



Presented by;
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ADRC,NDMA, Pakistan

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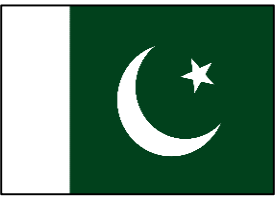
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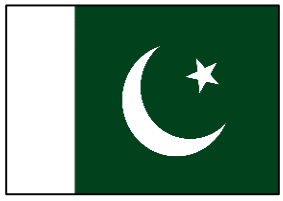
عجلها



Sequence

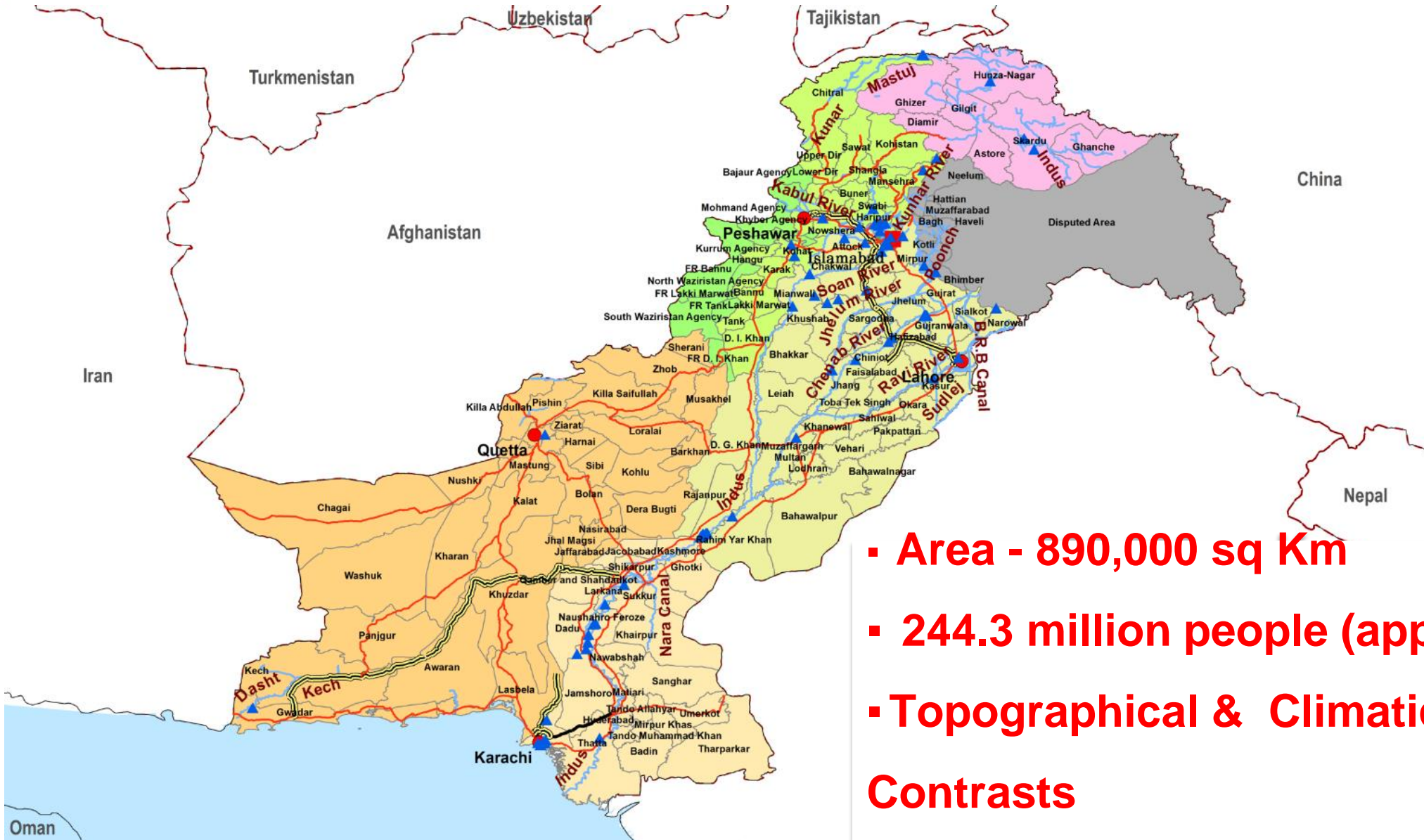


- Introduction/ Background
- National Disaster Management System
- Pakistan's in the Context of Earthquake/Tsunami
- Earthquake / Tsunami of 1945
- DRR activity against Earthquake and Tsunami in Japan
- DRR Challenges
- Way Forward



Introduction

Background



- Area - 890,000 sq Km
- 244.3 million people (approx.)
- Topographical & Climatic Contrasts
- Variety of hazards

Hydro-Meteorological Hazards



**Flash
Floods**



**Urban
Floods**



**Riverine
Floods**



GLOF



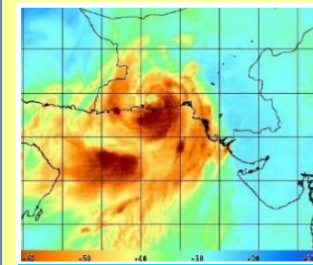
Avalanches



Land slides



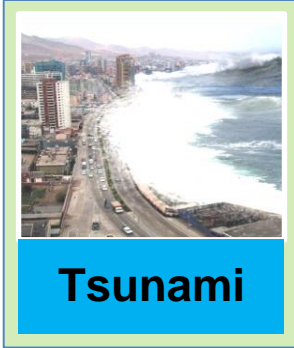
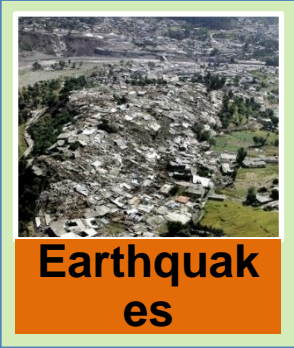
Drought



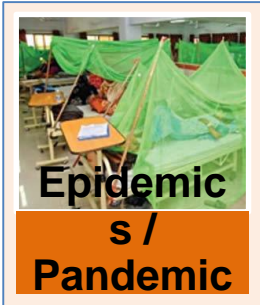
Cyclones

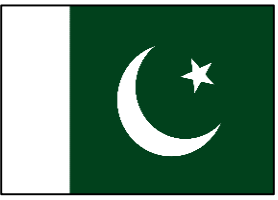
Hazards in Pakistan

Geological Hazards

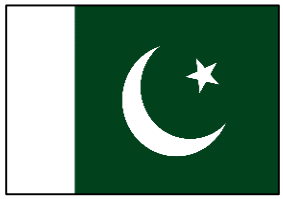


Manmade Hazards

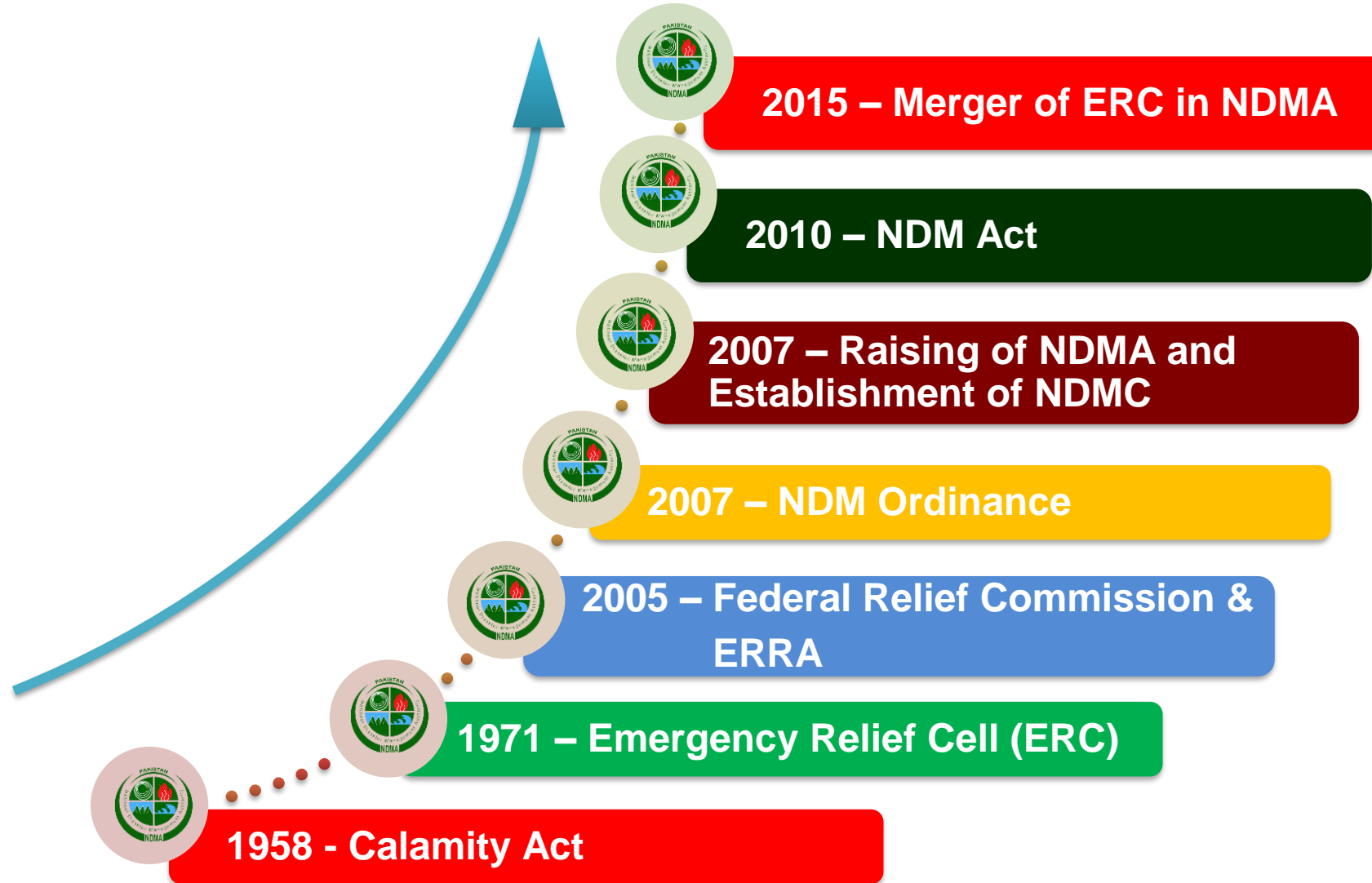


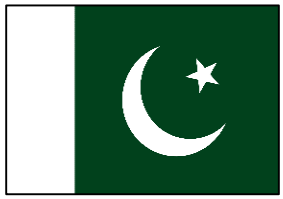


National Disaster Management System



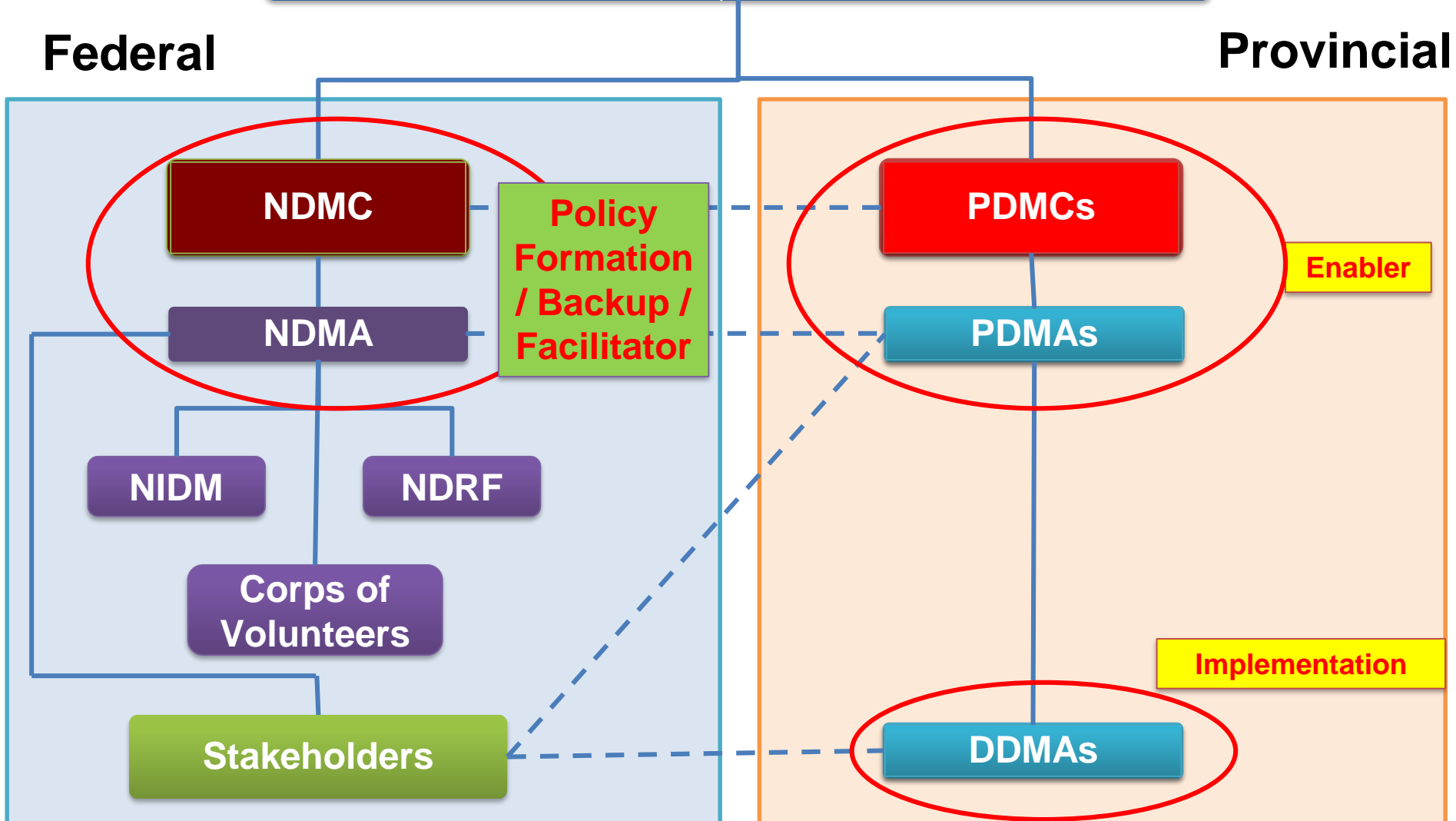
Evolution of Disaster Management System





Disaster Management System

National Disaster Management Act, 2010



- **Prime Minister - Chair**
- **Leaders of Opposition
(Senate & NA)**
- **Federal Ministers
(Related Ministries)**
- **All Chief Ministers including
Chief Minister GB**
- **Governor KP (For FATA)**

- **Prime Minister AJ&K**
- **Chairman JCSC**
- **Civil Society Members**
- **Co-opted Members**
- **Chairman NDMA- Secretary**

NDMC FUNCTION

- Lay down **Policies on Disaster Management**
- Approval of **National Plan**
- Approve plans prepared by **Ministries / Divisions of Federal Government** in accordance with the National Plan
- Lay down **Guidelines for Federal / Provincial Governments**
- Arrange and oversee **Provision of Funds for DRR, Mitigation, Preparedness & Response**
- Provide support to **other Countries** affected by major disasters
- Take measures for **Prevention of Disaster, Mitigation, Preparedness and Capacity Building**

NDMA ROLE & RESPONSIBILITIES

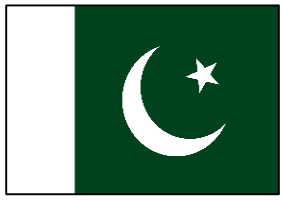
- **Implementing, coordinating and monitoring Body** for Disaster Management and National Policies
- Preparation of **National Plans** on Disaster Management
- **Lay down guidelines** for preparing Disaster Management plans by different Ministries / Departments and Provincial Authorities
- Provide necessary **technical assistance** to Provincial Governments / Provincial Authorities for preparing plans

Entire Spectrum of Disaster Management



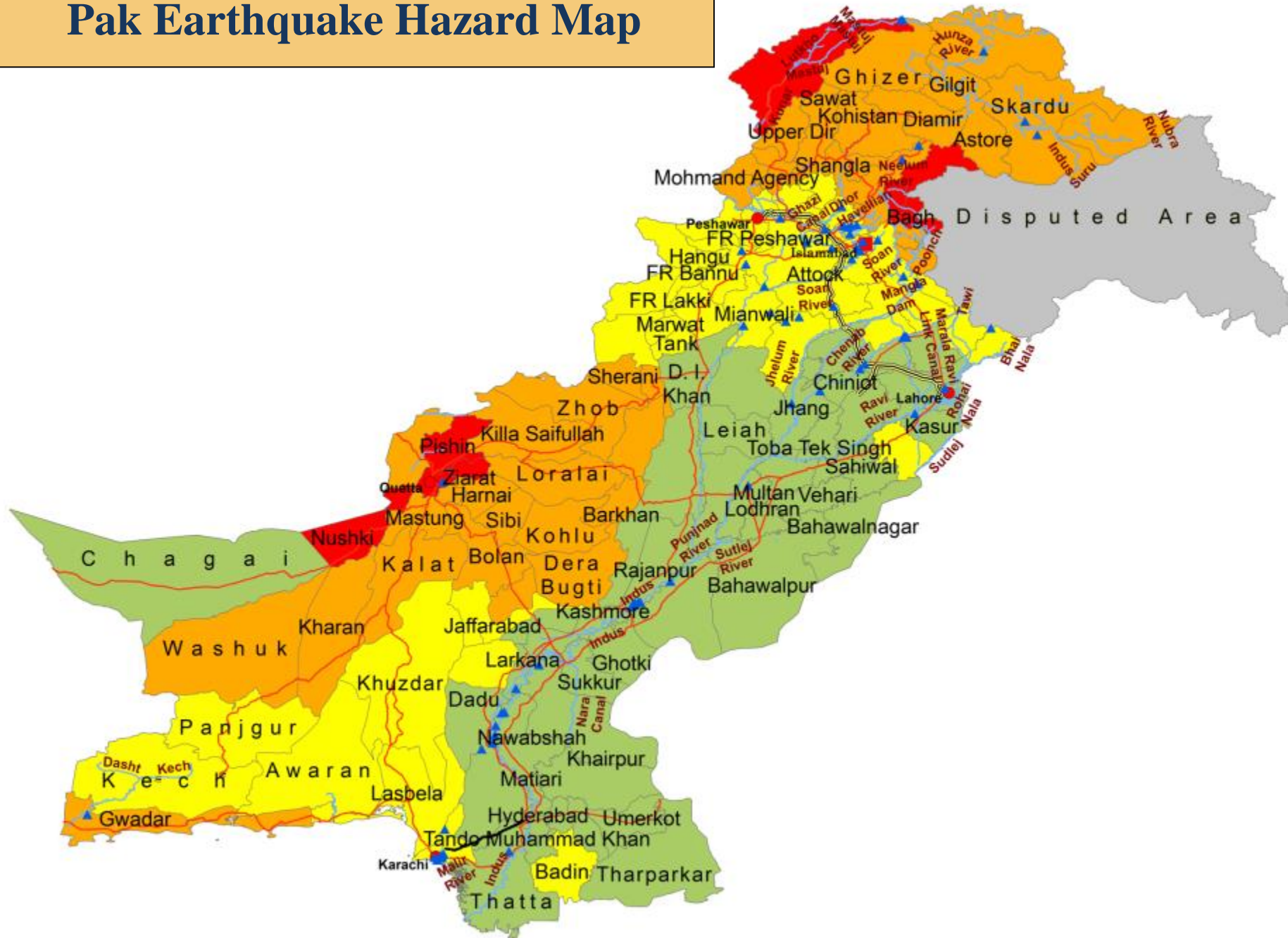
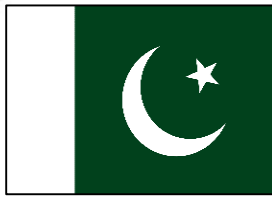
NDMA'S ROLE – IN BRIEF



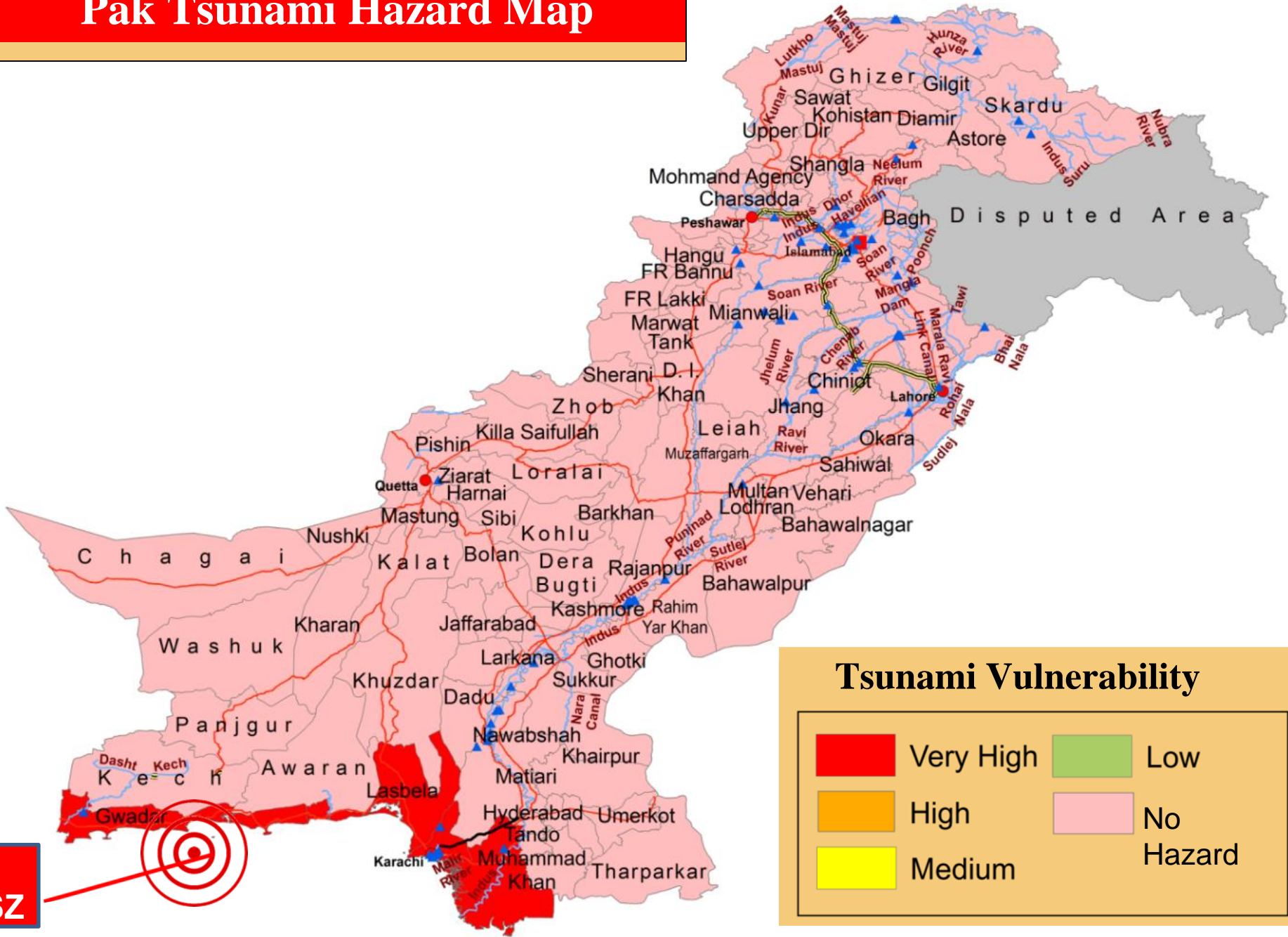
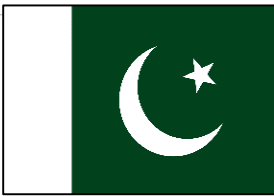


Pakistan in the Context of Earthquake & Tsunami

Pak Earthquake Hazard Map



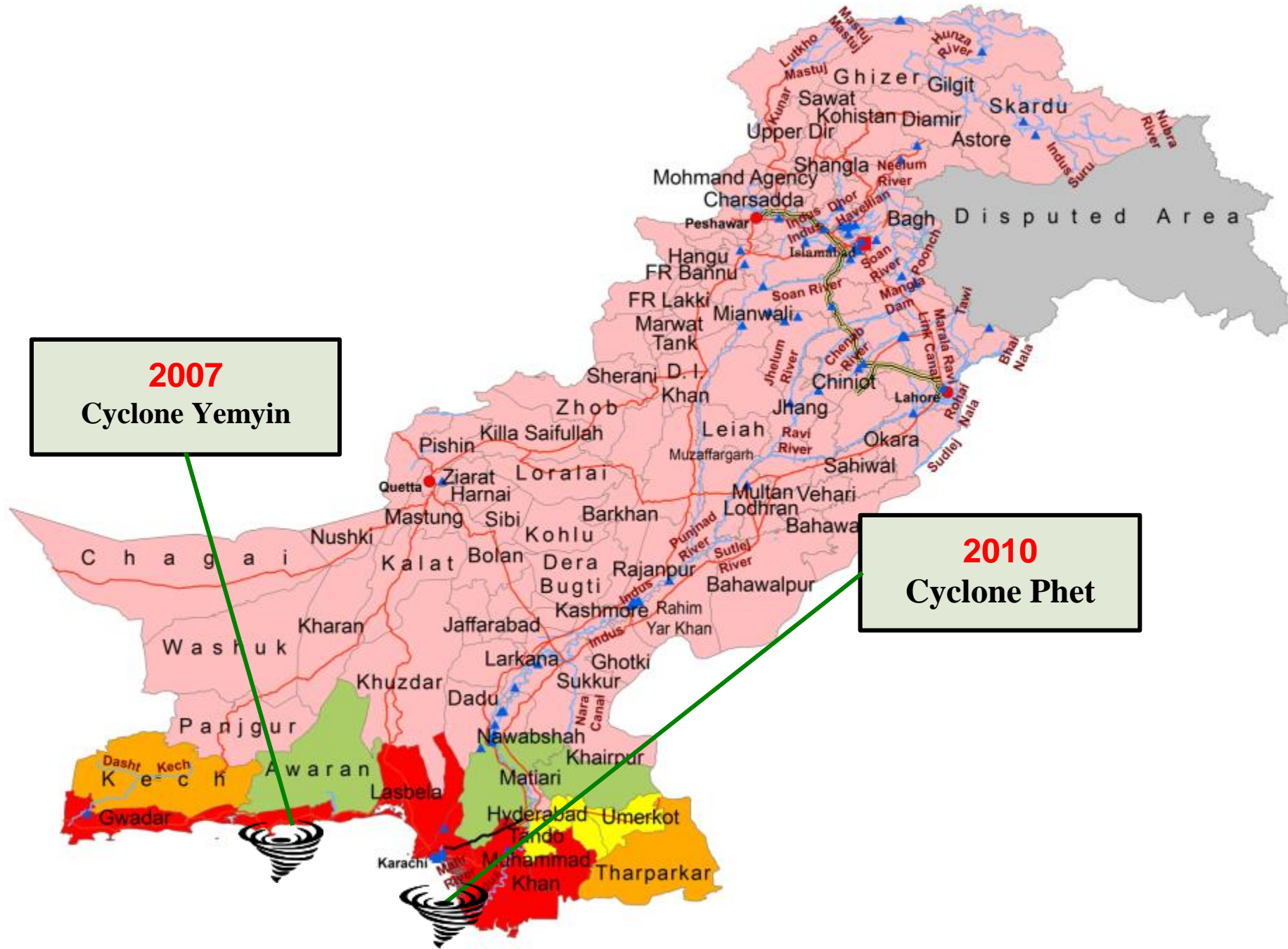
Pak Tsunami Hazard Map



**1945
Tsunami, MSZ**

Tsunami Vulnerability

 Very High	 Low
 High	 No Hazard
 Medium	





1945 Tsunami at Makran Subduction Zone

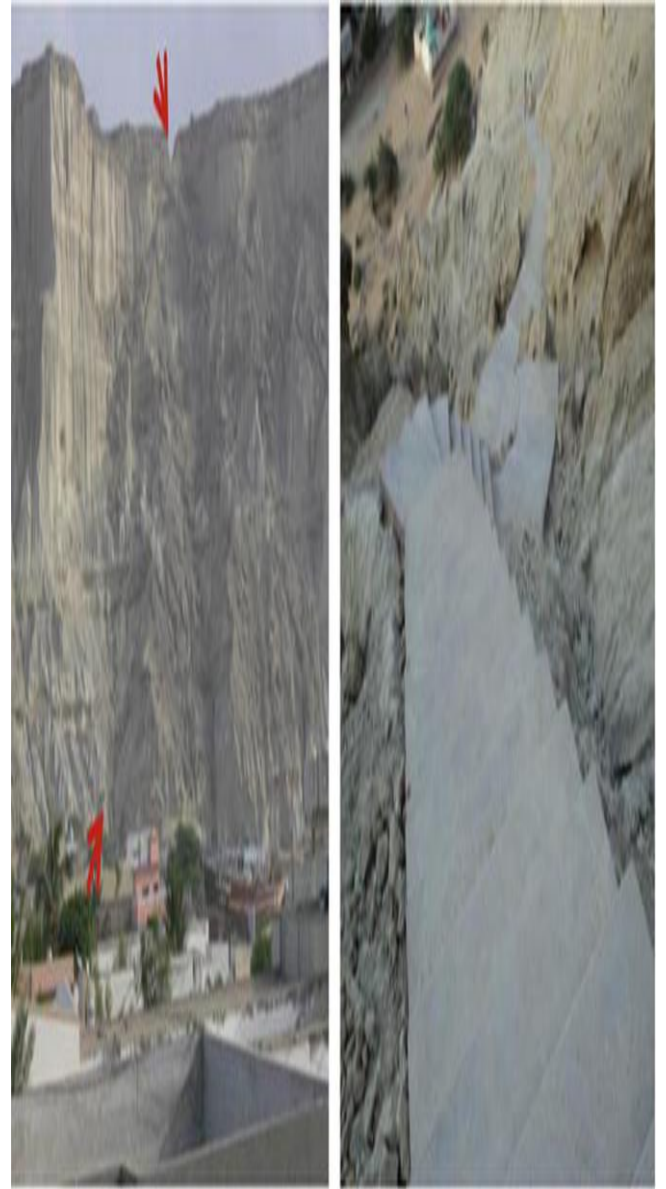


On November 28th, 1945, an earthquake with the magnitude of 8+ and 13-meter-high waves hit the coast of Makran followed by a devastating tsunami which resulted in more than 4000 casualties and number of damages near to the coast of Gwader Balochistan. Pakistan has different initiatives to counter the earthquake and Tsunami in the coastal areas such;

- **District Disaster Risk Management Plan Gwader 2008, 202-2025**
- Dissemination of District Disaster Risk Management Plan to all Government agencies, village leadership, Public representatives, Mass media, etc.
- The CBOs/NGOs will conduct annual exercise/ drill on district/ Tehsil/UC levels to provide basic knowledge to the community to understand the risk and preparatory measures in case of urgency/ emergency.
- **Pakistan Metrological Department;**
- Twelve broadband and 120 stations have been installed at Gwader, Hub, Lasbela Karachi, Malir, coastal areas and in the premises and control of PMD
- Two Broadband Stations in the Province of Balochistan coastal belt at Gwadar & Hub, Lasbela District
- Two Broadband Stations in the Province of Sindh coastal belt at Gwadar and Karachi
- Ten Automatic Tsunami Sirens have been installed Gwadar, Pasni, south west of Karachi, Malir and one Sirens at Karachi west.
- Twice a mock drills is conducted at coastal areas for community awareness.

Earthquake/Tsunami 1945 MSZ

Human Losses	-	4,000
Date /Time	-	28th Nov,1945 at 3;30 Am
Magnitude	-	7.8/ 8.1
Height of waves	-	10-13 meter
House Damaged	-	Almost 70%
Economic Loss	-	Approx.- 10 Millions USD
Roads	- All communication System got damaged	

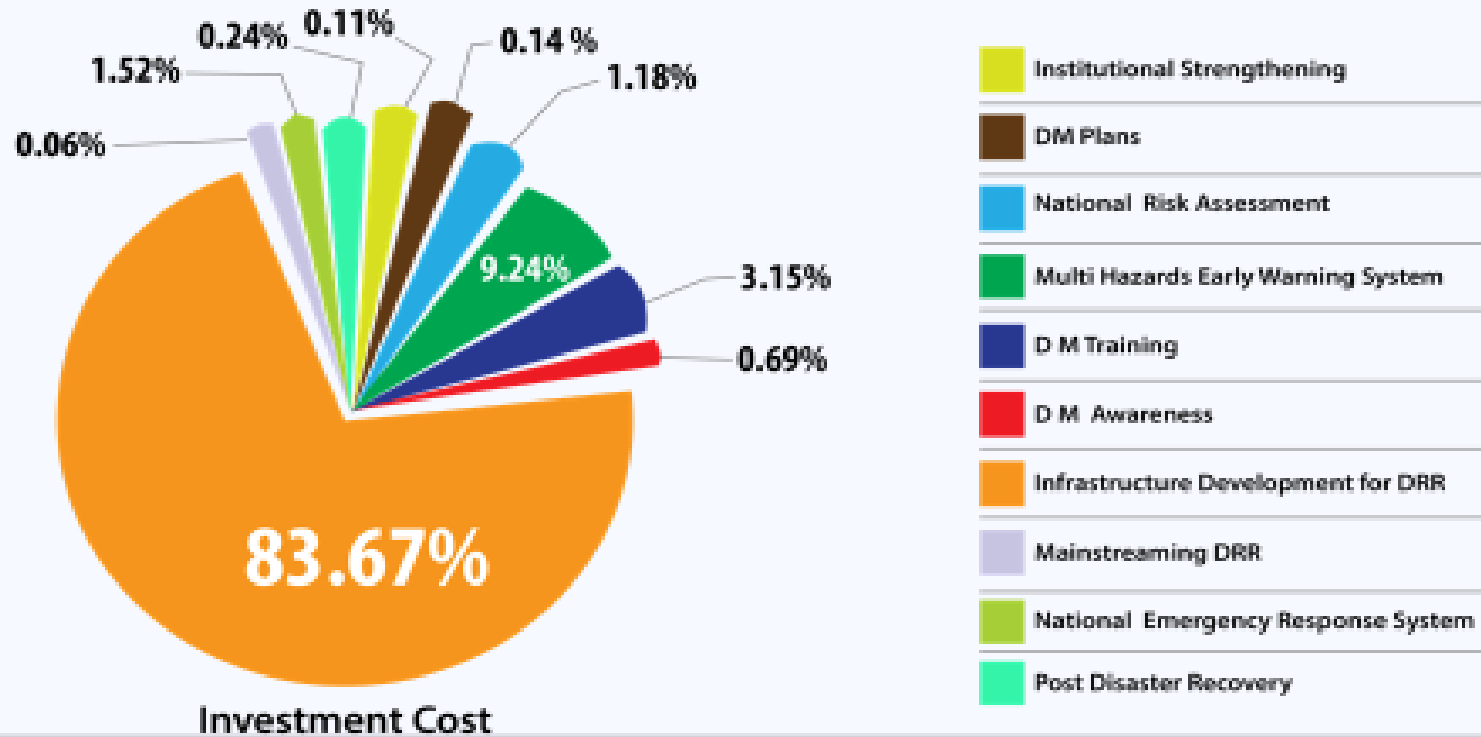


REVISED COST AFTER INCLUSION OF NATIONAL FLOOD PROTECTION PLAN –IV (NFPP-IV)



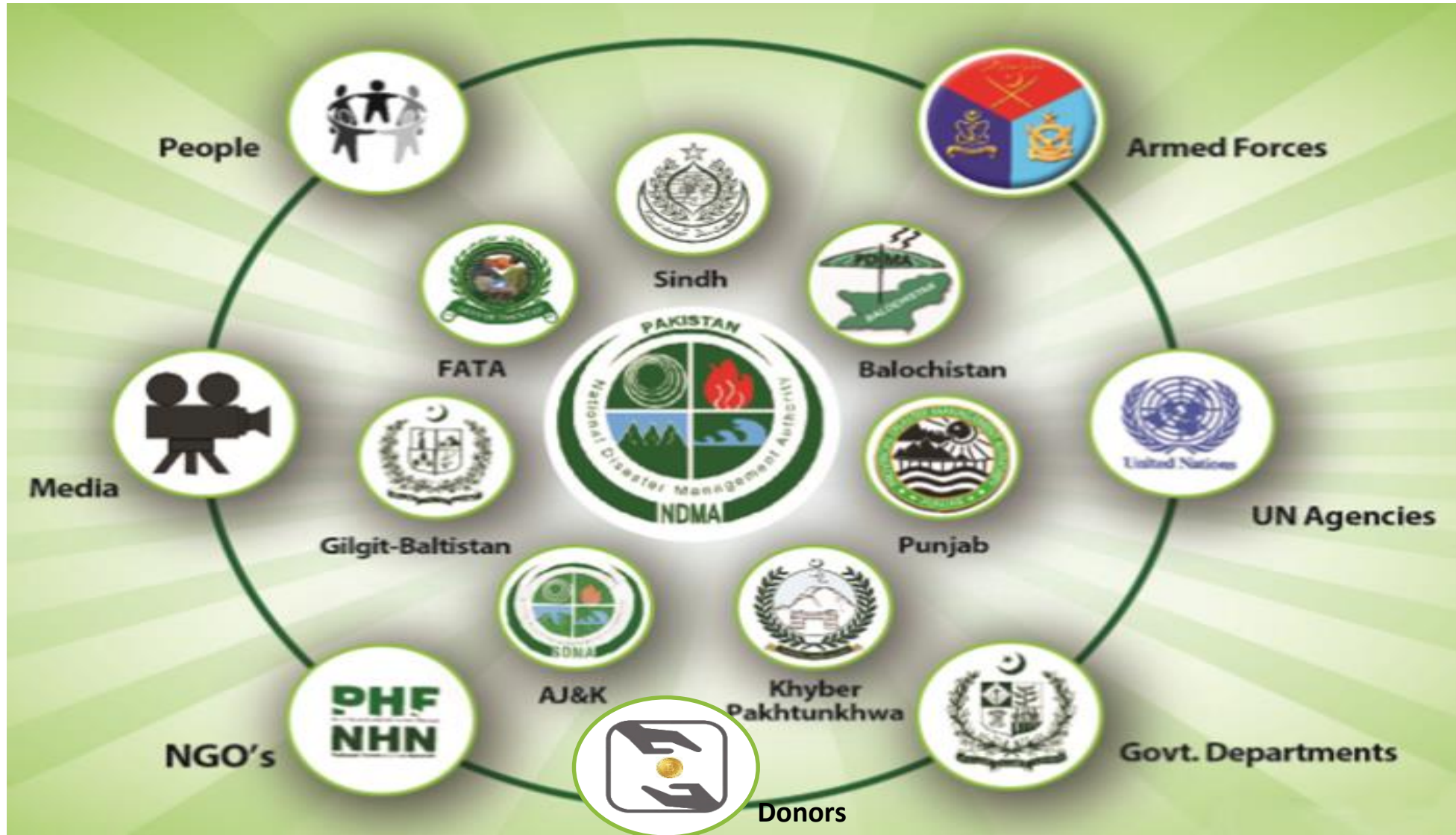
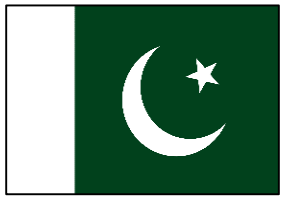
NDMP - FINANCIAL OUTLAY

Overall Cost 2040.9 USD (Million)



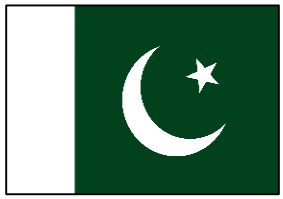


Disaster Management Stakeholders





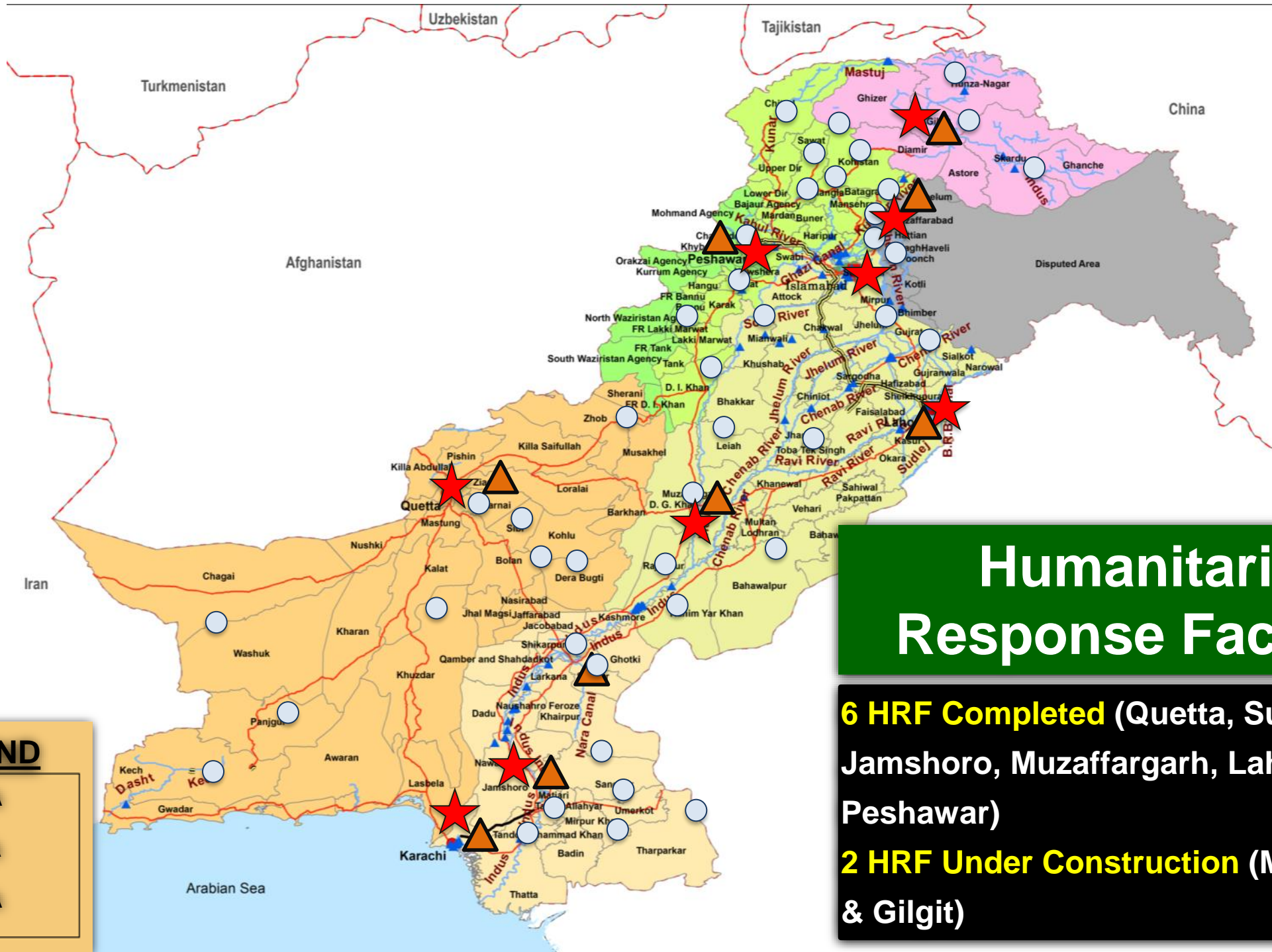
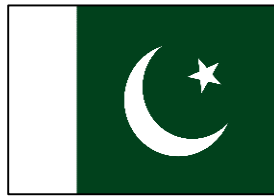
NDMA Relief Stocks



Items	Isb	Punjab	KP	Sindh	Bln	AJK	GB	Total
Tents	25,147	14,058	4,873	25,008	6,000	3,000	3,000	76,937
Shelter Tents	1,806	-	-	-	-	-	-	3,806
Tarpaulins	29,755	4,000	6,000	5,000	2,000	3,000	3,000	55,493
Blankets	25,796	11,000	15,800	12,896	4,000	6,000	6,000	83,912
Plastic Mats	62,000	10,005	5,000	15,055	2,000	3,000	3,000	103,919
Mosquito Nets	-	6,998	-	6,998	5,998	-	-	46,104
1 st Aid Kits	10,000	-	-	5,000	-	-	-	10,000
Boats / OBMs	06	-	-	-	-	-	-	06
D/W Pumps	-	-	-	-	-	-	-	90
Generators	647	-	-	270	-	-	-	926

NDMA can support 0.3 Million population at onset of any disaster

Net worth of stocks approx 1.5 Billion PKR

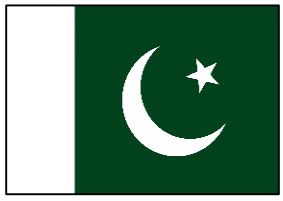


Humanitarian Response Facilities

6 HRF Completed (Quetta, Sukkur, Jamshoro, Muzaffargarh, Lahore, Peshawar)
2 HRF Under Construction (Muzaffarabad & Gilgit)

LEGEND

- ★ NDMA
- ▲ PDMA
- DDMA



DRR Activity Against Earthquake and Tsunami in Japan



DRR Activities in Japan



The disaster management system came into force after 1959s typhoons in the shape of Basic Act on Disaster Management 1961, a well comprehend plan with dedication of specific role and responsibilities for combating the systematic disaster management in the country. The Disaster Management Structure in Japan has a bottom to top approach and has perpendicular partitions well as the strong bounding among local to municipal Government influences. The Government system in japan has three vertical stages and a 4th layers;

Central Disaster Management Council;

- Development and effective coordination in terms of Basic Disaster Management Plans
- Promulgation of disaster management basic policies, contingency planning etc.
- Briefing and advice to Prime Minister and Minister of state for disaster Risk reduction and disaster Risk Management

Prefecture Disaster Management Council;

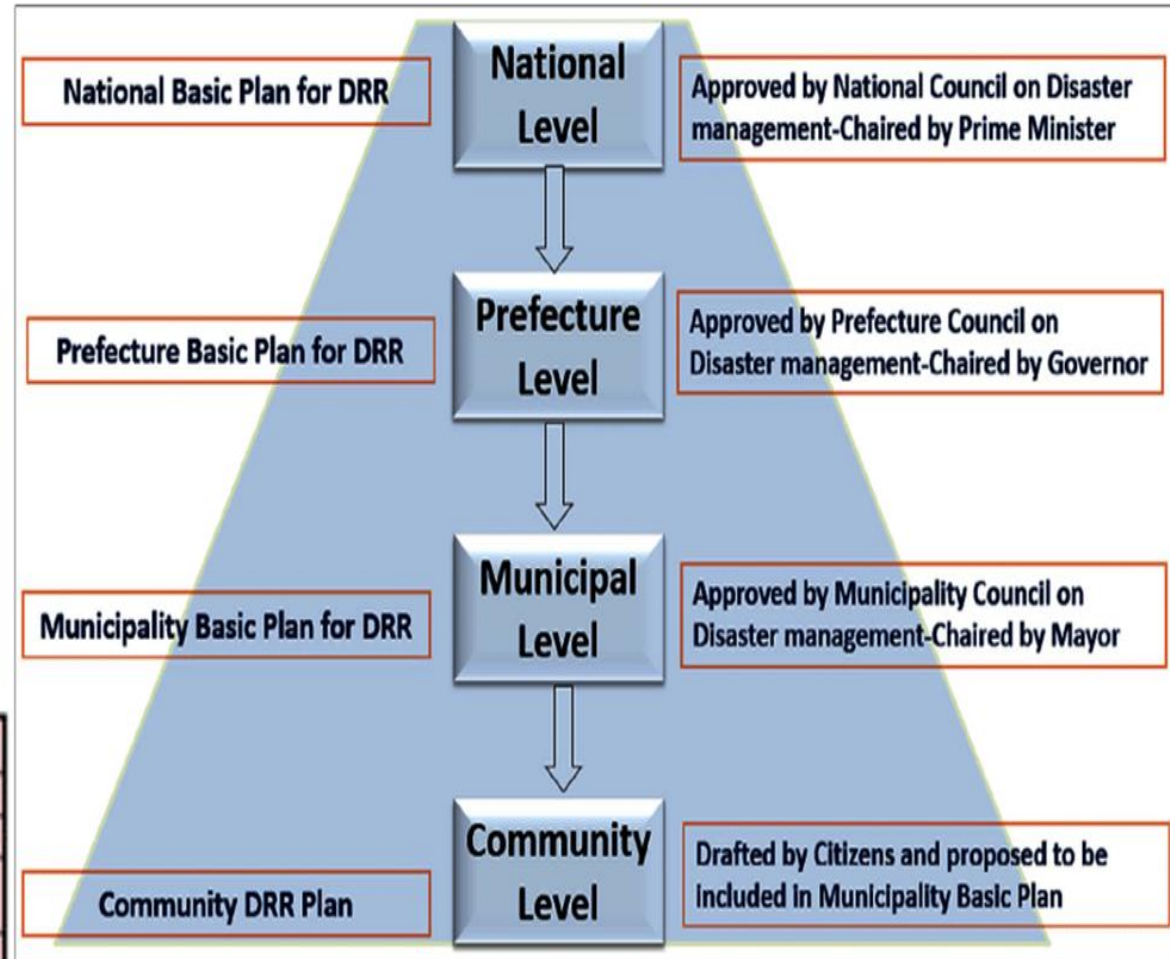
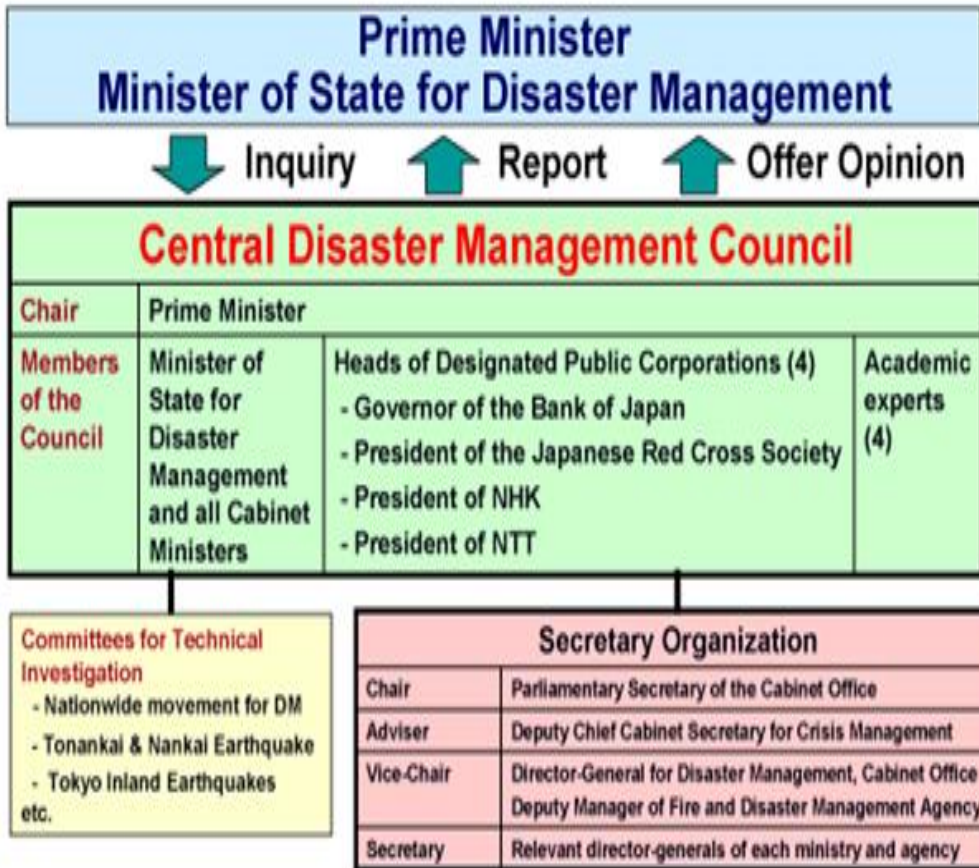
- Each prefecture has a different chief for leading the emergency /disaster management system likewise, Governor, Deputy Governor, minister of State, etc.
- Main role is to formulate and implement the local disaster management Plan with close coordination of Municipal govt.

Municipal Disaster Management Council;

- City Mayor is the head of Municipal Disaster Management Council in Japan
- To formulate, promote and ensure implementation of Local Disaster Management Plans

Organogram for CDMC & Structure for Basic Disaster Management Plan

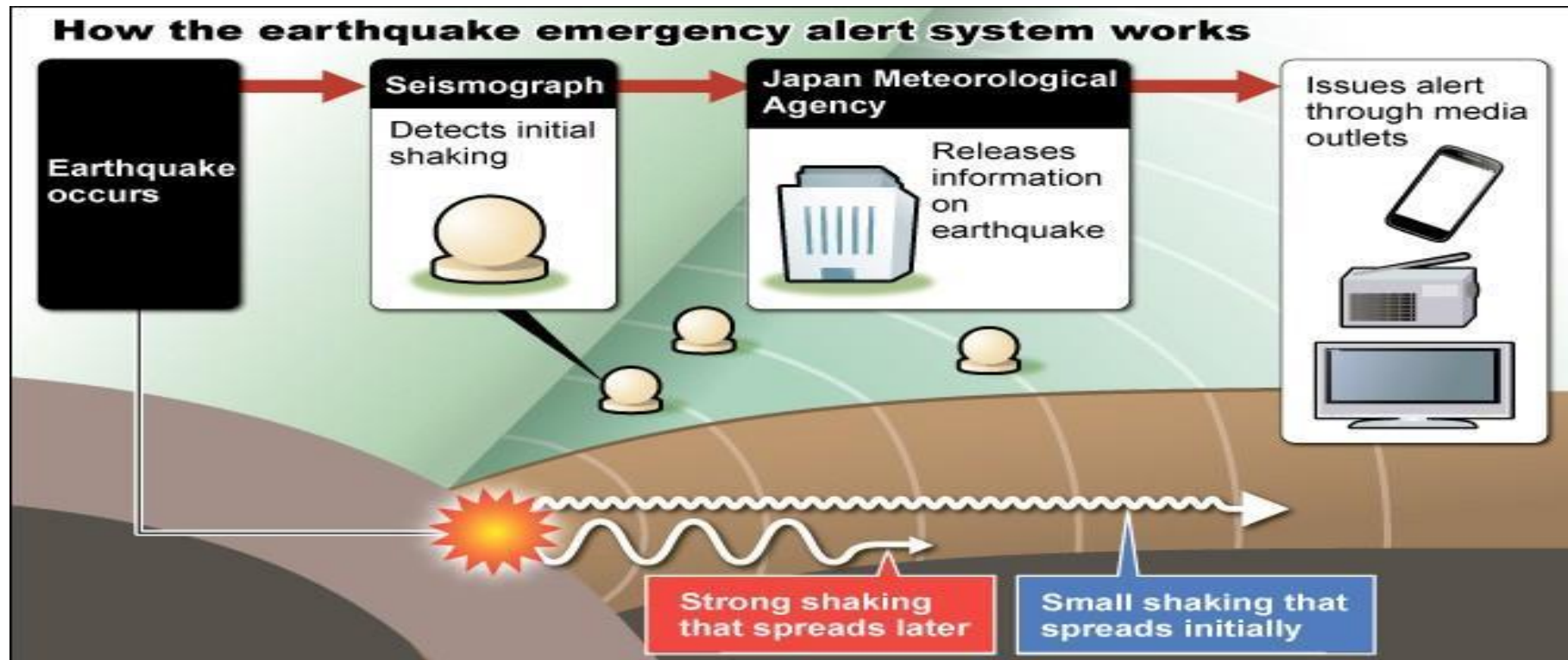
Organization of Central Disaster Management Council



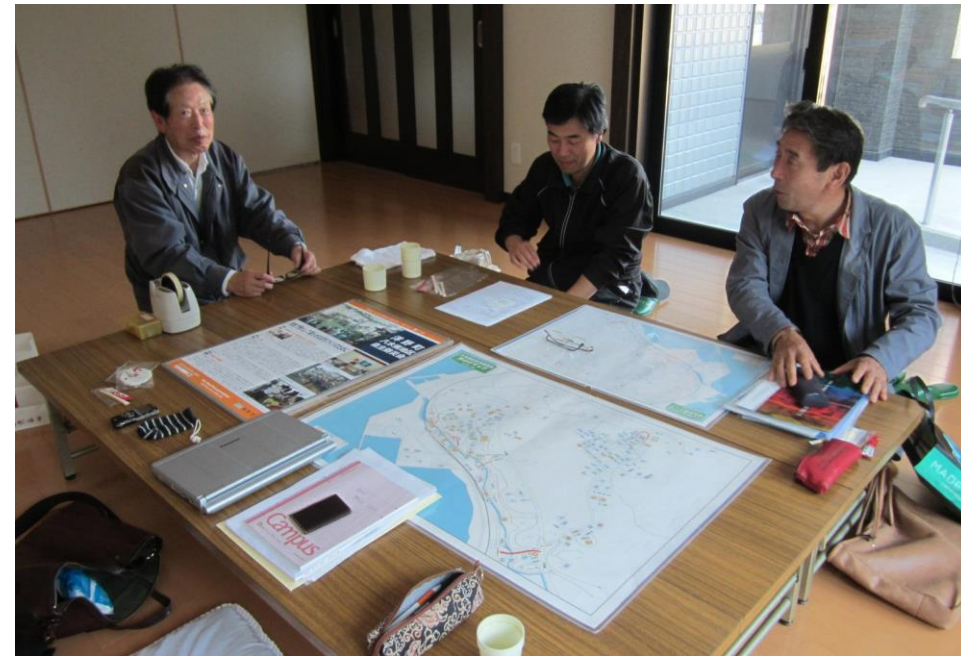
Early Warning System in Japan



Japan Metrological Agency has installed more than 1700 seismometers across the country and almost every 60 km, which provide intensity of earthquake information to approximately 3900 local stations. Further, this seismometer frequently notices the shaking of earth through online data sources. However, JMA has also installed 4332 seismic intensity meters in every municipality for measuring the ground motion.



CBDRM is an active approach and the community is always supported by the Government to adopt the latest techniques for reducing the impacts of disasters. After 2011, tsunami the Hirono town-Iwate town was badly affected and the community of Hirono Town-Iwate prefecture established its local CBDRM committee consist on local residents, which regularly conduct the DRR session and mock drills. The local community of Hirono town-iwate prefecture has developed risk hazards map, evacuation site and small warehouse to provide food/shelter in times of emergent situations.





DRR Challenges in Pakistan



Key Challenges



- Climate change – not business as usual
- Increased frequency & intensity of Earthquake/Tsunami
- Need further study on Earthquake/Tsunami and its impacts
- Existing capacities & resource availability
- Forecasting capabilities
- Further improvement of Early warning systems in terms of Tsunami
- Transfer/sharing of Risk knowledge



WAY FORWARD



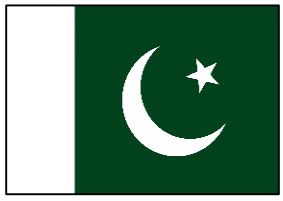
- Legal reforms – institutional integration
- Strong coordination mechanism – revision NEOC
- Risk knowledge – strengthened NIDM
- Strengthened Early Warning Systems
- Risk-sensitive development – building codes, spatial land-use planning
- Enhanced response capacity – National Disaster Response Force
- Risk financing mechanisms



WAY FORWARD



- Remodeling of NDMA including reorganization of its existing structure, enhanced human resource position with presence at provincial level.
- Up-gradation and expansion of well-equipped Search and Rescue Teams to respond Earthquake/Tsunami
- Stock taking and positioning across coastal areas of the country.
- To strengthening of National Institute of Disaster Management (NIDM) to act as a hub in disaster management system in Pakistan. It will take a lead in creation of knowledge by collaborating with educational institutions/Universities at national level for the purpose of research and equivalent institutions in the region/internationally for training & knowledge/experience sharing.
- National Emergency Operation Center (NEOC) being hub of multi-hazard especially Tsunami data base:
 - To be manned by all relevant stakeholders including federal government/United Nations Organizations/INGOs/NGOs/Think tank (NDM).
 - Use of technology/software(s) for modelling and projections for Earthquake/Tsunami at NEOC.
 - Generation and effective communication of Early Warnings to the concerned at provincial and district level³³



THANK YOU