Introduction – context
Natural Disaster Reduction has increasingly become a core development concern for most countries in the Hemisphere. Investing in Risk Management is investing in sustainable development, reducing costs and generating income.

During his opening remarks at the First Meeting of the Inter-American Committee on Natural Disaster Reduction (IACNDR)\(^1\), held in Washington DC, on September 24, 2007, OAS Secretary General José Miguel Insulza stressed the need to update the Inter-American Strategic Plan for Policies on Risk Reduction, Risk Management, and Disaster Response (IASP); as well as the urgent need to deepen coordination to avoid duplication of efforts amongst those actors in the Inter-American system, sub-regional organizations and other private and public entities with the technical capacity to contribute to effective disaster risk reduction.

While addressing the IACNDR, IDB President Luis Alberto Moreno, noted that the rising economic cost associated with disasters was far outpacing average economic growth in the region over the past two decades. Considering the potential macroeconomic consequences, he identified the key challenges

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\(^1\) The IACNDR was created in 1999 through AG/RES. 1682, and it is chaired by the Secretary General of the OAS, and is comprised of the Chair of the OAS Permanent Council, the Assistant Secretary General of the OAS, the President of the Inter-American Development Bank (IDB), the Director General of the Pan American Health Organization (PAHO), the Secretary General of the Pan American Institute of Geography and History (PAIGH), the President of the Pan American Development Foundation (PADF), the Director General of the Inter-American Institute for Cooperation on Agriculture (IICA), the Director General of the Inter-American Agency for Cooperation and Development (IACD), the Chair of the Inter-American Defense Board (IADB), and the Executive Secretary of the Inter-American Commission of Women (CIM). The Secretary General of the OAS invites the member states, permanent observers, and representatives of national, subregional, regional, and international organizations and mechanisms to participate in IACNDR meetings, when he deems necessary. Said organizations could include the United Nations, the World Bank, the International Committee of the Red Cross (ICRC), the White Helmets Initiative, the Caribbean Disaster Emergency Response Agency (CDERA), and the Coordination Center for the Prevention of Natural Disasters in Central America (CEPREDENAC).
facing hemispheric organizations as: working to change the perception in some countries of disaster prevention as being more of a cost than an investment with significant medium to long term benefits; encouraging the transfer of disaster risk through insurance and reinsurance mechanisms and emphasizing ex-ante risk management over response activities.

The gap between potential losses and the capacity of many countries to finance post-disaster reconstruction has reached alarming levels. This year (2007) for example, the Peruvian Government estimated that the August 15 earthquake that registered 7.9 on the Richter scale killed more than 500 people, injured more than 1,000, and destroyed more than 80% of the buildings in the city of Pisco, Peru. The Pan-American Highway, Peru's main coastal artery, also was completely destroyed, making its reconstruction crucial to minimizing the economic impact of the earthquake. The farms of the Ica region, fishing and textile businesses depend on the highway and the port of Pisco; and tourism will also be curtailed for a while. Besides homes, the Government will need to rebuild most of the schools—only one of 91 day nurseries in Pisco was still standing after the event, along with a few hospitals and prisons. The Peruvian Association of Engineers estimates it will cost $600M to rebuild Pisco and Chincha alone. According to some forecasts, the disaster could knock off as much as a full percentage point off economic growth, forecast at almost 8% this year. Others believe that rebuilding will offset that.

Nearly two months before the 2007 hurricane season ends, the countries of the Caribbean, Central America and the eastern seaboard of the United States have already been hit by two major hurricanes, Dean and Felix, as well as eight tropical storms. An estimated 80 percent of the banana crops for the season have been destroyed in Dominica and St. Lucia by Hurricane Dean. For those communities, the economic suffering from the 2007 season will extend into the months and years ahead. The overall economic damages, which are still being counted to date, have already run into billions of dollars.

It has been established that even modest risk reduction investments that strengthen the resilience of communities before a disaster strikes can produce huge pay-offs, measured by lives saved, assets protected, families not dislocated, and reduced interruption of business and economic activity. Such investments include adopting building codes and standards; making better use of land use planning and zoning regimes to ensure that critical social and economic infrastructure are not sited in floodplains and high-risk areas; and using cheap but effective techniques like rubber or leather clasps that cost as little as $2 per home to protect roofs from wind-damage, which accounts for nearly 90 percent of the damage caused by most hurricanes.

A joint 2005 study coordinated by the OAS, together with the World Bank, the IDB and the International Monetary Fund (IMF) leaves no doubt that developing countries and the poor within them are the worst affected by natural disasters, and that the economic arguments favoring relatively small,
up-front investments in vulnerability reduction can have substantial pay-offs.²

Natural disaster impacts extend beyond national borders, making the case for regional approaches to reduce vulnerability and manage risk. Disaster risk needs to be addressed at all levels—local, national and regional—and by all stakeholders, including the private sector and the active participation of civil society. International agencies can provide financing and technical assistance.

A natural disaster can become also a national security issue. Newspapers, the Internet, and especially 24-hour cable news networks reported widespread looting beginning shortly after Katrina’s landfall. It is crucial that disaster response planners anticipate looting in the wake of natural disasters and design their responses to antisocial behavior, help meet people’s basic needs, and move as quickly as possible into the recovery phase of the disaster.

Tragic events have been a spur to serious national efforts to learn lessons and make buildings and infrastructure more robust. Often this has benefits that go far beyond the disaster-stricken area. Even when a disaster strikes on a titanic scale, there are many factors within human control – a knowledgeable population, a good early warning system and settlements built with disasters in mind – that can help to minimize the number of casualties. Therefore, intelligent planning and regulation can make a huge difference to the number of fatalities when disaster strikes.

The Hemispheric Agenda
All agencies of the Inter-American System have agreed to work on cost-benefit analysis to show that investing in vulnerability reduction is less costly than investing in rehabilitation and reconstruction. They further agreed to explore risk pooling strategies and collective insurance schemes as key elements of an integrated risk management and financial strategy.

The Committee on Hemispheric Security (CSH) is the highest political body within the OAS, responsible for coordinating cooperation among the organs and mechanisms of the Organization related to the various aspects of security and defense in the Hemisphere, including natural and man-made disasters, in the framework of the Declaration on Security in the Americas.

Within this institutional context and hemispheric agenda, this Hemispheric Encounter is a direct response to the agreements of the IACNDR, and the AG/RES. 2314 (XXXVII O/07) that calls for the Inter-American Network for Disaster Mitigation (INDM) to support the implementation of the decision of the Inter-American Committee. Likewise, the Encounter responds to the

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² “The Economics of Disaster Mitigation in the Caribbean - Quantifying the Benefits and Costs of Mitigating Natural Hazard Losses. Lessons learned from the 2004 Hurricane Season.” –by IDB, IMF, OAS and WB. August 2005
mandates emanated from that resolution and AG/RES 2184 (XXXVI-O/06,) which request the support of OAS/DSD to “improve the economic cost-benefit analysis of natural disaster risk reduction and prevention.”

**Objective**
The main objective of the Encounter is to explore strategies by which the benefits of investments in vulnerability reduction as opposed to investments in rehabilitation and reconstruction can be highlighted and encouraged.

Using case studies and practical experiences, the Encounter will seek to analyze and prove empirically the cost-effectiveness of investing in reducing vulnerability of economic and social infrastructure versus the cost of rehabilitation and reconstruction.

It will further look beyond the additional cost of making infrastructure more resilient to natural hazards, the economic losses in agriculture, tourism and other productive sectors. More specifically the Encounter will examine:

- The cost of business interruptions across all economic sectors, as well as public and private sector service providers;
- Additional costs in health services due to injuries caused by catastrophic events and the spread of water and vector borne ailments;
- Additional costs in trade due to interruption of communication and transportation networks;
- Additional costs due to interruption of school operations; and
- Additional costs for public security, among others.

**Expected Outputs**
The main expected output of the encounter is an analytical report that will outline a strategy for mainstreaming risk reduction within the development process and for increasing ex-ante investments to reduce the vulnerability of vital infrastructure and productive sectors.

Additional expected outputs are:

1. Supporting the establishment of a Pool of Experts and specialists involved in cost-benefit analysis, who can support further research and discussions, as well as policy-making;
2. A division of labor among organizations of the Inter-American and UN Systems for advancing on cost-benefit analysis, towards a harmonized approach to cost-benefit analysis –including indicators and models;
3. A set of priorities –by sector and theme; and
4. A sustained research program to document the costs and benefits of ex-ante investments in disaster mitigation.

Finally, on the basis of the Analytical Report and with the support of the INDM and the Pool of Experts to be assembled as a result of the Encounter, a
publication on the subject will be prepared for wide distribution among decision-makers in the public and private sector.

**Expected Outcomes**

It is expected that the Encounter will provide an opportunity to jointly address cost-benefit analysis within a multi-sector approach, contributing to the integration of the institutional agendas of all relevant stakeholders, particularly those of the specialized organizations of the Inter-American and UN Systems, including: the Pan-American Health Organization (PAHO) and its Safe Hospitals Initiative; the Inter-American Development Bank (IDB) Disaster Risk Management Policy –particularly as it relates to loans for construction of roads and bridges, and sanitation and water supply facilities, among other vital infrastructure; and the World Bank Global Facility for Disaster Risk Reduction (WB-GFDRR) and UN/ISDR Central American Probabilistic Risk Assessment tool (CAPRA.)

An analytical report of the Encounter will provide the technical argument to make the case for the cost-effectiveness of investing in vulnerability reduction. Case studies and practical experiences shared at the Encounter will complement the analytical report, supporting advocacy for investing in vulnerability reduction activities ex-ante risk management, as opposed to the non-transfer of disaster risk through insurance and the over-emphasis on response.

**Content of the Agenda**

Making the case for the cost-effectiveness of investing in ex-ante vulnerability reduction rather than ex-post recovery, rehabilitation and reconstruction presents certain technical challenges; it requires large amount of data, which may take decades to be collected and will hardly be comparable. Cost-benefit Analysis entails not only comparing the additional cost to reduce vulnerability to the costs of recovery, rehabilitation and reconstruction, the economic losses in agriculture, tourism and other productive sectors; but also the cost of business interruptions across all sectors, including government; the additional costs in health services due to injuries caused by the events and the spread of water and vector borne ailments; the additional costs in trade due to interruption of communication and transportation networks; and the additional costs due to interruption of school operations, among others. So, Cost-benefit Analysis needs to be addressed in a more pragmatic fashion, and within a multi-variable and multi-risk management approach.

In order to address these challenges and better integrate all costs and benefits of ex-ante risk management, the Encounter has been structured in the following three sessions: (1) Risk Identification, Vulnerability and Capacity Assessment (VCA); (2) Financial Instruments for Risk Reduction and
Risk Transfer; and (3) Why investing in vulnerability reduction: the experience of Mexico, Colombia, Grenada and El Salvador.

| Thematic Session 1 - Risk Identification, Vulnerability and Capacity Assessment (VCA) |

This session is divided into 2 sections:

**Section 1**: Covers a broad spectrum of vulnerability and capacity assessment tools—from institutional and human capacity to withstand disaster impacts, to coping and resilience mechanisms, to physical infrastructure vulnerability. Hence, no value is given to the infrastructure or sector subject of the VCA.

Tools for VCA, such as hazard mapping, allow for identification of the vulnerability of certain sectors, infrastructures or communities to any given phenomenon, with no definition of threshold and assignment of risk.

**Panelists**:
- ProVention & IFRC: Vulnerability and Capacity Assessment in Central America and South America: an overview of the region’s vulnerability situation
- OAS – School retrofitting program in Central America: The case of...
- Earthquake Vulnerability Reduction – The Colombian case
- Bolivia and El Niño phenomenon

**Section 2**: Risk Identification implies the establishment of thresholds based upon a value assigned to a given infrastructure. Based on that, risk is identified and evaluated for different phenomena, its intensity or magnitude.

Risk Identification entails also the construction of a baseline and the development of indicators.

**Panelists**:
- IDB: the use of Indicators of Disaster Risk and Risk Management The case of (country)
- ISDR & WB: CAPRA and MIRISK
- UNDP – GRIP

| Thematic Session 2 - Financial Instruments for Risk Reduction and Risk Transfer |

**Section 1**: Financial Instruments (loans, bonds, micro-credits, etc.) for Risk Reduction Investments are developed and implemented based on the Risk
Identification, which in turn is defined by financial, social and economic thresholds defined by policy and decision-makers.

Panelists:

- IDB-CDB Financing Instruments: applicability; advantages and examples of their use
- Ministry of Planning of Colombia – integrating risk analysis in the planning and public investment processes in Latin America
- Incorporating risk analysis into planning processes and public investment in Latin America and the Caribbean – GTZ Peru

Section 2: How can insurance companies influence decision makers on the adoption of construction codes?

Catastrophe Risk Insurance Facilities and other mechanisms and instruments, including private insurance sector instruments, provide for transferring accepted-risk, reducing the adverse impacts of natural phenomena.

Panelists:

- WB – CCRIF
- PADF –OFDA: The influence of the private sector: establishing and strengthening an effective working relationship between the private and public sectors at all levels
  1) Corporate Social Responsibility
  2) Benefits to corporate contingency and business continuity plans
- Costa Rica: the Private Sector and Government working together
- The experiences of Ecuador and Colombia with the private sector

Thematic Session 3 –
Why investing in vulnerability reduction?

Section 1: Infrastructure Vulnerability and its economic impact.

Effective ways to promote the use of better construction standards and land use planning.

Panelists:

- PAHO – social benefits of having safe hospitals, and Design and application of the Hospital Safety Index, by Felipe Cruz, Mexican Social Security Institute (IMSS)
- Risk management and sustainability of the educational sector – the experience of Bogotá, Colombia
- Economic cost of vulnerable housing – the Caribbean

**Section 2:**
Experiences of countries that, after being hit by a natural disaster at a national level, they have learned lessons that deserve some attention:

- Planning and budgeting ahead: Bogota’s experience
- Grenada and the building codes for housing
- Mexico: lessons learned from the 1985 earthquake
- El Salvador: building safer schools – building a better future

**Format of the event**
Each section will be chaired by an expert identified by a leading organization, and include two to three presentations of case studies or practical experiences. The Chairman, who will act as the moderator, will provide a 5’ summary and will post questions and moderate discussions with the participation of all attendees. Panelists will provide expert commentary and draw conclusions, which will be integrated in the analytical report of the Encounter.

Rapporteurs will be drawn from the audience at the event. They will provide support to the Chairman, while the final responsibility of the report of each session and section will lie on each Chairman.