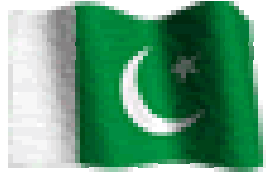




Management of mega disasters super floods of pakistan 2010

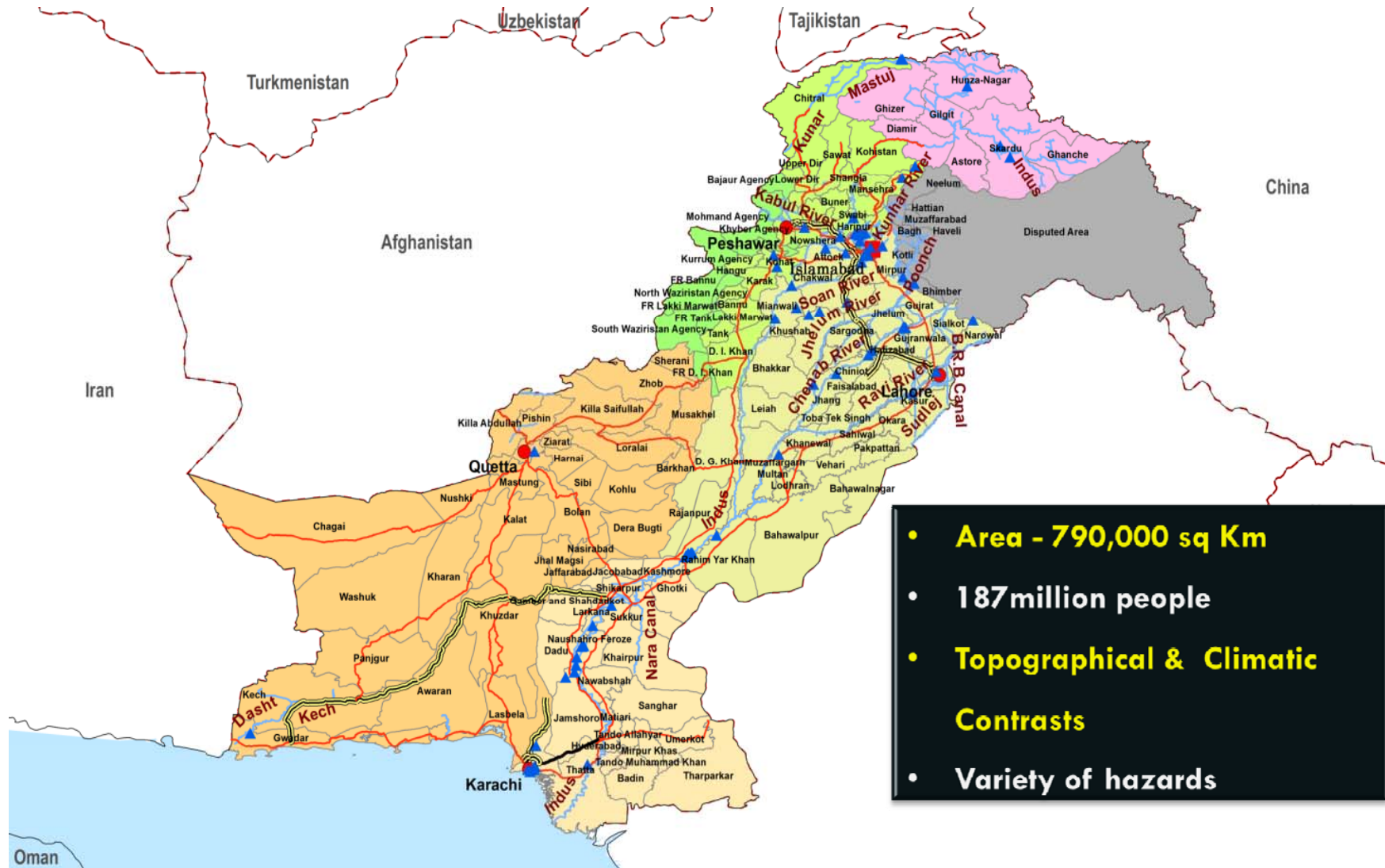
February 25th, 2016

National Disaster Management Authority (NDMA)



Historical Vulnerability to Floods

Pakistan's Disaster Context



Effects of Climate Change - Pakistan



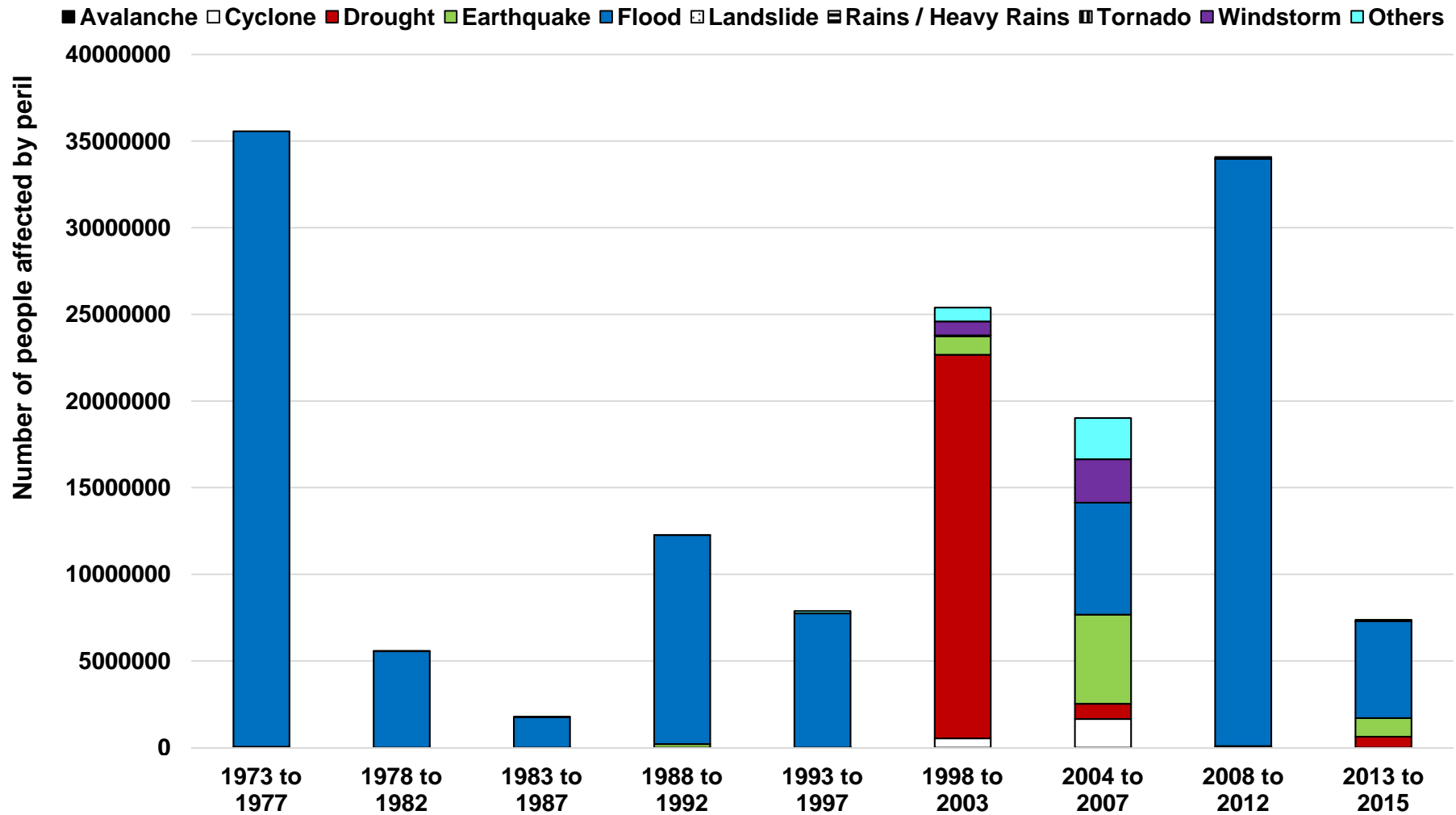
Global Climate Risk Index 2015

Ranking 2013/(2012)	Country	CRI Score	Death Toll	Death per 100,000	Absolute losses (M)	Losses per unit GDP %	Human Devpt Index
1(2)	Philippines	2.17	6479	6.65	24538	3.82	117
2(65)	Cambodia	6.67	184	1.471	1495	3.24	136
3(46)	India	12.67	7437	0.370	15147	0.22	135
4(58)	Mexico	15.00	224	0.500	10589	0.51	71
5(143)	St. Vincent	15.33	9	1.898	96	8.33	91
6(3)	Pakistan	15.50	301	0.16	5419	0.65	146

Source: German Watch

Study based on 181 countries

Historical Natural Disasters- Pakistan

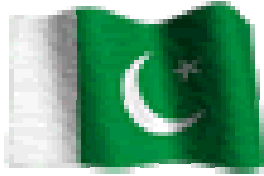


Source: Fiscal Risk Assessment Options for Consideration, A Study by World Bank and GFDRR, 2015

Historical Disasters in Pakistan



Disaster Type	Occurrence in Decade				
	1971-80	1981-90	1991-2000	2001-10	2011-15
Avalanche	-	-	1	4	1
Cyclone	-	-	2	3	-
Drought	-	-	1	4	-
Earthquake	1	9	5	7	3
Floods	7	9	10	10	5
Landslide	-	1	5	8	2
Lightening	-	-	-	-	1
Rains / Heavy Rains	-	-	-	4	-
Snowfall	-	-	-	1	1
Tornado	-	-	-	-	1
Windstorm	-	1	5	2	1



Super Floods 2010

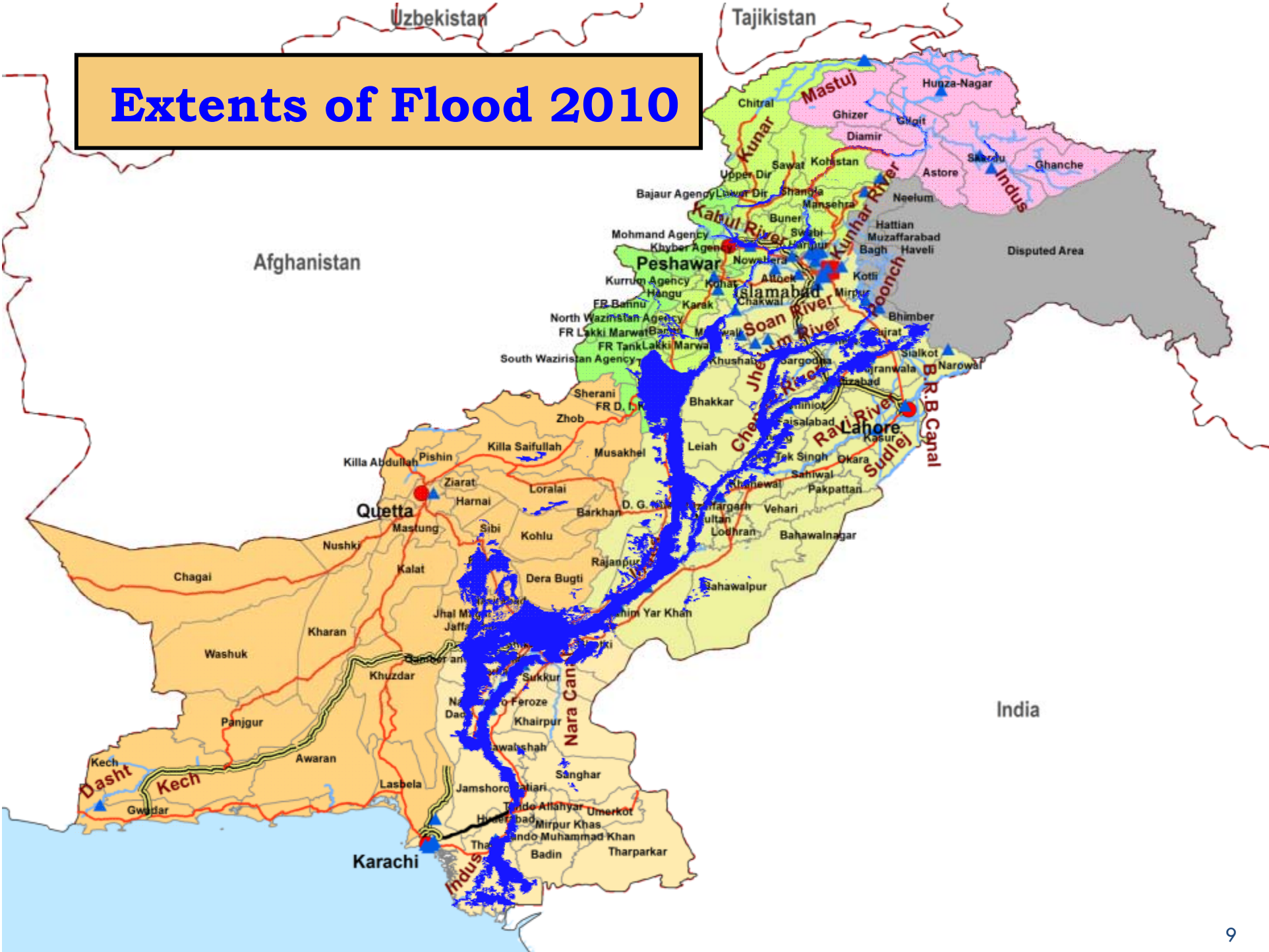


Super Floods 2010



- **Pakistan experienced worst floods and most devastating rains (300 mm in 24 hours) in its history**
- **All provinces of Pakistan, especially cities, towns and villages along River Indus, River Kabul and River Swat suffered unimaginable devastations**
- **Comparison of Super Floods in Pakistan with other major disasters in the World amply highlight the magnitude of the catastrophe**

Extents of Flood 2010



Losses and Damages Super Floods 2010

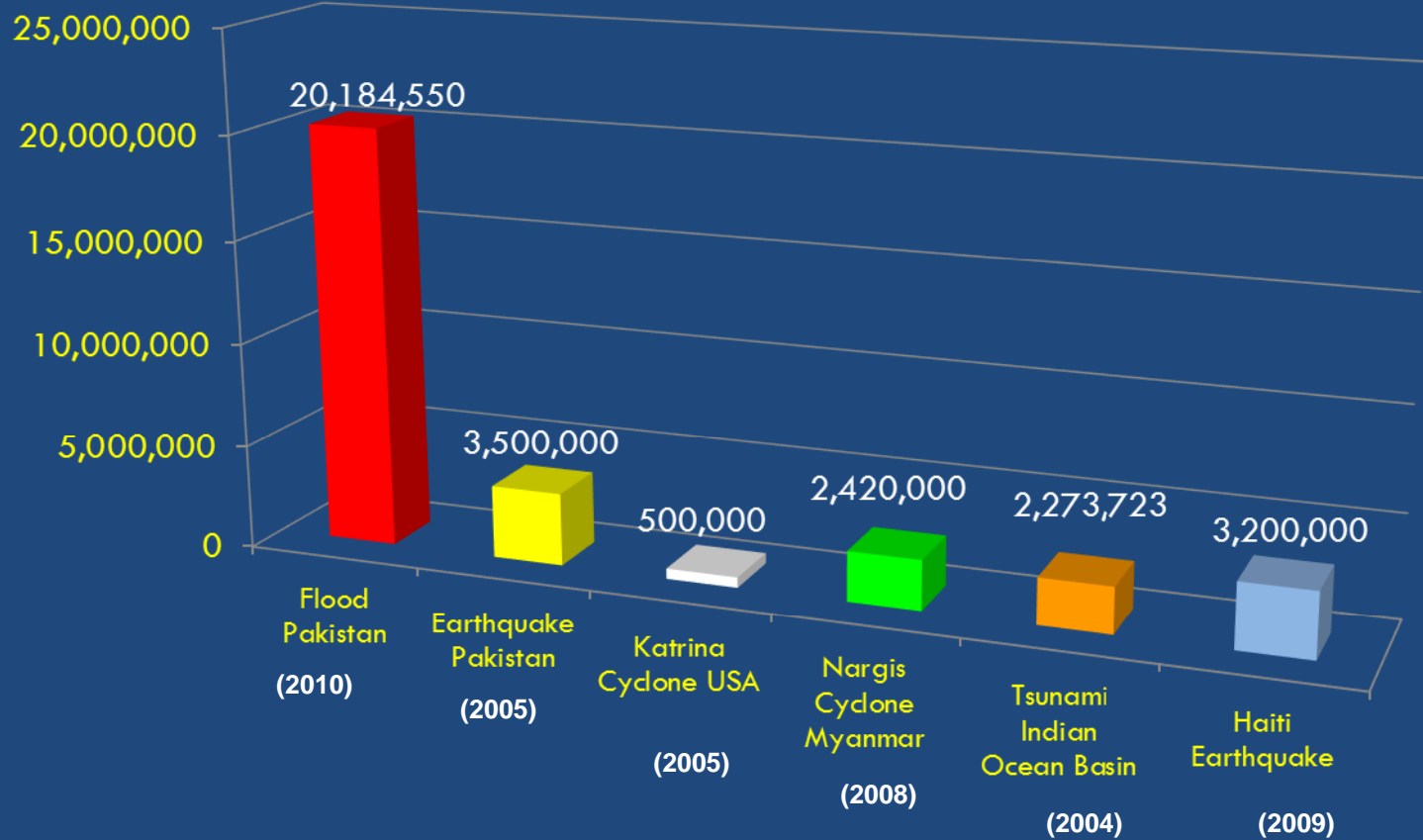


Losses and Damages Super Floods 2010



Districts Affected	-	78
Human Losses	-	1,985
Population Affected	-	20.18 M
Houses Damaged	-	1,602,765
Crops Damaged	-	5,171,026 Acres
Education Facilities Damaged	-	1,0192
Direct Loss	-	10,056 US\$ M

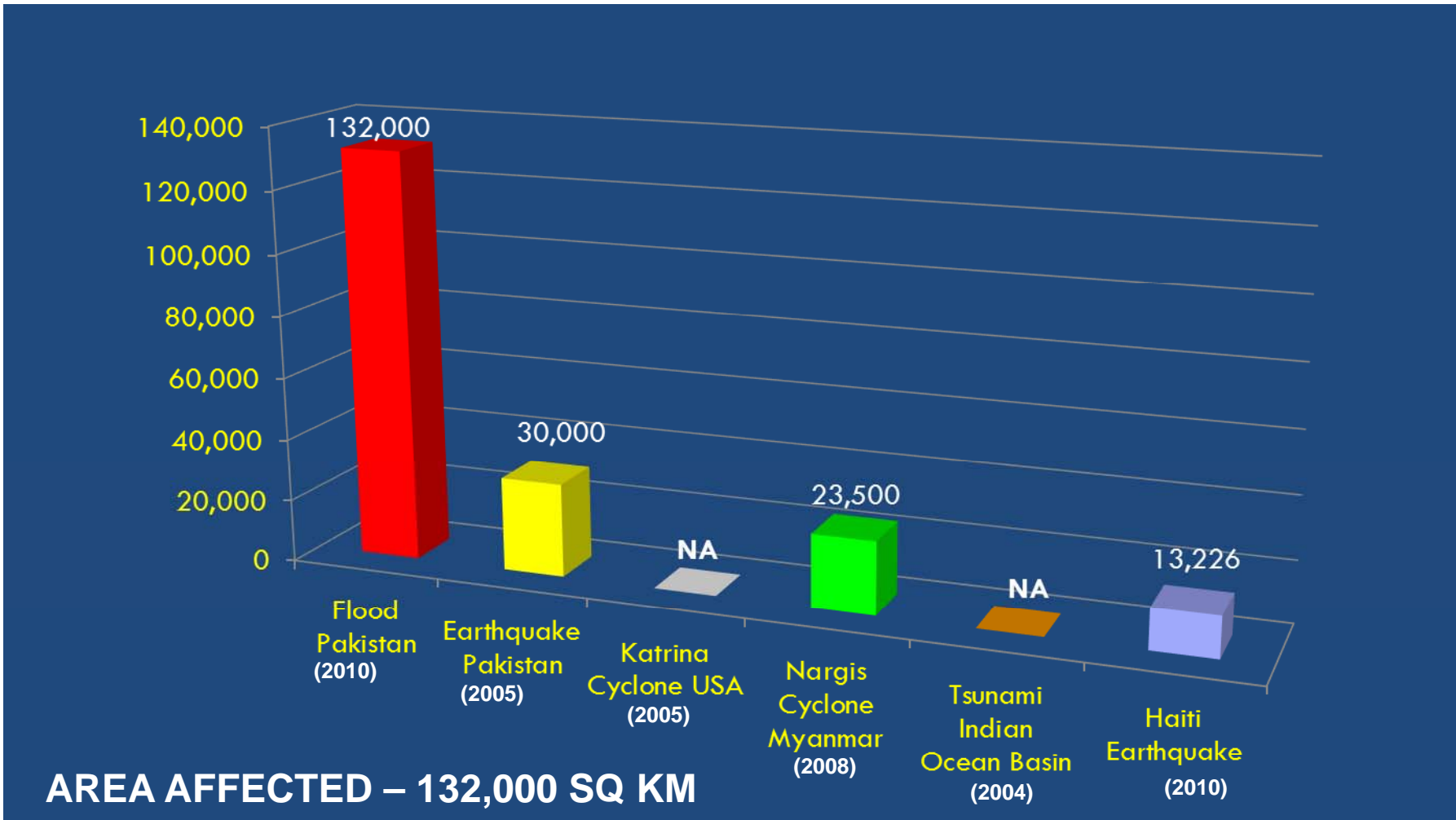
Super Floods - 2010 Population Affected



TOTAL AFFECTED – 20.18 MN

Super Floods - 2010

Area Affected



Gilgit Baltistan Region



KKH Washed Away – Dubair



Road Chilas Babusar

30 JULY

Azad Jammu & Kashmir



Muzaffarabad City – AJ&K

30 JULY

Khyber Pakhtunkhwa (KPK)



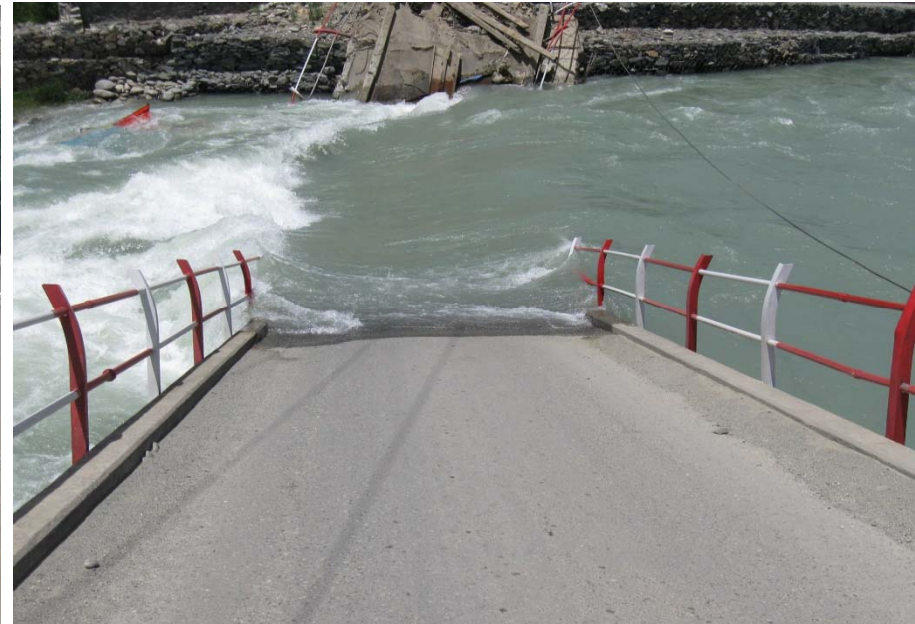
Nowshera City - KPK

30 JULY

Khyber Pakhtunkhwa (KPK)



Chakdara Bridge - Malakand



Khwazakhela – Matta Bridge

30 JULY

Khyber Pakhtunkhwa (KPK)



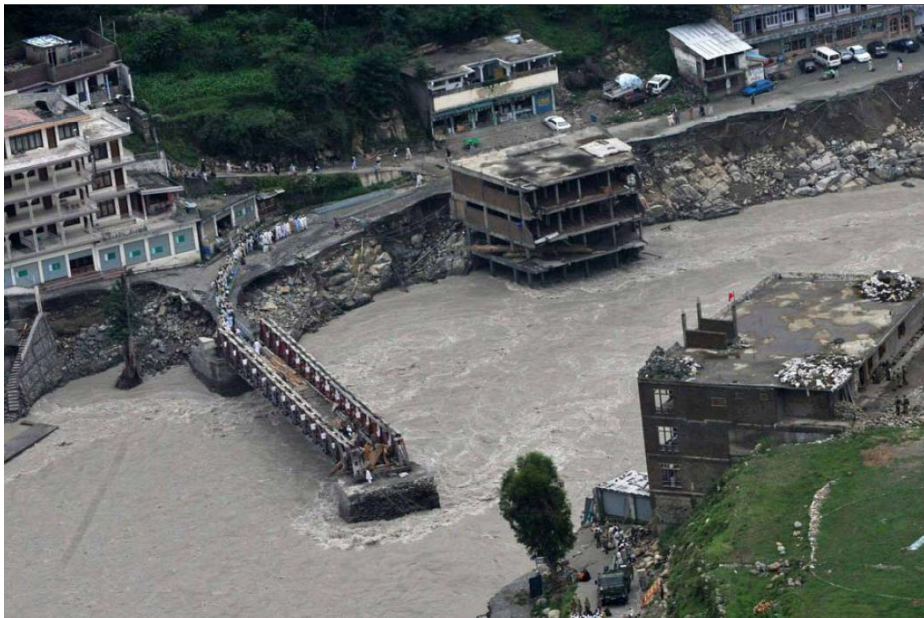
Shamozaai Bridge - Swat



Lothar Bridge

30 JULY

Khyber Pakhtunkhwa (KPK)



Madyan Bridge - Swat



Madyan

30 JULY

Khyber Pakhtunkhwa (KPK)



Munda Headworks



Rural Health Centre

1 AUGUST