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COUNTRY PRESENTATION

Pakistan

(1st March 2017)

AKBAR BACHA
ASSISTANT DIRECTOR,
NDMA PAKISTAN

Pakistan's Disaster Context



Topography of Pakistan

Five Major or Geographic Areas

- Northern Highlands:(Himalayas,Karakorum-**K2-8611m-world 2nd high peak**,Hindukush-Tirichmr-**7708m(30 out of world 100 high peaks in Pak)**)
- Indus River Plains(**3,000+km-one of the longest river in Asia**)
- Balochistan Pleatu
- Salt Range
- Deserts(world's 17th largest desert and the world's 9th largest subtropical desert).

<https://www.jovago.net/blog/30-top-peaks-pakistan-2712>

<http://www.pakistantoursguide.com/khewra-salt-mines.html>

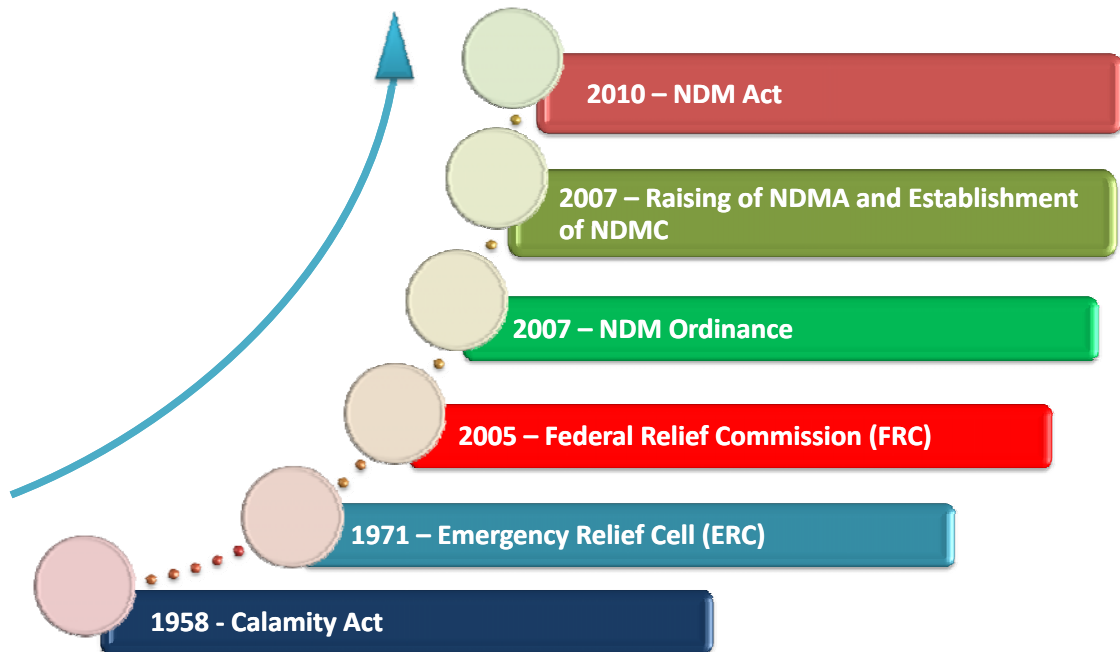
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RIVER SYSTEM

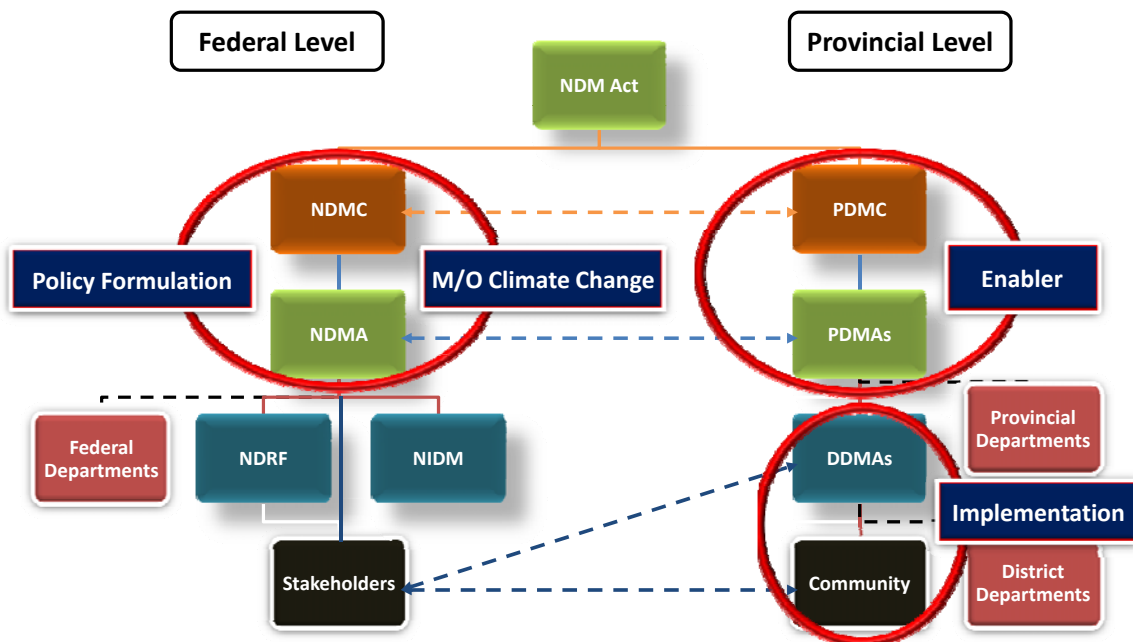




Evolution of Disaster Management System



Disaster Management Structure





NDMC Composition



Composition

- | | |
|---|---|
| <ul style="list-style-type: none">• Prime Minister - Chair• Leaders of Opposition
(Senate & NA)• Federal Ministers
(Related Ministries)• All Chief Ministers• Governor KP (For FATA) | <ul style="list-style-type: none">• Prime Minister AJ&K & GB• Chairman JCSC• Civil Society Members• Co-opted Members• Chairman NDMA- Secretary |
|---|---|

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NDMC Functions

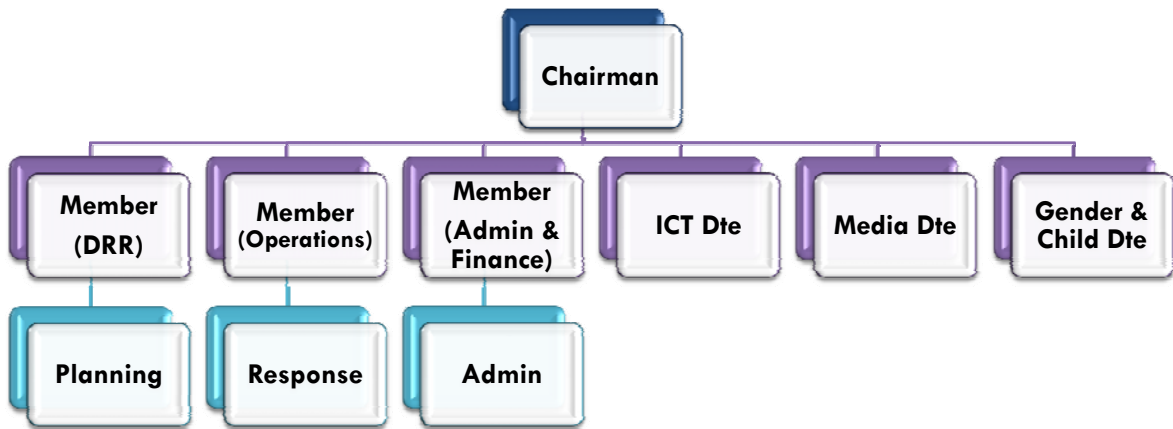


- Lay Down **Policies on Disaster Management**
- **Approval of National Plan**
- Approve plans prepared by **Ministries/ Divisions of Federal Government** in accordance with National Plan
- Lay Down **Guidelines for Federal / Provincial Governments**
- Arrange and Oversee **Provision of Funds for DRR, Mitigation, Preparedness and Response**
- Provide Support to **other Countries Affected by Major Disasters**
- Take Measures for **Prevention of Disaster, Mitigation, Preparedness and Capacity Building**

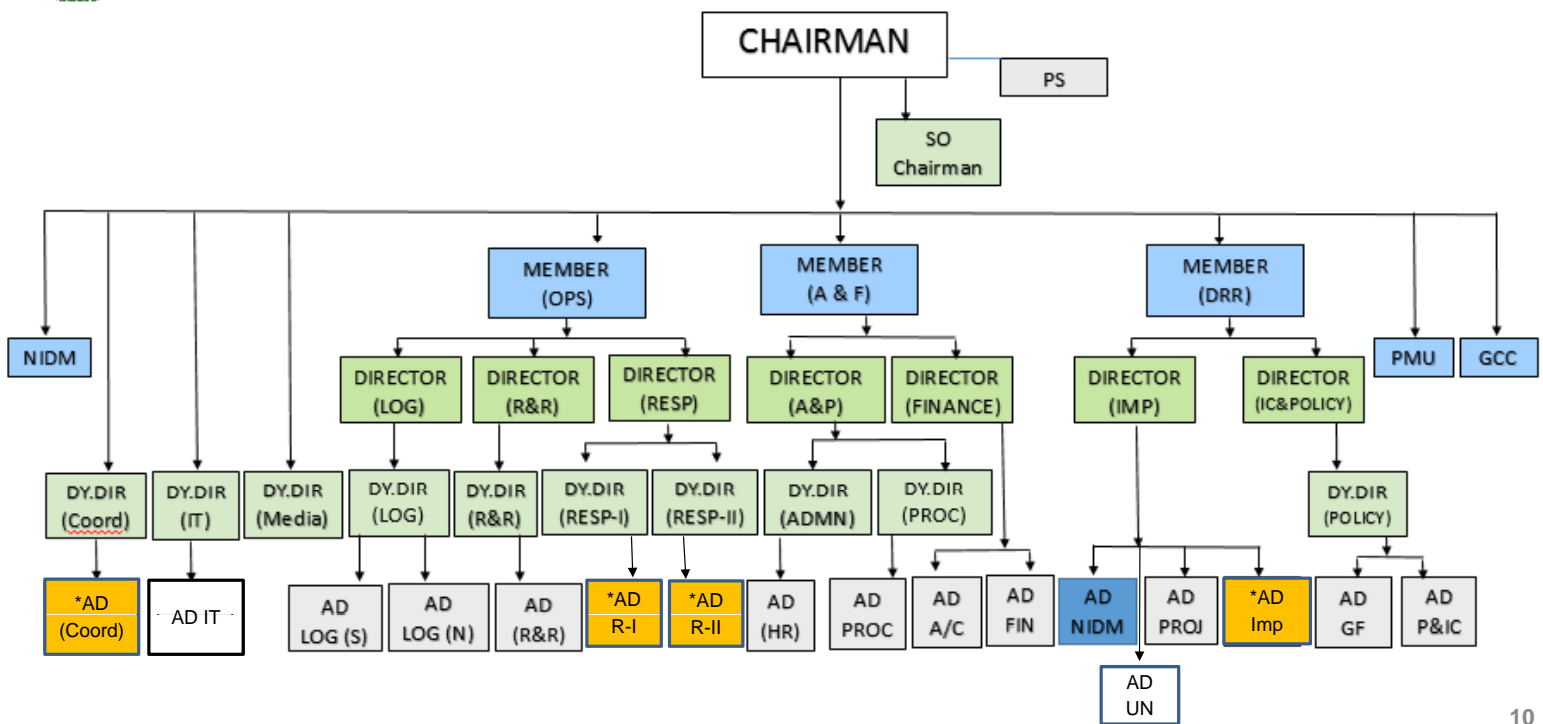
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NDMA Structure



NDMA Organogram





NDMA Functions



Entire Spectrum of Disaster Management



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NDMA Functions



- Act as **implementing, coordinating and monitoring** body for Disaster Management
- Prepare **National Plans** for Disaster Management
- Lay down **guidelines** for preparing Disaster Management Plans by various Ministries / Government Departments / Provincial Departments
- Provide **Technical Assistance** to Provinces for Disaster Management planning
- Coordinate **Disaster Response**, i.e. rescue, relief and early recovery
- Promote **general education and awareness** of Disaster Management (ADRC VR Topic?)
- Any other functions as desired by the Government

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Disaster Management Spectrum



Coordination Loop





Natural Hazards by Disaster Type



Attributed to Climate Change

Geophysical	Hydrological	Meteorological	Climatological	Biological	Extra-terrestrial
<ul style="list-style-type: none"> Earthquake Mass Movement (dry) Volcanic activity 	<ul style="list-style-type: none"> Flood Landslide Wave action 	<ul style="list-style-type: none"> Storm Extreme temperature Fog 	<ul style="list-style-type: none"> Drought Glacial lake outburst Wildfire 	<ul style="list-style-type: none"> Animal accident Epidemic Insect infestation 	<ul style="list-style-type: none"> Impact Space weather



Hazards In Pakistan



Hydro-Meteorological Hazards



Flash Floods



Urban Floods



Riverine Floods



GLOF



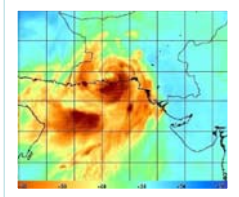
Avalanches



Land slides



Drought



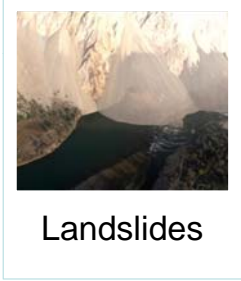
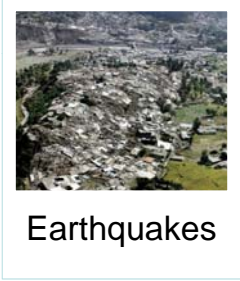
Cyclones



Hazards In Pakistan



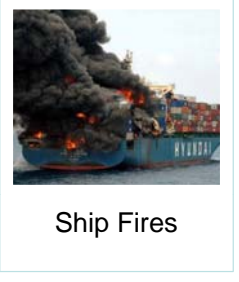
Geological Hazards



Hazards In Pakistan

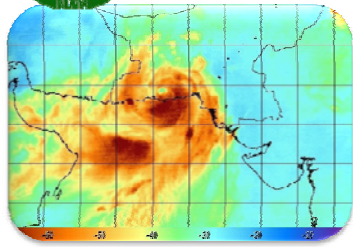


Manmade Hazards





Disasters Handled



Cyclones

- Yemyin 2007
- Phet 2010



Displacements

- 2009 / 2010



Earthquakes

- Ziarat 2008
- Dalbandin 2010
- Maskhel & Awaran 2013
- 26 Oct 2015
- 10 April 2016



Landslides / GLOF

- Attabad 2010
- Gyari 2012



Floods

2008, 2010, 2011, 2012, 2013, 2014, 2015, 2016
Heavy Rains 2016

We learnt valuable lessons during the process



Drought

- Tharparkar (2014)



Effects of Climate Change - Pakistan



Global Climate Risk Index 2016

Ranking 2014 / (2013)	Country	CRI Score	Deaths	Deaths per 100,000	Absolute Losses (M)	Losses per unit GDP%	Human Devtpt Index
1(93)	Serbia	8.17	59	0.8236	3300.307	3.4435	77
2(15)	Afghanistan	10.67	434	1.3875	337.085	0.5543	169
4(1)	Philippines	12.50	328	0.3299	3312.686	0.4777	117
5(6)	Pakistan	12.67	1227	0.6590	2220.527	0.2511	146
7(143)	Nepal	15.83	533	1.8962	143.101	0.2131	145
10(3)	India	16.17	1863	0.1460	36950.50	0.4986	135

(1995-2014)

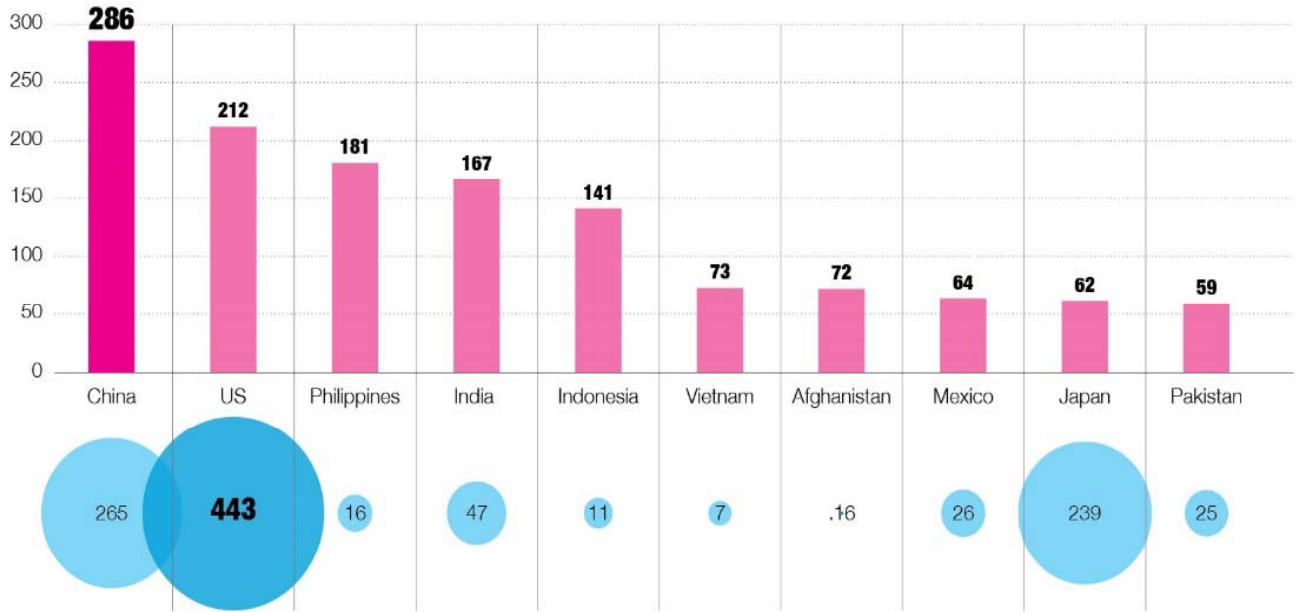
CRI 1995-2014 (1994-2013)	Country	CRI Score	Deaths	Deaths per 100,000	Total Losses in Million US\$ PPP	Losses per unit GDP in %	Number of events (1995-2013)
1 (1)	Honduras	11.33	302.75	4.41	570.35	2.23	73
2 (2)	Myanmar	14.17	7137.2	14.75	1140.29	0.74	41
3 (3)	Haiti	17.83	252.65	2.76	223.29	1.55	63
4 (5)	Philippines	19.00	927.00	1.10	2757.30	0.68	337
5 (5)	Nicaragua	19.00	162.30	2.97	227.18	1.23	51
6 (6)	Bangladesh	22.67	725.75	0.52	2438.33	0.86	222
7 (7)	Vietnam	27.17	361.30	0.44	2205.98	0.70	225
8 (10)	Pakistan	31.17	487.40	0.32	3931.40	0.70	143
9 (11)	Thailand	32.33	164.20	0.25	7480.76	1.05	217
10 (9)	Guatemala	32.50	83.35	0.66	407.76	0.50	88



Top Ten Countries Affected by Disasters



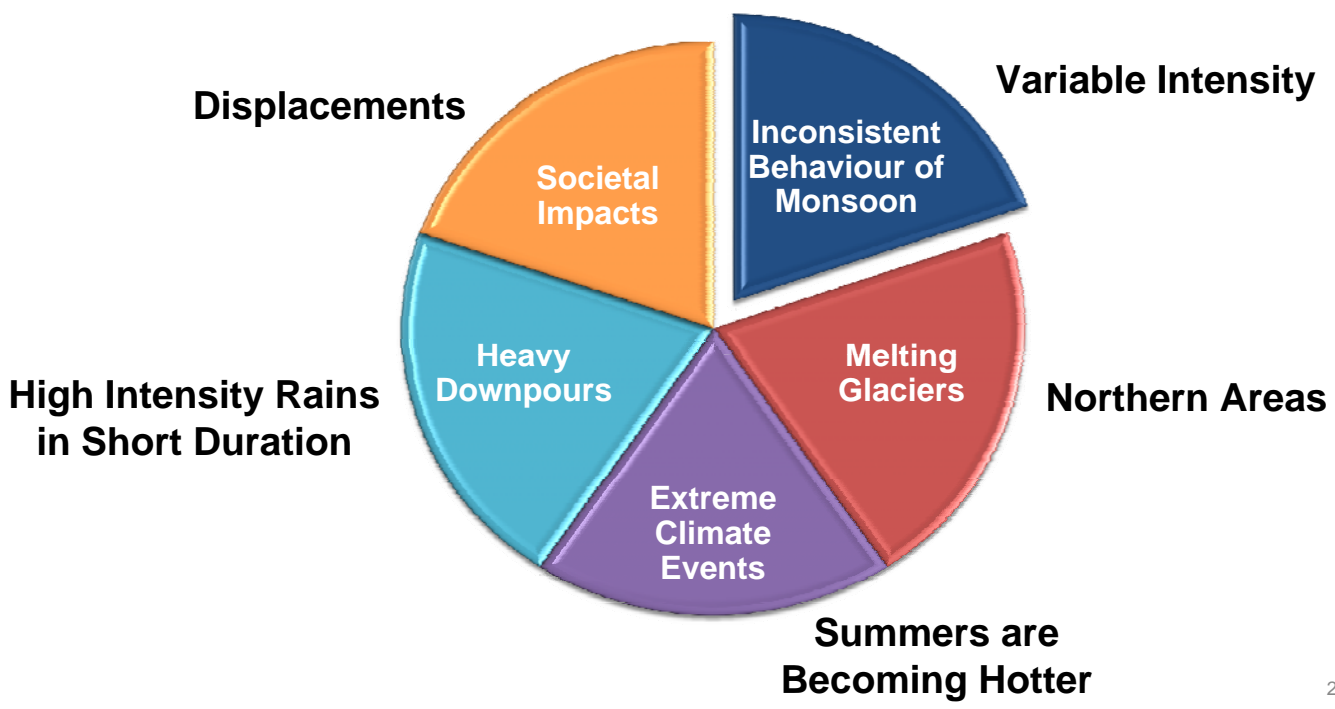
Number of disasters Total damage (\$ billion)



China has the most disasters from 2005-2014 but the US has incurred the most damage, and while Japan is far behind in number of disasters, its economic loss is almost as big as that of China

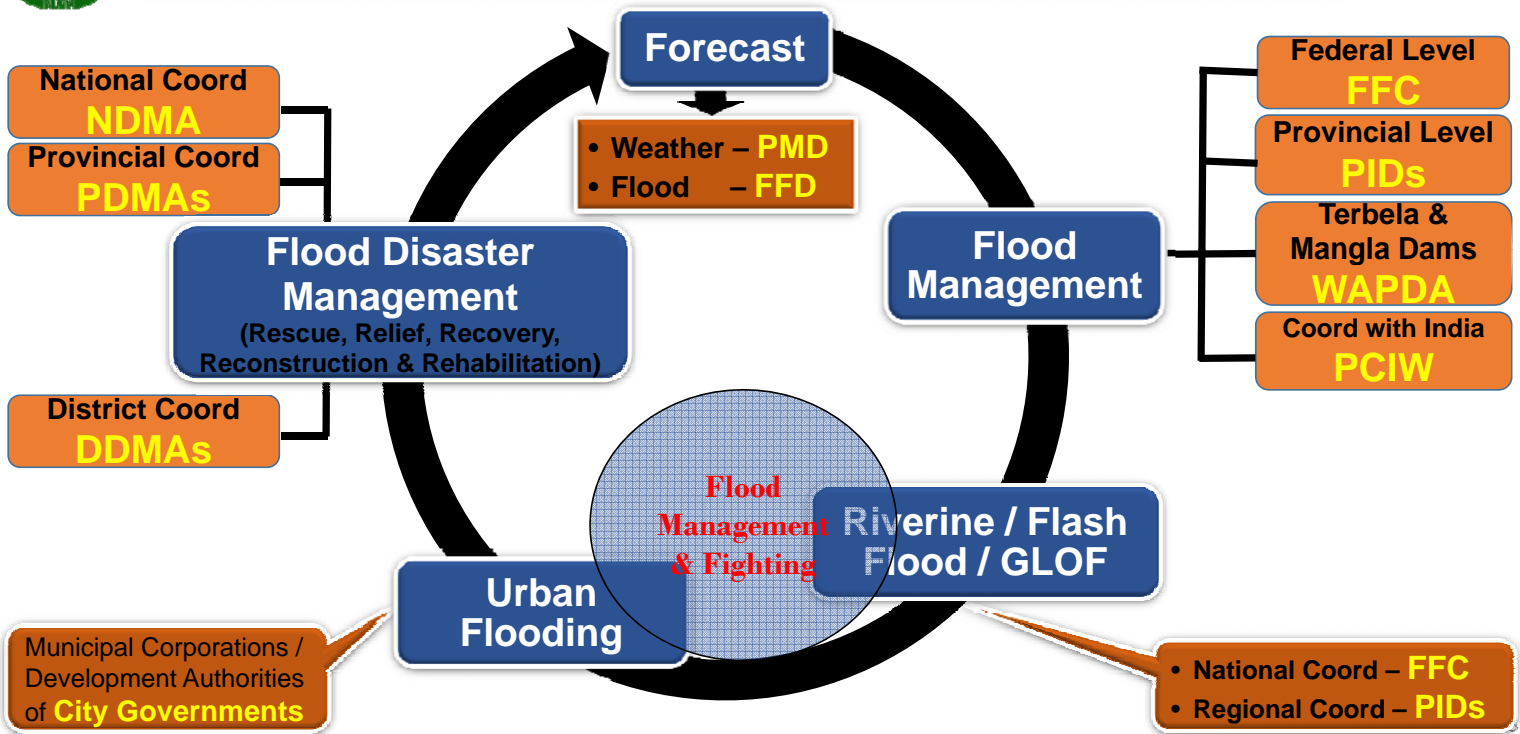


Effects of Climate Change on Pakistan

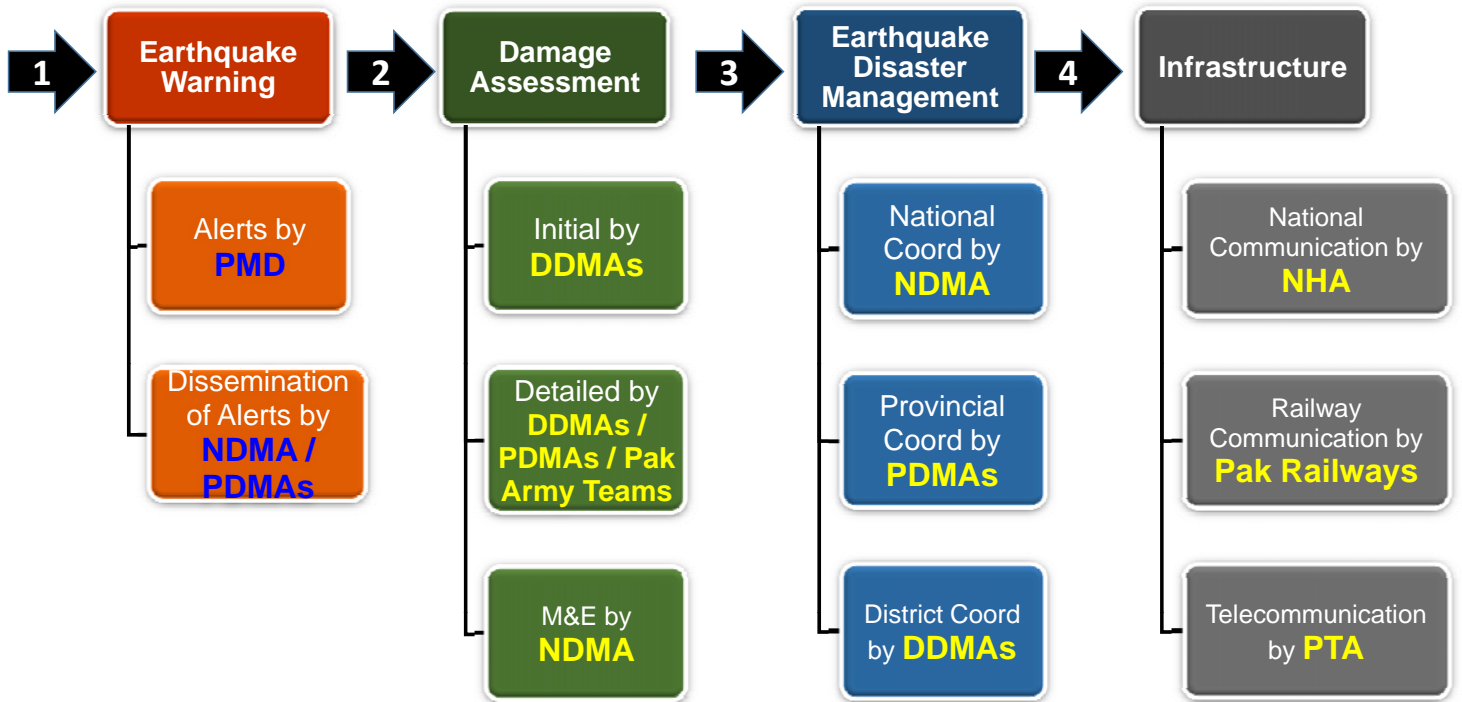




Flood Management – Responsibilities

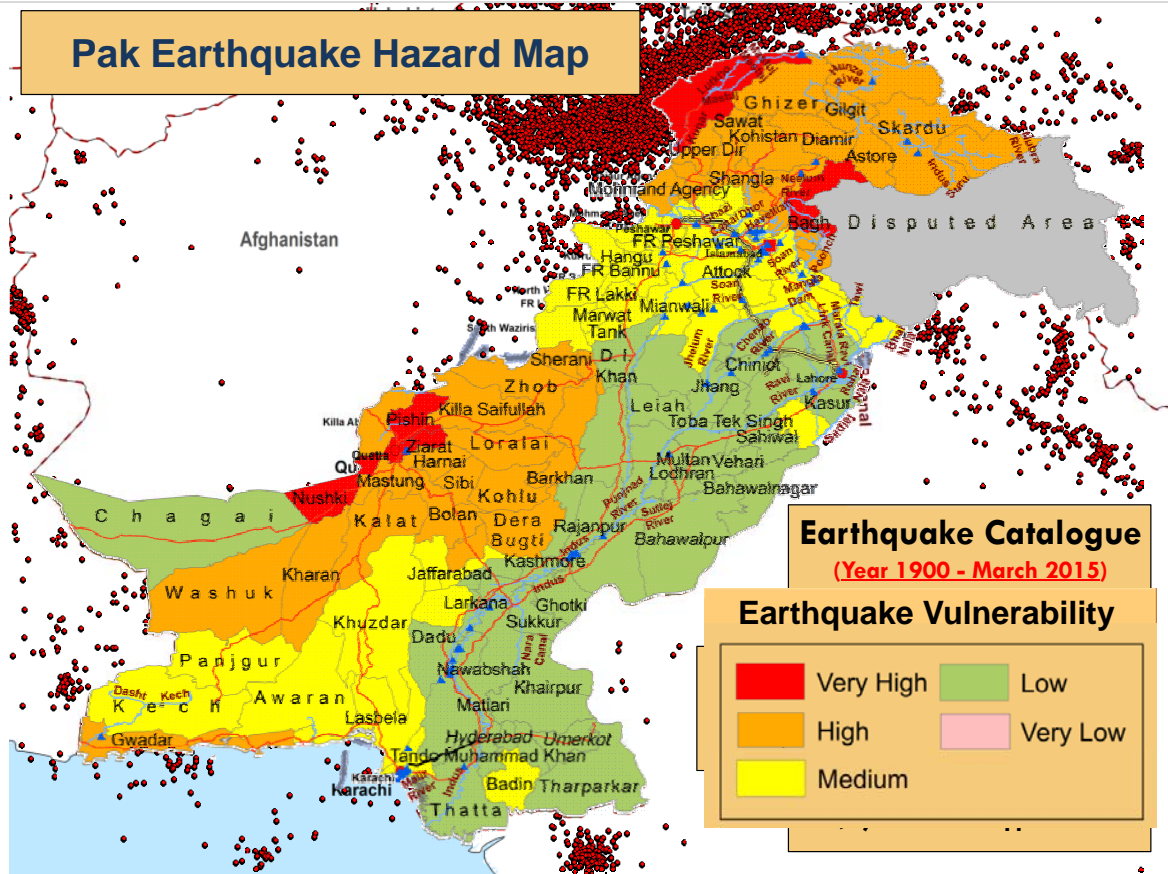


Earthquake Management – Responsibilities

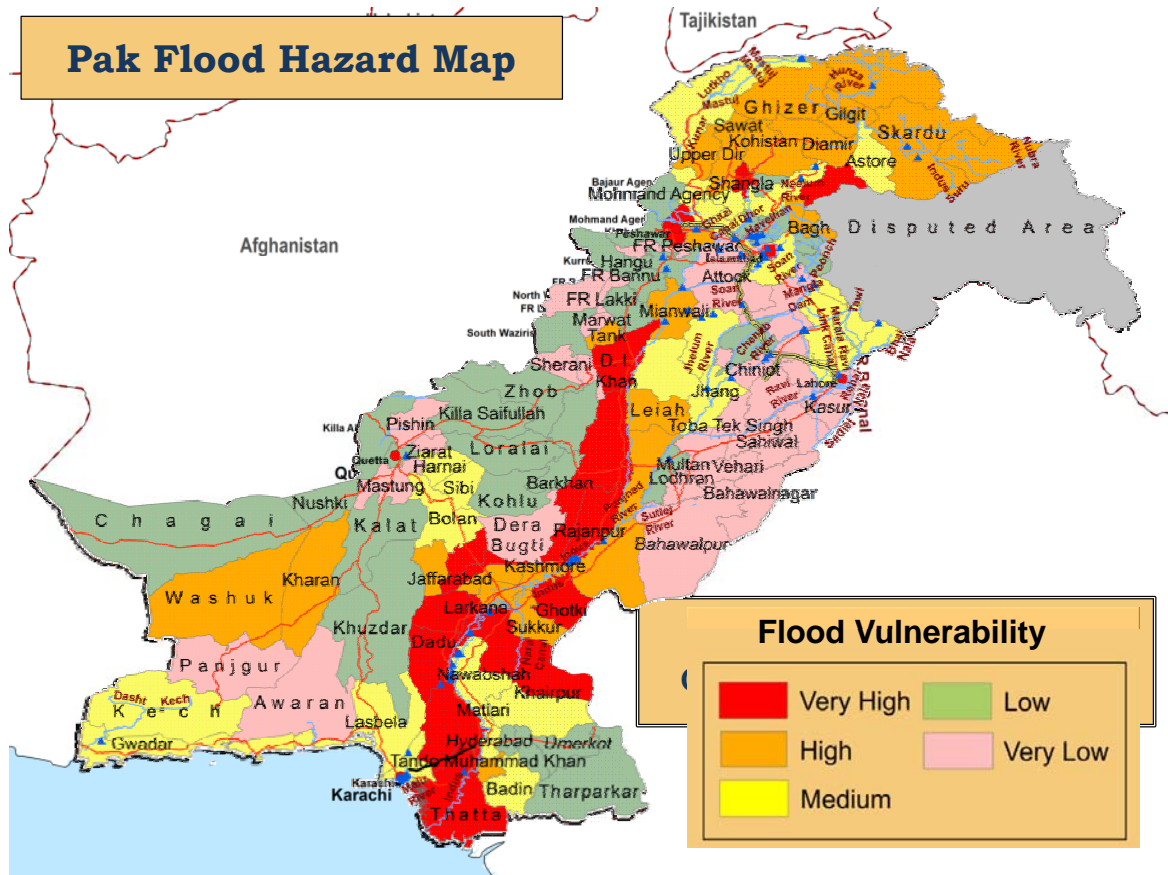




Pak Earthquake Hazard Map

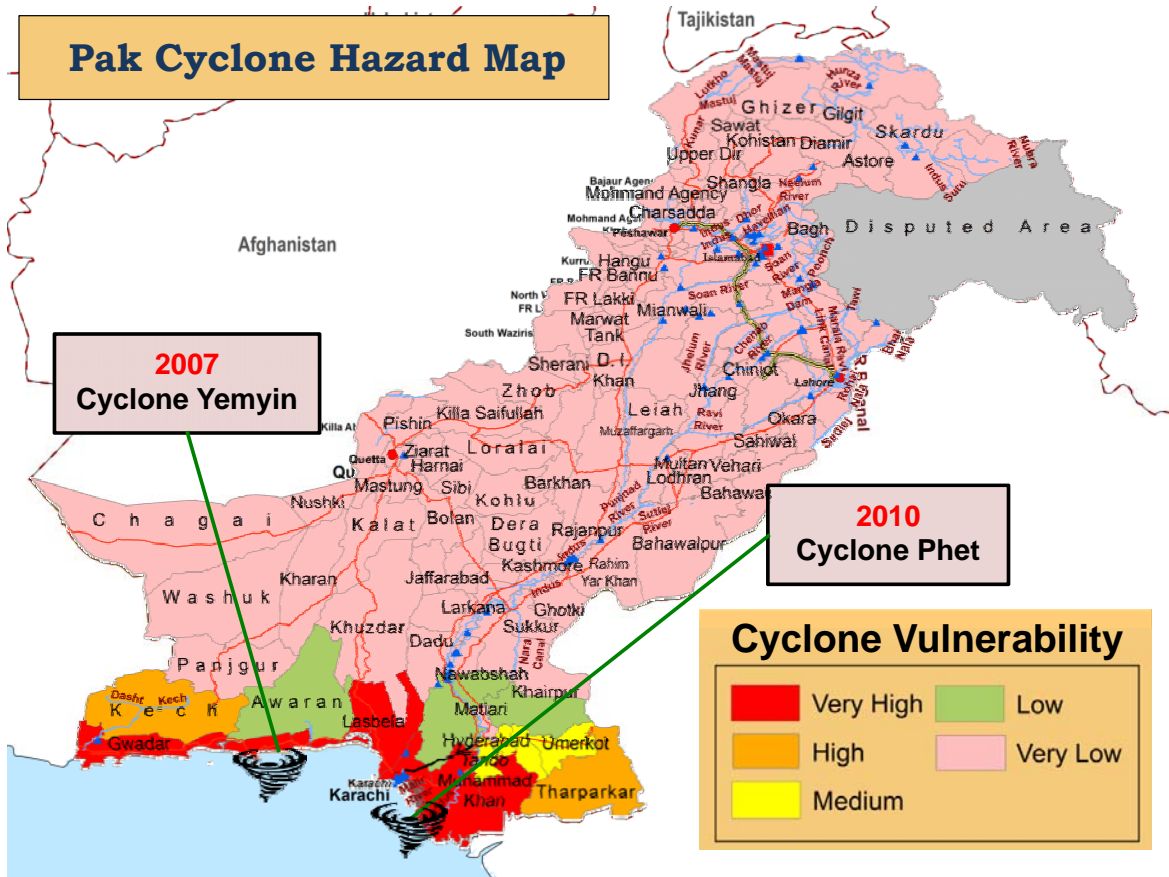


Pak Flood Hazard Map

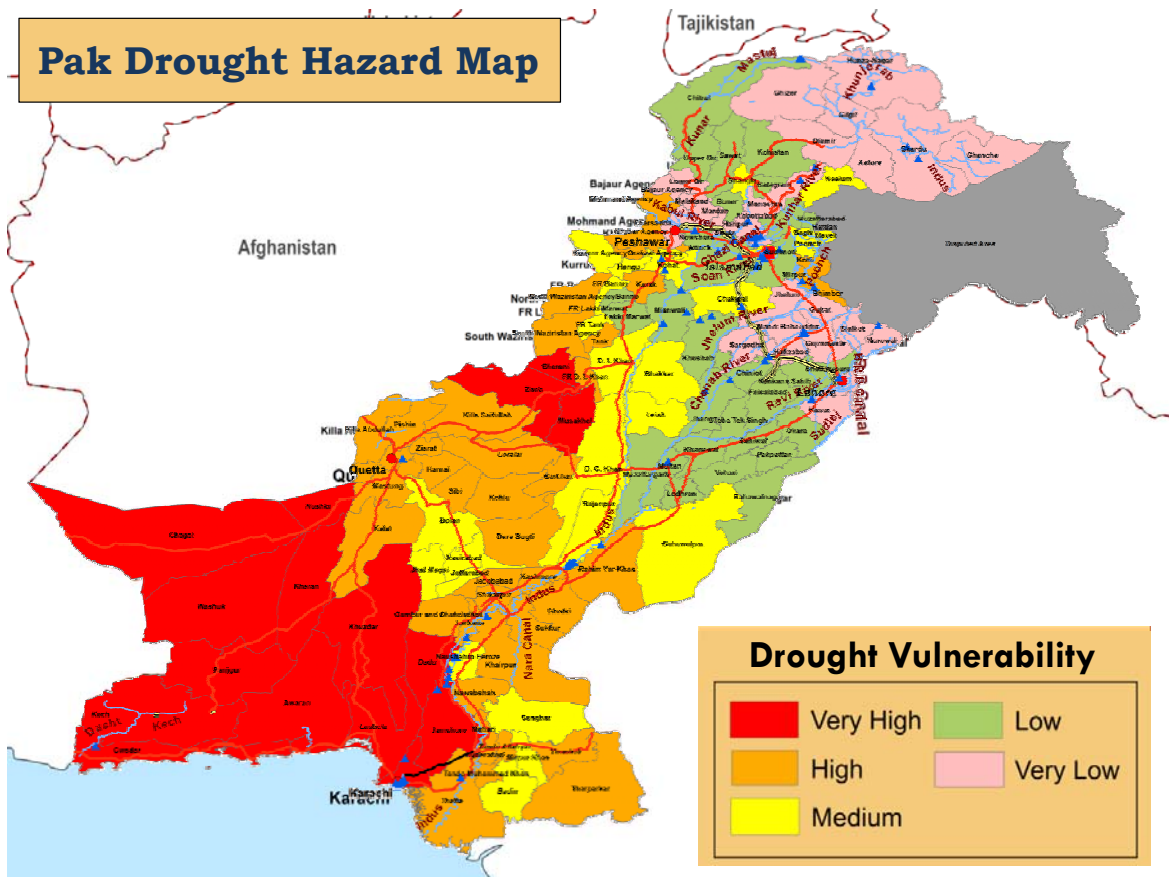




Pak Cyclone Hazard Map

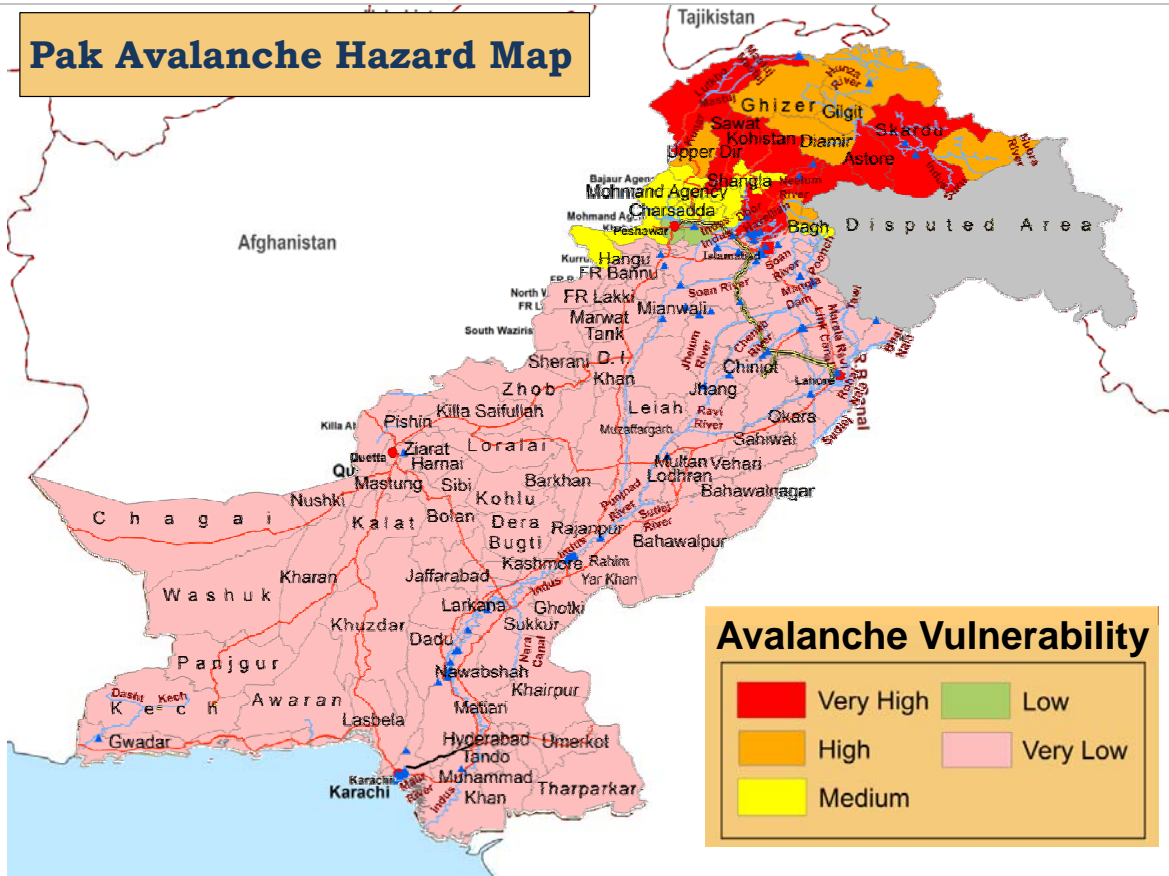


Pak Drought Hazard Map





Pak Avalanche Hazard Map

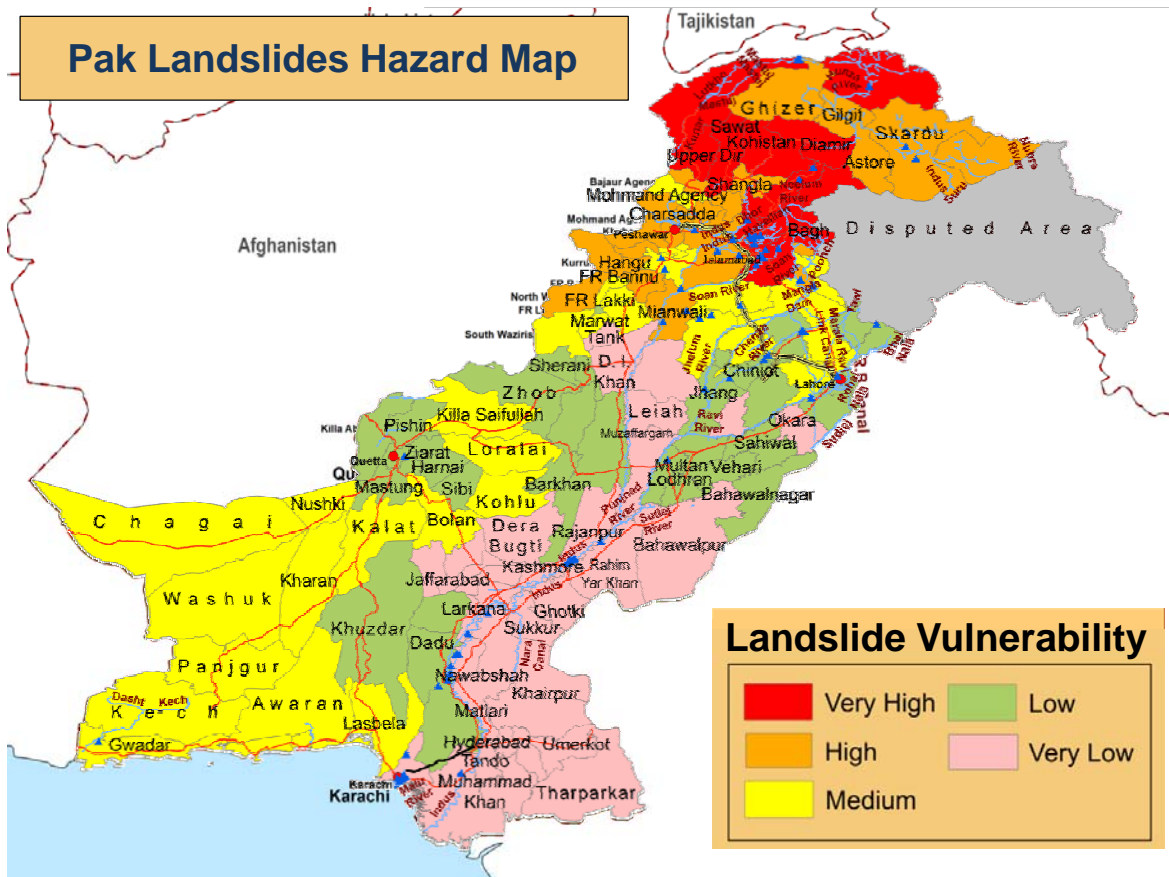


Avalanche Vulnerability

Very High	Low
High	Very Low
Medium	



Pak Landslides Hazard Map



Landslide Vulnerability

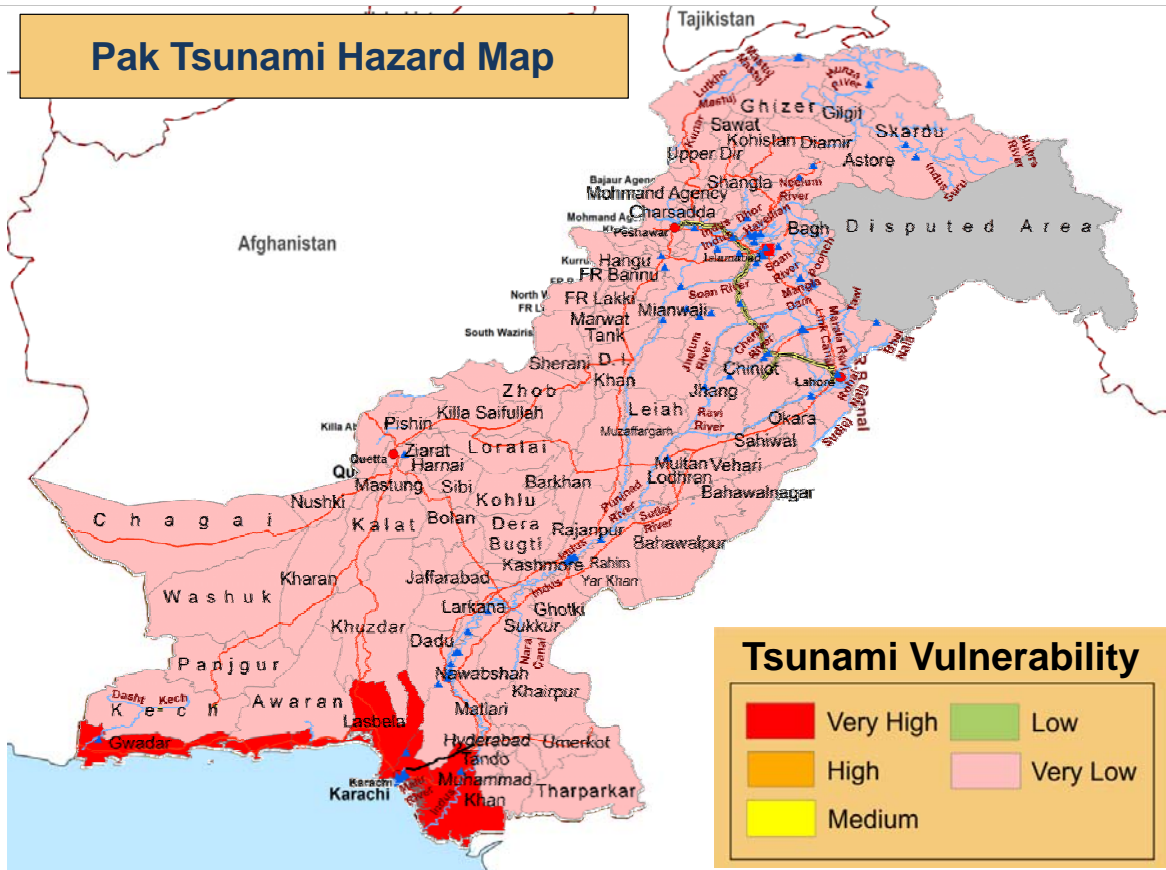
Very High	Low
High	Very Low
Medium	



Pak GLOF Hazard Map



Pak Tsunami Hazard Map





NDMA ACHIVEMENTS & CHALLENGES

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Polices



- National Disaster Management Act (**NDM Act**) Promulgated
- **National & Provincial Disaster Management Authorities** established including SDMA, GBDMA & FDMA. District Disaster Management Authorities notified
- National Disaster Management Fund (**NDMF**) established
- National Institute of Disaster Management (**NIDM**) functioning on adhoc basis
- Merger of Emergency Relief Cell (**ERC**) of Cabinet Division with NDMA
- **NDMP Implementation Steering Committee** formed
- Gender & Child Cell (**GCC**) – National & Provincial Level

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Polices



- National Disaster Risk Reduction (DRR) Policy, 2013
- National Disaster Risk Management Framework (2007-2012)
- National Gender & Child Cell Framework 2013
- National Policy Guidelines on Vulnerable Groups in Disasters 2014
- Draft of Pakistan School Safety Framework 2016
- Implementation Framework on the National Policy Guidelines 2016
- Guidelines on Minimum Ex Gratia Assistance to Persons Affected by Man-made and Natural Disasters 2016

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Guidelines / Frameworks



- Guidelines on Stocking, Maintenance & Supply of Relief and Rescue Items 2016
- Draft Multi-Sector Initial Rapid Assessment (MIRA) Guidelines 2016
- Draft Guidelines on Management of Dead in Disasters 2016
- Draft Guidelines on Minimum Standards of Relief in Camps 2016
- Multi Hazard Vulnerability and Risk Assessment (MHVRA) Policy Guidelines 2016

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Plans



- National Disaster Management Plan (**NDMP**), 2013-22
- National Disaster Response Plan (**NDRP**), 2010
- **Annual Monsoon Contingency Plans**, 2010-2016
- Draft National **Drought Mitigation and Response Plan**, 2015
- **Nuclear Emergency Management Plan**
- National Plan for **Industrial / Technical Disasters**
- **Cyclone Contingency Plan for Karachi** - 2008
- **National Maritime Disaster Contingency Plan**

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Disaster Management SOPs / Training Manuals



- SOPs on **Separated, Unaccompanied and Missing Children in Disasters**
- SOPs for **Emergencies (Urdu)**
- Training Manual on **Gender Mainstreaming in Disaster**, 2014
- Trainer Manual **Child Protection in Emergencies**

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Studies / Reports



- Study on The Impacts and Future Recommendations on **Heat Wave in Karachi, Sindh – 2015**
- Causes and Prevalence of **Early and Forced Marriages in Disasters, 2014**
- Report on **Gender, Climate Change & Disasters – 2014**
- **Disaggregated Data Atlas** based on Age, Gender & Disability – 25 Vulnerable Districts in Year 2016
- Mapping Study of **NGOs engaged in Gender related Works – 2016**

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Studies / Reports



- Qualitative study on the **Needs and Concerns of Vulnerable Groups** during disasters 2016
- **7 x Field Surveys by Geological Survey of Pakistan in seismically vulnerable areas of GB (Hunza, Harmosh, Ganchi) & KP (Chitral, Abbottabad) in 2015 / 16**

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Risk Assessment



- **Macro Level Risk Assessment** - Entire Country has been done
- **MHVRA at Micro Level** - Completed in 10 x districts (5each Sindh & Punjab)
- **Monitoring and Evaluation** - 2 x district MHVRA studies (with ADPC/UN-HABITAT)
- **Drought Assessment** - Completed in 14 x districts of Balochistan(with UNDP)

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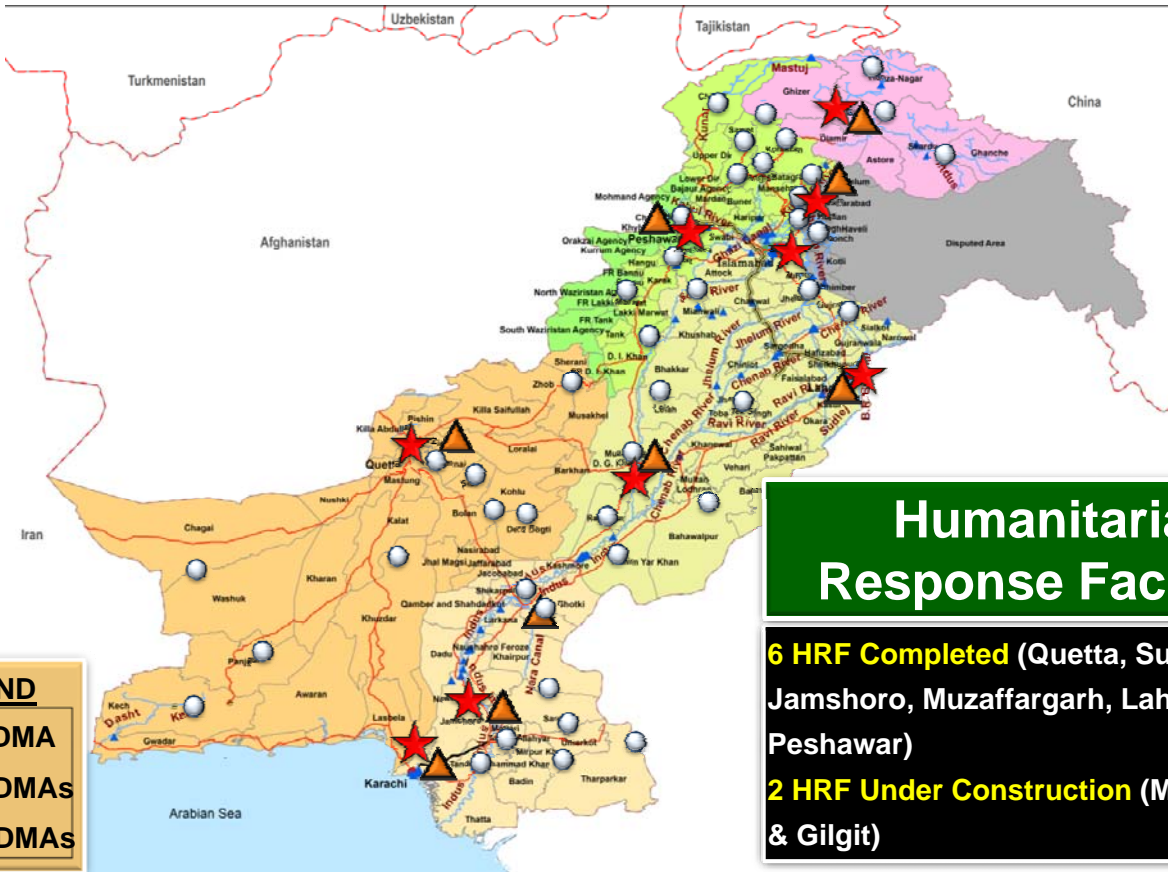


Strengthening Response Mechanism



- Capability developed to support over **0.5 Million people** across the Country
- Country wide elaborate **Warehouse Network** established 
- **Capacity building of about 7000 persons** through NIDM from 2010 to 2016
- **Capacity building of 371 x official through 270 x foreign courses in more than 35 x countries from 2009 to 2016**
- Conduct of **National Industrial Mock Exercise** with Engro Fertilizers in year 2010 & March 2016
- **National Disaster Management Simulation Exercises** conducted in year 2014 & 2015
- Conduct of training for **Core Group & Master Trainers as part of PSSF**

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Humanitarian Response Facilities

6 HRF Completed (Quetta, Sukkur, Jamshoro, Muzaffargarh, Lahore, Peshawar)

2 HRF Under Construction (Muzaffarabad & Gilgit)



Humanitarian Response Facilities (HRFs)





Strengthening Response Mechanism



- Government Official Emergency Response Exercise (**GOERE**) conducted all across the Country in 2016
- Six modern Urban Search & Rescue (**USAR**) Teams raised in Mardan, Islamabad, Rawalpindi, Lahore, Karachi and Gilgit
- Proactive **National backup** to all provinces and PDMAs at all times
- **Flood fighting response capability of Pak Army** enhanced through provision of flood relief rescue equipment to rescue 1,000 Persons at a time as a National backup
- Coordination mechanism strengthened with MoI to use its Aviation Assets in case of any disaster

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DRR Measures



- Legislation for **Enforcement of Building Codes**
- **National Fire and Life Safety Codes** – Just launched on 27 Feb 17
- **Modernization of Pak Met Department** is being pursued to significantly enhance the Early Warning capability

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DRR Mainstreaming



- Ministries tasked to develop Sectoral DRR Mainstreaming Strategies and establish **DRR Mainstreaming Cells**
- **DRR checklist** made integral part of all Public Sector Development Projects
- **DRR approach** integrated in Recovery and Reconstruction phases of disasters
- **Bachelor and Master level** program on DM approved & instituted by HEC

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Advocacy & Awareness



- 8th October notified as **National Disaster Awareness Day** since year 2015
- **Active Social Media** presence established across multiple platforms
- **Dynamic website** with Global viewership
- **14 x Public Service Messages (PSMs)** developed
- **2 x Documentaries** on “Disaster Resilient Pakistan” & “Vulnerable Groups” developed
- **Special Supplement on Disaster Awareness Day 2015 & 16**
- Supplement on **NDMA Achievements** on **11 July 2016**
- Regular awareness advertisement as part of pre, during and post disaster **Media Campaigns**

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Advocacy & Awareness



- **6 x TV & Radio Programmes** aired during Monsoon Season 2016
- **205 x Press Releases** published in 1880 Newspapers
- Conduct of one National level Media Round Table & **3 x Media Training Workshops at Islamabad, Karachi & Lahore** for media reporters
- **Child Centered & Gender Sensitive IEC** material designed for all potential hazards, emergencies and disasters.
- Brochures / Calendar/ media visit / Stall at WHS/ Conferences etc.

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Community Early Warning



- **Effective SMS based Early Warning System** in place with the assistance of PTA since 2014
- Over **58 million SMS Alerts** disseminated to public for **Flood warning** and **Public Service Messages for Earthquake in 2014 and 2015**
- Over **300,000 persons evacuated** through early warnings
- Consolidation of mechanism is being pursued for inclusion in **PTA Regulations**

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International Endeavors -MoUs



- Republic of Korea-2012.
- Republic of Turkey-2013.
- Republic of Sri Lanka-2015.
- Republic of Kyrgyz -2015
- Republic of Cuba-2016
- Republic of Afghanistan-In Pipeline.
- Republic of Kazakhstan-In pipeline.
- Republic of Azerbaijan-In pipeline.
- People's Republic of China-In pipeline.

Note - Areas like DM Technologies, MHEWS,, DRM,Flood Mgt, Post DR,Foreign Assistance,Fire fighting ,Risk mapping, capacity building ,Simulation exercise, Joint training, Research, knowledge sharing and co-

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International Endeavors -Relief Assistance Provided



Sr	Year	Name of Country	No Sorties/ Cargo Flights	Natre of Items
1	May-16	Sri Lana-Flood	3 x C-130	Relief Items
2	Feb-16	Tajikistan-EQ	35 xTrucks	Relief Items
3	Oct-15	Afghanistan-EQ	1 x C-130	Relief Items
4	Apr-15	Nepal- EQ	20 x C-130	Relief Items
5	Feb-15	Afghanistan	2 x C-130	Relief Items
6	May-14	Bosnia & Herzegovina-Flood	1 x C-130	Relief Items
7	May-14	Afghanistan-Landslides	3 x C-130	Relief Items
8	Nov-11	Turkey-Earthquake	2 x C-130	Relief Items
9	Mar-11	Japan- Earthquake	2 x C-130	Relief Items
10	Jan-11	Sri Lanka-Flood	1 x C-130	Relief Items

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International Endeavors - Regional Linkages



- **Regional Consultative Committee on Disaster Management (RCC) - Pakistan** hosted the 13th RCC meeting in collaboration with MoFA and ADPC.
- **Heart of Asia Istanbul Process (HOA, DM-CBM - 3rd / 4th Meeting of RTG** was held on 14th May, 2014 AND 8th September, 2015 in Islamabad.
- **SAARC Disaster Management Center (SDMC) - Pakistan** has offered to host SAARC Environment & Disaster Management Center (SEDMC)
- **Organization of Islamic Countries (OIC) - Supporting OIC in Disaster Management.**
- **Asian Disaster Reduction Center (ADRC) - NDMA, being counterpart organization,** enjoys a very close working relations with ADRC.
- **Asian Disaster Preparedness Center (ADPC)-Close relationship**

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Challenges for the DM System



- **Limited Capability** – Meteorological Early Warning System
- **Weak Trans Border Rain and Flood Inflow Mechanism**
- Huge quantum of **Flood Protection Measures required**
- **Relief Centric Approach** instead of DRR Approach
- **Building Codes** exist but no legislation for enforcement
- **National Fire Safety Codes** do not exist
- **Duplication of Responsibilities amongst organizations**
- **Capacity Issues** of NDMA, PDMAs and DDMA's
- **Ageing of Army's Flood Rescue Equipment**
- **Unregulated Interventions** of Development Partners

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About my Research Topic - ADRC VR Program



- **Education and Awareness as a Tool for DRR- Comparative study of Japan and Pakistan**
- **WHY.....?**
 - **International Obligation - GFDRR / SFDRR**(Priority-1.*promote national strategies to strengthen public education and awareness in disaster risk reduction..*)
 - **National Commitment - As per NDM Act 2010.... Mandated to promote *general education and awareness in relation to disaster management.***
 - **National Commitment - As per NDMP...** Policy Intervention No. 3.2.4“Promoting risk awareness and knowledge through DRR education ...
 - **Japan Experience** - One of the most disaster-prone country in the world - developed and adopted well-articulated system for DM/ achieved vast experience and having lead role in DRR both at national & int,l level endeavor...

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NDMA Documentary





THANK YOU

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1. The Global Platform for Disaster Risk Reduction during its fourth Session-Invest today for safer tomorrow, held in Geneva, Switzerland 19-23 May 2013, stipulated vide “The **Role of Public Awareness and Education in building community resilience**”
2. SFDRR Priority-1 .
 - A. understanding disaster risk to build the knowledge of government officials at all levels, civil society, communities and volunteers, as well as the private sector, through sharing experiences, lessons learned, good practices and training and education on disaster risk reduction, including the use of existing training and education mechanisms and peer learning
 - .B. “promote national strategies to strengthen public education and awareness in disaster risk reduction, including disaster risk information and knowledge, through campaigns, social media and community mobilization, taking into account specific audiences and their needs”.

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