

Global Reinsurance Solutions



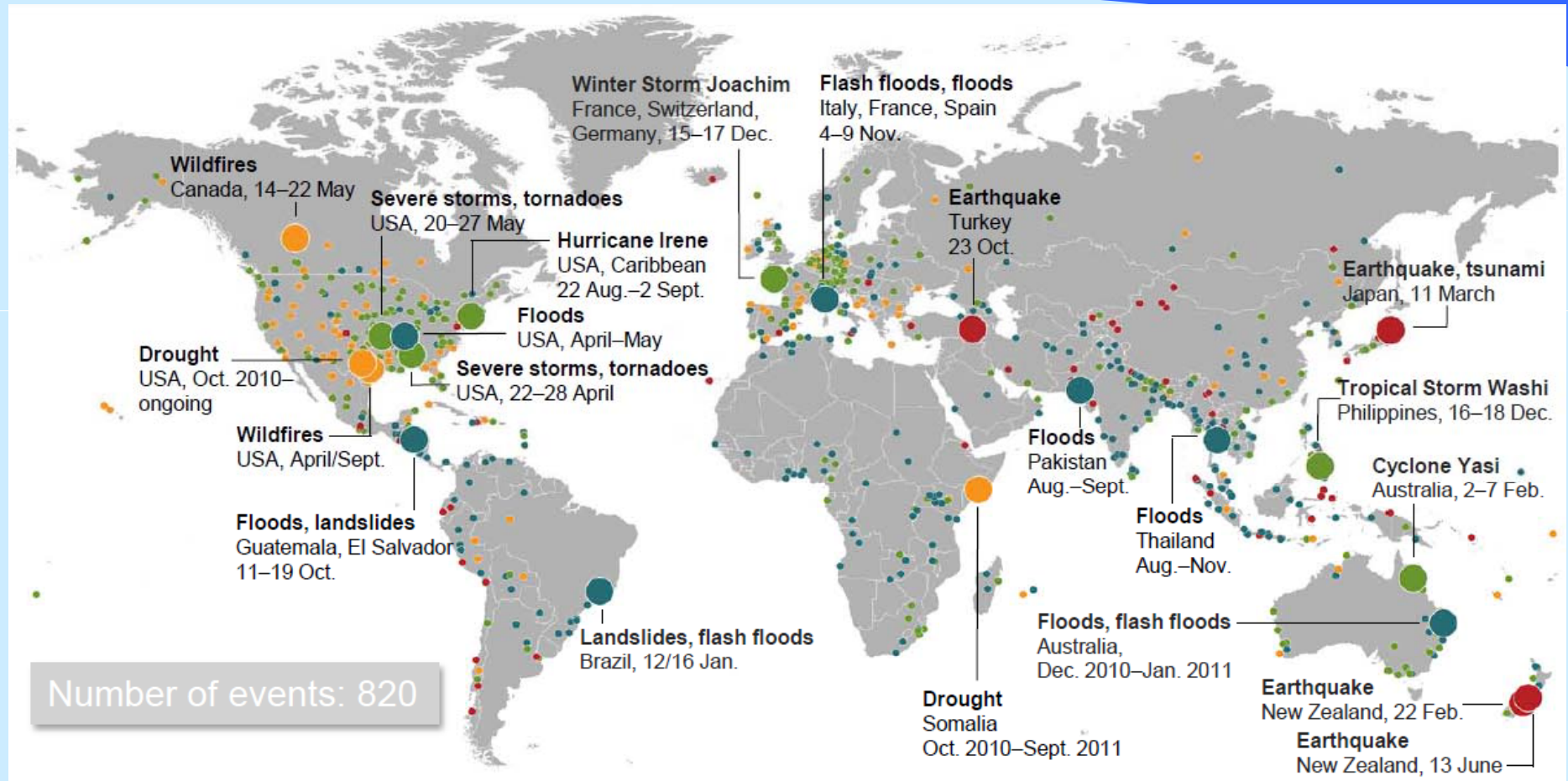
GIC Re
Your Partner In Risk

*Engaging Capital Markets to Provide
disaster relief to victims via Reinsurance*



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Natural Catastrophes 2011



Number of events: 820

- Natural catastrophes
- Selection of significant loss events
- Geophysical events (earthquake, tsunami, volcanic activity)
- Meteorological events (storm)
- Hydrological events (flood, mass movement)
- Climatological events (extreme temperature, drought, wildfire)

Source: NatCatSERVICE



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Natural Catastrophes Worldwide 1980 - 2011

Insured losses US\$ 870bn - Percentage distribution per continent



Continent	Insured losses (US\$ m)
America (North and South America)	566,000
Europe	146,000
Africa	2,000
Asia	115,000
Australia/Oceania	41,000

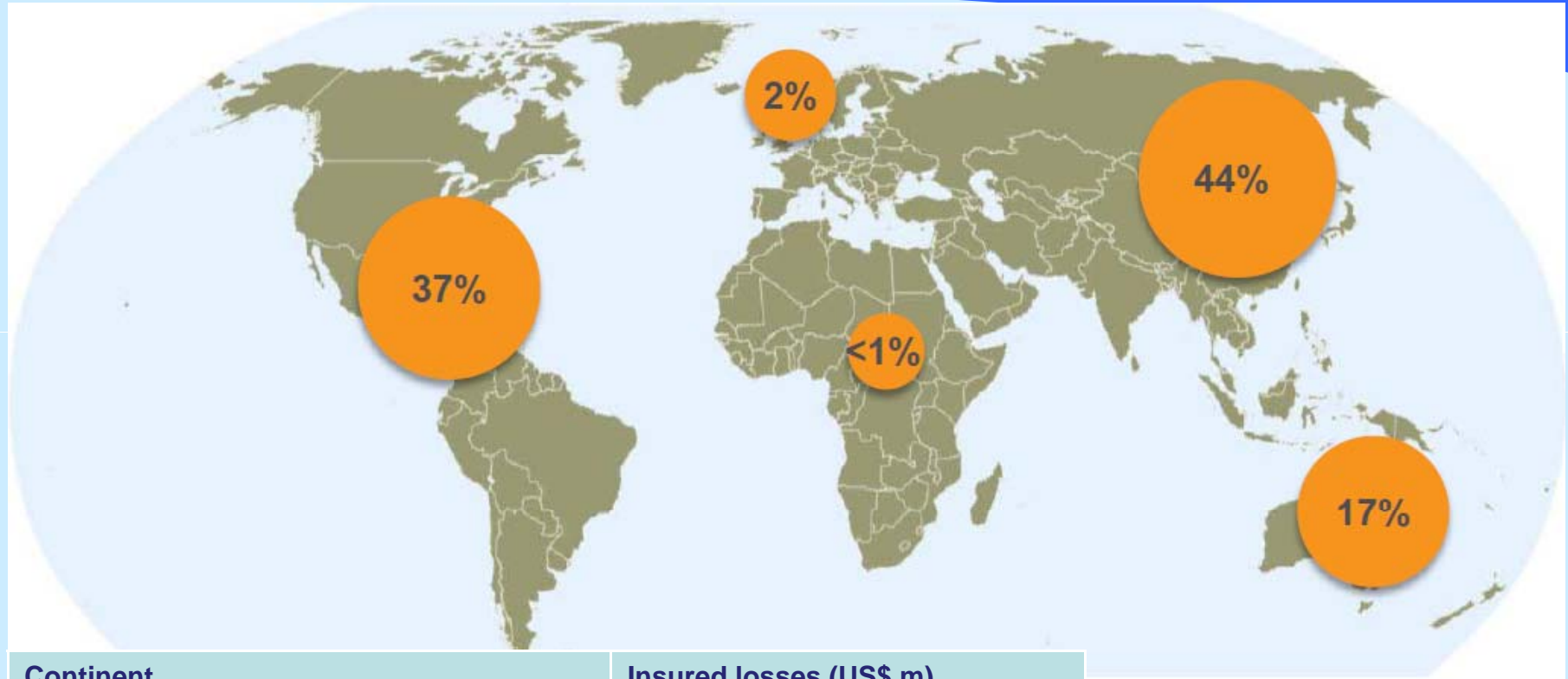
Source: MR NatCatSERVICE – As at January 2012



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Natural Catastrophes Worldwide 2011

Insured losses US\$ 105bn - Percentage distribution per continent



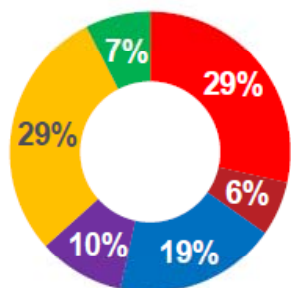
Continent	Insured losses (US\$ m)
America (North and South America)	40,000
Europe	2,000
Africa	Minor damages
Asia	45,000
Australia/Oceania	18,000

Source: MR NatCatSERVICE – As at January 2012

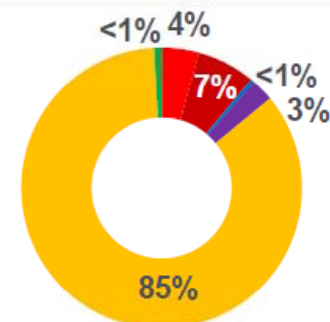


Natural catastrophes worldwide 2011 Percentage distribution – ordered by continent

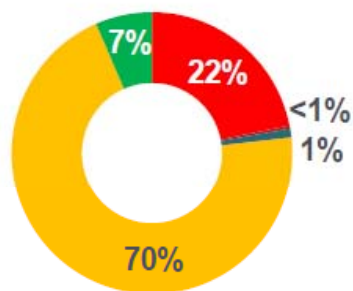
820 Loss events



27,000 Fatalities

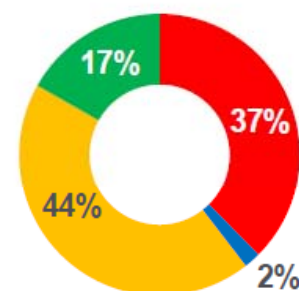


Overall losses* US\$ 380bn



*in 2011 values

Insured losses* US\$ 105bn



*in 2011 values



Source: NatCatSERVICE – As at January 2012



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Indian Subcontinent

1999 Orissa cyclone

- **Fatalities ~ 15,000 direct**
- **Damage ~ US\$4.5 billion**
- **Areas affected ~ India, Myanmar**
- **Also known as Cyclone 05B, and Paradip cyclone, was the deadliest Indian Ocean tropical cyclone**
- **No. of affected districts – 12; Villages – 14643**
- **Population – 1.29 Mln ; Houses – 1.65 Mln**
- **Crop Area – 1.84 Mln Ha; Livestock Perished – 0.44 Mln**

1999 Orissa cyclone

- **Loss of Human Life – 9887, Injured– 2507, Missing – 40**
- **US\$14.08 Mln for repairing damaged houses, US\$ 0.6 Mln disbursed as Ex-gratia**

Gujarat earthquake

- **25,000 people killed in 2001, more than half were victims of earthquake in Gujarat**
- **Severe earthquake with Mw 7.7 at 08:45 Hrs in Kachch region,**
- **Strongest in past 200 years**
- **Economic loss was US\$ 4.5 bln with insured losses in range of US\$ 100m**

Tsunami 2004

- **Death - 230,000 people in fourteen countries,**
- **Inundation of coastal communities with waves up to 30 meters (98 ft) high**
- **It was one of the deadliest natural disasters in recorded history**
- **Indonesia was the hardest hit, followed by Sri Lanka, India, and Thailand**
- **Magnitude, between 9.1 and 9.3, the third largest earthquake ever recorded on a seismograph, longest duration between 8.3 and 10 minutes**
- **World wide donation of US\$ 14 Billion**

Sikkim 2011

- **Expected Economic Loss : US\$ 22.3 billion**
- **Magnitude 6.9 Mm**
- **Fatalities – 116 (India – 97; Nepal – 11,; China – 7; Bhutan – 1)**
- **US\$ 4,500) as ex-gratia for person killed in the earthquake and**
- **US\$ 2,200) for seriously injured.**
- **Provincial Govt also provide financial Relief**

Cyclone Thane – Jan 2011

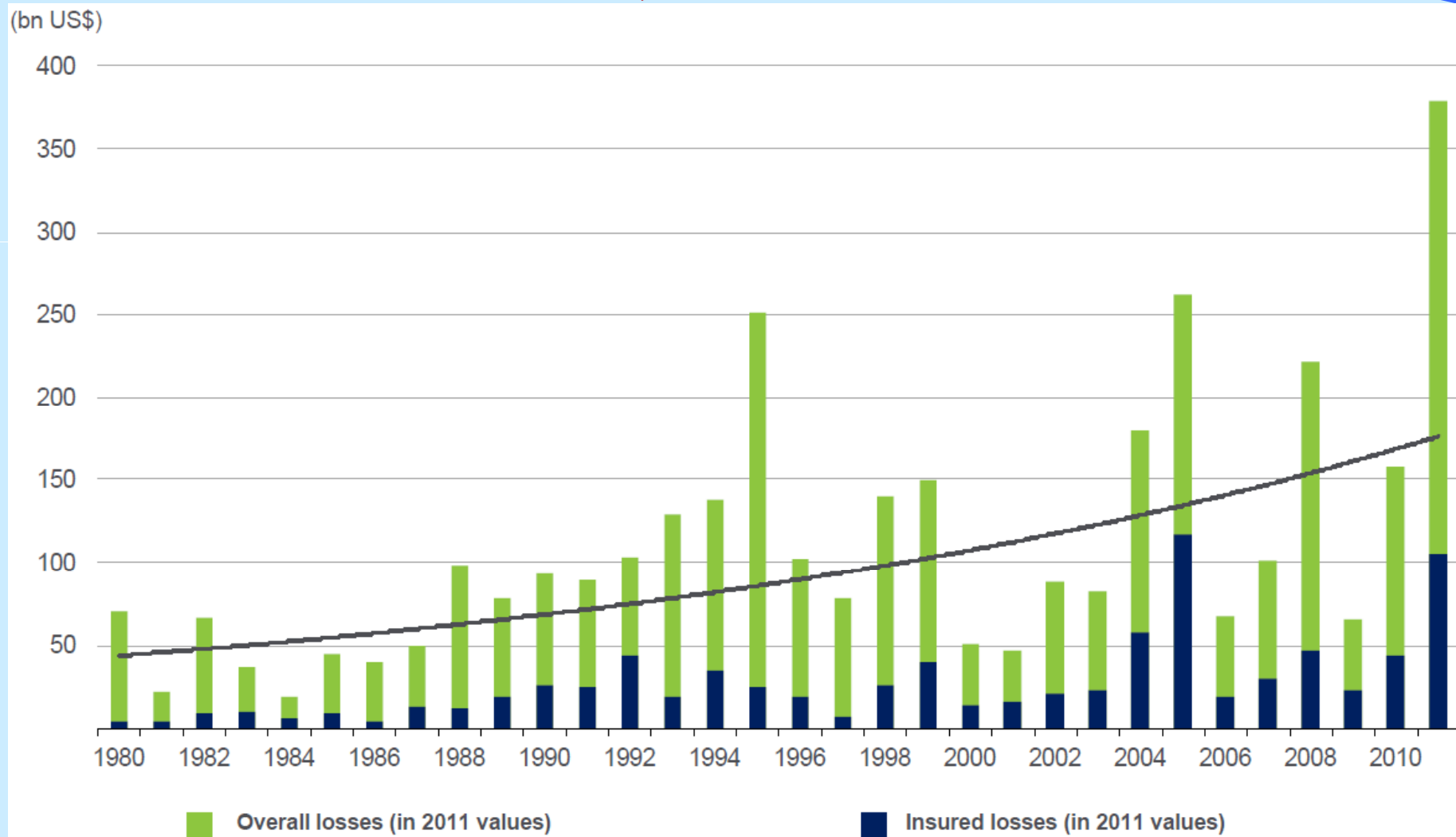
- **Areas Affected – Southern India, Sri Lanka**
- **Fatalities – 46**
- **Initial estimates US\$ 200 Mln**

Gap – Economic & Insured loss

Natural catastrophes worldwide 1980 – 2011

Overall and insured losses with trend

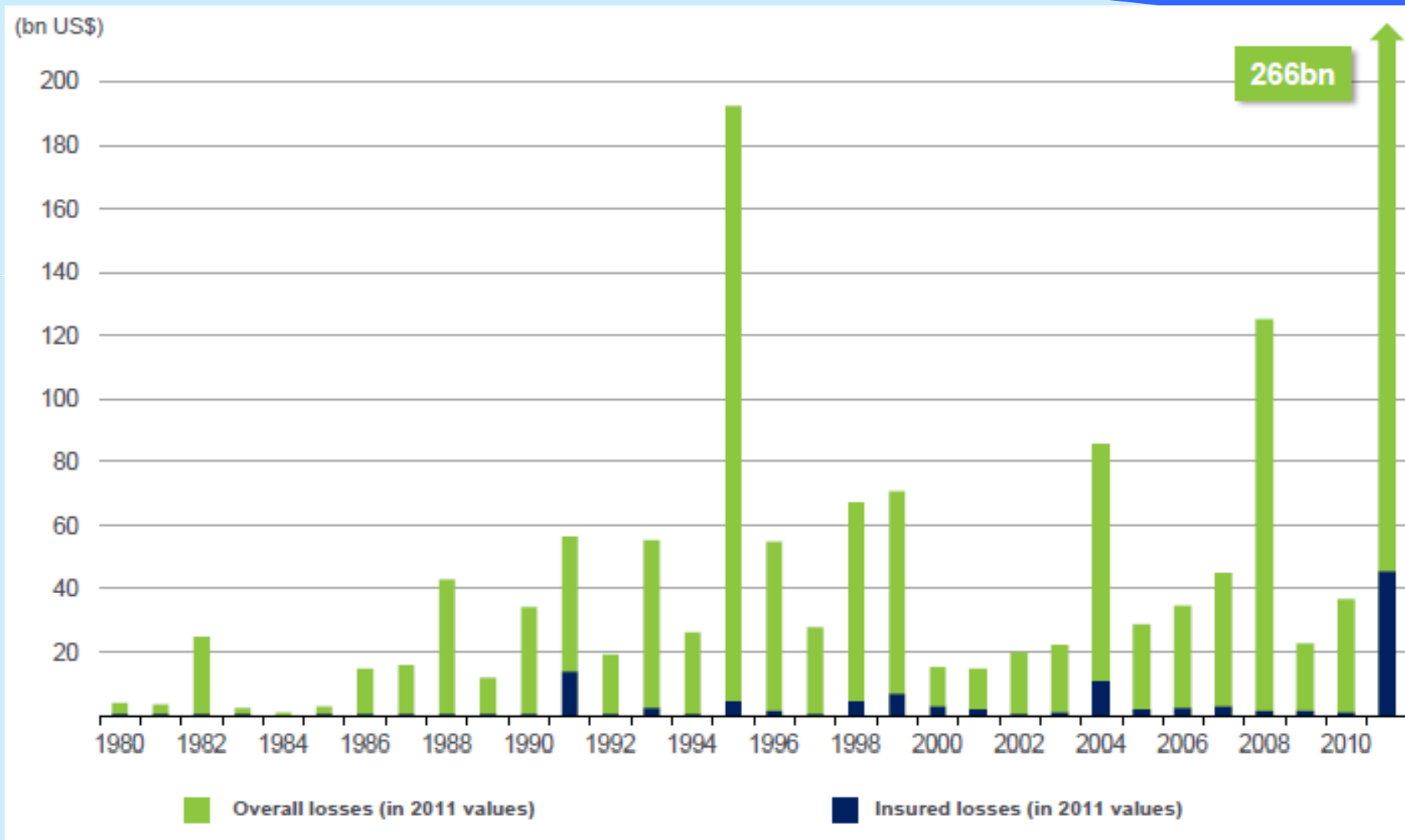
Overall losses totaled \$380 billion; Insured losses totaled \$105 billion



Source: NatCatSERVICE – As at January 2012

Natural Catastrophes in Asia 1980 – 2011

Overall and insured losses



Source: NatCatSERVICE – As at January 2012

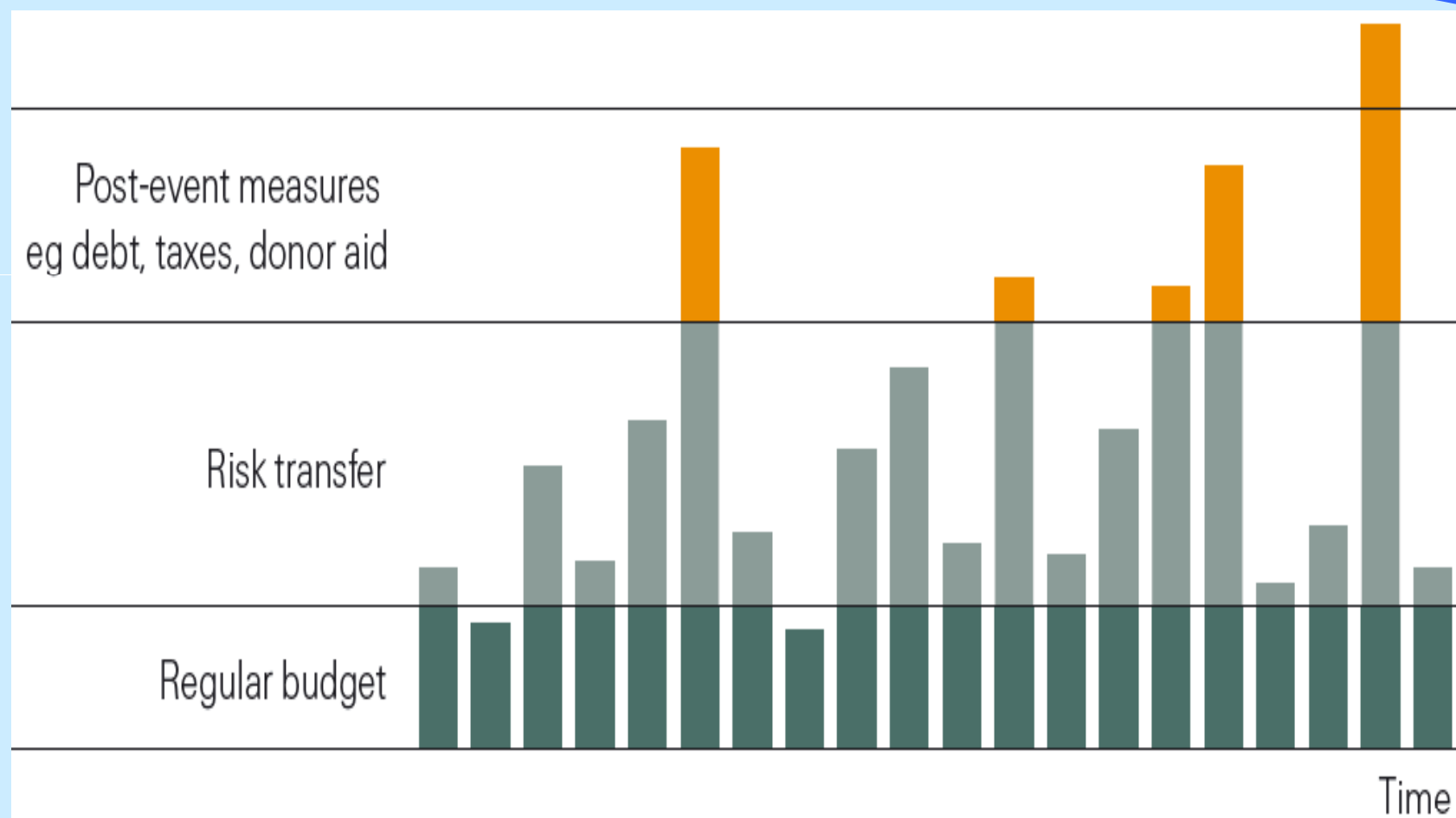
Extra Burden on Government

***Public Finance in
developing countries
is
Already under strain***

Pre-event Vs post-event financing instruments

Pre-event measures	Advantages	Disadvantages
Indemnity insurance	Low basis risk for insured	Needs loss assessment
Parametric insurance	Quick disbursement, low administrative cost	Basis risk of insured
Contingent financing	Small payment upfront, guaranteed access and pre-defined pricing	Repayable and costs interest
Reserve funds	National measure, does not impact financial strength	Costly, may divert resources
Post-event instruments		
Budget	National source of funding	Limited, diverts resources
Raising taxes	National measure	Limited, politically sensitive, may dampen economic Recovery
Debt	Standard instrument, proven	Potentially slow and costly
Donor aid	Inexpensive	Can be slow, and amounts are uncertain

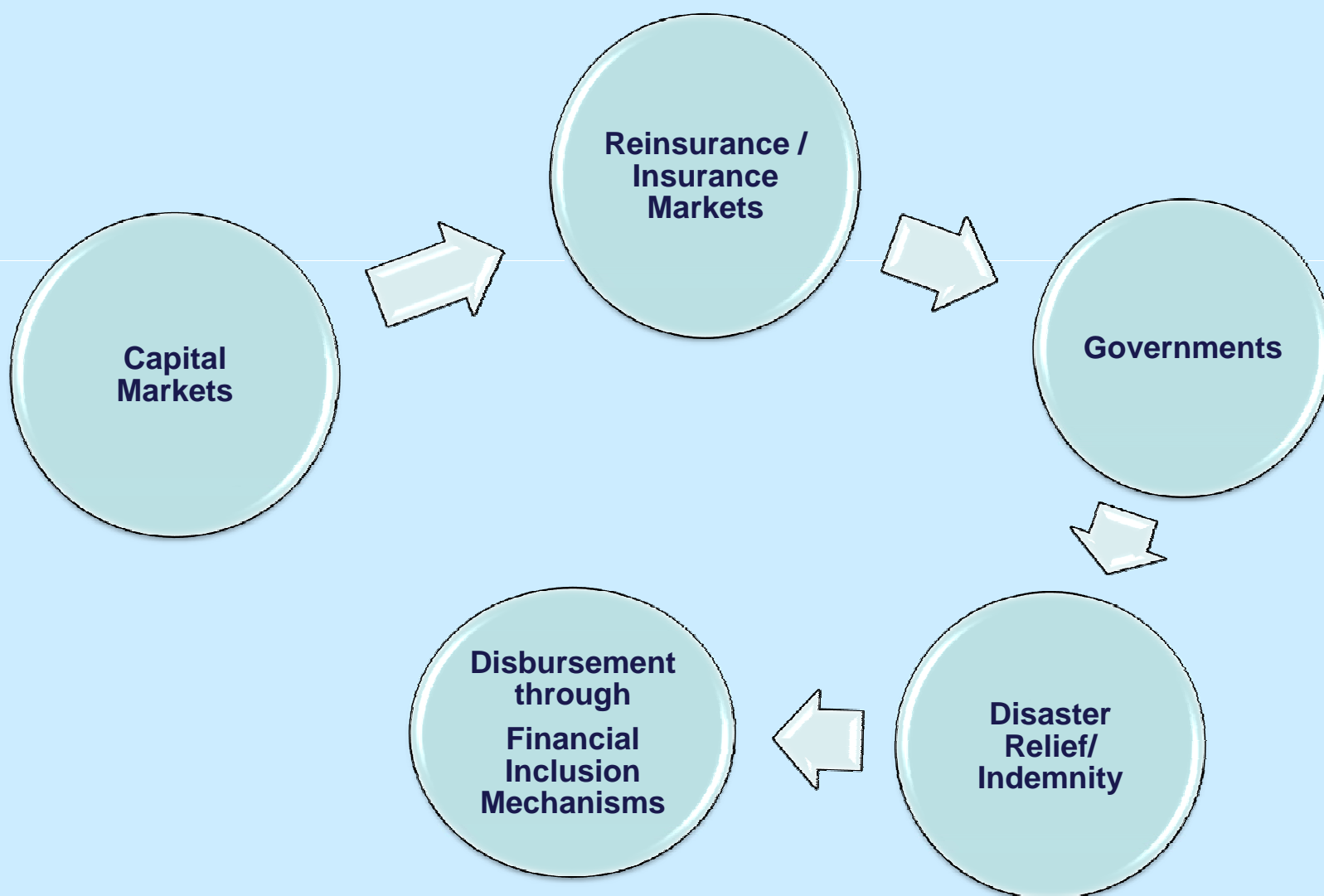
Expected total economic losses covered by different disaster financing tools



Relief payment

- **Through entry of poor and underprivileged residents into the banking systems**
- **Identification of the of the beneficiary through single source of identity(egg., Aadhar, PAN Card).**
- **UID-enabled-Bank-Account network will offer a secure and low cost platform to directly remit benefits to residents**
- **Online authentication services for agencies who wish to validate a resident's identity;**
- **This service will enable confirmation of the entitlement actually reaching the intended beneficiary.**

Relief payment



The Big Question:

***How do we leverage Capital
markets to provide Disaster Relief***

?