	1	-	-	47	2	11	35	-	-	-	-	-	-	-
Joharabad	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kamra	-	-	-	-	-	-	16	6	1	-	-	3	-	76	-	-	13	-	-	-	-	71	-	7	1	-	-	-	-	-	-	-	-
Kasur	-	-	-	-	-	-	-	-	8	5	-	-	-	3	3	-	-	6	-	-	-	7	-	-	-	-	-	-	2	-	-	-	-
Khanpur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kot Addu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kotnaina	-	-	-	-	-	-	9	-	-	-	19	-	7	10	1	3	8	-	-	-	-	3	10	8	21	8	-	-	-	-	-	-	-
Kund	-	-	-	-	-	39	-	10	-	2	91	35	62	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lahore	-	-	-	-	-	-	33	-	-	-	-	55	6	26	-	-	7	10	-	12	38	44	-	-	-	-	9	-	-	-	-	-	-
Layyah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mangla	-	-	-	-	-	-	36	55	10	-	-	30	46	3	-	-	-	-	-	-	-	-	38	-	40	78	-	-	-	-	-	-	-
Mandibahaudin	-	-	-	-	-	-	5	1	-	11	4	55	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-
Marala	-	-	-	-	-	7	98	1	7	-	3	10	107	-	-	-	-	-	-	-	141	-	-	2	41	23	-	-	-	-	-	-	-
Mari	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mianwali	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	43	-	-	-	-	-	-	-	-



Rainfall Record – August 2018

Station	Date Wise Rainfall in mm (July 2018)																																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
	Punjab																																			
Multan	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Murree	-	-	-	-	2	60	33	-	-	12	2	1	13	20	2	-	9	-	-	-	-	3	-	-	-	22	-	-	-	-	-	-				
Norpur Thal	-	-	-	-	-	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Okara	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-				
Palku	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Rajampur	-	-	-	-	-	1	-	-	-	-	-	-	-	4	12	12	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-				
Ravi Syphon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	3	9	-	-	-	-	-	-	-	-	-	-				
Rasheedabad (Kalpnai)	-	-	-	-	-	-	24	71	-	-	-	-	-	57	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-				
R. Y Khan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sahiwal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sargodha	-	-	-	-	-	-	-	7	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sialkot	1	3	-	-	-	-	97	-	-	-	-	30	15	40	1	-	-	-	-	-	39	3	31	4	-	-	-	-	-	-	-	-	-			
Shadiwal	-	-	-	-	-	-	1	-	-	-	-	1	-	-	1	-	-	8	-	9	-	2	-	-	1	-	-	-	-	-	-	-	-			
Shorkot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sialkot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-			
TT Singh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Zafar Wal	-	-	-	-	-	39	7	-	-	-	-	7	10	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-			
	Balochistan																																			
Barkhan	-	-	-	-	-	-	-	-	1	6	-	-	-	-	-	1	2	-	1	-	-	-	-	-	-	-	-	3	-	-	-	-	4			
Bela	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Daibandin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Kalat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Khuzdar	-	-	-	-	-	-	-	-	-	2	3	-	-	-	-	-	23	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lasbela	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Panjgur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sibbi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zhob	-	-	-	-	-	-	1	1	3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rainfall Record – August 2018

Station	Date Wise Rainfall in mm (July 2018)																																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
	KP																																						
Attock Khairabad	-	1	-	-	-	1	3	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-					
Balakot	-	2	-	-	-	1	80	54	18	-	-	-	-	67	-	31	-	7	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-					
Bannu	-	-	-	-	-	-	2	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Barakot	-	-	-	-	-	41	62	5	4	-	3	40	24	3	36	-	18	-	-	-	-	-	-	-	-	4	5	-	-	-	-	-	-	-	-				
Besham	3	4	-	-	-	-	-	6	9	1	-	-	51	-	-	-	16	-	-	-	-	-	-	-	-	20	3	3	-	-	-	-	-	-	-				
Cherat	-	12	-	-	-	-	-	80	-	-	-	-	-	-	-	-	12	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Chitral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Daggar	-	3	-	-	-	-	101	7	-	-	-	-	-	-	-	-	-	80	2	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-			
DI Khan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Drosh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	2	-	-	-	-	-	-	-	-	-	-	-		
Ghariala	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dir	-	22	2	-	-	-	3	1	2	-	-	-	-	-	-	3	1	20	1	-	-	41	-	-	-	7	3	-	-	-	-	-	-	-	-	-	5		
Kalam	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	4	4	-	-	-	-	-	-	-	-	-		
Kakul	-	-	1	-	-	-	40	22	23	2	-	-	11	-	1	13	16	-	-	-	-	5	-	9	-	9	-	-	-	-	-	-	-	-	-	-	-		
Kohat	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Kurram Garhi	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lower Dir	-	-	-	-	-	-	23	24	18	-	-	-	-	-	-	-	-	3	-	-	-	2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Malam Jabba	-	22	-	2	-	-	20	31	31	-	-	-	-	-	17	-	48	-	-	-	1	2	7	8	1	18	-	-	-	-	-	-	-	-	-	-	-	52	
Mirkhani	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nauseri	-	-	-	-	-	-	-	16	19	3	-	7	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nowshera	1	-	-	-	-	-	-	12	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Parachinar	-	2	3	-	-	-	-	22	-	-	-	3	13	-	-	3	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pattan	-	1	-	-	-	-	-	-	9	-	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Peshawar	-	-	-	-	-	-	-	23	-	-	-	-	-	-	-	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phulira	-	-	-	-	-	-	31	13	3	-	6	-	-	-	4	2	31	-	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Oghi	-	-	-	-	-	-	23	9	8	-	-	-	-	-	4	18	11	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rawalakot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Risalpur	-	-	-	-	-	-	-	71	-	-	-	-	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saidu Sharif	-	-	-	-	-	-	5	7	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Shrakota	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shinkari	-	-	-	-	2	69	148	42	17	-	4	-	-	-	5	3	3	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tandali	-	-	-	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tanda Dam	-	-	-	-	-	-	-	1	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tarbela	11	8	10	-	-	-	29	-	-	-	20	10	41	-	-	-	-	26	-	1	-	36	10	36	31	-	-	-	-	-	-	-	-	-	-	-	-	-	
Warsak	-	-	-	-	-	-	2	85	-	-	-	-	-	-	-	11	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rainfall Record – September 2018

Station	Date Wise Significant Rainfall in mm (September 2018)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Punjab															
Alexandra Bridge	-	-	-	-	-	-	-	-	-	-	2	-	-	2	8
Aik Nullah (Ura)	-	-	-	-	-	-	-	-	2	-	20	-	1	-	-
Bhakkar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
Bahawalnagar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chakwal	12	-	8	-	-	-	-	-	25	-	-	-	-	-	39
Dara-e-Tang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45
DG Khan	-	-	10	-	23	-	-	-	-	-	-	1	-	-	-
Faisalabad	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-
Ghariaia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
Gujrat	-	-	-	-	-	-	-	-	9	-	4	-	-	12	15
Gujranwala	-	-	2	-	1	-	-	-	-	-	11	-	-	20	-
Haraman	-	-	5	-	-	-	-	-	-	2	-	-	-	25	-
Islamabad	-	7	21	-	21	-	-	-	2	4	39	1	-	32	32
Jhang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52
Jhelum	-	-	-	-	-	-	-	-	-	-	6	-	-	-	11
Joharabad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
Kallar	-	-	10	-	-	-	-	-	-	-	8	-	-	18	-
Kamra	-	-	20	-	-	-	-	-	-	-	18	-	-	-	-
Kasur	-	-	-	-	20	-	-	-	-	5	-	-	-	-	-
Kotnaina	-	-	6	1	-	-	-	-	-	-	-	22	4	-	-
Lahore	-	-	10	15	27	-	-	-	14	68	-	-	-	-	-
Mangla	-	4	2	-	-	-	-	-	-	-	6	-	-	34	-
Mandibahaudin	-	-	-	-	-	-	-	-	16	-	11	-	-	15	23
Marala	-	-	-	-	-	-	-	-	-	-	27	11	1	13	11
Mianwali	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37
Murree	-	6	15	-	-	-	-	-	-	11	-	-	39	-	-
Norpur Thal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41
Okara	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-
Rasheedabad (Kalpnai)	-	-	1	-	2	-	-	-	-	-	-	-	-	-	20
Sargodha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
Sialkot	-	-	-	5	-	-	-	-	-	-	26	7	10	11	17
Shadiwal	-	-	-	-	-	-	-	-	-	-	6	-	-	4	10
Shorkot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45
Sialkot	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-
Zafar Wal	-	-	1	-	-	-	-	-	1	-	-	-	10	-	-
Balochistan															
Barkhan	-	-	7	20	-	-	-	-	7	-	-	-	-	-	-
Khuzdar	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Zhob	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
KP															
Attock Khairabad	-	1	-	-	1	-	-	-	-	-	5	-	-	-	-
Balakot	-	-	2	-	-	-	-	-	-	4	-	-	-	16	-
Bannu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
Bararkot	-	1	16	-	-	-	-	-	-	-	-	-	-	15	-
Besham	-	-	5	-	-	-	-	-	7	-	-	-	-	-	-
Cherat	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-
Chakdara	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
Daggar	-	7	-	-	-	-	-	-	-	-	-	-	-	-	6



DI Khan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drosh	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Dir	4	-	1	-	-	-	-	-	7	-	-	-	5	12
Ghariaala	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kalam	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Kakul	-	26	11	-	-	-	-	-	-	-	-	-	10	-
Kohat	2	-	3	-	-	-	-	-	2	-	-	-	-	25
Kurram Garhi	-	10	-	-	-	-	-	-	-	-	-	-	-	23
Lower Dir	-	-	1	-	-	-	-	-	-	-	-	-	-	7
Malam Jabba	21	-	46	-	-	-	-	1	-	-	-	-	3	15
Pattan	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Peshawar	-	12	-	1	-	-	-	-	-	-	-	-	-	-
Phulra	-	-	8	3	-	-	-	-	-	-	-	-	-	8
Oghi	-	9	4	-	-	-	-	-	-	-	-	-	4	6
Rawalakot	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Risalpur	-	1	13	-	10	-	-	-	-	5	-	-	-	7
Saidu Sharif	-	5	5	-	-	-	-	-	-	-	-	-	1	-
Shrkakota	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shinkiari	-	-	2	-	-	-	-	-	-	-	-	-	1	-
Tanda Dam	-	1	-	-	-	-	-	-	-	-	-	-	-	21
Tarbela	-	3	13	-	-	-	-	8	-	39	-	-	9	-
Warsak	-	-	-	-	6	-	-	-	-	-	-	-	-	-
AJ&K														
Bandi Abbaspur	-	-	20	-	22	-	-	-	21	-	13	-	4	7
Barnala	-	-	3	-	-	-	-	-	-	-	-	-	5	-
Daggar	-	-	14	-	-	-	-	-	-	-	-	-	-	-
Domel	-	-	8	-	-	-	-	-	24	-	-	-	8	-
Chakoti	-	1	20	-	-	-	-	3	11	1	-	-	2	-
Chattar Kallas	-	-	-	-	-	-	-	-	4	2	-	-	10	-
Garhaidupata	2	-	-	-	-	-	-	-	6	2	30	-	3	-
Hattian Bala	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Hajira	-	12	1	-	-	-	-	-	1	-	-	-	3	-
Kotli	-	10	59	-	-	-	-	-	-	22	3	1	18	-
Mirpur Khas	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Muzaffarabad	-	2	18	-	-	-	-	-	-	36	2	-	1	10
Pattan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Palandri	-	1	6	-	-	-	-	-	-	4	-	3	24	-
Palote	-	-	-	-	-	-	-	-	-	4	-	-	13	11
Pangera	1	2	9	-	-	-	-	-	1	-	19	-	-	35
Rawalakot	-	1	-	-	-	-	-	-	-	-	-	-	7	-
Sherkakota	-	-	4	-	3	-	-	-	-	-	1	-	-	-
Tandali	-	-	4	-	-	-	-	-	-	5	2	-	1	7
GB														
Astore	-	-	-	-	-	-	-	-	-	5	7	-	-	-
Bagrote	-	-	-	1	-	-	-	-	-	1	-	-	-	-
Bunji	-	-	-	-	-	-	-	-	3	-	2	-	-	-

Appendix-III to Annex B

Relief Provided During Monsoon – 2018

Items	PDMAs / DDMA's		NDMA	Total
	KP	GB		
Tents	50	60		110
Food Items (Bags)	-	250		250
De-watering Pumps			96	96
Water Purification Units			63	63
Generators			112	112
Plastic Mats		-	41,919	41,919



Annex C

To NDMA Annual Report 2018

Financial Outlay NDMP

Serial	Interventions	Indicative Cost (US \$ M)	Responsibilities
1.	Establish Institutional and Legal System for Disaster Management	2.30	NDMA/F/G/S/PDMAs
2.	Prepare Disaster Management Plans at all Levels	3.00	NDMA/F/G/S/PDMAs, Federal Ministries, Departments
3.	Establish National Hazard & Vulnerability Assessment	24.00	NDMA, PDMA, GSP, ERRA, GCISC, FFC, PMD, WAPDA
4.	Establish Multi-Hazard Early Warning & Evacuation Systems	188.50	PMD, FFC, SUPARCO, WAPDA, PID
5.	Promotion of Training, Education and Awareness in relation to DM	64.30	NIDM/NDMA, Civil Defense, Provincial Education Departments
6.	Disaster Management Awareness	14.00	NDMA, F/G/S/PDMAs, DDMA
7.	Infrastructure Development for DRR	707.60 *(1707.60) Revised	FFC, PID, WAPDA, Ministry of Ports & Shipping, Ministry of Health, Planning Commission
8.	Mainstreaming DRR into Development	1.20	Ministry of Planning, Development and Reforms, NDMA, F/G/S/PDMAs
9.	Establish National Emergency Response System	31.00	NDMA, F/G/S/PDMAs, DDMA, M/O IT, M/O information, Ministry of Communication, Ministry of Water & Power
10.	Capacity Development for Post Disaster Recovery	5.00	NDMA, F/G/S/PDMAs, Research Institutions
Total		2040.90	Revised owing to finalization of NFPP-IV (National Flood Protection Plan)

EVENT CALENDAR - 2018



Islamabad 8 January 2018: Meeting with Ambassador EU Delegation, Miss Anne Marchai



Islamabad 9 January 2018: DG PDMA's Periodical Coordination Conference



Islamabad 9 January 2018: National Post Monsoon Review Conference 2017



Islamabad 10 January 2018: Meeting with officials of Housing Foundation of Iran



Islamabad 12 January 2018: Signing of Annual Work Plan 2017-18 with UNFPA Pakistan



Islamabad 19 January 2018: Signing of MOU between NDMA and Army Medical Corps



Islamabad 7 February 2018: Meeting with officials of ADPC, PID, FPCCI & NHN for Establishment of Pakistan Resilience Partnership (PRP)



Islamabad 23 February 2018: Launching Ceremony of First ever National Roster on SERT



EVENT CALENDAR - 2018



Islamabad 28 March 2018: 5th National Disaster Management Commission (NDMC) Meeting at Prime Minister Office



Islamabad 29 March 2018: Meeting with officials of American Society of Safety Engineers



Islamabad 29 March 2018: Site visit of Team of Experts to Khurdopin Glacier, Shimshal Valley



Islamabad 5 April 2018: Meeting with Executive Director ADPC Bangkok, Mr. Hansgutman



Islamabad 5 April 2018: Signing of ToRs between NDMA, NHN, FPCCI, PID and HEC for establishment of Pakistan Resilience Partnership (PRP)



Bangkok 9 April 2018: Meeting with Interior Minister of Thailand and Deputy DG Disaster Mitigation, Bangkok, Thailand



Islamabad 25 April 2018: Meeting with CEO NDRMF, Lt Gen Nadeem Ahmed (Retd) and Sr. Project Director ADB, Mr. Shaukat Shafi



Islamabad 2 May 2018: Meeting with DG Disaster Management Qatar, Dr. Fahad Jamal Muhammad Al Jaber

EVENT CALENDAR - 2018



Islamabad 10 May 2018: Chairman NDMA addressing at training session organized by NIDM



Islamabad 7 June 2018: National Monsoon Preparedness Conference 2018



Paris 12 June 2018: International Defense and Security Exhibition in Paris, France



Islamabad 20 – 21 June 2018: International Conference on Disaster Management organized by NDMA



Islamabad 22 June 2018: Media Briefing during International Conference on Disaster Management and 6th RTG Meeting



Islamabad 22 June 2018: MoU signing ceremony between NDMA, Pakistan and Republic of Kazakhstan



Islamabad 22 June 2018: Launching Ceremony of Host Nation Support Guidelines for Foreign Assistance to Pakistan during Disasters



Islamabad 22 June 2018: 6th Regional Technical Group Meeting (RTG) Meeting on DM-CBM

EVENT CALENDAR - 2018



Rome 11 July 2018: Visit to Leonardo Securities and Information Systems, Italy



Islamabad 1 August 2018: Consultative meeting with delegates of NDRMF and World Bank



Karachi 5 September 2018: Workshop on Mainstreaming MISP in Contingency Planning by NDMA



Islamabad 7 September 2018: Visit of United Nations under Secretary General for Humanitarian Affairs, Mr. Mark Lowcock



Islamabad 19 September 2018: Visit of Turkish Parliamentary Delegation



Islamabad 6 October 2018: Consultative dialogue on Role of Media in Resilient Nation



Islamabad 8 October 2018: Observance of National Resilience Day



Islamabad 8 October 2018: Launching of Coffee Table Book and MHVRA Atlases

EVENT CALENDAR - 2018



Serbia 9 – 11 October 2018: NDMA Participation in NATO's Disaster Management Exercise in Serbia (SRBIJA-2018)



Islamabad 10 October 2018: Meeting with Special Assistant to Prime Minister for Political Affairs, Mr. Naeem Ul Haq



Islamabad 11 October 2018: Meeting with Secretary General AARDO



Islamabad 11 October 2018: Visit by Chinese Delegation



Islamabad 12 October 2018: Meeting with World Bank Delegation



Islamabad 13 October 2018: Cyclathon on Observance of International Day for Disaster Reduction



Islamabad 13 October 2018: Flag March on Observance of International Day for Disaster Reduction



Islamabad 13 October 2018: Awareness Walk on Observance of International Day for Disaster Reduction

EVENT CALENDAR - 2018



Islamabad 13 October 2018: Drawing Competition on Observance of International Day for Disaster Reduction



Islamabad 13 October 2018: Tree Plantation on Observance of International Day for Disaster Reduction



Islamabad 13 October 2018: Candle Vigil on Observance of International Day for Disaster Reduction



Islamabad 13 October 2018: Stall by stakeholders to showcase achievements in DM on Observance of International Day for Disaster Reduction



Islamabad 13 October 2018: Observance of International Day for Disaster Reduction



Islamabad 16 October 2018: Visit of AHKNCRD on Disaster Risk Reduction and Management



Islamabad 17 October 2018: Meeting with Saudi Ambassador, H.E Nawaf Saeed Al-Malkiey



Islamabad 18 October 2018: Meeting with Russian Delegation for availability of Aviation Assets for Disaster Management

EVENT CALENDAR - 2018



Islamabad 19 October 2018: Call on by DG PMD, Dr. Ghulam Rasool during his farewell visit



Karachi 30 October 2018: Stakeholders coordination meeting to develop roadmap to mitigate drought situation in affected areas of Sindh



Islamabad 30 October 2018: Meeting with focal persons of Sendai Framework of DRR



Islamabad 7 November 2018: Call on by Ambassador of Hungary, H.E Istva Szabo and Counselor Embassy of Republic of Hungary, Mr. Sandor Mihanko



Islamabad 12 November 2018: Meeting with officials of K-Electric to discuss urban resilience in Karachi



Islamabad 13 November 2018: Call on by Senator Talha Mahmood



Islamabad 22 November 2018: Visit of South Korean Delegation



Islamabad 23 November 2018: Call on by UNRC, Mr. Neil Buhne



EVENT CALENDAR - 2018



Islamabad 28 November 2018: First Draft Review Meeting for Revision of National Disaster Response Plan – 2010



Islamabad 3 December 2018: Call on to Honorable President of Pakistan, Dr. Arif Alvi



Islamabad 6 December 2018: Call on by Country Director Pakistan, Dr. Arjumand Nizami



Islamabad 6 December 2018: Call on by Ms. Sharmeen Obaid Chinoy



Islamabad 11 December 2018: 4th Meeting of Strategic Coordination Forum



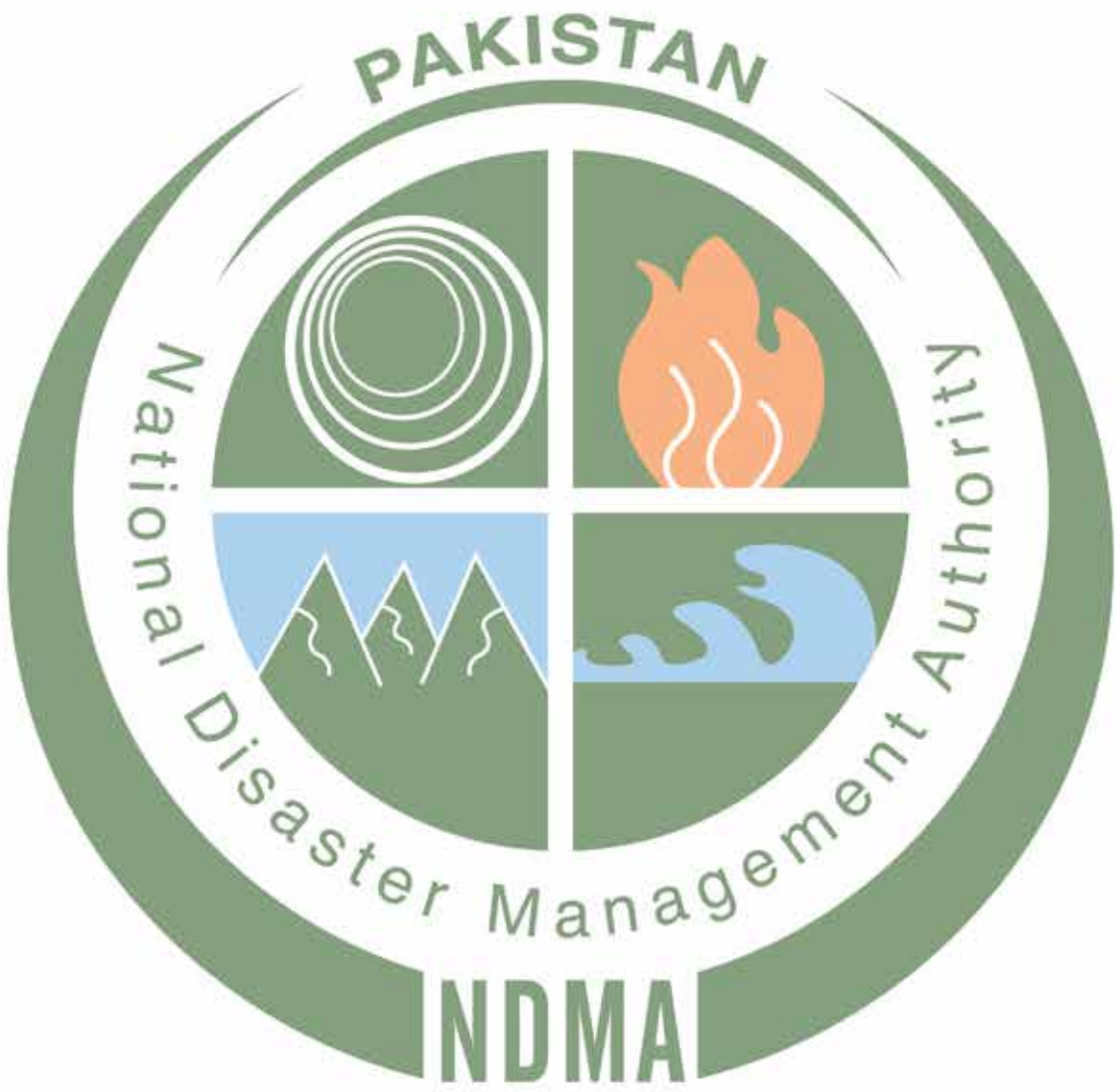
Islamabad 12 December 2018: National Post Monsoon Review Conference 2018



Islamabad 20 December 2018: 2nd National Consultative Workshop on Education Sector Contingency Planning Guidelines (ESCPG)



Islamabad 28 December 2018: Meeting with Pakistan Ambassador in UN Geneva, Mr. Farrukh Amil



Notes: _____

Notes: _____



📍 Prime Minister's Office, 2nd Floor, Constitutional Avenue
Sector G-5/1, Islamabad-Pakistan

🌐 www.ndma.gov.pk

📘 [Facebook.com/pakndma](https://www.facebook.com/pakndma)

🐦 [Twitter.com/ndmapk](https://twitter.com/ndmapk)

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