

CAUSES AND CONSEQUENCES OF DISASTERS IN LATIN AMERICA AND THE CARIBBEAN (LAC)

Sergio Mora

**International Disaster and Risk Conference
Davos 2008**

La Paz and El Alto, Bolivia; May 2006

DESPITE...

- The constantly multiplying technical assessments about hazards: Seismic, volcanic, landslides, El Niño, Climate Change...
- Increasing efficiency in “disaster management” operatives

Unfortunately, it must be realized that:

- Vulnerability increases; losses become larger and more frequent
- Poverty closes and exacerbates the vicious circle of disasters
- Chronic disorder in infrastructure, productive activities, natural resources exploitation, urbanism; all sometimes even “planned” !

Society faces a paradox:

- Creates situations and factors that aggravate the effect of natural processes (vulnerability)
- Tries to mitigate the consequences by means of technology, at a very high cost, and sometimes ... too late
- Takes refuge under the indulgence of being a victim of Nature.

DISASTER RISK MANAGEMENT:

- **Advances slowly**
- **Countries lag in developing preventive capacities**
- **Reducing vulnerability is not a priority yet**
- **Strategies are still subordinated to disaster management...**

- **... they divorced from environmental management and land use planning**
- **There is an incomplete understanding of the full meaning and insufficient quantification of risk.**

➤ Damage and costs caused by disasters increase

PERIOD	POPULATION AFFECTED		TOTAL IMPACT (Constant 2004-US\$ value, billions)			
	Fatalities	Population directly affected	TOTAL	Damage, to assets	Losses, in flows	External impact
1972-2005	115,176	35,463,890	232.26	150.34	80,424.3	77.22
Annual average	3,490	1,074,663	7.038	4.56	2.48	2.34

(Charvériat - 2000; Mora - 2007; ECLAC - various dates)

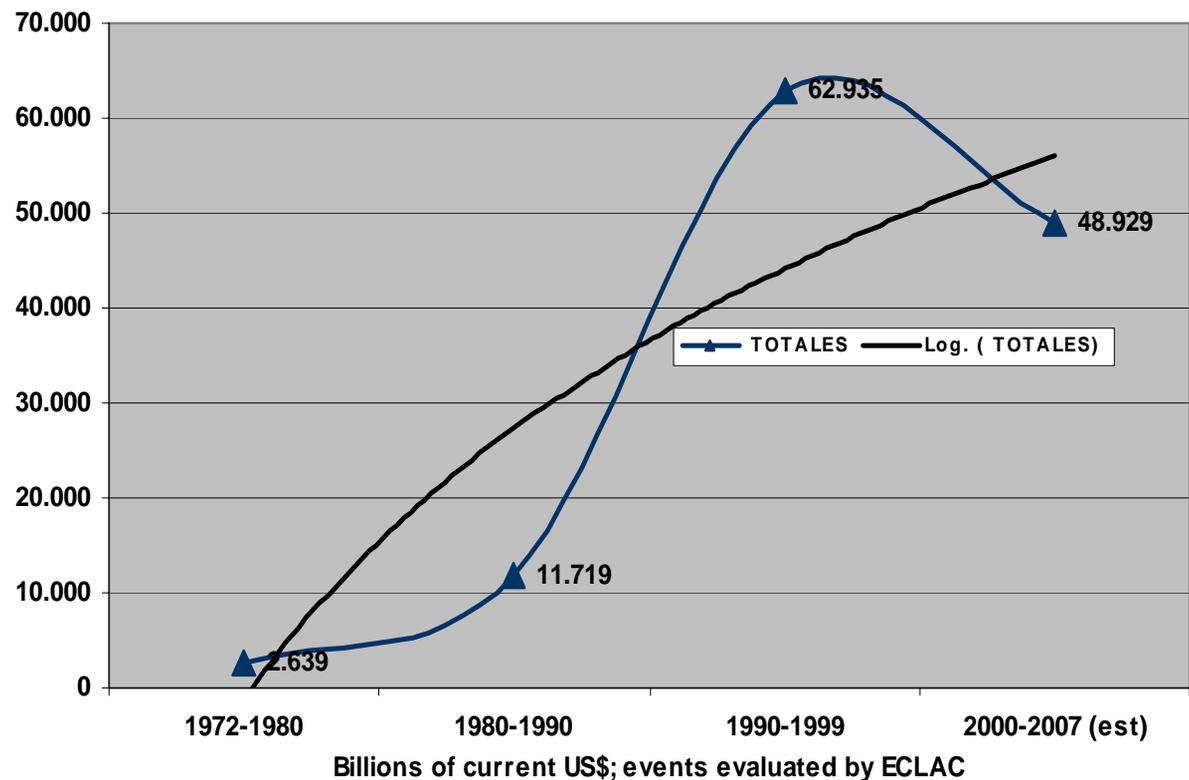
1970-1999:

In “developing countries” occurred:

- 80% of disasters,
- 91% of fatalities...
- ...but was is only 70% of the world's population

(World Bank/CRED 2000, UNFPA 2000)

Latin America and the Caribbean (1972-2007)



➤ **...if the effect of accumulated “minor” hazards is added, the value of the losses increases significantly (Marulanda & Cardona, 2006; Mansilla, 2006, Mora 2007)**

COMPARATIVE DAMAGE AND LOSSES: “LOW INTENSITY” VS. “MAJOR” DISASTERS, COLOMBIA			
TYPE OF DAMAGE	ARMERO (1985)*	COFFEE BELT EARTHQUAKE (1999)**	AGGREGATED IMPACT OF “LOW” INTENSITY EVENTS (1971-2000)
Fatalities***	21,800	1,916	16,806
Affected	7,700	1,950,674	7,895,472
Houses destroyed	4,000	17,551	144,450
Houses affected	1,100	61,895	239,623
Hectares of crops affected	199,000	2,455,750	2,968,474

* CEPAL, 1985 ** CEPAL, 1999 *** Includes disappeared



Torrential debris flow, Orosi, Costa Rica (Sept/2005)



Landslide and torrential debris flow, Puno, Perú, 2007

¿ARE DISASTERS NATURAL?

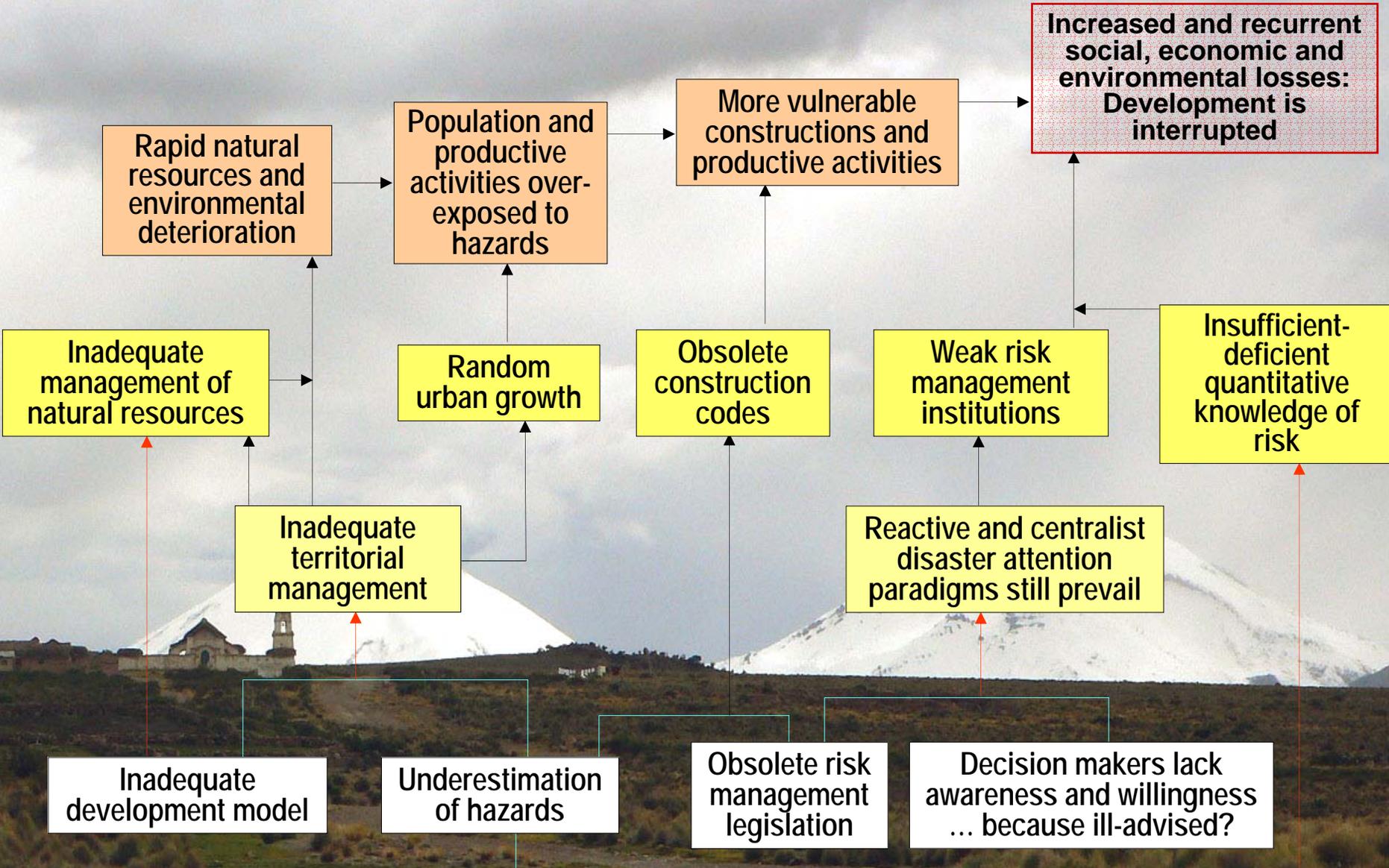


*About the river that takes everything along its path, we refer to as violent...
But about the human margins, enclosing it and oppressing it, nobody talks about violence*
Bertolt Brecht



Río Guaire, Caracas, Venezuela, 2005

Aggravating factors of vulnerability, in LAC (Mora & Keipi, 2006)



 **In 2025, 85% of LAC
population will be urban**

- **Almost all countries have territorial and urban planning strategies...**
- **... but what about their compliance?**

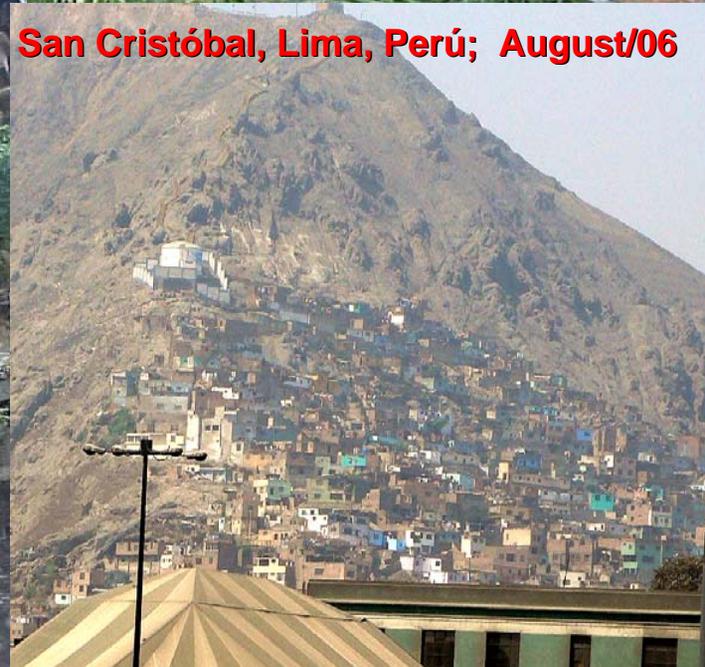


Santa Inés, Caracas, Venezuela; 2005



Caracas, Venezuela, 2001

San Cristóbal, Lima, Perú; August/06



It is clear: ... If adequate attention is not given to those kind of realities:

Creation of vulnerability

=

Will sooner or later lead risk to materialize as a...



La Paz river upper watershed, Bolivia; 2006



La Paz, Bolivia; 2006



Larcomar-Malecón, Lima, Perú; June/2006



Juvénat, Port au Prince, Haiti (June/03)



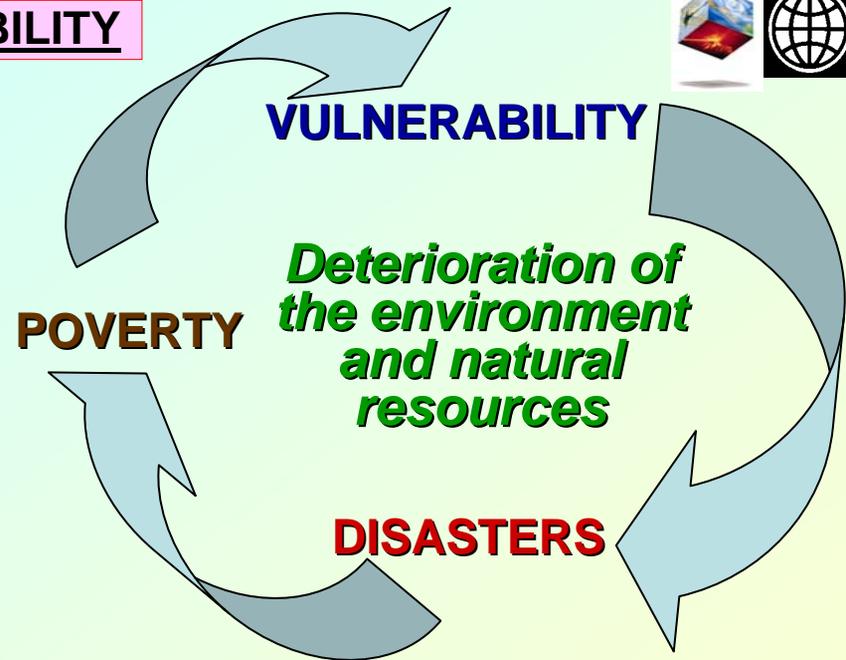
Quito, Cotopaxi and Pichincha volcanoes, Ecuador, 2005



Plymouth and La Soufrière volcano, Monserrat; 1997

MONTSERRAT. CAPITAL PLYMOUTH WITH SOUFRIERE (3002 FT.)

- **Natural hazards are transformed into disasters through vulnerability**
- **Determined/controlled by poverty, social inequality, low quality of critical infrastructure, institutions, environment**
- **The impact of hazards and mismanaged risk can breed still more vulnerability and thereby further increase risk...**
- **...then other hazards, perhaps of lesser intensity, may result in new disasters:**



Kenskoff, Haiti, 1987

➤ **Consequences of not taking action...or taking the wrong one...**

➤ **Poor decision making, exacerbated by a poor approach to risk management, leads to poor planning and development**



**Britador, Campos do Jordão, SP, Jan/2000;
Hächich, 2006 (photo DIGEO/IPT)**



**Perpétuo, Teresópolis - RJ, 21/12/2002; photo:
Secretaria Municipal de Defesa Civil**



Beni, Bolivia, April 2007



IN VIEW OF SUCH POOR RESULTS, IT IS FAIR TO ASK:



Why strategies and policies have been so ineffective ?

Is it that the engineering and scientific communities have failed to convey the appropriate message...?

FACTORS OF FAILURE:

- **Poor job in transmitting information and comprehension of risk**
- **Lack of congruent political strategies**
- **Unskilled and ineffective use of our (good) arguments**
- **There is neither learning of lessons nor taking advantage of experiences.**

CLIMATE CHANGE ADAPTATION SHOULD BE PART OF AN INTEGRAL RISK MANAGEMENT POLICY !!!

- There is no single panacea nor “stand alone” solution, but a summation of partial processes
- CCA should not divert the attention and compete with other efforts to reduce currently damaging vulnerabilities

And...

Who said it was going to be easy to reverse the damage already done by the industrial nations ? ...

... and preventing the damage under way from the “emerging” ones, which would like to have their own share of development ... no matter the cost !

The important question is not whether or not there will be more or less rain, but instead how much from what it falls will drip through my roof, and how much from what it won't fall, will not be available for irrigation, power and drinking...

Gustavo Wilchez-Chaux



iii MUCHAS GRACIAS !!!

