



International Workshop On Climate Change, Environmental Degradation and Migration

Connecting Emergency Preparedness and Response With Sustainable Development Through Reinforced Operational Capacities

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(Geneva, Switzerland, March 29, 2011)



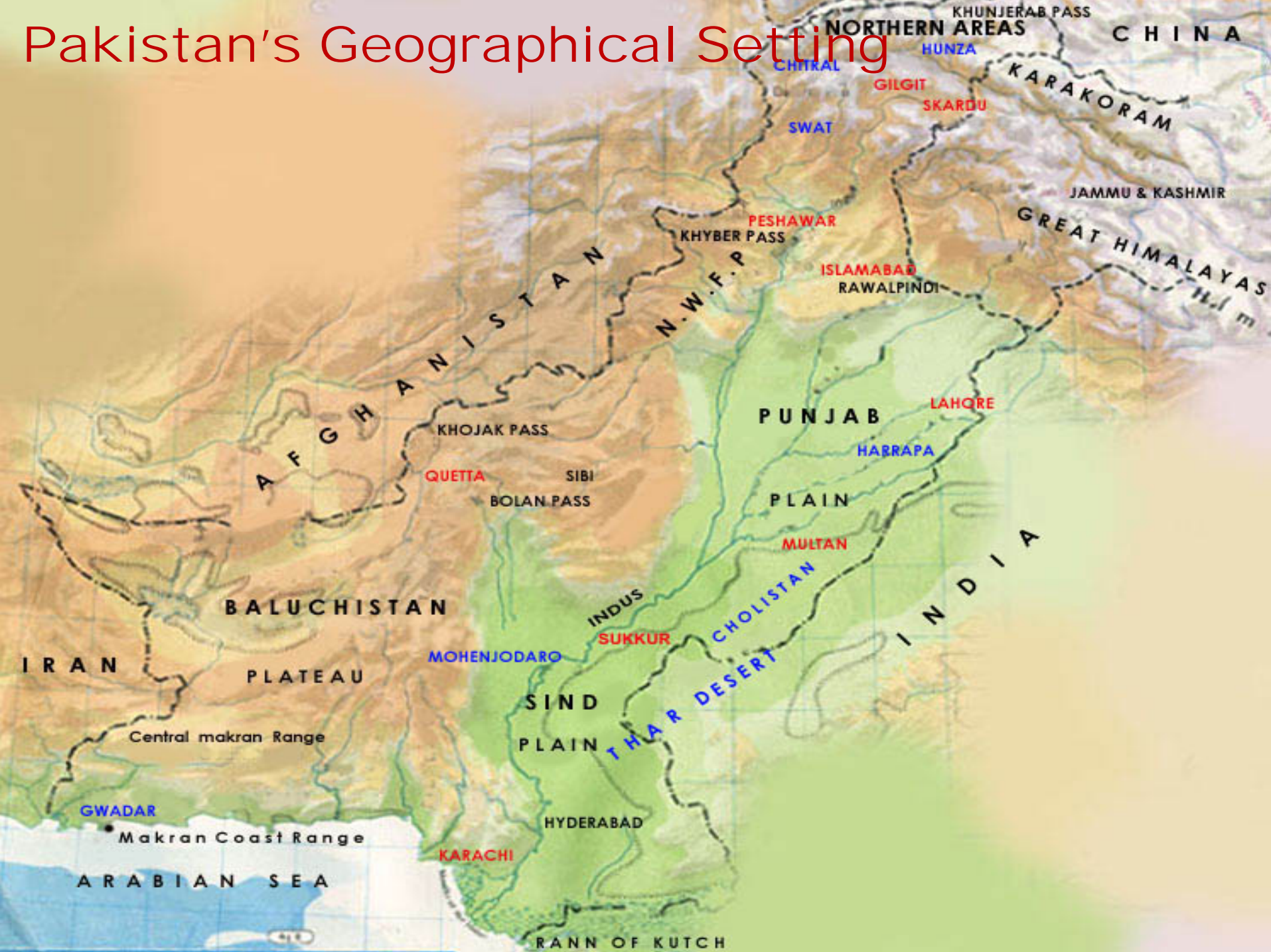


Sequence

- National Disaster Management System in Pakistan
- 2010 flood - Response
- Future Sustainability



Pakistan's Geographical Setting



POTENTIAL HAZARDS PROFILE - PAKISTAN

Geography

Common to All:
Floods, Flash floods,
Droughts, EQs, Fire accidents,
Health epidemics, Transport
accidents, industrial accidents

Glaciated Areas &
Mountainous Region:
Characterized by Flash floods,
Avalanches, glaciated blockades/GLOFs,
EQs, jungle fire and Land / mud slides.

Plains of Punjab & Sindh:
The disasters include River
floods, flash floods, hill torrential rains,
EQs and droughts in southern Punjab and
Sindh

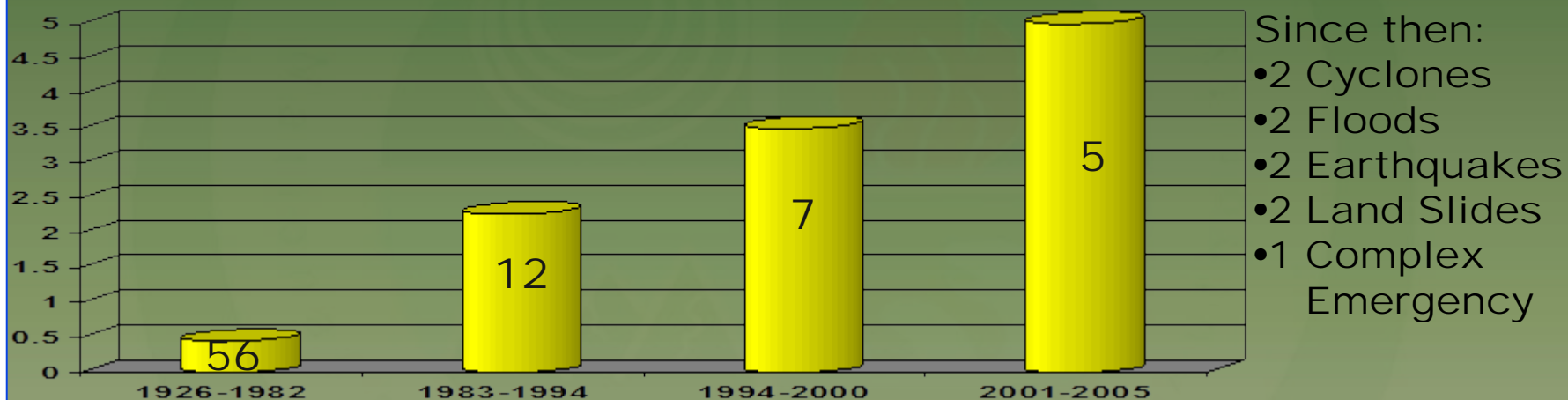
Coastal Belts. Coastal belt regions of
Balochistan & Sindh are hit by Cyclones
and Tsunamis besides flash floods

0 370 km



Historical Perspective

- Pakistan a disaster prone country - compounded by frequency and nature of disasters



- Erosion of Economic Growth and Social Capital
- Unsustainable Development - Pakistan a developing country with emphasis on infrastructure development
- Difficult to achieve Poverty Reduction Goals





Some Major Findings of IPCC Fourth Assessment Report (AR4), 2007

- 0.6 °C increase in average global temperature during the last century;
- Global temperature most likely to increase by 1.8 - 4.0 °C over the 21st Century. This will be accompanied by:
 - Large changes of temperature and precipitation in different world regions, particularly in Central & South Asia;



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Some Major Findings of IPCC Fourth Assessment Report (AR4), 2007

- Considerable increase in Frequency and Intensity of Extreme Climatic Events (cyclonic storms, floods, droughts etc.);
 - Large scale melting of mountain glaciers;
 - Increase in average sea level by up to 0.6 m.
- All these changes will adversely affect various socio-economic sectors worldwide.



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Major CC-related Concerns of Pakistan

- Increased variability of Monsoon;
- More rapid recession of HKH Glaciers threatening IRS Flows;
- Reduction in capacity of natural reservoirs due to rise in snowline;
- Increased risks of floods and droughts;



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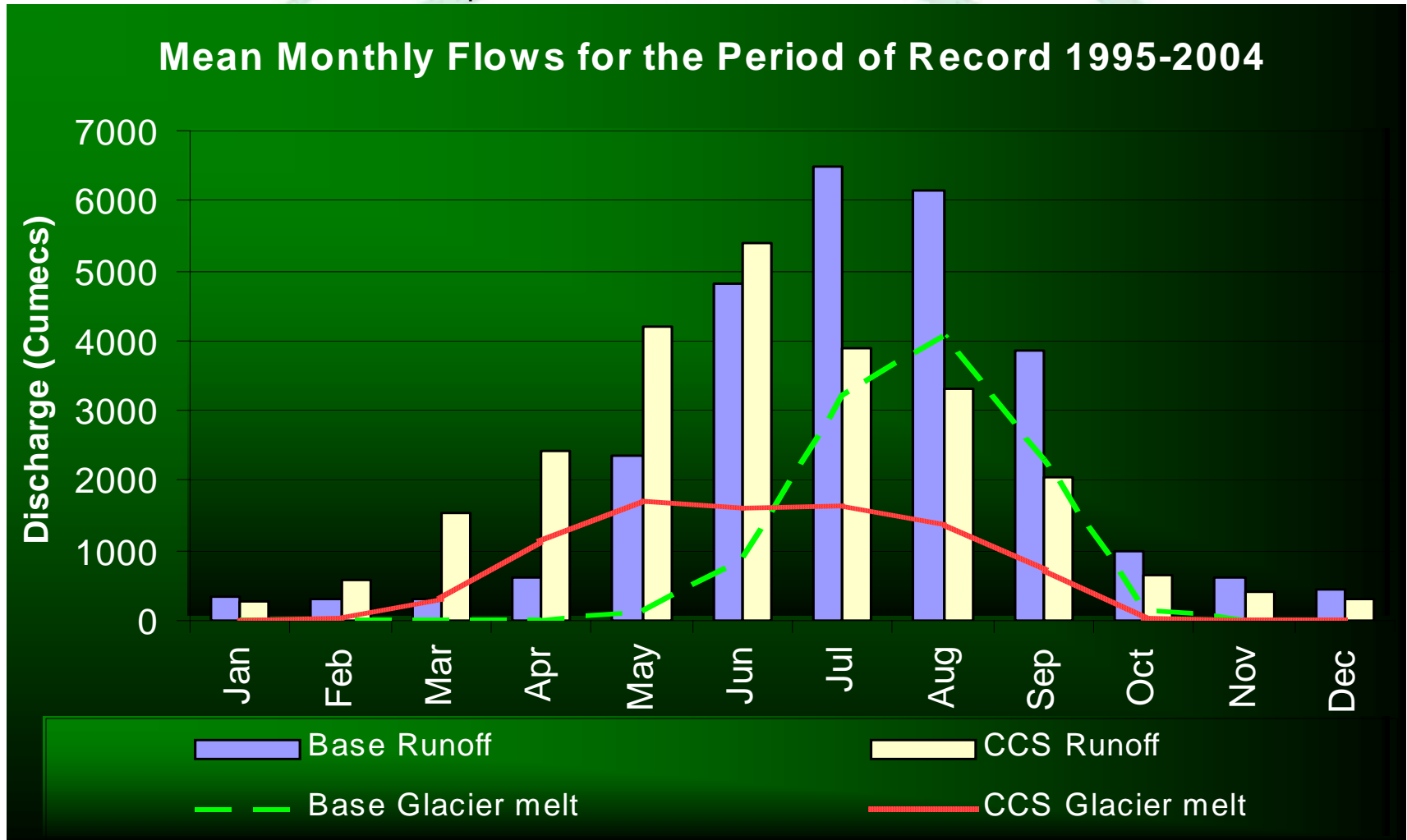
Major CC-related Concerns of Pakistan

- Severe water-stressed conditions in arid and semi-arid regions;
- Food Insecurity due to reduced agriculture productivity;
- Upstream intrusion of saline water in the Indus delta; and risk to mangroves, coral reefs and breeding grounds of fish



Impact of Climate Change and Glacier retreat on UIB Flows

Assumed Climate Change Scenario (CCS):
 Δ Temp: +3°C, Δ Glacier Area: - 50%



- Main Results:
1. Annual flows reduced by 15%
 2. Intra-Annual flow pattern considerably changed



PAKISTAN

New & Reinforced
Disaster Management System In Pakistan

(Preparedness, Response, Relief,
Recovery, Future Sustainability)

NDMA





Institutional Framework

DISASTER MANAGEMENT ENCOMPASSES:

- **The NDM Act,2010 provides for the following institutional arrangements :**
- **Disaster management commissions at national (NDMC) and provincial levels (PDMC)**
- **Disaster management authorities at each level of the government:**
 - **National (NDMA)**
 - **Provincial (PDMA)**
 - **District (DDMA)**
- **National Institute of Disaster Management(NIDM)**
- **National Disaster Management Fund (NDMF)**
- **National disaster management force**



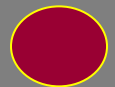
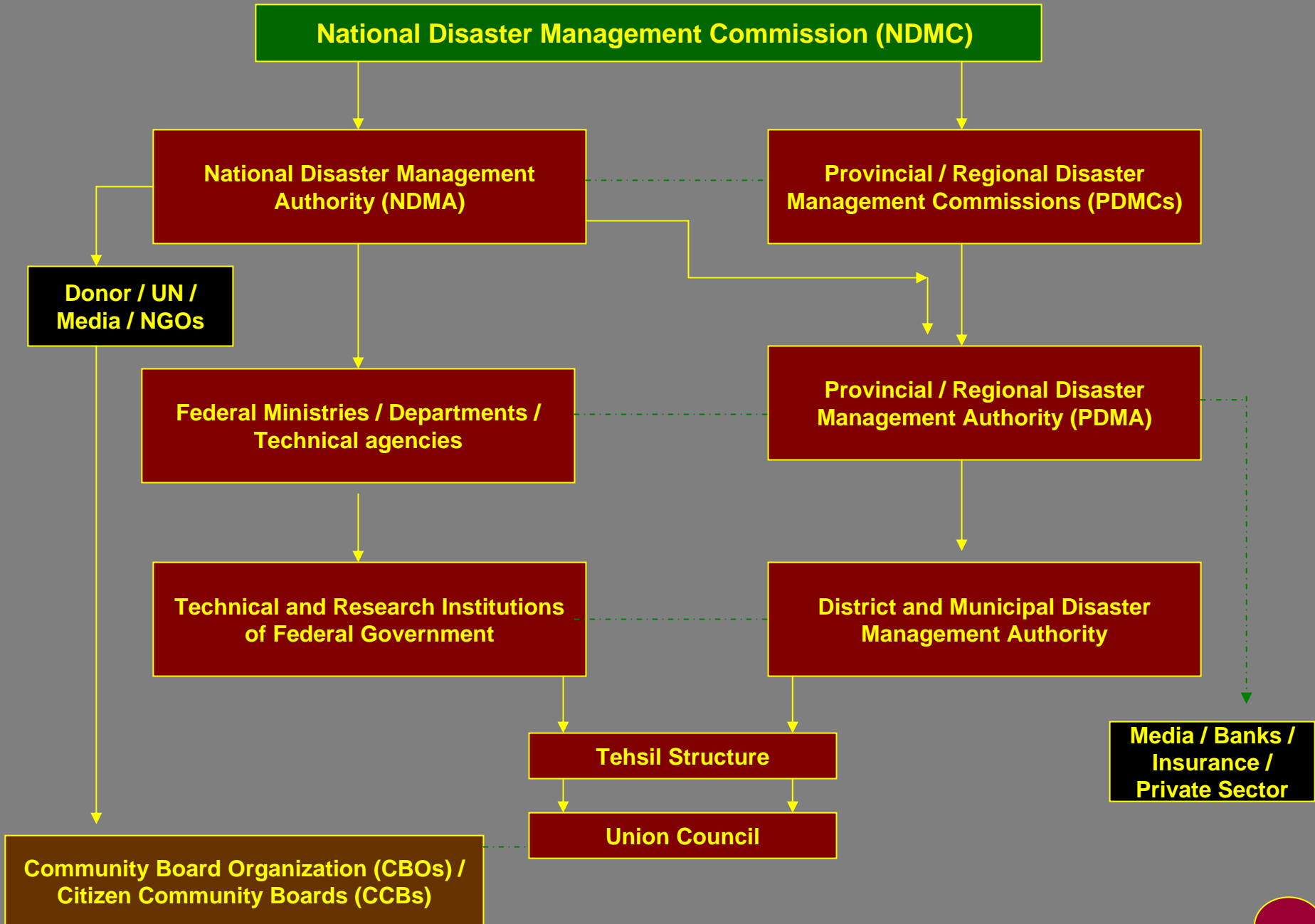


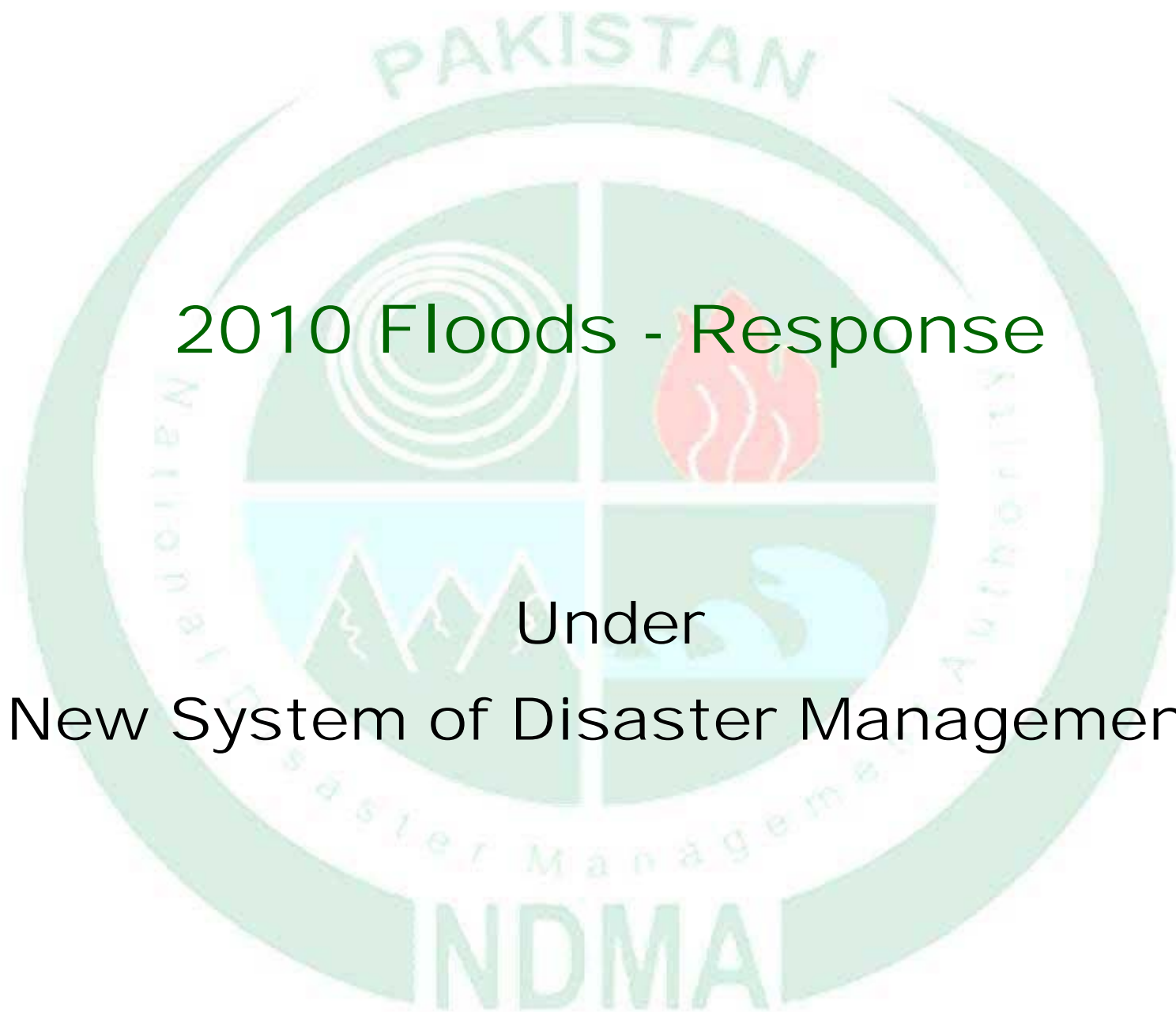
Policy and Strategy Framework

PRIORITY AREAS:

- Institution and legal arrangements for DRM
- Hazard and Vulnerability Assessment
- Training, Education and Awareness
- Disaster Risk Management Planning
- Community and Local Level Programming
- Multi hazard Early Warning System
- Mainstreaming DRR into Development
- Emergency Response System
- Capacity Development for Post Disaster Recovery.







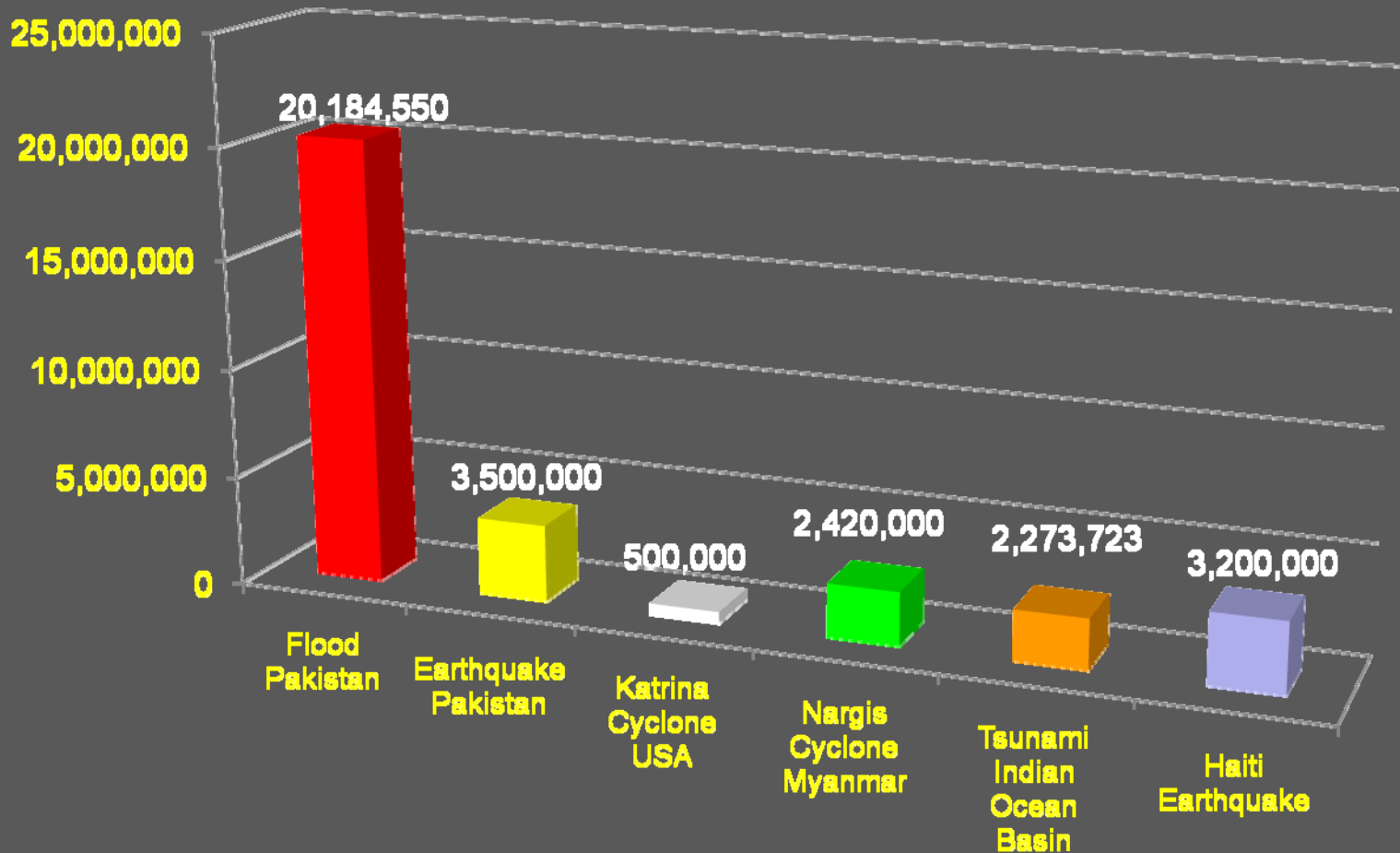
2010 Floods - Response

Under
New System of Disaster Management



Comparison of Severity

AFFECTED POPULATION

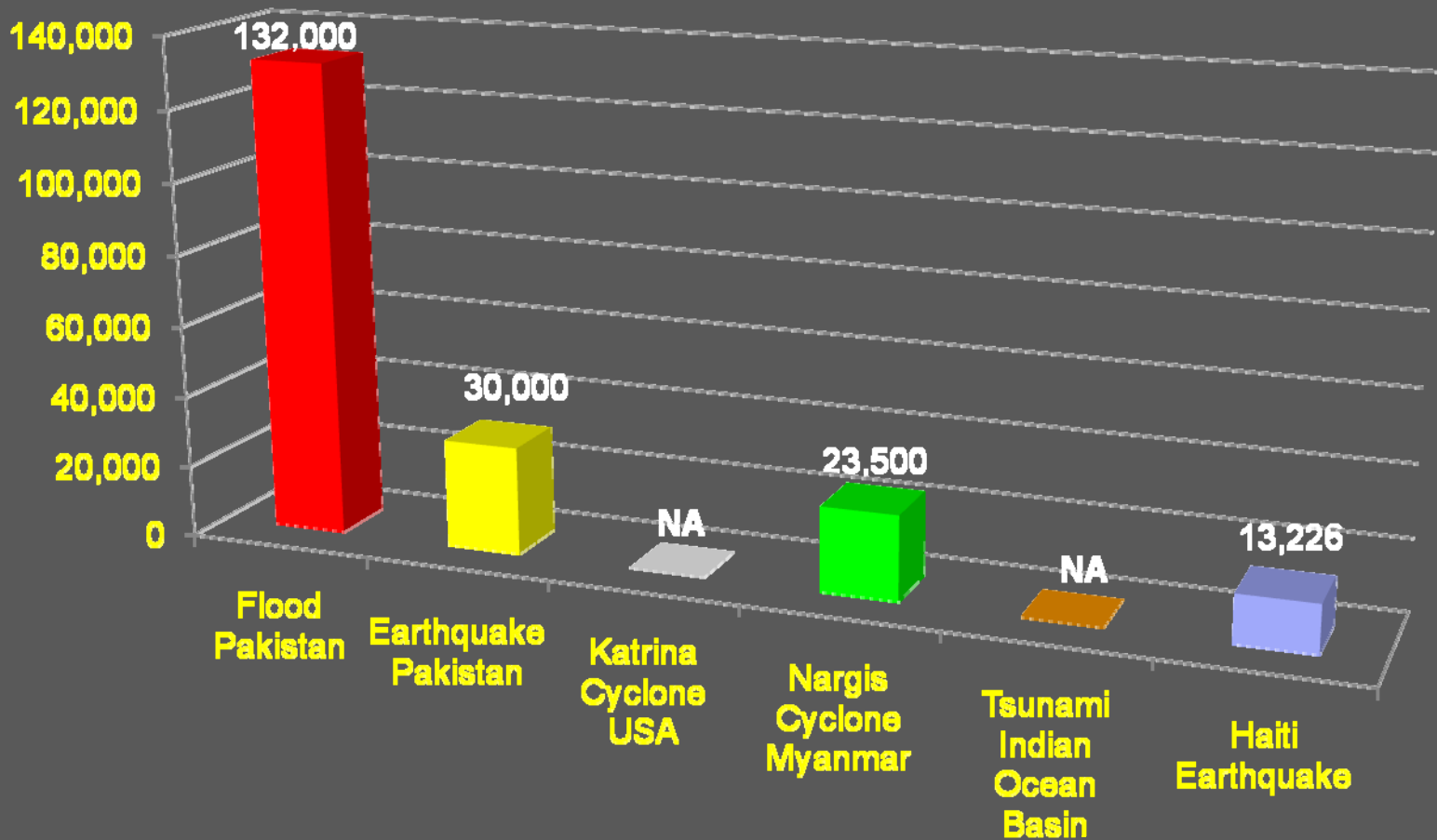


TOTAL AFFECTED – 20.18 MN



Comparison of Severity

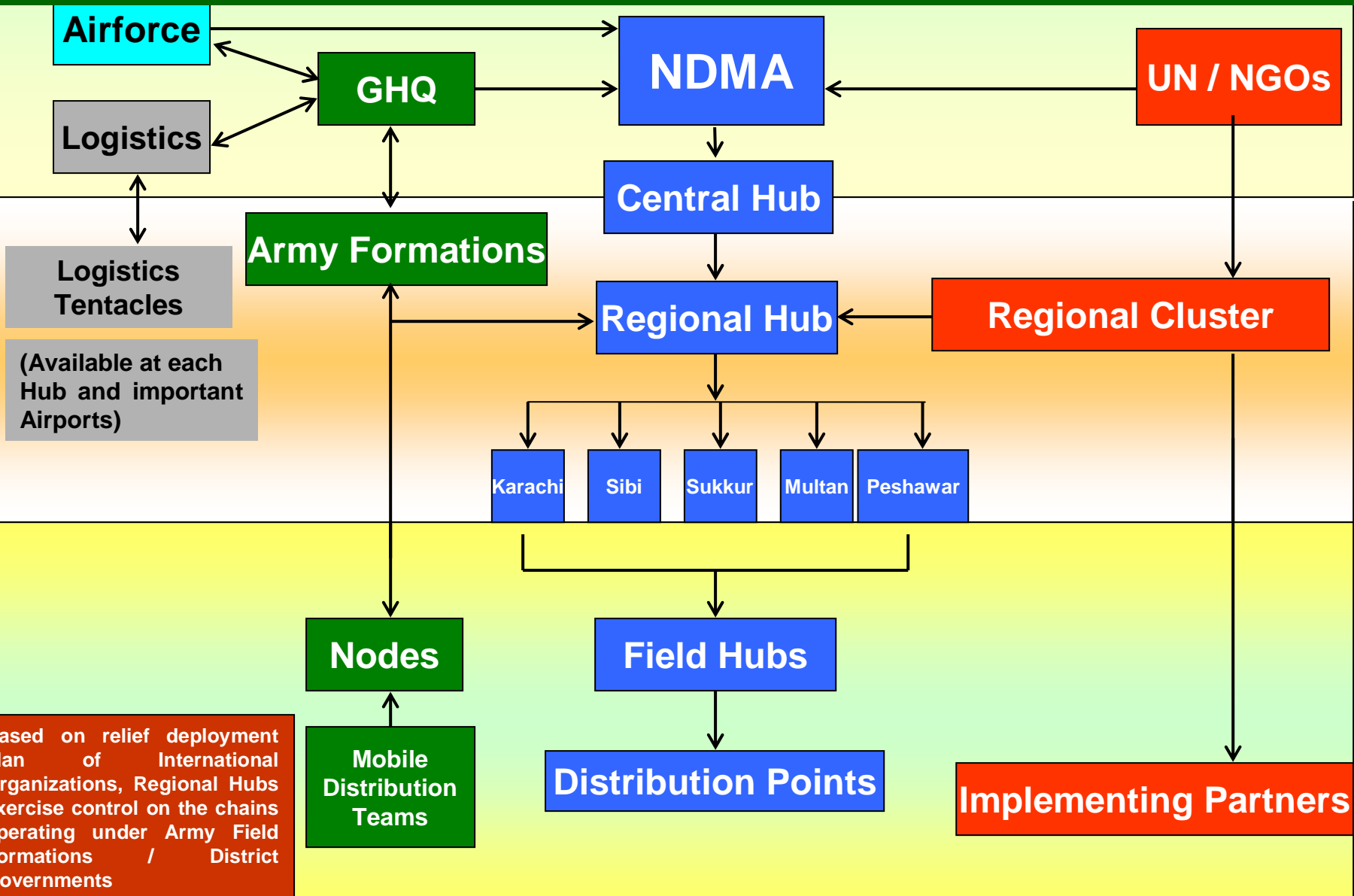
AREA AFFECTED (SQ KM)



AREA AFFECTED – 132,000 SQ KM

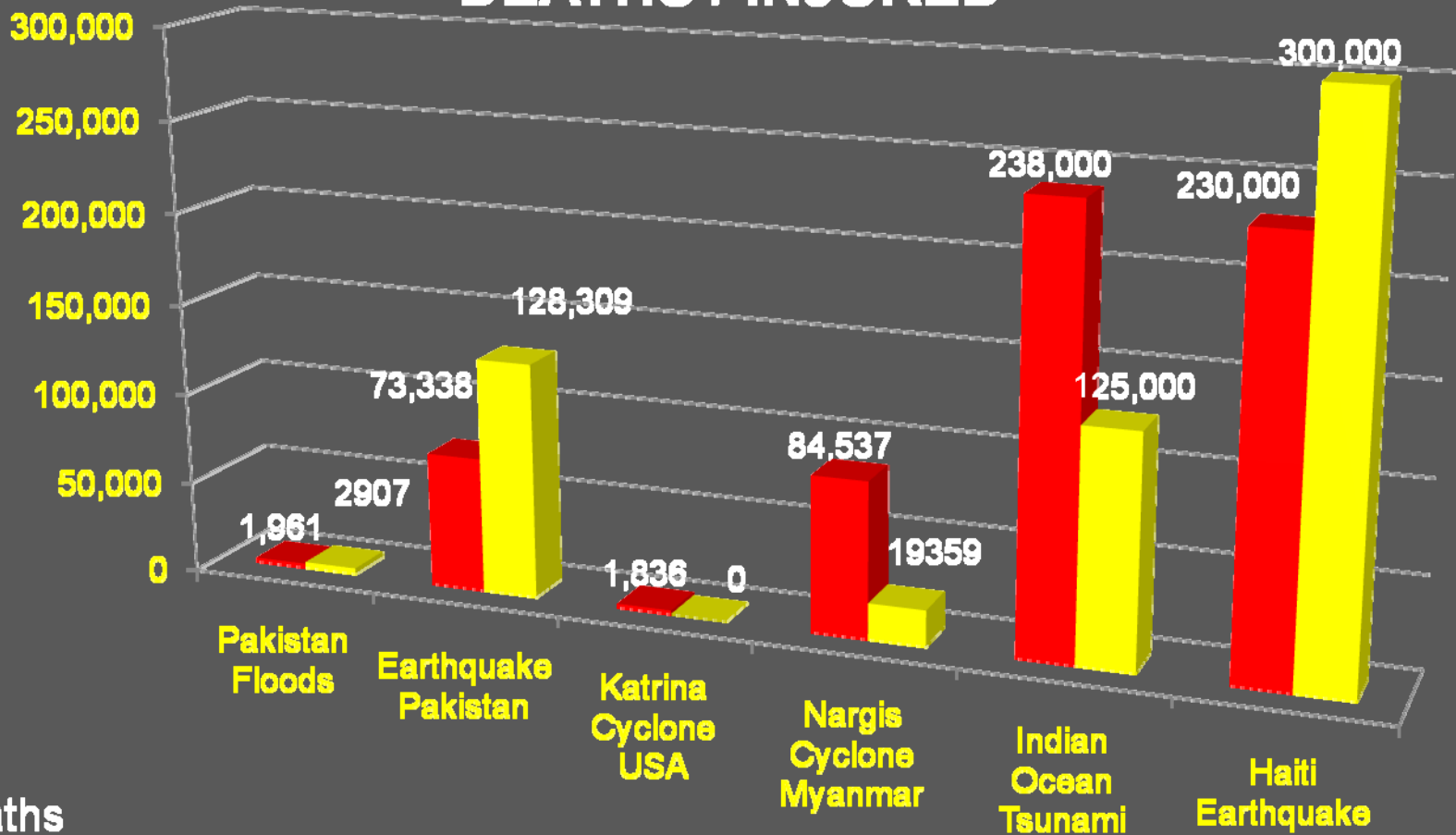


Coordination & Logistic Flow Mechanism Between NDMA, ARMY & Humanitarian Organizations



t e g e
 o a r t o
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 - 2 0 0 0 -

Comparison DEATHS / INJURED



■ Deaths
■ Injured

DEATHS	-	1961
INJURED	-	2907



Rescue / Relief

- People Rescued : 1.4 m
- Food Assistance : 10- 12 m / month
- WASH : 50 % Approx
- Health : 17.6 m
- Shelter : 1 m
- Log : 12000 tons air lifted
- Relief Camps : 103 / 5928



Rescue

- Mode
 - Helicopter
 - Hovercraft
 - Boats
 - Field Rescue Teams
- People Rescued : 1.4 m



Watan Cards



Province/Region	Distribution Centres	Cards Processed	Amount Disbursed (Billion Rupees)
Punjab	28	608,825	11.977
Sindh	41	586,329	10.663
KPK	27	203,259	3.952
Balochistan	09	106,089	1.952
AJ&K	10	10,437	0.200
Gilgit-Baltistan	07	3,397	0.063
Total:	122	1,524,082	28.807



Overall Coverage
is 91%

Relief & Early Recovery Strategies

▪ Relief

- Winter
- Survival
- Return

▪ Early Recovery

- Shelter
- Agriculture
- Community restoration
- WASH
- Communication
- Health
- Education
- Mainstreaming

AGRICULTURE



SHELTER



FOOD





PAKISTAN

New & Reinforced
Disaster Management System In Pakistan



Future Sustainability





DISASTER MANAGEMENT ENCOMPASSES: Medium Term Plan (2011-2015)

- Focus on District Capacity Enhancement;
- Multi-Hazard Risk Assessment of Major Human settlements and Economic Centers;
- Technical Studies on Climate Change Associated Hazards;
- A more robust NIDM to continue DRM capacity building activities;
- Preparation/Updating of District and Provincial Disaster Management Plans;
- Training resilient communities through an extensive CBDRM activities;





Medium Term Plan (2011-2015)

- Assisting Technical agencies in developing comprehensive multi-hazard early warning systems;
- Mainstreaming DRR efforts in Provincial P&D Departments and line Departments;
- Gap Analysis and revamping local Response Capacities;
- Safer School and Hospital Initiatives





Guiding Principles of NDMA's Mid-Term Plan (2011-2015)

DISASTER MANAGEMENT ENCOMPASSES:

- To address the full spectrum of DRM cycle;
- To ensure enhancement of capacities of scientific and technological agencies;
- Gender issues and environmental concerns are an integral part of the Plan;
- To recognize the importance of both structural and non-structural mitigation measures;
- To focus on building awareness, orientation and technical capacities of all the public and private sector stakeholders;
- Stressing creating public-private partnerships, networks of stakeholders at the federal, provincial and district level for better coordination;
- To ensure a pool of specialized personnel for managing DM institutions through NIDM.





Critical Areas for Future

DISASTER MANAGEMENT ENCOMPASSES:

On the basis of the experiences and lessons learnt, the following areas have come out to be the most critical for Robust DM System:

- Capacity Building ;
- Building Response Capacities including Warehousing/strategic stockpiling;
- Advocacy;
- Information Management and communication Architecture;
- Mainstreaming DRR into Development; and
- Contingency Planning





Critical Areas for Future

DISASTER MANAGEMENT ENCOMPASSES:

- Pre flood management plan for the major climate change prone areas;
- Legislations to control habitation in the command area;
- Determination of escape route to channel the flood waters;
- Re location of villages on the safer ground;
- Strengthening of infrastructure by adoption of climate proofing measures





PAKISTAN

THANK YOU

