



UNITED NATIONS

ECLAC



SIXTY YEARS WITH LATIN AMERICA AND THE CARIBBEAN

# ***EXPERIENCES IN ECONOMIC ASSESSMENT OF DISASTERS IMPACT***

***AS A TOOL FOR RISK REDUCTION AND  
MAINSTREAMING DISASTER REDUCTION IN  
DEVELOPMENT POLICY***

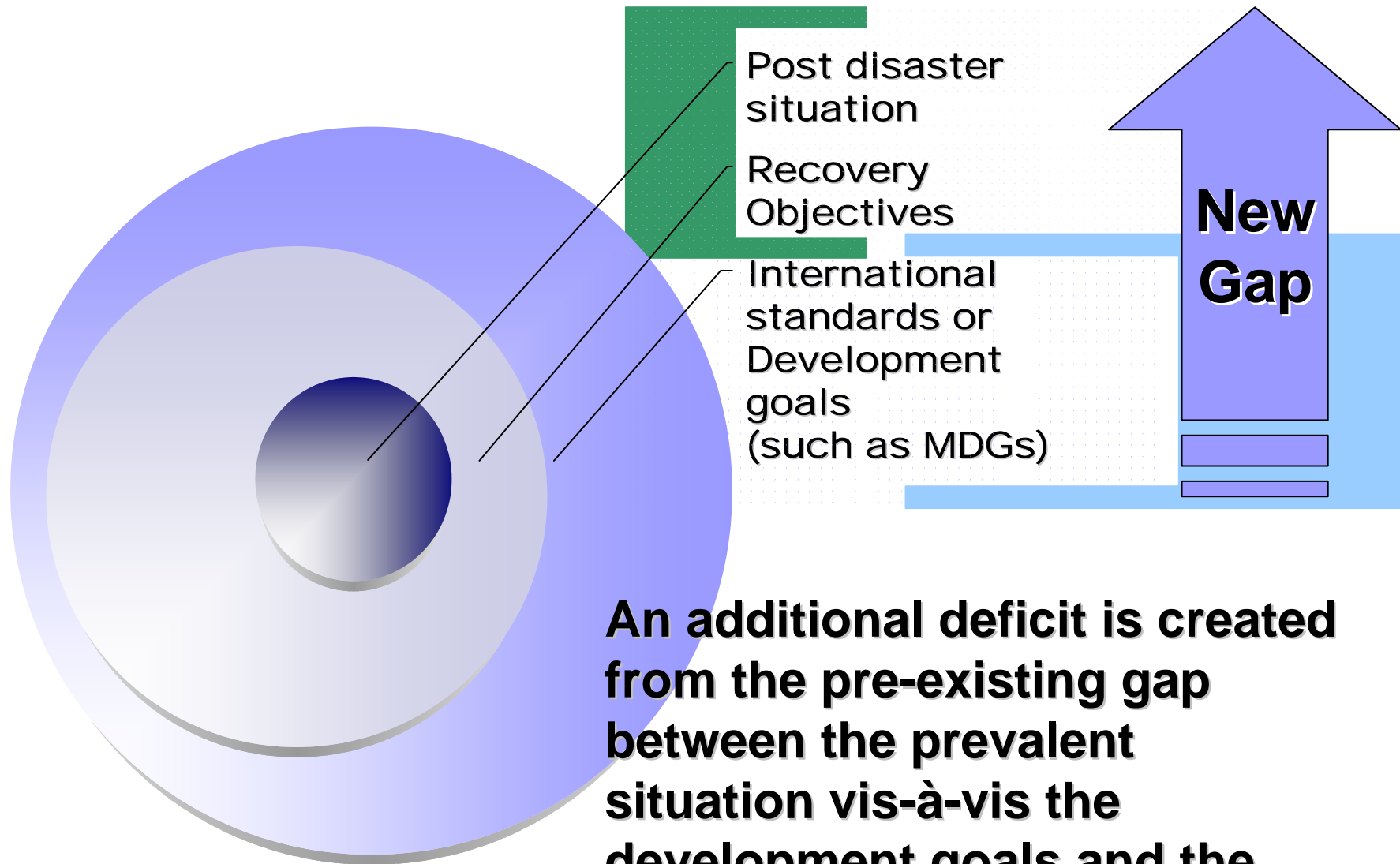
***Ricardo Zapata-Marti, Focal Point for  
Disaster Evaluation***

# ECLAC's experience over 30 years

- Demand-driven technical cooperation with member countries: from 1973 in Central America (Managua earthquake in 1972 the first)
- More than 30 mission-assessments since including earthquakes in Central America and Mexico (1984-85), volcanic eruptions (Cerro Negro in Nicaragua, Colima volcano in Mexico), tsunami (Nicaragua), hurricanes in Caribbean and Central America such as Mitch (1998), ENSO and climate variability in 70s, 80s and 90s in Central and South America, drought in Central America (2001), 2004 -2007 hurricanes in the Caribbean and Central America, 2005 Indian Ocean disaster (Indonesia, India, etc.), 2007-2008 applications in joint assessments with WB-GFRR
- Development of a standardized, internationally recognized DAMAGE AND LOSSES ASSESSMENT METHODOLOGY (DALA), which is
  - Recognized by donors as credible and reliable,
  - Increasingly used in coordination with UN system,
  - Increasingly validated in academia
  - Partially used as a proxy to determine the potential impact of climate change (as a contribution to the 4AR of IPCC)
- Development of partnerships and cooperation with IFIs at the sub regional, regional and world level --IADB, CAF, CABEI, WB (IBRD – GFDRR)– and the UN system's agencies and UNDP
- Institution and capacity building at national, sub regional and regional level, by training in DALA and supporting national and local levels to adapt/adopt DALA (Gujarat in India with ADPC, Mexico with CENAPRED, Central America with CEPREDENAC, Caribbean with CDERA)

# Ongoing activities

- Training and dissemination of UN-ECLAC DALA: in the region with IDB, UNDP and WB-GFDRR (over 10 countries in 2007-2008)
- Use of DALA Joint assessment missions (2007-2008) with IDB, UN, ASEAN and UN-GFDRR (Bangladesh, Bolivia, Dominican Republic, Haiti, Madagascar, Mexico, Myanmar, Nicaragua)
- Development of PDNA framework for integrated UN system (for UNDP-BCPR and integration to IASC)
- Research on disaster risk indicators (with IDB, through national case studies, Chile, Colombia, Jamaica, Mexico and Nicaragua)
- Advocacy of risk reduction through standardized (DALA based) disaster assessments with OFDA-CRED, ISDR Global platform, IFRC Provention Consortium, regional and subregional bodies such as CEPREDENAC, CDERA, APEC, CAPRADE



Post disaster situation

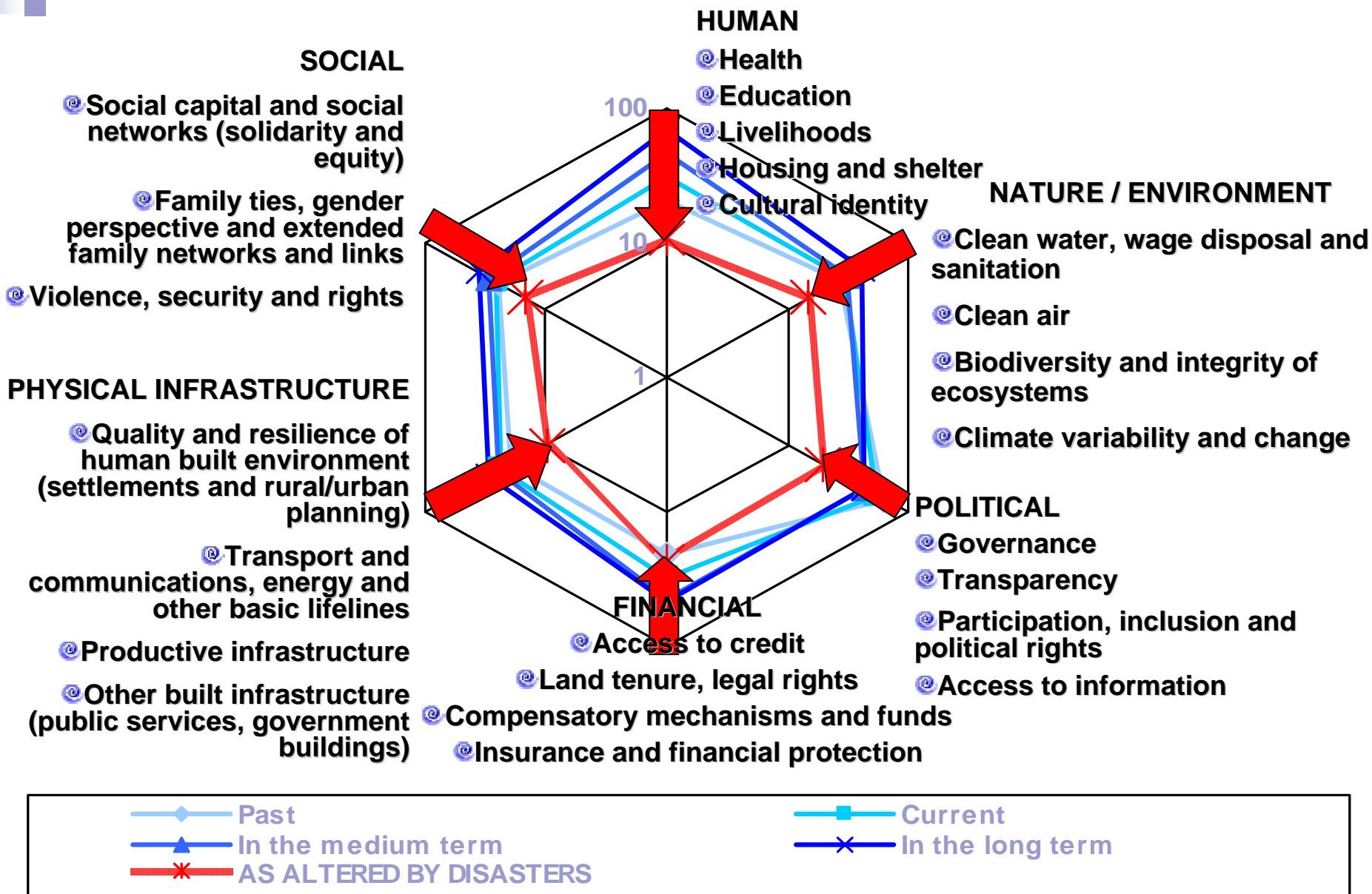
Recovery Objectives

International standards or Development goals (such as MDGs)

**New Gap**

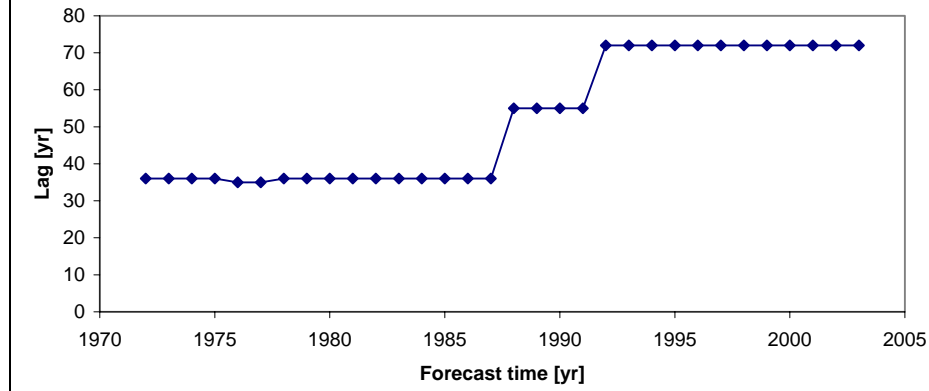
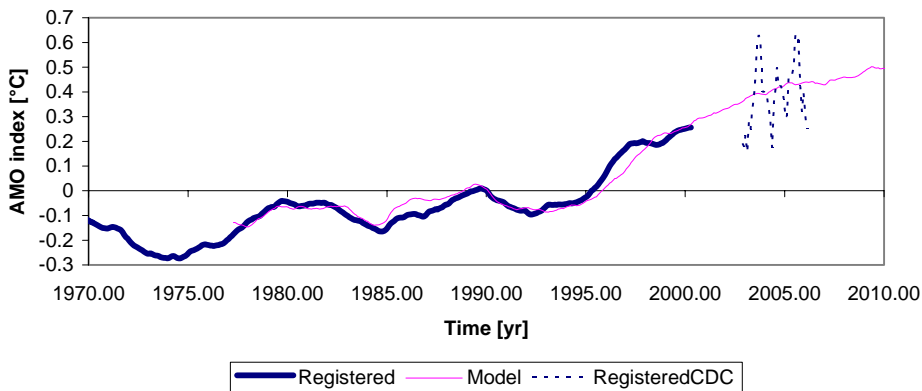
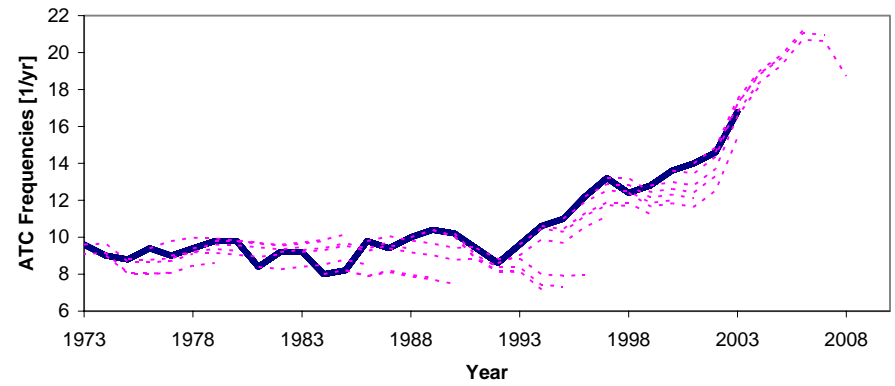
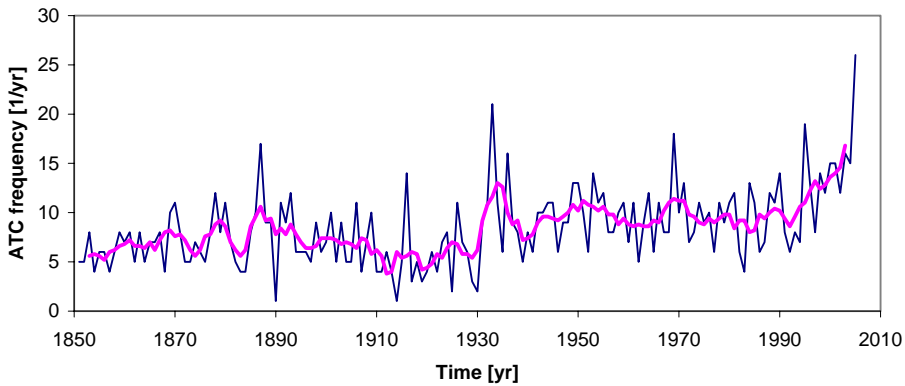
**An additional deficit is created from the pre-existing gap between the prevalent situation vis-à-vis the development goals and the emerging recovery objectives.**

# The systemic development framework to assess disaster's impact

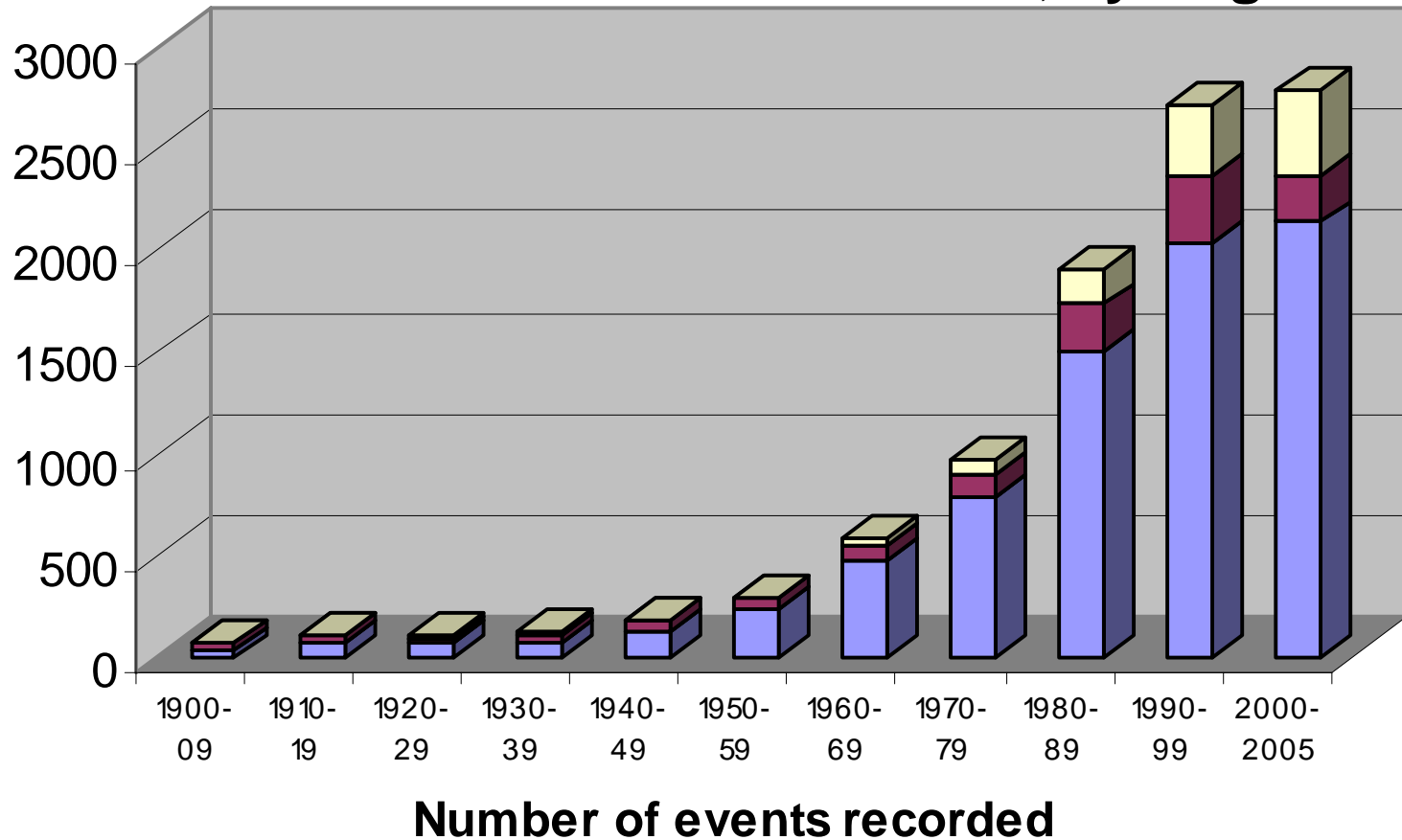


# Probability of extreme events:

Atlantic Tropical Cyclone Frequency 2006-2010: An Experimental Forecast Based on Multi-decadal Analogues, JORGE SÁNCHEZ-SESMA, Coordinación de Hidrología, Instituto Mexicano de Tecnología del Agua, Morelos, México.

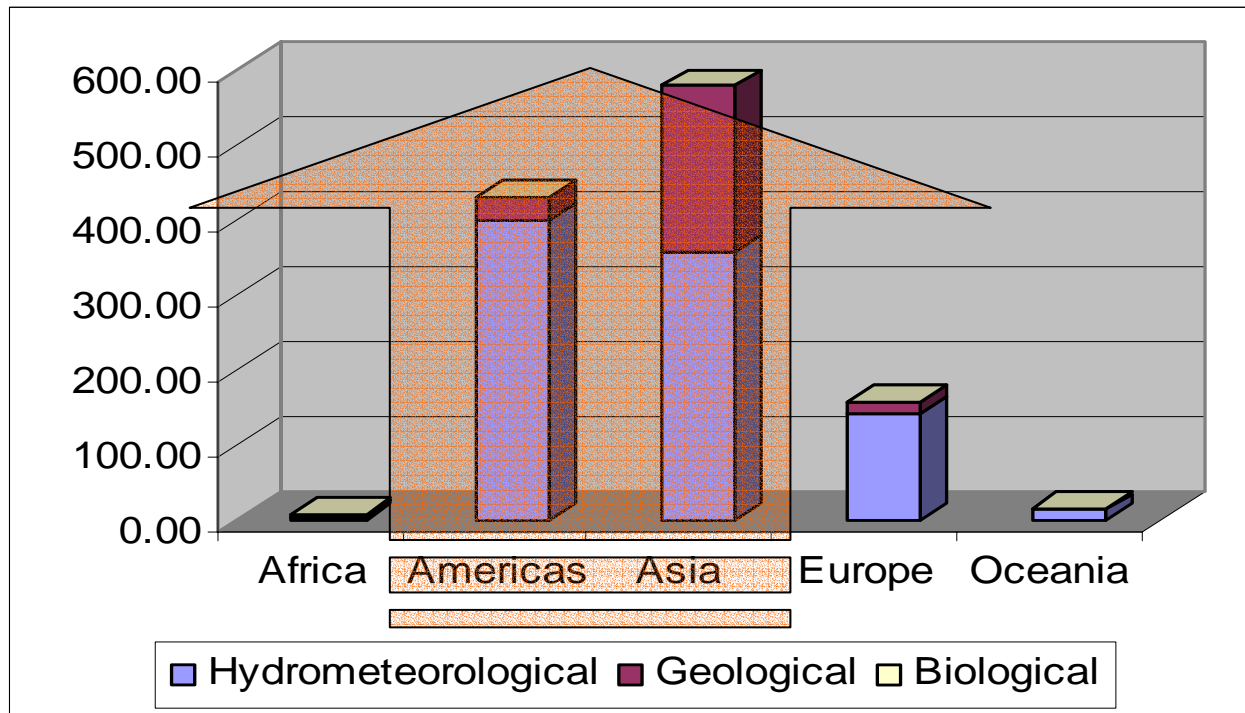
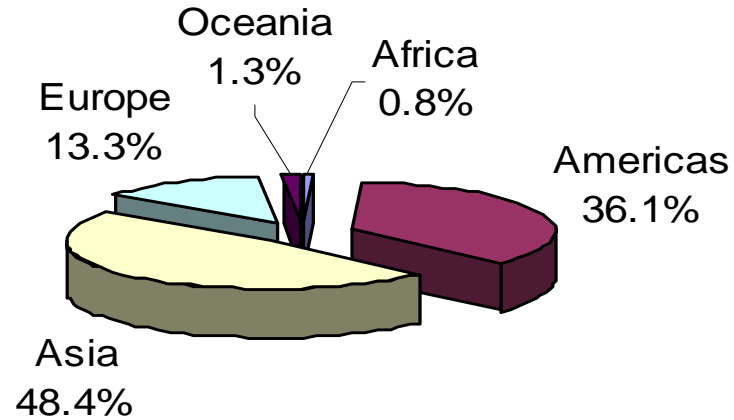


# Historical distribution of disasters, by origin



■ Hydrometeorological ■ Geological ■ Biological

# TOTAL AMOUNT OF ECONOMIC DAMAGE BY REGIONS





# ECLAC's disaster assessments over the years

Period	AFFECTED POULATION		TOTAL DAMAGE AND LOSSES
	Deaths	Primary affected population	(millions of US dollars, at 2004 value)
1972-1980	38,042	4,229,260	78,085
1980-1990	34,202	5,442,500	101,251
1990-1999	32,648	2,518,508	31,367
2000-2010 (estimated)	18,032	35,478,470	50,050
1972-2005	122,924	47,668,738	260,753
Yearly average	3,725	1,444,507	7,902
<i>Of which of meteorological or climatic nature</i>	<i>50,067</i>	<i>22,929,198</i>	<i>127,923</i>
<b>Source: ECLAC led assessments since 1973</b>			

# ***Reasons for the increase in natural catastrophes and natural catastrophe losses***

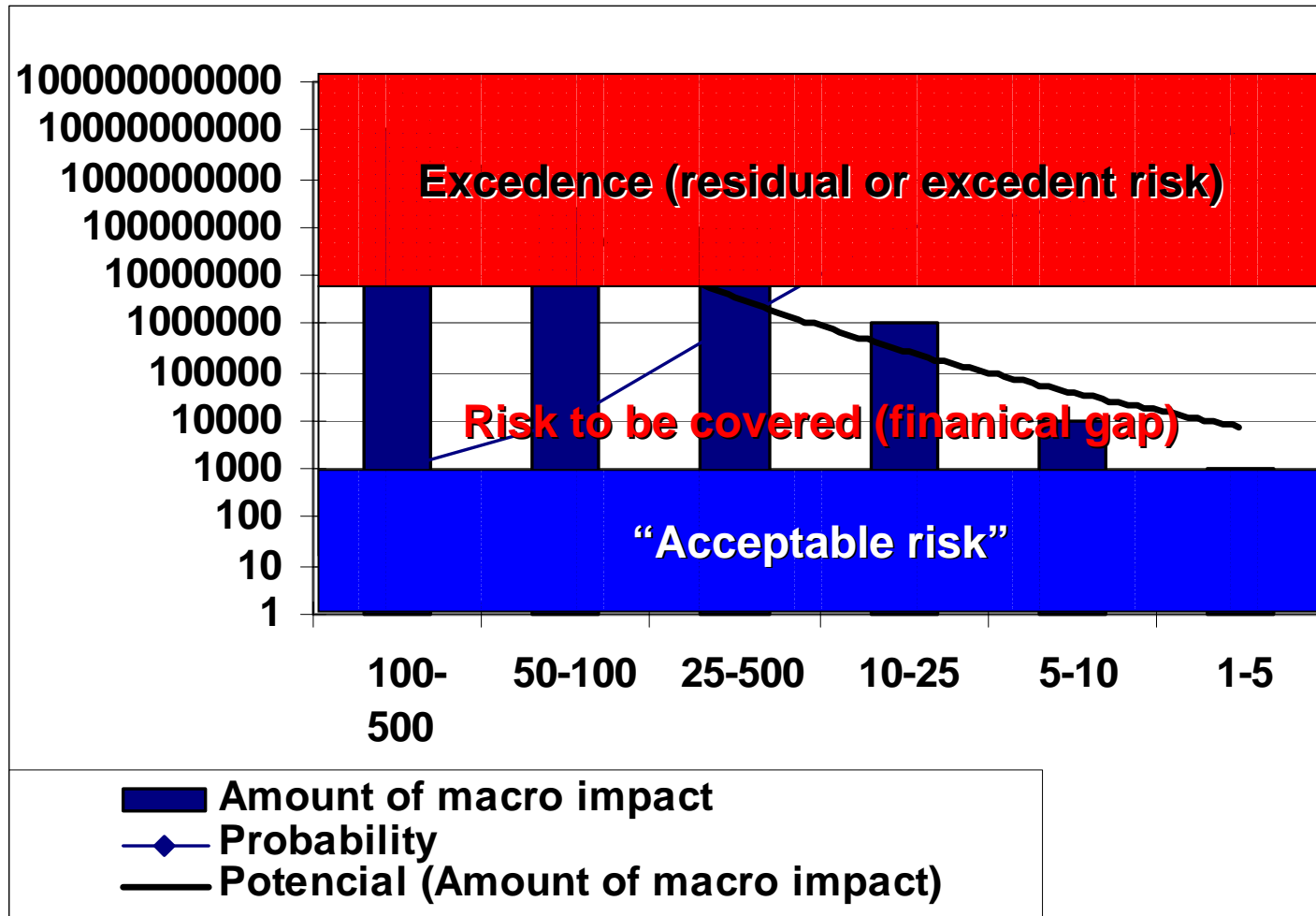
- ***Global population growth (exponential development); in 1800, for example, there were one billion people living on the earth, today there are 6.3 billion.***
- ***The rising standard of living in nearly all countries of the world produces growing accumulations of wealth which are hit in the event of a catastrophe.***
- ***Concentration of population and values in conurbations: the emergence of numerous mega cities - even in exposed regions (e.g. Tokyo: 30 million inhabitants)***
- ***Settlement and industrialisation of very exposed regions, especially coasts and river basins, tourism in danger zones, e.g. Florida***
- ***Vulnerability of modern societies and technologies, structural engineering, devices and equipment, networks; problems involving suppliers too***
- ***Increasing insurance penetration throughout the world, i.e. the proportion of insured goods is mounting globally. Consequently, insured losses are escalating even faster.***
- ***Global changes in environmental conditions, climate change, water scarcity, loss of biodiversity***

# The road ahead

- Financial protection instruments (both to extreme events and climate change)
- Insufficient use of insurance and other risk transfer mechanisms
- Inappropriate pricing of risk in the market:
  - A vicious circle in which “public goods” (the state’s responsibility to protect lives and property) become public calamities
  - A virtuous circle to be promoted: transparent risk appropriation of risk, pricing and valuation leading to risk reduction investment

# LEVEL OF DISASTER IMPACT

■ Indicates coping and adaptive capacity

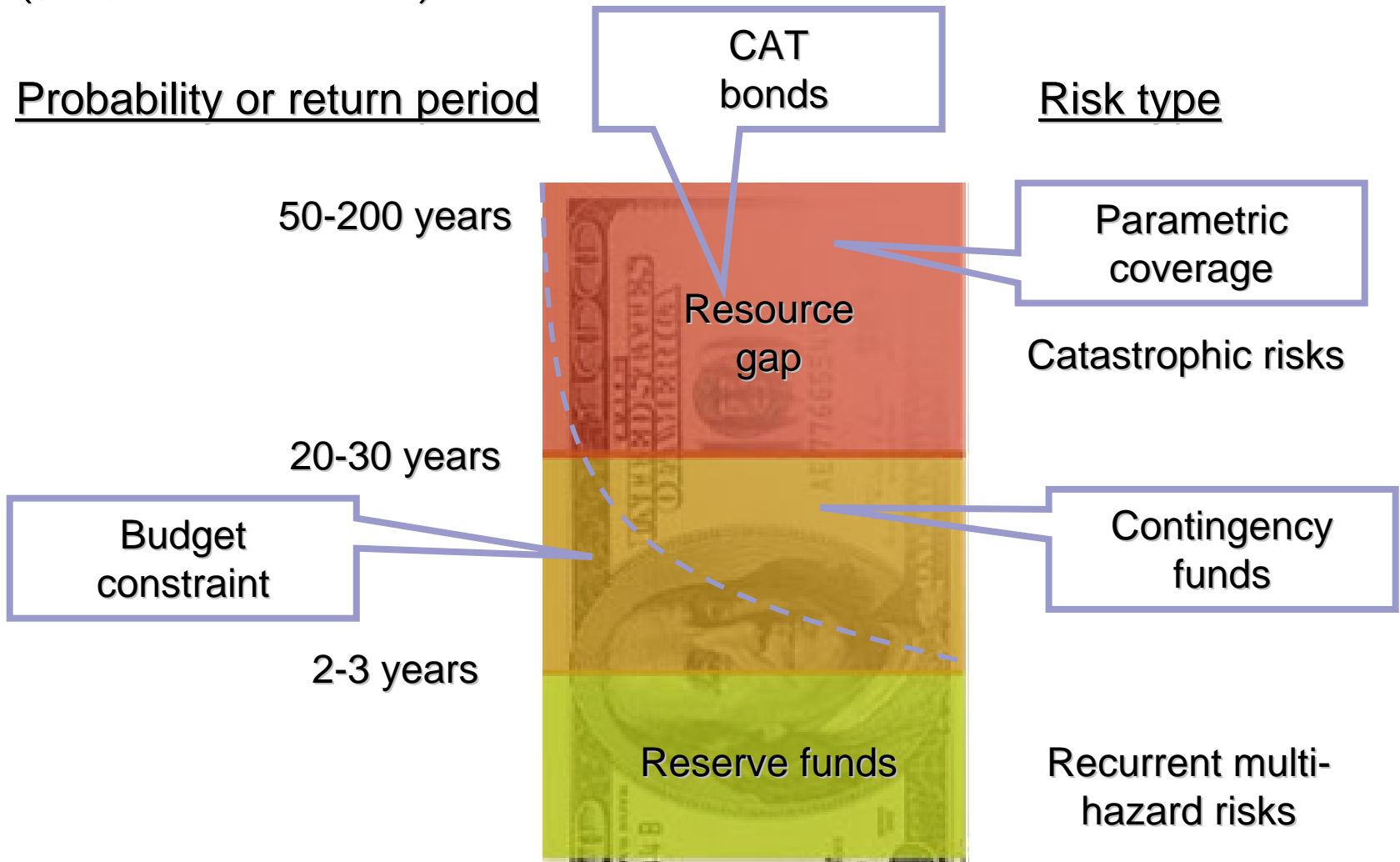


# ESTABLISHING RISK FINANCING NEEDS

(based on World Bank work)

Probability or return period

Risk type



# Appropriation to promote reduction of risk (in the face of extreme events and climate change)

- Need for regulatory and institutional changes
- Markets as clearing houses to price risk (beyond insurance)
- Need for social policies for compensation, promotion and solidarity
- Risk management is an investment / business opportunity
- Imperfect markets require governmental intervention, alongside of promoting competitiveness through trade, equity and poverty reduction and macroeconomic stability



SIXTY YEARS WITH LATIN AMERICA AND THE CARIBBEAN

# Thank you!

<http://eclac.cl/mexico>

<http://gfdrr.org/>

<http://groups.google.com/group/pdna-for-recovery>

<http://www.recoveryplatform.org>

<http://www.undp.org/cpr/iasc>