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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROGRAM DOCUMENT

FOR A

PROPOSED DISASTER RISK MANAGEMENT DEVELOPMENT POLICY LOAN WITH A CATASTROPHIC RISK DEFERRED DRAWDOWN OPTION

IN THE AMOUNT OF US$150 MILLION

TO THE

REPUBLIC OF COLOMBIA

November 13, 2008

Sustainable Development Department
Colombia and Mexico Country Management Unit
Latin America and the Caribbean Region

84551

REMISIÓN DE DOCUMENTOS

Bogotá, 08 de enero de 2009

Estimada señora Rueda,

Adjunto estamos enviándole 3 copias del PAD del proyecto *Colombia: Disaster Risk Management Development Policy Loan with a Catastrophic Risk Deferred Drawdown Option* por solicitud del Gerente de Proyecto.

Cordialmente,

María Margarita Sánchez R.
Sustainable Development
Colombia Country Office
Tel: (57-1) 326 3600 Ext. 224 Link: 5280+224
Fax: (57-1) 326-3480
Email: msanchez@worldbank.org

INVIAS	National Road and Transport Institute (Instituto Nacional de Vías)
MAVDT	Ministry of Environment, Housing and Territorial Development (Ministerio de Ambiente, Vivienda y Desarrollo Territorial)
MHCP	Ministry of Finance and Public Credit (Ministerio de Hacienda y Crédito Público)
NDP	National Development Plan 2006-2010 (Plan Nacional de Desarrollo 2006-2010 Estado Comunitario: Desarrollo para Todos)
PDM	Municipal Development Plan (Plan de Desarrollo Municipal)
PFM	Public Financial Management
PNPAD	National Disaster Prevention and Attention Plan, (Plan Nacional para la Prevención y Atención de Desastres)
SGP	General System of Participation (Sistema General de Participaciones)
SNCyT	National System of Science and Technology (Sistema Nacional de Ciencia y Tecnología)
SNPAD	National System for Disaster Management and Prevention (Sistema Nacional para la Prevención y Atención de Desastres)
UN/ISDR	United Nation's International Strategy for Disaster Reduction

Vice President:	Pamela Cox
Country Director:	Axel van Trotsenburg
Sector Director:	Laura Tuck
Sector Manager:	Guang Zhe Chen
Task Team Leader:	Niels B. Holm-Nielsen

COLOMBIA

DISASTER RISK MANAGEMENT DEVELOPMENT POLICY LOAN WITH A CATASTROPHIC RISK DEFERRED DRAWDOWN OPTION

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REPUBLIC OF COLOMBIA
DISASTER RISK MANAGEMENT DEVELOPMENT POLICY LOAN WITH A CATASTROPHIC RISK DEFERRED DRAWDOWN OPTION

Borrower	Republic of Colombia
Implementing Agency	Ministerio de Hacienda y Crédito Público (Ministry of Finance and Public Credit - MHCP), Departamento Nacional de Planeación (National Planning Department—DNP).
Financing Data	IBRD Loan Terms: Disbursement-linked fixed spread loan, denominated in US dollars with a variable interest rate. Each disbursement will be payable in 24 years (including an 11 year grace period) with level repayments of principal. Principal amounts repaid and/or prepaid prior to the Closing Date will be available for subsequent disbursements. The Borrower wishes to maintain all risk management options embedded in the Disaster Risk Management Development Policy Loan (DLP) with a Catastrophic Risk Deferred Drawdown Option (CAT DDO), including the possibility to change the amortization schedule for undisbursed amounts. Amount: US$150 million
Operation Type	Development Policy Loan with a Catastrophic Risk Deferred Drawdown Option
Main Policy Areas	Disaster risk management
Key Outcome Indicators	Four key outcome indicators have been drawn from a larger constellation of indicators that the Government has established for itself to guide future implementation and strengthening of its program. For December, 2011, these indicators include: • The National System for Disaster Management and Prevention will continue to address the needs of, on average, at least 80 percent of people in disaster affected areas that request support. • Expand the number of municipalities that have disaster risk management plans. On October 1, 2008, 10 municipalities have disaster risk management plans. • There will be a reduction in the number of people living in the high hazard zone of the Galeras volcano; on October 1, 2008, 7,935 people lived in the high hazard zone. • The Government will have defined a framework for contingent financing. On October 24, 2008, the Government passed a policy document (CONPES 3545) providing the basis for such a framework.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT PROGRAM DOCUMENT FOR DISASTER RISK MANAGEMENT DEVELOPMENT POLICY LOAN WITH A CATASTROPHIC RISK DEFERRED DRAWDOWN OPTION TO THE REPUBLIC OF COLOMBIA

I. INTRODUCTION

1. **Natural disasters are a challenge to sustainable development in Colombia.** In the past 30 years, Colombia has suffered from six major earthquakes, four volcanic eruptions, major landslides, and extensive flooding.[1] Annually Colombia suffers more than 600 natural disasters. Recognizing that disasters are most effectively dealt with before they happen, Colombia has over the past two decades institutionalized a system for comprehensive disaster risk management that among other things seeks to reduce vulnerability by investing in risk mitigation and strengthening the integration of disaster risk management in urban and territorial planning.

2. **Improving Colombia's disaster risk management has been a central theme of the Government's overall policy program since 2002 and has been a key pillar of the Bank's support strategy.** In 2004, the Government requested the preparation of an Adaptable Program Loan (APL) series to support the implementation of its disaster risk management policies, particularly with regard to five priority areas. This APL series was included as part of the Country Assistance Strategy (CAS) Progress Report discussed by the Bank Board in September 2005, when it extended the CAS period through the end of the Bank's 2007 fiscal year. The request for a Disaster Risk Management Development Policy Loan (DPL) with a Catastrophic Risk Deferred Drawdown Option (CAT DDO) indicates Colombia's continuing interest in Bank support in this policy area.

3. **The Government has requested a replacement of the contingent component of APL 1 with the DPL and CAT DDO because the DPL serves the development purposes significantly better than the existing contingent loan facility.** The DPL with a CAT DDO provides the assurance of immediate access to Bank funds that will bridge the gap between the occurrence of the catastrophe and the arrival of funds from other sources, such as a Bank Emergency Recovery Loan, bilateral aid, or revenues from new taxation. While both loans would disburse funds upon the occurrence of a natural disaster resulting in the declaration of a state of emergency, disbursement from the APL contingent loan facility would require the Government to submit an initial recovery plan with related budget appropriations and proposed use of funds document, as well as a statement of expenses from a positive list of imports. This would delay disbursements significantly and reduce the Government's ability to avoid unrecoverable economic and human losses in the immediate aftermath of a catastrophic event. In addition, unlike the contingent loan facility, the DPL with a CAT DDO is renewable for up to 15 years,[2] providing a long-term contribution to the country's catastrophe risk financing

1. See Annexes 6 and 8 for details on Colombia's exposure to natural hazards and the number of reported disasters in Colombia.
2. The DPL with a CAT DDO can be extended for four additional three-year periods. See thee "Memorandum to the Executive Directors, Subject: Proposal to Enhance the IBRD Deferred Drawdown Option (DDO) and to Introduce a DDO Option For Catastrophic Risk", January 29, 2008. Report number 42396.

strategy. Finally the DPL with a CAT DDO does not require the Government to continue to pay an annual commitment fee.

4. **The development objective of the proposed operation is to strengthen the Government's program for reducing risks resulting from adverse natural events.** This objective will be achieved by supporting for strategic areas of action for implementation of the Government's program. These action areas are to:

- Improve risk identification and monitoring, and increase awareness of risk
- Increase prevention and mitigation measures for risk reduction
- Strengthen National System for Disaster Management and Prevention
- Reduce the fiscal vulnerability of the state to natural disasters

The operation has been designed to provide a financing bridge to funds from other sources.

(http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/2008/02/06/000333037_20080206011629/Rendered/PDF/423960BR01NO0P1ox321466B0R200810018.pdf)

II. COUNTRY CONTEXT

A. Recent Economic Developments

5. **The Colombian economy is decelerating from the rapid and accelerating investment led growth of recent years**. The economy is estimated to grow approximately 3.5 percent in 2008, less than half the growth rate of last year. In addition, inflation has risen slightly above 7 percent this year, driven by price shocks to foodstuffs and fuel. The expected current account deficit for 2008 is 3.4 percent of GDP, but the external accounts are susceptible to economic outcomes in major trading partners: namely, the United States and Venezuela which together purchase almost half of Colombia's merchandise exports. The current account deficit in recent years has been driven by a sharp increase in imports of both consumer and investment goods. In 2008, net FDI is projected to be larger than the current account deficit itself.

6. **Over the past few years, real economic growth accelerated from 2.5 percent in 2002 to 8.2 percent in 2007, while private investment rose from 9.9 percent of GDP in 2002 to over 16 percent in 2007.** Colombia's unemployment rate dropped from over 17 percent in 2002 to approximately 12 percent in 2007, while inflation dropped from 7.0 percent in 2002 to 5.7 percent in 2007 (see Table 1). The positive outcome was partly due to high world growth, lower cost of international credit, and the prices of Colombia's primary exports have risen. Domestic factors, particularly the improved security situation and stable macroeconomic polices, have also driven the country's recovery.

Table 1: Key Economic Indicators for Colombia, 2002-2007

Indicator	2003	2004	2005	2006	2007
Real GDP growth (%)	4.6	4.7	5.7	7.0	8.2
Inflation (%) (end of period)	6.5	5.5	4.9	4.5	5.7
Nominal Exchange Rate (Average)	2877.7	2628.6	2320.8	2361.1	2078.3
Current Account Balance (% of GDP)	-1.0	-0.8	-1.3	-1.9	-2.9
NFPS Revenues (% of GDP)	30.0	30.0	30.6	32.7	33.0
NFPS Expenditures (% of GDP)(	33.2	31.5	30.6	33.9	34.0
NFPS Balance (% of GDP)	-3.2	-1.5	0.0	-1.2	-1.0
Gross Public Sector Debt (% of GDP)	67.7	61.7	59.7	56.9	52.8
External Debt/GDP (%)	40.3	33.3	26.0	24.5	22.8
Investment (% of GDP)	19.0	20.1	21.5	23.3	24.4
Public sector	6.3	5.9	4.9	6.5	7.7
Private sector	12.7	14.2	16.6	16.8	16.7

Source: DNP, MHCP, BdR; NFPS: Non-financial public sector.

7. **The public sector deficit has been improving although fiscal concerns persist, particularly in terms of expenditure rigidities**. With the overall macroeconomic environment strong over the last year, fiscal performance has been much better than expected. The non-financial public sector fiscal deficit decreased from 3.2 percent of GDP in 2003 to 1.0 percent in 2007 and is expected to increase to about 1.7 percent during 2008. The central Government deficit was 3.2 percent of GDP in 2007, down from 3.8 percent in 2006. The non-financial public sector deficit was much smaller than the central Government deficit because it

incorporates substantial budget surpluses of the regions, state-owned enterprises, and the social security system.

B. Macroeconomic Outlook and Debt

8. **The economy is decelerating sharply in 2008.** According to the most recent survey by National Association of Industry, total industrial production dropped 0.6 percent in the January-August 2008 compared to the same period in 2007. Also, total retail sales only increased 0.1 percent in January-August 2008, compared to the same period in 2007. Moreover, the first signs of the impact of the crisis are evident in financial markets. As shown in Annex 2 "Potential Impact of the U.S. Financial Crisis on Colombia", interest rates have risen, and the spreads between Government bonds and US Treasuries had reached almost 700 basis points in late October. (On November 10, 2008, the Colombia Global EMBI was 498 basis points, still substantially higher than average levels over the last two years.) Similarly, the exchange rate has shown signs of depreciation and a much higher volatility than experienced during 2007. To some extent, the depreciation has been a welcome development, given concerns that the appreciation of the currency during the first half of the year might be impacting competitiveness.

9. **The economy is expected to slow even further in 2009.** The fiscal position is projected to worsen, with a possible increase of the non-financial public sector deficit (to 2.5 percent of GDP in 2009, the highest level in the last five years). The Government already anticipates international funding (from multilateral agencies) for its external financing needs in the order of US$2.4 billion for next year.

10. **Colombia faces a turbulent external environment, but the Government has taken the necessary steps to mitigate it**. To reduce external risks, the Government has reduced the foreign currency share of its public debt and overall external debt of both the public and private sector is low at about 23 percent of GDP. In addition, international reserves have increased substantially and now stand at over US$23 billion. The authorities have a sound fiscal and monetary policy in place, with an inflation targeting mechanism established and with a medium term fiscal framework that targets a declining public debt to GDP ratio. Overall external indebtedness is low (21 percent of GDP), and as noted above, the current account deficit has been more than fully financed by net foreign direct investment—including during the first half of this year. Overall annual external financing requirements are on the order of US$12-15 billion, but much of this is driven by the current account deficit, with the excess of imports influenced by flows of foreign direct investment itself.

11. **Colombia's macroeconomic policy framework is appropriate.** Monetary policy has been tightened substantially since mid 2006 in response to possible overheating of economic growth with rate hikes totaling 4 percent since over the period. The most recent Central Bank board meeting kept interest rates on hold, despite the recent sharp deceleration of the economy. The authorities are awaiting further anchoring of inflationary expectations prior to considering a loosening of the policy rate—an appropriate stance in light of the inflation targeting regime. Public sector debt has fallen sharply as a share of GDP and a slight loosing of fiscal policy during 2009 is a reasonable response given the slowdown in economic growth.

Table 2: Medium-Term Outlook, 2007-11

Indicator	2007	2008	2009	2010	2011
Real GDP (%)	8.2	3.5	2.5	2.9	3.5
Inflation (%)	5.7	7.6	6.1	4.9	4.0
Current Account Balance (% of GDP)	-2.9	-3.4	-3.5	-2.8	-2.6
NFPS Balance (%of GDP)	-1.0	-1.7	-2.5	-1.5	-1.2
Investment (% of GDP)	24.4	24.3	23.7	24.1	24.5
Public sector	7.7	7.6	7.5	7.6	7.7
Private sector	16.7	16.7	16.2	16.5	16.8
External Debt (% of GDP)	22.8	22.0	20.4	18.8	18.0
Nominal Exchange Rate (Average, Col$/US$)	2078.3	2400.0	2427.1	2489.2	2536.2
Oil Price (US$ per barrel)	71.1	105.0	79.3	81.3	82.1

Source: National authorities and WB staff estimations based on RMSM-X model.

12. **Financial sector indicators are favorable; however, vulnerabilities remain as the slowdown in economic growth is likely to lead to an increase in delinquency rates for loans**. Financial sector indicators remain sound and point to relatively modest chances of adverse macroeconomic spillovers in the near term. While credit growth has been rapid, credit to GDP ratios are below their peak of the late 1990s and close to the emerging market average. The share of nonperforming loans has remained low, both on average and for the weakest performing banks. Also, in light of the high levels of provisioning, credit risk for the banking sector as a whole remains low. Liquidity ratios have declined, although liquidity remains sufficient to cover short-term maturity mismatches. Market risk remains the predominant risk to the financial system, with the *Banco de la República* (Central Bank) estimating that a 200 basis point increase in interest rates would reduce the profits of the banking system by 20 percent. Commercial banks appear resilient, with low estimated default probabilities. The risk of contagion from a further worsening of problems in the subprime market, through its effect on parent banks in developed countries, is small. Foreign banks account for about 20 percent of banking sector assets, compared with an average of over 30 percent in other large Latin American countries.

III. THE GOVERNMENT PROGRAM AND PARTICIPATORY PROCESSES

13. **Disaster risk reduction is a priority for the Government of Colombia.** Colombia has the highest rate of recurrent natural disasters in Latin America, with an average of over 600 reported disasters every year.[3] The Government's commitment to institutionalized disaster risk reduction dates back to 1983 when, in the aftermath of the Popayan earthquake, it initiated the creation of a system for disaster preparedness and response. In 1989 this system was consolidated with the establishment of the National System for Disaster Management and Prevention (*Sistema Nacional para la Prevención y Atención de Desastres, SNPAD*). Since then, the country's approach has been expanded through national-level institutional strengthening in the 1990s, the opening of the way for municipalities to invest in risk reduction measures at the start of the new century, and, most recently, the inclusion of reduction of fiscal vulnerability as a concern in the National Development Plan of 2002–2006 and disaster risk management in the National Development Plan of 2006–2010. Colombia is widely recognized as a leader in instituting a policy and legal framework that enables a comprehensive, multisectoral approach to disaster risk management.

14. **The Government of Colombia's current development strategy is laid out in the National Development Plan 2006–2010.** The National Development Plan (NDP) 2006–2010: *Estado Comunitario: Desarrollo para Todos* defines five priority development programs and provides guidance for monitoring results and outcomes. The NDP was formally adopted through Law 1151 of July 2007. In one of these programs in the NDP, the Government outlines a strategy with four specific areas of action to improve the effectiveness of reducing the risk associated with adverse natural events in its territory. These action areas are (a) to improve risk identification and monitoring and augment awareness, (b) to increase measures for risk reduction (prevention and mitigation), (c) to strengthen policies and institutions of the National System for Disaster Management and Prevention, and (d) to reduce the fiscal vulnerability of the state to natural events. Table 3 presents the five overall programs of the current NDP. Areas in bold are directly or indirectly supported by this operation.

3. See Annexes 5, 6, 7, and 8 for details on Colombia's exposure to natural hazards, its vulnerability profile, historic disaster loss data and the estimations of potential disaster losses.

Table 3: Pillars of the National Development Plan

Peace and Security for Citizens	*Promotion of Equity*	*High Sustainable Growth*	*Environment and Disaster Risk Management for Sustainable Development*	*A State at the Service of its Citizens*
Consolidate "Democratic Security" Policy	**Poverty and Vulnerable Populations. Social Protection**	Macroeconomic Conditions	**Environment Management for sustainable development**	Requirements of a Communal State
Displacement, Human Rights and Reconciliation	Market and Labor Relations. Equity and Rural Development.	Productivity and Competitiveness	**Disaster risk reduction**	Challenges of a Communal State
	Infrastructure for Development. Access to Credit	Agro-Competitiveness and Growth		
	Livable Cities			

15. **The NDP is the result of a broad-based consultative process overseen by the National Planning Council.** Consultations on the NDP were carried out over two years between September 2004 and December 2006 in 27 departments and 24 large and mid-size cities. An estimated 21,000 people participated, representing a wide range of nonstate organizations such as academia, religious groups, private sector, trade unions, and youth groups.

16. **The Government's long-term vision and development strategy is laid out in the Visión Colombia 2019.** In anticipation of the bicentennial anniversary of Colombia's independence, the National Planning Department (DNP) launched an initiative to develop a longer term vision of the country and a strategy to reach it. The process involved the development of a proposal, *Visión Colombia II Centenario: 2019—Propuesta para Discusión*, followed by rounds of discussions with citizens and subnational governments to refine the vision and generate national ownership. The process culminated in the elaboration of *Visión Colombia 2019*, a policy-planning document outlining objectives for sustainable and equitable development. It takes into account policy areas to be addressed as the country seeks to achieve an economy that guarantees greater levels of well-being. These areas include (a) strengthening actions in disaster risk prevention and mitigation, (b) reducing the fiscal vulnerability of the Colombian Government to natural hazards, and (c) improving decentralization and strengthening land-use planning. All of these policy areas are supported by this Disaster Risk Management DPL with a CAT DDO.

IV. BANK SUPPORT TO THE GOVERNMENT'S PROGRAM

A. Link to the Country Partnership Strategy

17. **The Country Partnership Strategy for Colombia from FY08 to mid-FY11 is fully aligned with the country's development goals, expressed in the 2006–2010 National Development Plan, and the longer-term development strategy** *Visión Colombia 2019.* Colombia's priorities in the National Development Plan are described in Table 3 above. The CPS proposes to maintain an active IBRD lending program of up to US$4 billion and an International Finance Corporation (IFC) program in range of US$330 million to 400 million per year, along with a set of analytical and advisory services and specialized grants.

18. **The disaster risk management framework of the proposed DPL with a CAT DDO falls under the Environment Sustainability pillar of the Country Partnership Strategy.** The key objective under this pillar is to support the Government's NDP and Millennium Development Goal objectives of ensuring environmental sustainability, an area deemed of high priority for Colombia's development.

19. **In addition, this DPL with a CAT DDO will lower the risk of interruption to the overall implementation of all areas of the Government's development program and the CPS.** The DPL with a CAT DDO would provide Colombia with a rapid source of funds in the event of a major natural disaster, enabling a quicker response to address emergency needs and reducing the risk of having to halt or divert resources from the implementation of the other development priorities in its NDP.[4]

B. Collaboration with the International Monetary Fund

20. **Coordination between the Bank and IMF has been strong and there have been frequent consultations both on macroeconomic issues and financial sector issues.** The Bank is reviewing financial sector issues as part of the initial phases of preparation of a potential DPL that could be presented to the Board during 2009. A mission was conducted in late October to assess the current situation and there has been substantial dialogue with the IMF mission (Article IV conducted during the last week of October and first week of November). This work also builds on a longstanding and intensive policy dialogue by the Bank on financial sector development.

C. Relationship to Other World Bank Group Operations

The Bank has played a prominent role in financing Colombia's disaster risk management and reconstruction programs going back to the late 1990s, beginning with a comprehensive program to address the reconstruction of the coffee-growing region of the country (the *Eje Cafetero*), which was hit by an earthquake measuring 6.2 on the Richter scale in 1999. There were 1,185 deaths, about 9,000 injuries, and more than 150,000 people left

4. In response to the *Eje Cafetero* earthquake in 1999 four Bank loans for a total amount of US$93 million were restructured to finance the start-up of the reconstruction program.

homeless. The region's housing infrastructure suffered considerable damages. In the immediate aftermath of the earthquake four Bank loans for a total amount of US$93 million were restructured to finance the start-up of the reconstruction program.

22. **The Government of Colombia and the World Bank signed the Earthquake Recovery Project (Loan 7009-CO) in May 2000.** This loan provided an additional US$225 million to continue the reconstruction effort and assisted the Government in its efforts to rebuild communities. The development objective of the loan was "to assist the project beneficiaries to normalize economic and social activities through the restoration of essential housing and basic infrastructure following adequate seismic standards." Financed components included (a) shelter assistance, (b) rehabilitation and retrofitting of social infrastructure, (c) rehabilitation of public infrastructure, (d) capacity building for natural disaster management, (e) social capital restoration, and (f) project management. This program was at closing evaluated by the Bank to be highly satisfactory for having achieved high quality results and its development objectives 1 year earlier than expected.

23. **The Bank's involvement in the reconstruction project and continued technical discussions with the Government led to the Natural Disaster Vulnerability Reduction APL 1 signed in 2005.** The project was designed to strengthen the capacity of the national Government to coordinate disaster risk management, to build capacity at municipal level, and to reduce disaster risk. The project, implemented through the Ministry of Environment, Housing, and Territorial Development (MAVDT), helps local governments carry out risk analyses and develop risk-reduction investment plans as part of its comprehensive strategy to monitor and support disaster risk reduction. Additionally, with support from the project, the Government is establishing a comprehensive strategy of risk retention and risk financing at the national level. A little more than two years into implementation, the APL 1 has produced results. To date, the project has supported considerable advances in the policy area (new policy documents, legal and institutional proposals, and so forth), and provided support for municipalities to develop Action Plans that take into account disaster risk. According to preliminary information, local investment in disaster risk management has since inception of the program increased by 72 percent.

24. **Through the APL 1 operation, and prior to the Bank Board approval of the DPL with a CAT DDO instrument, the APL piloted an innovative contingent loan facility to provide faster availability of resources in case of national emergency.** Designed with an investment instrument, the disbursement from the contingent loan facility would require the Government to submit an initial recovery plan with related budget appropriations and proposed use of funds as well as a statement of expenses from a positive list of certified imports. This contingent loan facility has not been disbursed to date, because there has been no declaration of national disaster since effectiveness of the loan. However, simulations held during project implementation to practice disbursement procedures and to analyze the time needed indicate that it will take from two to four weeks for the Government to have access to the money from the time of the declaration of emergency. The DPL with a CAT DDO is designed to disburse in 24-48 hours.

25. **In 2006, the Government and the Bank signed the Natural Disaster Vulnerability Reduction APL 2.** This operation, a sub national loan to the District of Bogotá, aims to reduce

Bogotá's exposure to human and economic losses in case of natural disaster through the implementation of risk reduction activities and through the development of a risk-financing strategy. With the support of this loan, Bogotá has made substantial progress in the implementation of a strong disaster risk management framework and development of a complete analysis of the city's exposure and vulnerability. The district has undertaken a large investment program aimed at improving the resilience of priority structures, including schools, hospitals, and kindergartens, to adverse natural events and, under the project's resettlement framework, is in the process of resettling families from areas of the city where disaster risk cannot be mitigated to safer and better housing facilities. The district's Secretariat of Finance is leading the strategy to reduce the fiscal vulnerability of Bogotá in the event of a disaster. Less than two years into implementation, this project has already surpassed its development objective of reducing the number of people at risk due to public buildings that do not meet minimum standards from 575,000 to 475,000.

26. **In addition, Colombia is expected to request Bank support to join the Comprehensive Approach to Probabilistic Risk Assessment (CAPRA) initiative.** CAPRA has been piloted in Costa Rica and Nicaragua and is currently expanding to cover four additional Central American countries. CAPRA efforts in Colombia will be developed by DNP and the National Directorate of Disaster Prevention and Management (DPAD) in coordination with scientific and technical agencies. CAPRA is a knowledge platform which seeks to promote better decision making related to disaster risk management, covering the following areas: (a) identification of risk; (b) risk reduction, to conduct cost-benefit analysis of investment and to generate land planning tools, (c) the management of disasters in the stages of response, rehabilitation, and recovery; and (d) financial protection.

27. **The Bank has experience with various instruments to accelerate the availability of resources after major disasters:** (a) the Organization of Eastern Caribbean States Emergency Recovery and Disaster Management Adaptable Program Loan, launched in December 1998, was organized as a horizontal APL with a floating phase available in case of emergency; and (b) the Caribbean Catastrophe Risk Insurance Facility, launched in January 2007, has proven to be an efficient use of parametric insurance instruments to provide immediate liquidity to countries affected by adverse natural events. None of these is as flexible and fast disbursing as the DPL with a CAT DDO.

D. Lessons Learned

28. **The risk of disasters can be managed rather than treating a disaster as an exogenous shock to development that cannot be proactively addressed.** This has been documented in a wide array of studies and is the underpinning of the Hyogo Framework for Action, the international agreement adopted by 168 governments.[5] Colombia has acknowledged that hazard risk is a manifestation of development that is not adequately adapted to the environment and that managing disaster risk is good practice in sustainable

5. The Hyogo Framework for Action (HFA) was formulated as a comprehensive, action-oriented response to international concern about the growing impacts of disasters on individuals, communities, and national development. Based on careful study of trends in disaster risks and on practical experience in disaster risk reduction, and subjected to intensive negotiations during 2004 and early 2005, the HFA was finally adopted by 168 governments at the World Conference on Disaster Reduction, held in Kobe, Hyogo Prefecture, Japan, 18–22 January 2005.

development. It has consequently included disaster risk management in its national development program and long-term development vision.

29. **The design of this Disaster Risk Management DPL with a CAT DDO takes into account the lessons learned from 25 years of Bank operations and programs in the area of disaster risk management and 25 years of Colombia's experience with disaster risk management.** The Independent Evaluation Group (IEG) report, "Hazards of Nature, Risks to Development: An Evaluation of World Bank Assistance for Natural Disasters",[6] recommends that the Bank assist its clients most vulnerable to natural disasters to shift from focusing entirely on disaster response to implementing programs and policies for comprehensively managing disaster risk. This is in consonance with the conclusions reached by the Government of Colombia to effectively integrate disaster risk management into its development planning. The design of this operation reflects the most important lessons from the more than 500 Bank projects evaluated by IEG and from more than 600 annual disasters in Colombia. These are the following:

- **Disaster risk management is most efficient when based on adequate risk identification.** Risk identification is one of the four strategic areas of action for disaster risk management in Colombia's National Development Plan. Through scientific agencies such as the Institute for Hydrological, Meteorological, and Environmental Studies (*Instituto de Hidrología, Meteorología y Estudios Ambientales, IDEAM*), IGAC, and the Colombian Institute for Mining and Geology (*Instituto Colombiano de Minería y Geología*, INGEOMINAS), Colombia has developed detailed hazard maps and hazard-monitoring systems covering the entire territory. The country is currently working with support from the Bank on integrating available technical information for improved functionality for policy makers.

- **Ex ante investments should be undertaken in the area of disaster risk management.** Colombia has made significant investments in mitigating disaster risk, both by resettling people living in high-risk areas and by investing in retrofitting critical infrastructure such as roads, bridges, hospitals, and schools.[7] The NDP and the *Visión Colombia 2019* outline ambitious targets in terms of reducing the vulnerability of infrastructure to adverse natural events such as earthquakes.

- **There is great value in having a prior risk financing strategy**. It is essential for faster recovery after a disaster event that a country is prepared for the challenge of financing the recovery and reconstruction process. When this is not done, global experience shows that the result is often expensive debt instruments, diversion of resources from ongoing development programs, or slow and insufficient reconstruction financing. Addressing this issue is one of the main purposes of the DPL with a CAT DDO. Colombia has access to reconstruction financing through a variety of sources. The proposed

6. IEG-World Bank (Independent Evaluation Group - World Bank), *Hazards of Nature, Risks to Development: An Evaluation of World Bank Assistance for Natural Disaster* (Washington, DC, 2006).
7. Section five, "Proposed Disaster Risk Management DPL with a CAT DDO," describes the extent of investments in vulnerability reduction carried out in Colombia.

operation will serve as bridge financing, thus providing liquidity in the first period after a national disaster until recovery financing from other sources becomes available.

- **It is critical to secure a flexible source of funding to cover early recovery in case of a natural disaster.** Colombia as well as other countries have experienced that the immediate availability of liquidity is essential for a government to reestablish critical services as fast as possible in the aftermath of a disaster event. If a government has access to untied liquidity this will accelerate recovery and minimize business interruption as well as secure the functioning of critical public facilities such as those for health services. On average 50 percent of the economic losses associated large natural disasters occur in the period after the event until the economy has recovered its normal functionality.

E. Analytical Underpinnings

30. **The general framework for analysis and preparation of this operation was based on a large number of key documents and publications, including the following:**

a. UNISDR (United Nations International Strategy for Disaster Reduction), *Hyogo Framework for Action 2005-2015. Building the Resilience of Nations and Communities to Disasters* (2005).
b. IEG-World Bank (Independent Evaluation Group - World Bank), *Hazards of Nature, Risks to Development: An Evaluation of World Bank Assistance for Natural Disaster* (Washington, DC, 2006).
c. World Bank, *Natural Disaster Hotspots, A Global Risk Analysis* (Washington, DC: Disaster Risk Management Series, 2005).

31. **In preparing this document, a variety of country studies related to disaster risk management and risk financing were taken into account.** Particularly important documents included the following:

a. IADB (Inter-American Development Bank), *Indicators of Disaster Risk and Risk Management (*Washington, DC, 2007) and IADB (Inter-American Development Bank) and IDEA (Universidad Nacional de Colombia - Instituto de Estudios Ambientales), *Programa de Información e Indicadores de Gestión de Riesgos. Aplicación del Sistema de Indicadores a Colombia 1980-2000* (Manizales, Colombia, 2004).
b. Ghesquiere, Francis and Mahul, Olivier, *Sovereign Natural Disaster Insurance for Developing Countries: A Paradigm Shift in Catastrophe Risk Financing* (Washington, DC: World Bank Working Paper, 2007).
c. Bellizzia, Gloria, *Análisis de las inversiones en gestión del riesgo en Colombia,* (Bogotá, Colombia: Departamento Nacional de Planeación, draft dated 2008).
d. S. A. Cuatro, *Lineamientos relacionados con las consideraciones jurídicas, administrativas, financieras, procedimentales, técnicas y sociales para la intervención, recuperación, manejo integral y control de áreas liberadas por procesos de reasentamiento, con aplicación a un caso piloto* (Bogotá, 2006).

e. MAVDT (Ministerio de Ambiente, Vivienda y Desarrollo Territorial), *Guía metodológica incorporación de la prevención y la reducción del riesgo en los procesos de ordenamiento territorial* (Bogotá, Colombia, 2005).
f. Cummins, J David and Mahul, Olivier, *Catastrophe Risk Financing in Developing Countries: Principles for Public Intervention* (Washington, D.C.: World Bank, 2008).
g. ERN (Evaluación de Riesgos Naturales), *Definición de la responsabilidad del Estado y su exposición ante desastres naturales y el diseño de mecanismos para la cobertura de los riesgos residuales del Estado* (Manizales, Colombia, 2005).
h. ERN (Evaluación de Riesgos Naturales), *Diseño de productos de transferencia de riesgos en el sector público para incentivar el aseguramiento en el sector privado en Manizales* (Manizales, Colombia, 2005).
i. CEDERI (Centro de Estudios sobre Desastres y Riesgos, Facultad de Ingeniería, Universidad de Los Andes), *Estrategia para transferencia, retención y mitigación del riesgo sísmico en edificaciones indispensables de Bogotá, D.C.*, (Bogotá, Colombia, 2005).

32. **These documents have all contributed to make tangible the economic, human, and financial risk associated with adverse natural events and thereby sensitized policy makers as well as the general public to be more proactive in managing disaster risk.** The studies provide detailed actionable information, thus making rational the investment in risk identification and reduction, the improvement of development planning as well as the use of ex ante risk- financing instruments and make the argument that securing funds ex ante is essential for a cost-effective government risk-financing strategy.

33. **Other analyses that have informed the preparation of the economic, environmental, and social elements of the operation and helped guide the Government's policy direction in its disaster risk management program include** the policy notes prepared by the World Bank for the current administration (*Colombia 2006–2010: A Window of Opportunity*) and other economic and sector work, in particular the Country Environmental Analysis (CEA). Cornerstones of the CEA include (a) an assessment of the cost of environmental degradation in Colombia, (b) a broad assessment of the institutional capacity for environmental management in Colombia, and (c) an assessment of the effectiveness and efficiency of existing policy, legislative, and regulatory frameworks to address environmental concerns. The analysis of the cost of environmental degradation conducted as part of the CEA shows that the most costly problems associated with environmental degradation are urban air pollution, inadequate water supply, sanitation and hygiene, natural disasters (such as flooding and landslides), land degradation, and indoor air pollution. The burden of these costs falls most heavily on vulnerable segments of the population, especially poor children under the age of five. The effects of environmental degradation associated with these principal causes are estimated to cost more than 3.7 percent of GDP, mainly due to increased mortality and morbidity and decreased productivity.

V. PROPOSED DISASTER RISK MANAGEMENT DPL WITH A CAT DDO

A. Operation Description

34. The development objective of the operation is **to strengthen the Government's program for reducing risks resulting from adverse natural events.**

35. **Drawdown Trigger**. Funds may be drawn down upon occurrence of a natural disaster resulting in a declaration by decree of a state of national disaster by the president of Colombia, in accordance with Law Decree (*Decreto Ley*) No. 919 of 1989, or as may be amended by the Borrower at the time of disbursement.[8] Since the law was passed in 1989 there have been nine declarations of emergency: five for municipal emergencies, three for departmental emergencies, and one for a national emergency as illustrated in Table 4 below. The disbursement for this operation would be triggered only by a declaration of a national disaster.

Table 4. Application of Law Decree No. 919 from 1989 to 2008 by Scope of Declaration

Scope of declaration	National	Departmental	Municipal
Natural Hazard	Earthquake	Flooding	Volcanic Eruption Liquefaction Earthquake Landslides
Number of declarations	1	3	5

36. **The principal action taken by Colombia under the program to improve its capacity to manage risk resulting from adverse natural events is the inclusion of a strategy for (i) disaster risk reduction and (ii) disaster risk management, as a specific and prominent element in Colombia's 2006–2010 National Development Plan. The National Development Plan was enacted into law through Law 1151 of July 2007**. Elevating disaster risk management to a national development priority embodied in law approved by parliament constitutes a very significant policy action. In Colombia, the National Development Plan is made into law by Congress and it includes budgetary appropriations and specifies institutional responsibilities as well as target indicators and reporting and monitoring mechanisms. The Colombian constitution mandates that national development plans should articulate economic, social and environmental dimensions in order to guarantee sustainable development. In order to comply with this mandate, and following similar principles as *Vision 2019*, the NDP 2006-2010 establishes disaster risk management and environmental management as baseline conditions for sustainable development. Chapter 5 of the NDP presents and describes the areas of actions for disaster risk management: (i) to identify and

8. See Annex 13 for a detailed description of the Colombian legal basis for declarations of emergencies and Annex 14 for a detailed account of the history of declarations of state of emergency under Decree Law No. 919/89.

monitor risk and to disseminate its knowledge, (ii) to reduce and prevent risk, (iii) to develop policies and strengthen institutions, and (iv) to reduce fiscal vulnerability using risk transfer instruments. Table 5 illustrates the relationship of the program's development objective, the Government's prior action, thee strategic areas for implementation of the disaster risk reduction and management plan and status of implementation in each of those areas.

Table 5: Disaster Risk Management DPL with a CAT DDO: Government of Colombia's Prior Action

Development Objective	Prior Action	Status of Implementation
Strengthen the Government's program to reduce risks resulting from adverse natural events.	The inclusion, as specific and prominent elements in Colombia's 2006–2010 National Development Plan, enacted as Law 1151 of July 2007, of: (i) disaster risk reduction and (ii) disaster risk management strategy.	
	Areas of Action	
	1. Improved risk identification and monitoring, and increase awareness	• INGEOMINAS is using data from its upgraded volcanological observatories to monitor volcanic activity and provide early warning for people living in high risk areas. • Municipalities are using information from IDEAM's modernized hydro meteorological monitoring network, for instance to provide landslide early warning in Manizales.
	2. Increased prevention and mitigation measures for risk reduction	• In 2007 the Government, at national level, allocated US$73 million to disaster risk management. • In 2006 sub national entities invested US$237 million in disaster risk management.
	3. Strengthened policies and institutions of the National System for Disaster Management and Prevention	• CONPES 3501 was passed in December 2007, which outlines policy guidelines for disaster risk reduction in the area of the Galeras Volcano. • MAVDT is assisting municipalities in integrating disaster risk management in their territorial organizing plans. In 2007 the Ministry provided assistance to 167 municipalities.
	4. Reduced the fiscal vulnerability of the state to natural events	• In 2007-2008 the MHCP has carried out earthquake risk assessment to evaluate the potential physical damage to public assets of earthquakes. • In 2008 the Secretariat of Hacienda of Bogota finalized studies on the potential impacts of earthquakes on public buildings and private dwellings.

37. **The prior action agreed with the Government is consistent with the five good practice principles on conditionality as identified by the Bank's 2005 review and its updates.** Information in Box 1 describes how this disaster risk management DPL with a CAT DDO is aligned with each of these principles.

Box 1: Operational Consistency with Bank Good Practices Principles on Conditionality

Principle 1: Reinforce ownership

- *Alignment with Government goals*: This operation is driven by the Government of Colombia and enjoys solid ownership in the country. The disaster risk management DPL with a CAT DDO is supporting the Government's National Development Strategy and is aligned with its *Visión Colombia 2019*. This operation recognizes the priority given to disaster risk management by the Government of Colombia.
- *Positive track record of reform by the Government:* The Government has strong policy planning and implementation capabilities and has shown stable commitment to the program and its objectives since 2002. This is the third operation with Bank involvement focusing on disaster risk management. The two existing APLs are on their way to meet or exceed expected outcomes.
- *Timely and demand-driven analytical support:* The operation is underpinned by knowledge services under the APL series for risk financing and disaster risk reduction to the Government, which were requested by the Government and have served as inputs for relevant policy design and implementation.

Principle 2: Agree up front with the Government and other financial partners on a coordinated accountability framework

The proposed loan is based on a coherent framework of previous actions and expected outcomes that are drawn from the Government's program.

- *Jointly designed policy matrix.* The Government and the Bank have prepared an operational policy matrix, agreeing on prior actions for Board approval and expected program outcomes based on the Government's National Development Plan 2006–2010.

Principle 3: Customize the accountability framework and modalities of Bank support to country circumstances

The loan features follow the client's requests and the policy matrix has been adapted to country circumstances.

- *Adaptation of Bank services to a sophisticated MIC.* Through the two APLs and with this disaster risk management DPL with a CAT DDO, the Bank has offered different products tailored to the needs of the Government. Knowledge services have informed policy making and supported the implementation of the Government's disaster risk management program. The close ties to the Government's own Development Plan assures the Government's full ownership of the reform agenda supported by the operation. Finally, loan features have been tailored to client needs, including a short preparation period, a more flexible instrument allowing faster disbursement and availability of funds for disbursement for up to 15 years.
- *The policy matrix is based on the Government's program.* The accountability framework is fully consistent with the Government's program, and specific actions and outcomes are drawn entirely from its program. This operation does not support politically sensitive reforms.

Principle 4: Choose only actions critical for achieving results as conditions for disbursement

- As indicated, funds may be drawn down upon occurrence of a natural disaster resulting in a declaration of a national level disaster of the president of Colombia through an executive decree, in accordance with Law Decree No. 919 of May 1989.

Principle 5: Conduct transparent progress reviews conducive to predictable and performance-based financial support

- The policy matrix contains outcomes that have been defined by the borrower and are closely linked to the supported policy actions. This will help the Bank and Government review progress during project implementation.

B. Policy Area and Prior Action

Policy Area: Evolution of Disaster Risk Management Policy in Colombia

38. **Natural hazards are a challenge to sustainable development in Colombia.** The risk of natural disasters can be expressed as the probability of a natural hazard affecting a vulnerable community. In the past 30 years, Colombia has suffered from six major earthquakes, four volcanic eruptions, annual major landslides, and extensive flooding.[9] According to the Global Hotspots Analysis, 85 percent of its population and 87 percent of its assets are located in areas exposed to two or more natural hazards.[10] Colombia's urban population grows by an average of 3 percent a year, making it one of the fastest-growing urban populations in the world.[11] The increasing concentration of people and assets in areas exposed to natural hazards results in a rising disaster risk if there are no mitigations.

39. **Colombia has 25 years of experience in institutionalizing the management of disaster risk.** Following the devastating Popayan earthquake of 1983, the Colombian Government established the National System for Disaster Management and Prevention (SNPAD), articulated around a National Disaster Prevention and Attention Plan (*Plan Nacional para la Prevención y Atención de Desastres,* PNPAD). The SNPAD consolidated previous Government commissions and introduced consistent instruments to seek coordination among all actors, with particular emphasis on preparing for disaster-related emergencies.

40. **Since the mid-1990s, Colombia has moved from disaster response to disaster risk management.** In 1998, the Colombian Government ratified a new version of the National Plan for Disaster Prevention and Response (Decree #93 of January 13) which shifted the focus of disaster management from emergency response to disaster prevention, through a comprehensive disaster risk management strategy, based on four lines of action: (i) risk identification, (ii) risk reduction, (iii) institutional development, and (iv) risk awareness.[12] At the same time CONPES (National Council of Social and Economic Policy) 3146 of 1998 raised the issue of the fiscal vulnerability of the state to natural disasters for the first time, identifying concerns for the financing of reconstruction should a major catastrophic event occur in Colombia.

41. **Since the early 2000s, Colombia has decentralized disaster risk management responsibilities and made disaster risk management a national development priority.** In 2001, recognizing the high cost that disasters extract from local authorities and the need to encourage investment in disaster mitigation, the national Government created an investment

9. See Annexes 5 and 7 for details on Colombia's exposure to natural hazards and the number of reported disasters in Colombia.
10. World Bank, Natural Disaster Hotspots, A Global Risk Analysis (Washington, DC: Disaster Risk Management Series, 2005).
11. According to official statistics from UNHABITAT, Colombia's urban population grow by 3 percent a year, while its urban slum population grows by 1 percent a year. See Annex 7 for a description of the drivers of vulnerability in Colombia.
See www.unhabitat.org/categories.asp?catid=145.
12. See Annex 4 for details on the National Plan for Disaster Prevention and Response.

category[13] for disaster prevention and response in the list of investments permitted under the national revenue-sharing system. According to Law 715/2001, Articles 76.5, 76.9, and 79, municipalities can now elect to spend budgetary transfers on disaster prevention and response. At the close of the Pastrana administration, a National Policy Statement[14] (CONPES, 3146 of December, 2001) followed up on the earlier decree, raising disaster vulnerability reduction to the level of national development priority for the first time, and stipulating its inclusion in the NDP.

42. **Colombia is currently implementing a four pillar strategy for disaster risk management specifically defined by the National Development Plan.** Under the presidency of Alvaro Uribe the Government has integrated disaster risk management into its development plans through the inclusion of fiscal vulnerability and disaster risk management in the NDP of 2002–2006 and disaster risk management in the NDP of 2006-2010.[15] Chapter 5 of the NDP 2006-2010 presents and describes the areas of actions for disaster risk management: (i) to identify and monitor risk and to disseminate its knowledge, (ii) to reduce and prevent risk, (iii) to develop policies and strengthen institutions, and (iv) to reduce fiscal vulnerability using risk transfer instruments.

First Area of Action under the NDP: Improving Risk Identification and Monitoring and Increasing awareness

43. **Risk identification is a key step in disaster risk management and the starting point in any risk-reduction activity**. A careful conceptual approach ensures the correct identification and communication of risks a community faces.[16] The process of risk identification must be guided by the decisions it seeks to inform. Thus, data gathered should be transformed into information about expected loss or risk and analyzed to provide knowledge of the sources of loss and options for users to manage risk. This transformation process has data as the key challenge: its availability, acquisition, harmonization, and analysis. Meeting this challenge can involve extensive coordination of disparate data sources or institutions that generate basic data with those who serve as repositories and administrators of data in order to analyze and communicate risk to decision makers.

44. **In the past three years, Colombia has strengthened information collection and analytic capacity for early warning and risk mapping related to hydrological, seismic and volcanic events.** With national budget and support from the APL 1, INGEOMINAS and IDEAM have purchased and installed equipment to update existing systems for monitoring catastrophic events. The three regional volcanic observatories and the national earthquake

13. Indexing numbers in parentheses refer to the categories assigned in the DNP publication, "Sistema General de Participaciones—Informe de Ejecución Presupuestal Municipal Vigencia 2003."
14. *Consejo Nacional de Politica Economica y Social* (National Council of Social and Economic Policy), or CONPES, are policy statements issued by the Departamento Nacional de Planeación (National Planning Department) or DNP.
15. Annex 15 shows Colombia's performance on an index designed to assess disaster risk management.
16. This process requires multidisciplinary inputs—technical/scientific disciplines work together to assess hazards and model their effects, which must then be combined with vulnerability of elements exposed— itself derived from both physical and socioeconomic analysis of structures, economies, and cultural practices. A complete risk profile can therefore be understood as the description of the damage or loss a community can expect from prevalent hazards expressed in probabilities of given loss or through maps for chosen scenarios.

monitoring network as well as seismic and strong motion networks managed by INGEOMINAS are fully operational and provide real-time information and early warnings also available via the Internet. IDEAM has recently modernized the hydro meteorological monitoring network, installing close to 500 new automatic stations, which, added to the 2,500 existing conventional stations, make Colombia probably the most densely monitored country in Latin America. The new stations provide real-time information on river levels and rainfall through satellite communication used with daily satellite imagery to provide early warnings on flooding, forest fires, and land slides. Both agencies will over the next three years continue to update and expand their monitoring capacity.

45. **In the past five years, Colombia has improved and organized information and information flows for disaster vulnerability, risk evaluation, and risk reduction programs.** At a national scale, hazard maps for the main river basins and for Galeras volcano have been updated. At the local level, earthquake risk maps have been produced for more than 15 cities (including Bogotá, Medellín, Cali, and Manizales). Urban landslide and flooding maps have been produced for Bogotá, Medellín, Manizales and Bucaramanga. This information is publicly available and has been used for prioritizing investing in risk reduction, such as relocating communities and retrofitting hospitals in Bogotá, conducting land planning and urban slope stabilization in Manizales, and protecting urban streams in Medellín.

46. **Colombia has worked to build a culture of risk reduction through integration of disaster risk management in education and research.** DPAD has worked with Colciencia and the National System of Science and Technology (Sistema Nacional de Ciencia y Tecnología, SNCyT) to develop a strategy to strengthen science and technology for disaster risk management. The strategy was adopted in 2002. DPAD has also worked with the Ministry of Education to include risk management into environmental education.

47. **Currently, DPAD is working on establishing an Integrated Geographic Information System for Disaster Prevention and Management.** The system will provide a platform for the agencies to make up the National System for Disaster Management and Prevention to manage and to share information which will help other entities develop knowledge of vulnerability and risk, including scientific and technical data, geographic information and mapping programs, and reports on mitigation programs and actions—in particular, best practices from local entities.

48. **DNP is working with the Bank on a proposal to expand the CAPRA system to cover Colombia.** This would help facilitate a comprehensive understanding of risk and risk management. CAPRA provides a broad set of sectors with a baseline catalogue of data required for risk evaluations as well reference methodology and interactive software tools to support risk identification and applications for risk analysis. This will help establish standards for sharing data and a common language for understanding risk. The applications CAPRA supports are adjusted to the needs of each sector and user, such as emergency response, land use planning, investment works in mitigation, or financial protection strategies. The transparent nature of the models and open architecture of the CAPRA system ensures that future users can understand, adjust, and continue to evolve their tools as their needs change.

49. **In spite of the important advances in data gathering and knowledge production and some advances in awareness raising, Colombia still has significant challenges.** The immediate priority in regard to data collection and knowledge production is to expand geographical coverage and scientific depth. The main challenge, however, lies in knowledge creation among decision makers and citizens at local levels. Successful implementation of the DRIS and CAPRA will help address this challenge.

Second Area of Action under the NDP: Increase Mitigation and Prevention Measures for Risk Reduction

50. **When sufficient data exist to quantify the disaster risk, decision makers can make informed decisions to invest efficiently in risk reduction.** These investments can involve both structural mitigation works, such as seismic retrofitting, and nonstructural investments, such as relocating people from high-risk areas. Most often these decisions should be made at a decentralized level, as close as possible to the assets and people at risk. Given that a country like Colombia has such a high exposure to natural hazards, the challenge becomes politically to define the acceptable level of risk and to finance the mitigation of the unacceptable risk.

51. **Colombia has largely decentralized the legal responsibility for disaster risk reduction to the municipalities.** [17] The municipalities rely on three main instruments to mainstream disaster risk reduction in development strategies. These are the municipal development plans, the land-use plans, and the environmental management plans. The national Government is currently implementing programs to provide technical assistance to municipalities to improve the integration of disaster risk management into their land-use plans which in turn will inform the municipal development plans.[18] Given the relatively high quality of its risk identification, the basic conditions then exist for municipalities to make significant and efficient investments in disaster risk reduction.

52. **Investments in disaster risk management including risk reduction are done at three levels in Colombia**; by the national Government, by departmental governments, and by municipal governments. Since the legal responsibility to invest in risk reduction is decentralized, it is not surprising that municipalities invest a larger share of their total disaster risk management budgets in preventive work than does the national Government. Pie charts 1, 2, and 3 show the distribution of the investments in accordance with the strategies laid out in PNPAD.[19]

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17. Law 9/89, Law 291, Law 152/94, Law 388/97, Law 902/04, and Decree 4002/04 regulate the municipalities' responsibilities with respect to disaster risk management. Law 715/01 offers municipalities the opportunity to use untied transfers to invest in disaster mitigation. Disaster response is organized at four levels. Local communities are first responders, but if an event is of such a scale that they cannot cope on their own, first Municipalities, then Province and then the State takes over the response responsibility.

18. The MAVDT is providing training and has developed material specifically for the purpose of building capacity among sub national entities. Materials include: S. A. Cuatro, *Lineamientos relacionados con las consideraciones jurídicas, administrativas, financieras, procedimentales, técnicas y sociales para la intervención, recuperación, manejo integral y control de áreas liberadas por procesos de reasentamiento, con aplicación a un caso piloto* (2006); MAVDT (Ministerio de Ambiente, Vivienda y Desarrollo Territorial) *Guía metodológica incorporación de la prevención y la reducción del riesgo en los procesos de ordenamiento territorial* (Bogotá, Colombia, 2005).

19. The source of the data and calculations in the chart is: Bellizzia, Gloria, *Análisis de las inversiones en gestión del riesgo en Colombia,* (Bogotá, Colombia: Departamento Nacional de Planeación, draft dated July 2008).

Chart 1:
Classification of National-level Investments in Disaster Risk Management by PNPAD Strategy: 1998–2008
(total investment of 4,560,713 million pesos)

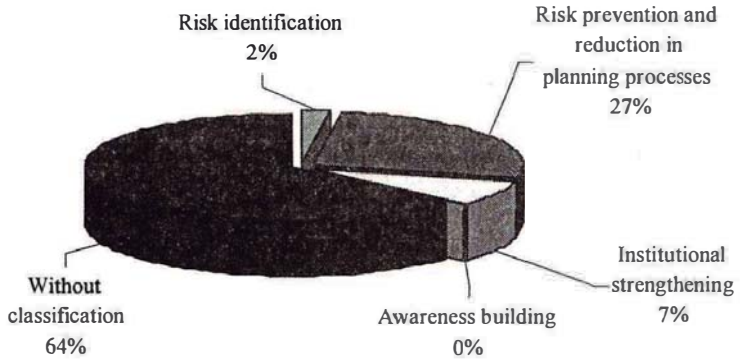


Chart 2:
Classification of Departmental Investment in Disaster Risk Management by PNPAD Strategy: 2004–2006
(total investment of 113,310 million pesos)

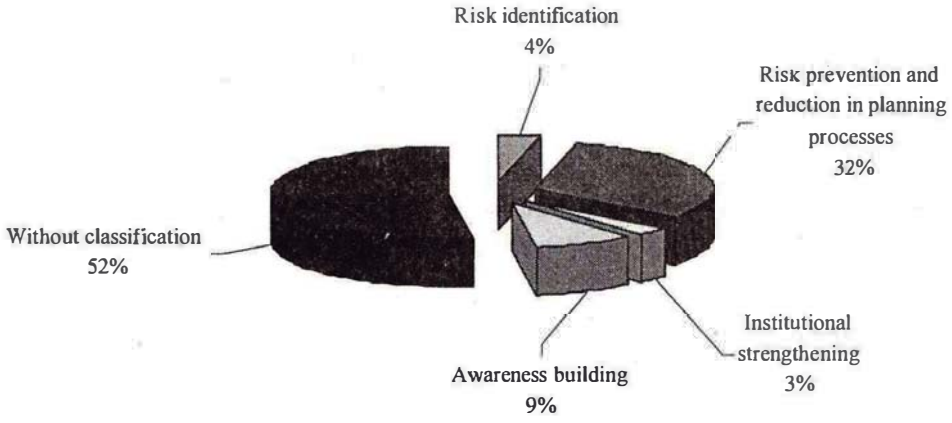
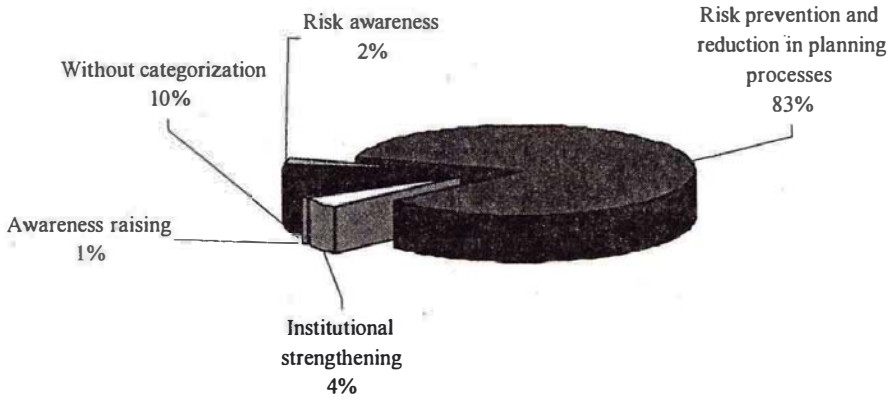


Chart 3:
Classification of Municipal Investments in Disaster Risk Management by PNPAD Strategy: 2004–2006
(total investment of 1,443,519 million pesos)



53. **Available information indicates that investments in risk reduction by territorial entities are increasing.** Table 6 shows the total investment by municipalities in disaster risk management from 2004 to 2006.

Table 6
Total municipal investment and investment in disaster risk management 2004–2006

Expressed in millions 2008 pesos

	2004		2005		2006		Total	
Category	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Disaster risk management investment	366,044	25.36%	448,359	31.06%	629,117	43.58%	1,443,519	100%
Total municipal investment budget	20,753,630	31.93%	19,110,830	29.41%	25,124,495	38.66%	64,988,955	100%
Relative investment in disaster risk management	1.76%		2.35%		2.50%		2.22%	

Source: Bellizia 2008

54. **In addition to investments by the three levels of core public administration, infrastructure agencies also invest significantly in risk reduction.** INVIAS is responsible for risk-mitigation work related to roads, ports, and riverine infrastructure. Through the APL 1 project alone, INVIAS invested more than US$40 million in risk-mitigation works in 2007. The Colombian Oil Company (ECOPETROL) is seeking to retrofit all its critical installations

to become seismic resistant.[20] The Bank has been following progress and quality closely due to its involvement through the APL 1. ECOPETROL expects to finalize this program of investments in 2009.

55. **Most of the investments in risk reduction at municipal level are done by a handful of the larger municipal entities, reflecting that much work still needs to be done in terms of building awareness and capacities among local governments.** One indicator of the status is that only 20 percent of municipalities reporting floods in the period from 2004 to 2006 have invested in risk-reduction measures for flood protection in the same period. Both MAVDT and DPAD have active programs in building capacity and awareness among municipalities for disaster risk reduction which the Bank is supporting. These programs will over the next three years expand coverage to up to 40 percent of municipalities in the country and thereby form the basis for more widespread and more effective investments in risk reduction at municipal level. In addition the DNP will continue to monitor municipal investments in risk reduction to track if the capacity building efforts has any impact on municipal decision making with regards to risk reduction.

Third Area of Action under the NDP: Strengthening Policies and Institutions of the National System for Disaster Management and Prevention

56. **The main institutional challenge in managing disaster risk is to integrate a system that links the local level with the national level, on the one hand, and operations/executive functions with analytical/information-generating functions, on the other.** These links are critical both for efficient vulnerability reduction and for efficient disaster response. The result ought to be a cohesive system of clearly designated responsibilities and shared information. This will ensure that the comprehensive disaster risk management approach chosen by the Government is carried out effectively. The results will necessarily always depend on the capacity of the various links in the system.

57. **Colombia has built a National System for Disaster Management and Prevention, articulated around a National Disaster Prevention and Attention Plan.** The system has its mandate in Law 46 from 1988 and includes both public and private agencies with responsibilities for risk mitigation and prevention as well as emergency response and rehabilitation. The system is coordinated by the Directorate of Disaster Prevention and Attention presided over by the Minister of Interior and Justice. Furthermore, the system has an operative arm coordinated by a National Operative Committee and a technical/scientific arm coordinated by the National Technical Committee. Vertically, the system has regional committees presided over by the provincial governors and local committees presided by mayors.[21]

58. **Colombia, through its National System for Disaster Management and Prevention, has been a leader in instituting a policy and legal framework that enables a comprehensive, multisectoral approach to disaster risk management.** The role of

20. In accordance with the existing Colombian building code, all new construction must be seismic resistant, and existing key public buildings must be retrofitted or rebuilt to be earthquake resistant (Law 400 of 1997).
21. See Annex 3 for a more detailed discussion on the SNPAD, including an organizational chart.

Colombian experts and those graduate-level trainees in disaster risk management in the country has been important in this shift and its consolidation.[22] The country is a leader in such risk-reduction approaches and measures as the introduction of building codes and enforcement, municipal programs, and the integration of science and technology with public policy making.

Box 2: Colombia's Capacity to Respond to Natural Disasters

It is hard to measure a country's preparedness and response capacity prior to seeing it in action. Experience shows, however, that if a country is blind-sided by a large event, the effectiveness of its reaction is limited even in a country with high capacity. Hence, adequate knowledge of potential risks to natural disasters is intimately linked to the efficiency of a disaster response system. Countries can further improve their capacities for disaster response by training and practicing emergency response, clarifying command procedures for emergency situations, as well as planning for inter-institutional communication and coordination in emergency situations.

In Colombia, the government has been building a national system for disaster prevention and response since 1983. The disaster response structure has four levels of organization. Response to a given natural event starts with the local level determining if the event is of a magnitude that the local response committee can handle or if help need be requested at the Municipal, Departmental or National level.

The National Directorate of Disaster Prevention and Response since 2006 has been providing training at local, municipal, and departmental levels through the Local, Municipal and Departmental Committees for Disaster Prevention and Response. A new plan for training municipalities was approved in 2007 and is under implementation with support of the APL 1. In 2008, 60 municipalities will be trained, and 150 in 2009.

To test existing capacity simulations and drills have been carried out in major cities. The latest and largest exercise was a earthquake simulation, in Bogota. First responders, national and district authorities, and the general population all participated in the exercise as part of the mass prevention campaign "with the feet on the ground" (www.conlospiesenlatirra.gov.co).

Another way to assess the response capacity in Colombia is to look at the number of people that have been affected by natural disasters and attended to by the SNPAD. Between 1999 and 2008, the System (Local Committees, Regional Committees and the National Committee) attended more than 75% of the people that requested humanitarian help due to natural disasters received support.

The response capacity of all levels in the system activated at the same time has only been tested once since its creation; this was in 1999 after the Armenia earthquake, which caused thousands of deaths and a high level of structural damage. Immediately after the earthquake the Government of Colombia established the Reconstruction Fund for the Coffee Region (FOREC). FOREC reported to the Office of the President with the National Planning Department (DNP) acting as secretariat. FOREC was to finance, execute and coordinate the economic, social and environmental reconstruction of the disaster-affected region. The operation's outcome was subsequently evaluated to be highly satisfactory due to its speed and quality. Judging from the response and reconstruction after the Armenia earthquake, Colombia has a well functioning response system.

Colombia is clearly better prepared for a disaster now than it was 20 years ago; firstly, they have stronger institutions and disaster response organization, at national, departmental, municipal and local levels; secondly, municipalities and major cities know their risks better; thirdly, important vulnerability reduction measures are being implemented. Colombia's effort to reduce vulnerability to diminish the effects of disasters in a comprehensive way is a great example for the region and the world, however, there is a significant additional need to improve comprehensive disaster risk management, particularly at the local and municipal level.

22. See resources under La Red at www.desinventar.org.

59. **The challenge for Colombia is to resist pressures to fall back into an emergency focus**. To resist these pressures implies the need to upgrade, integrate, and further consolidate the National System for Disaster Management and Prevention. Responsibilities for disaster vulnerability reduction continue to be fragmented, and capacities to comply with mandates in some cases remain insufficient. The DPAD, now operating under the Ministry of the Interior and Justice, is charged with organizing, training, and preparing local governments for disaster management. Regional and local development planning and investments, however, are guided by the MAVDT, which also regulates environmental issues, many of which are key for disaster risk analysis and planning. Technical knowledge and forecasting are dealt with by a variety of agencies, some under the auspices of MAVDT, such as IDEAM, the weather and hydrological information system, but others are independent—INGEOMINAS, for example, which monitors and evaluates geological hazards, is under the aegis of the Ministry of Mines and Energy. Finally, fiscal contingencies and issues related to risk financing are within the mandate of the Ministry of Finance (Ministerio de Hacienda y Crédito Publico, MHCP). Though good work is being done in all these institutions, technical capacity is a limiting factor in several, particularly at local levels, and institutional coordination remains a challenge.[23] The Government will continue to address these challenges over the next three years. In this period the DPAD in coordination with DNP and MAVDT will be working towards a stronger framework for coordination among the various institutions in the SNPAD.

Fourth Area of Action under the NDP: Reducing the Fiscal Vulnerability of the State to Natural Disasters

60. **The main challenge for the Government with regard to reducing the fiscal vulnerability of the state to natural disasters is to finance and rapidly initiate the recovery phase in the aftermath of a natural disaster.** A risk-financing strategy should differentiate between a range of higher frequency/lower cost events and lower frequency/higher cost events. Lower layers of risk (higher-frequency/lower-cost events) can generally be financed through retention, such as reserves, special budget appropriations, and budget reallocations. These sources of funds are rarely sufficient to cover large losses for which other risk-financing instruments are generally needed.

61. **The DPL with a CAT DDO has been designed to provide a financing bridge—after a disaster of a scale that cannot be funded with the internal reserve—to other sources of relief as they become available.** As part of a catastrophe risk-financing strategy, this instrument will provide the Government bridge financing in response to adverse natural events generating losses beyond the capacity of the annual budget allocation to DPAD for responding to disasters. The MHCP estimates that after a national disaster it would need three to six months to be able to raise alternative financing to carry out recovery needs. The US$150 million available in this DPL would avoid a bottleneck in the early recovery and help start reconstruction activities immediately.

62. **CONPES 3146 of 1998 raised the issue of the fiscal vulnerability of the state to natural disasters and identified concerns for the financing of reconstruction should a**

23. See Annex 3 for a more detailed description of the organization of the National System for Disaster Management and Prevention.

major catastrophic event occur. Cardona et al. (2005)[24] estimate that the Government of Colombia would face a long-term resource gap, that is, a shortfall of funding available compared to funding needs, if confronted with a disaster with a return period of 100 years.[25]

63. **The Government has a dual-risk financing strategy**. First it is seeking to encourage the use of insurance in the private sector so as to reduce its contingent exposure. In addition, the Government is seeking to reduce its own exposure by insuring public assets, securing contingent lines of credits, and investing in risk reduction.

64. **The Government is working on a series of policy documents related to the retention and transfer of the residual risk in Colombia.** In Colombia all public buildings are required by law to be insured (Law No. 42 de 1993).The MHCP is currently investigating options to design a cost-effective insurance program for public assets and a catastrophe insurance program for private dwellings. The MHCP has conducted a series of technical studies on earthquake risk assessment to evaluate the physical damage caused by a major earthquake on public assets. This complements other studies carried out by the District of Bogotá on the impact of earthquakes on public buildings and private dwellings. These studies, based on state-of-the art catastrophe risk-modeling techniques, provide the Government of Colombia very detailed information on earthquake risk assessment.[26]

65. **Several municipalities have advanced work on their own risk financing strategies.** These include the following:

- **Manizales[27] has implemented a voluntary collective private insurance strategy.** The premium, which covers earthquakes and other natural events, is paid through the dwelling tax. There is a subsidy for the most vulnerable population (strata 1 and 2); the amount of the subsidy is function of the insured value of private property.

- **Sabaneta[28]** has implemented an obligatory collective private insurance policy, which covers all the private dwellings of the municipality (7,800). To have access to the policy, which covers earthquake and other natural events, it is required that the property tax has been paid.

- **Bogotá has advanced work on a disaster risk-financing strategy**. With support from the APL 2, the Secretariat of Finance has carried out earthquake assessment for each of

24. Omar D. Cardona (2005): "Indicators of disaster risk and risk management: Program for Latin America and the Caribbean," Inter-American Development Bank, Washington, D.C.
25. See Annex 8, "Potential Economic Losses of Disasters in Colombia."
26. These studies include: ERN (Evaluación de Riesgos Naturales), *Definición de la responsabilidad del Estado y su exposición ante desastres naturales y el diseño de mecanismos para la cobertura de los riesgos residuales del Estado* (Manizales, Colombia, 2005); CEDERI (Centro de Estudios sobre Desastres y Riesgos, Facultad de Ingeniería, Universidad de Los Andes), *Estrategia para transferencia, retención y mitigación del riesgo sísmico en edificaciones indispensables de Bogotá, D.C.,* (Bogotá, Colombia, 2005); and ERN (Evaluación de Riesgos Naturales), *Diseño de productos de transferencia de riesgos en el sector público para incentivar el aseguramiento en el sector privado en Manizales* (Manizales, Colombia, 2005).
27. Manizales is a municipality and the capital of Caldas Department.
28. Sabaneta is a municipality of Antioquia Department.

the buildings in its cadastral database. Currently Bogotá is developing a financial strategy for covering its public assets and for promoting the insurance of private dwellings.

66. **While progress has been made to institutionalize disaster risk management in general, work remains for Colombia to institutionalize its disaster risk financing**. A main challenge relates to the risk to private housing. Legally this is private risk, but in the event of a major disaster, the Government is likely to be called upon as the insurer of last resort. A solution is being sought that involves collaboration between the national Government and the most important municipalities, as well as public-private partnerships involving the national and international insurance markets. With facilitation from the Bank MHCP, the Secretary of Finance of the District of Bogota as well as the insurance association will over the next three years be working towards launching an insurance scheme to protect both private and public assets from natural disasters.

VI. OPERATION IMPLEMENTATION

A. Poverty and Social Impact

67. **This operation is expected to have significant positive impacts for the poor.**

68. **Natural disasters have a disproportionate impact on the poor**. Ninety-nine percent of people affected by the close to 6,000 large scale natural disasters worldwide registered between 1970 and 2002 were people in developing countries.[29] In Colombia in the last three decades close to 10,000 people have died and more than 14 million people have been affected just from recurrent small scale disasters like flooding and landslides. More than 1 million people were affected by various flood events in 2007. The vast majority of these people are from the lowest income quintiles.

69. **Poor populations are less resilient than others to exogenous shocks and when shocks occur the poor tend to suffer larger damages relative to their livelihoods.** This statement is true for natural disasters as well as other shocks. This is because the poorer segments of the population often live in the most vulnerable locations and live in inadequately constructed housing.[30] In addition, the poor have limited labor skills, fewer assets, and little or no savings. They have little opportunity for risk diversification and restricted access to credit. Because of this, they are less able to cushion the impact on consumption of disruptions to income. Exogenous shocks can also increase poverty indirectly through the effects of lower economic growth, higher inflation (the poor are more vulnerable to inflation), and through consequential lower Government spending for social services.[31]

70. **The implementation of the Disaster Risk Management DPL with a CAT DDO in Colombia is expected to have a positive direct impact on poverty and other social issues.** In Bogota alone the Government's investment in strengthening public schools, most of them in the poorest areas of Bogota, since 2006 has created a safer education environment for about 200,000 students and teachers. In addition to strengthening the buildings to reduce the risk of collapse in an earthquake the investment has also improved the school environment making it more green, more environment friendly, with better light and safer. Another example is investments to reduce the risk of interruptions of infrastructure and public utilities service networks due to adverse natural events. With technical support from the MAVDT under the Government's National Development Plan, private and public utilities are integrating disaster risk management in their investment plans.

71. **The operation will also have an indirect positive impact for the poor.** Since the project directly supports one of the pillars in the national development plan, and since the

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29. Rasmussen, Tobias, Macroeconomic *Implications of Natural Disasters in the Caribbean (Washington, DC:* IMF, Working Paper 04/224, 2004).

30. World Bank, *Caribbean Economic Overview 2002: Macroeconomic Volatility, Household Vulnerability, and Institutional and Policy Response* (Washington, DC: World Bank Report No. 24165-LAC, 2003).

31. International Monetary Fund *Fund Assistance for Countries Facing Exogenous Shocks* (Washington DC, 2003, available at http://www.imf.org/external/np/pdr/sustain/2003/080803.pdf).

disaster risk management DPL with a CAT DDO reduces the risk of interruption and diversion of resources from the other pillars of the national development plan, the prior action taken by the Government is expected to have indirect positive poverty and social impacts.

72. **Significant stakeholder consultation has been carried out and is ongoing under the APL1 Component B1.** These consultations consist of meetings and training sessions with Municipalities to understand why some invest in vulnerability reduction and others do not, and with communities to understand why some communities are better prepared for emergency response than others. This information is being captured by the DNP, the DPAD and the MAVDT. These agencies are seeking more efficient ways to build awareness and capacities in communities and at municipal level to address disaster risk. Since 2006 360 municipalities have been consulted and received training on disaster risk management and how to incorporate disaster risk management in territorial planning. These activities will continue over the next three years.

73. **The Government of Colombia has a strong track record in terms of addressing broader social impacts of disaster management**. The experience in Bank-financed operations for issues related to resettlement of disaster-affected peoples and of inhabitants of high-risk zones, in particular in the context of the resettlement framework elaborated and implemented for the APL 2, shows that the Government's policy approach and implementation capacity in addressing the social impacts related to hazard risk management are strong and well established.

B. Environmental Aspects

74. **This operation is likely to have a significant positive impact on the environment.**

75. **The Ministry of the Environment, Housing and Territorial Development is one of the key agencies for disaster risk management in Colombia.** Since one of the objectives of the operation is to support the Government's effort to mainstream disaster risk management into a number of key sectors, the operation's design is proactive with respect to internalizing environmental concerns, reflected in the role of the MAVDT as one of the key agencies for disaster risk management in Colombia. Improving capacities for disaster risk management will have positive environmental impacts through better environmental management in territorial planning, through improving security of water supply and sanitation, and through strengthened integrated watershed management. The MAVDT is mandated to support local municipalities in implementing binding land-use zoning regulations.

76. **The Government's commitment to improved environmental management is wholly imbedded in the 2006– 2010 National Development Plan**. For the first time in three administrations, the NDP includes a chapter dedicated to the Government's environmental management strategy. This strategy draws directly upon the work undertaken through the Sustainable Development DPL series and the findings of the CEA.

C. Implementation, Monitoring, and Evaluation

77. **Three agencies are involved in the coordination and monitoring of the proposed program.** While the Ministry of Finance is the main counterpart of the Bank for this disaster risk management DPL with a CAT DDO, implementation of the program will be coordinated by the National Planning Department and the Directorate for Disaster Prevention and Attention (*Dirección para la Prevención y Atención de Desastres*).[32]

78. **Bank staff will assist the Government in monitoring the progress of the implementation of the proposed operation during the entire drawdown period.** Given the characteristics of the DPL with a CAT DDO, the Bank is responsible for monitoring the implementation of the program supported by the DPL during the drawdown period (the period of three years, which can be extended for up to four additional three-year periods, during which the loan with the DDO can be disbursed). This will be done through frequent visits to the country and regular communication with MHCP, DPAD, and DNP. Table 7 summarizes the selected benchmarks that the Government is working towards and that will form part of the Government-Bank supervision dialogue. These benchmarks are drawn entirely from the Government's existing program of actions to reduce risks resulting from adverse natural events and constitute only a sub-set of a much larger constellation of indicators that the Government has established for itself to guide future implementation and further strengthening of its program. The benchmarks are only for the purpose of guiding Country-Bank dialogue and do not constitute conditions for either disbursement or renewal of the DPL with a CAT DDO.

Table 7: Selected Government Benchmarks for ongoing Country-Bank dialogue

Development Objective	Prior Action	Government Benchmarks for 2011
Strengthen the Government's program to reduce risks resulting from adverse natural events	The inclusion, as specific and prominent elements in Colombia's 2006–2010 National Development Plan, enacted as Law 1151 of July 2007, of: (i) disaster risk reduction and (ii) disaster risk management strategy.	
	Areas of Action	
	1. Improved risk identification and monitoring, and increase awareness	• Expand coverage of hazard monitoring network from 18 seismic stations and 80 hydro-meteorological stations functioning by July 1, 2008.

32. The General Directorate for Disaster Prevention and Attention operating under the Ministry of Justice and the Interior is part of the Ministry of the Interior and Justice.

Table 7: Selected Government Benchmarks for ongoing Country-Bank dialogue		
Development Objective	**Prior Action**	**Government Benchmarks for 2011**
	The inclusion, as specific and prominent elements in Colombia's 2006–2010 National Development Plan, enacted as Law 1151 of July 2007, of: (i) disaster risk reduction and (ii) disaster risk management strategy.	
	Areas of Action	
	2. Increased prevention and mitigation measures for risk reduction	• Expand the number of municipalities that have action plans for inclusion of risk reduction in territorial development plans, from 20 that have action plans by July 1, 2008.
	3. Strengthened policies and institutions of the National System for Disaster Management and Prevention	• Definition and validation of the objectives and instruments for the relocation of people living in the high risk disaster impact zone of the Galeras Volcano.
	4. Reduced the fiscal vulnerability of the state to natural events	• Consolidate national catastrophe risk financing strategy which facilitates public sector risk transfer and generates incentives for private sector risk transfer.

D. Fiduciary Aspects

79. **In general, Colombia's fiduciary environment for DPL operations is considered adequate**. Important progress has been achieved in the modernization of the Public Financial Management (PFM) systems and institutions at the central Government level (see Box 3). The Bank continues to contribute to this effort, through PFM-related investment lending and analytical/advisory services support.

Annex 1: Disaster Risk Management DPL Policy Matrix

Development Objective: Strengthen the Government's program to reduce risks resulting from adverse natural events			
Development Objective	**Prior Action**	**Government Benchmarks for 2011**	**Expected Outcomes**
Strengthen the Government's program to reduce risks resulting from adverse natural events	The inclusion, as specific and prominent elements in Colombia's 2006–2010 National Development Plan, enacted as Law 1151 of July 2007, of: (i) disaster risk reduction and (ii) disaster risk management strategy.		
	Areas of Action		
	1. Improved risk identification and monitoring, and increase awareness	Expand coverage of hazard monitoring network from 18 seismic stations and 80 hydro-meteorological stations functioning by July 1 2008.	The National System for Disaster Management and Prevention will continue to address the needs of, on average, 80 percent of people in disaster affected areas that request support.
	2. Increased prevention and mitigation measures for risk reduction	Expand the number of municipalities that have action plans for inclusion of risk reduction in territorial development plans, from 20 that have action plans by July 1 2008.	Expand the number of municipalities that have disaster risk management plans. On October 1, 2008, 10 municipalities had disaster risk management plans.
	3. Strengthened policies and institutions of the National System for Disaster Management and Prevention	Definition and validation of the objectives and instruments for the relocation of people living in the disaster impact zone of the Galeras Volcano.	There will be a reduction in the number of people living in the high hazard zone of the Galeras volcano; on October 1 2008, 7,935 people lived in the high hazard zone.

	4. Reduced the fiscal vulnerability of the state to natural events	Consolidate national catastrophe risk financing strategy which facilitates public sector risk transfer and generates incentives for private sector risk transfer.	The Government will have defined a framework for contingent financing. On October 24, 2008, the Government passed a policy document (CONPES 3545) providing the basis for such a framework.

Annex 2: Potential Impact of the U.S. Financial Crisis on Colombia

LCSPE
Macroeconomic Monitoring

Latin America and the Caribbean Region
Poverty Reduction and Economic Management Department
Economic Policy Sector Unit

November 12, 2008

Potential Impact of the U.S. Financial Crisis on Colombia[33]

Main Risks
• **The main concern is the likely impact of the worldwide growth slowdown on the demand for Colombia's exports and a decline in the terms of trade due to falling commodity prices.** Colombia is particularly vulnerable due to a high concentration of exports in commodities and a high concentration of exports for two destinations: the United States and Venezuela.
• **Colombia faces an unfavorable external environment but the government has taken the necessary steps to mitigate it.** Increasing risk aversion and liquidity hoarding by foreign investors may limit capital flows for the foreseeable future. To reduce external risks, the government has reduced the foreign currency share of its public debt and overall external debt of both the public and private sector is low at about 23 percent of GDP. In addition, international reserves have increased substantially and now stand at over US$23 Billion.

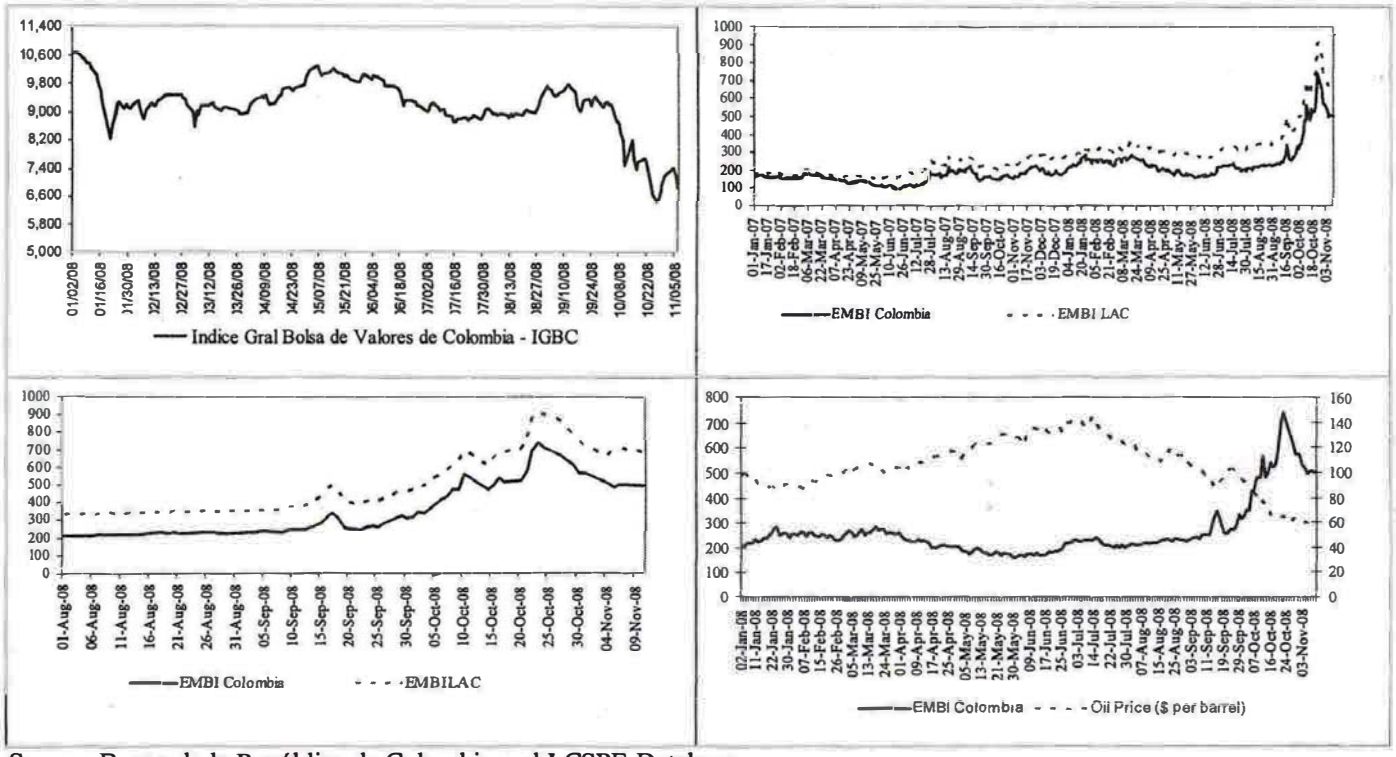
33. This note was written by Christian Gonzalez and Maria Ivanova Reyes.

Potential Impact on Colombia

Short-term impact

- **An immediate impact of the turmoil has been an increase in stock price volatility and a significant rise in the EMBI spreads.** The decline in the IGBC stock market index has been of about 19.3% in the past month (similar to other countries in the region), but has seen a mild recovery in the last few days. The rise in EMBI spread is low relative to other countries in Latin America. The spread has started to decrease since end-October 2008. After having shown evidence of a negative relation with the international oil price, the EMBI spread is presenting a path more in line with the behavior in international markets, unlike other countries in the region that are net exporters of oil and which still show strong signs of increase in risk like Ecuador.

Graph 1. Colombia: Stock Market Index, EMBI Spread and International Oil Price



Source: Banco de la República de Colombia and LCSPE Database.

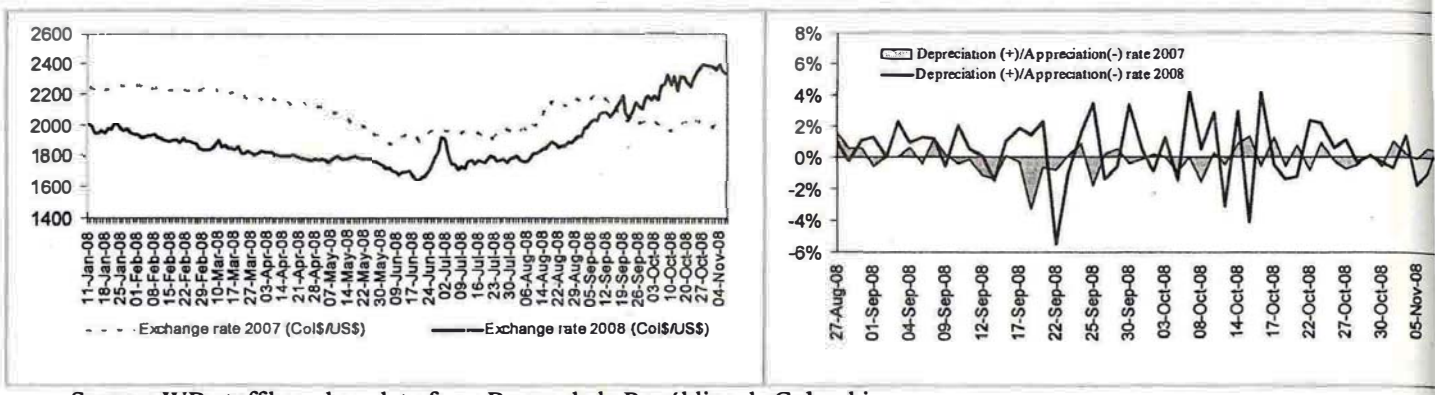
- **A key concern for Colombia is the likely impact of the global growth slowdown on the demand for Colombia's exports and commodity prices.** Colombia has a relatively open economy (exports of goods and services are equivalent to over 17% of GDP while total trade amounts to about 45 percent of GDP). In particular, oil exports represent around 24 percent of total exports. While exports have become more geographically diversified towards other countries/regions beyond the U.S., the risk of a global slowdown heightens the probability that export volumes and prices may be adversely affected. Indeed, export volumes have decreased somewhat already in the second quarter of 2008, evidenced by a -0.8 percent real growth rate of total exports over previous quarter[34]. This

[34] This deceleration in the pace of exports follows a -2.6 percent decline during the first quarter of 2008. Growth rates refer to the variation respect to the previous quarter of the seasonally adjusted export value in constant terms as published by the Departamento Administrativo Nacional de Estadística (DANE).

has translated into a deceleration in GDP, which grew by only 3.7 percent q-o-q during the second quarter of 2008 (compared to 8 percent in the previous year).

- **Likely impact of the US deceleration**. According to a recent analysis of the impact of the US slowdown in the Colombian economy[35], the country seems to be relatively resilient to a recession in the US. The Colombian economy business cycle shows a small and negative correlation with the US business cycle. Indeed, the impact of a 0 percent growth rate of the US economy on GDP growth in Colombia is estimated to be 0.4 percentage points. In contrast, other countries like Canada, Mexico and Venezuela would experience an estimated growth loss of more than 1 percentage point. Naturally, if the US slowdown has a higher impact worldwide, then the effect on the Colombian economy could be stronger as the country has strong trade relations with other regions like the Euro Area.
- **Pressures on the exchange rate.** The peso/dollar nominal exchange rate had appreciated over most of 2008. However, more recently the exchange rate has shown signs of depreciation and a much higher volatility than the evidenced during 2007. As a result, the exchange rate since mid-September 2008 is more depreciated than during the same period of last year.

Graph 2. Colombia: Exchange Rate (COL$/US$) and Exchange Rate Volatility, 2007 vs. 2008

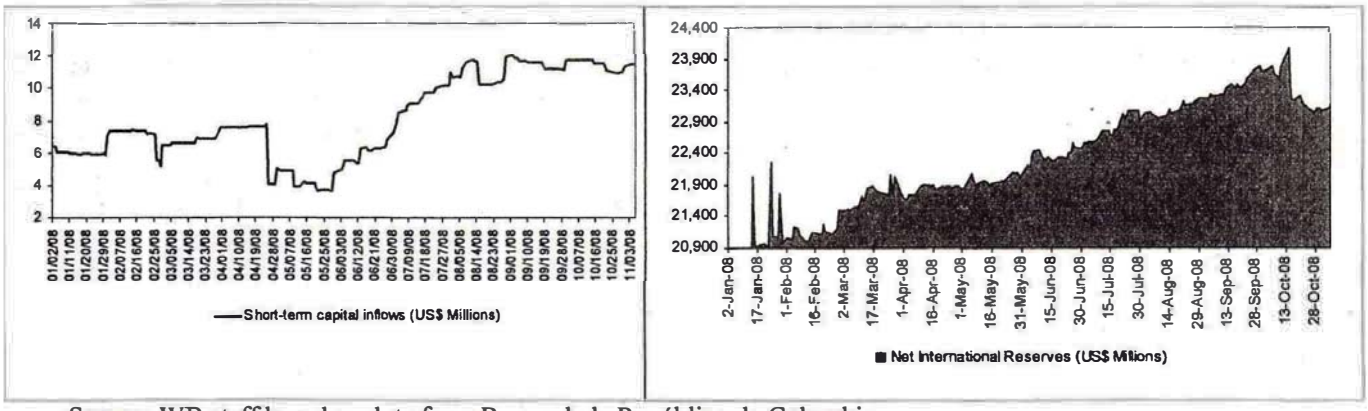


Source: WB staff based on data from Banco de la República de Colombia.

- **Limited capital flight.** The recent U.S. financial crisis has not led to a substantial increase in capital outflows. Colombia holds a relatively low level of portfolio investment. This combination reduces the risks of potential market volatility affecting the economy.
- **High level of reserves.** The country holds a high level of international reserves (Net International Reserves reached US$23.5 billions as of end-October 2008) which increases its capability of coping with a financial crisis affecting the economy.
- **Low level of foreign denominated debt.** The Colombian economy currently holds an approximate of 75 percent of its debt in local currency denominated instruments and only 25 percent in foreign currency. This additional element serves as a cushion for the potential transmission of the external financial crisis to the economy.

[35] See Bernal, Ricardo and Luz Flórez. 2008. "Efecto de una Recesión de la economía estadounidense sobre Colombia". Banco de la República de Colombia: Reportes del Emisor, Número 110, Julio 2008.

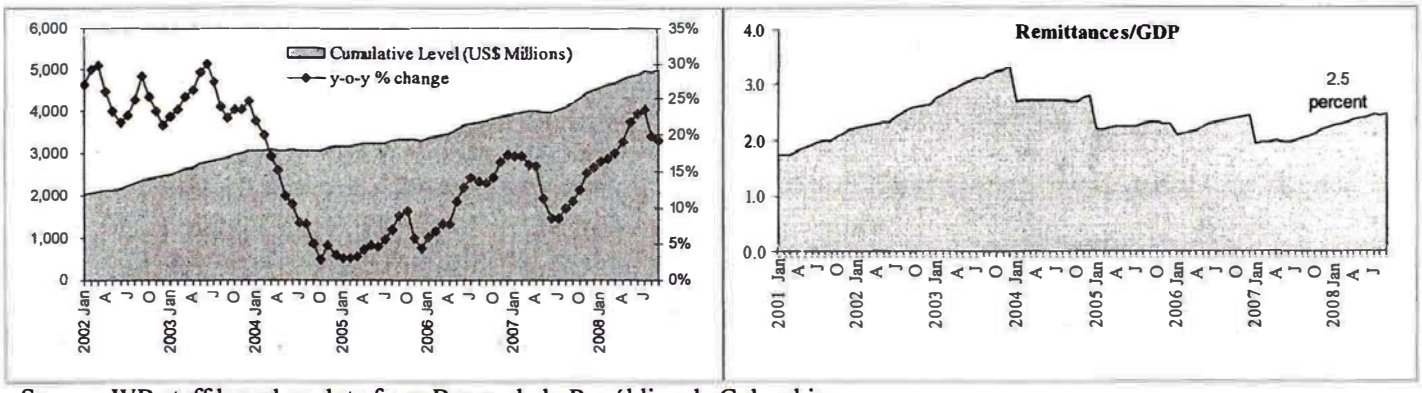
Graph 3. Colombia: Short-Term Capital Inflows and Net International Reserves



Source: WB staff based on data from Banco de la República de Colombia.

- **Remittances.** The level of remittances received by the Colombian economy is yet to be significantly affected by the crisis; however remittances remain vulnerable to the impact of the global slowdown. As of September 2008, remittances account to approximately 2.5 percent of GDP. Recently, the remittances growth rate has been declining.

Graph 5: Remittances in Colombia: Level, Change and Share of GDP, 2001-2008

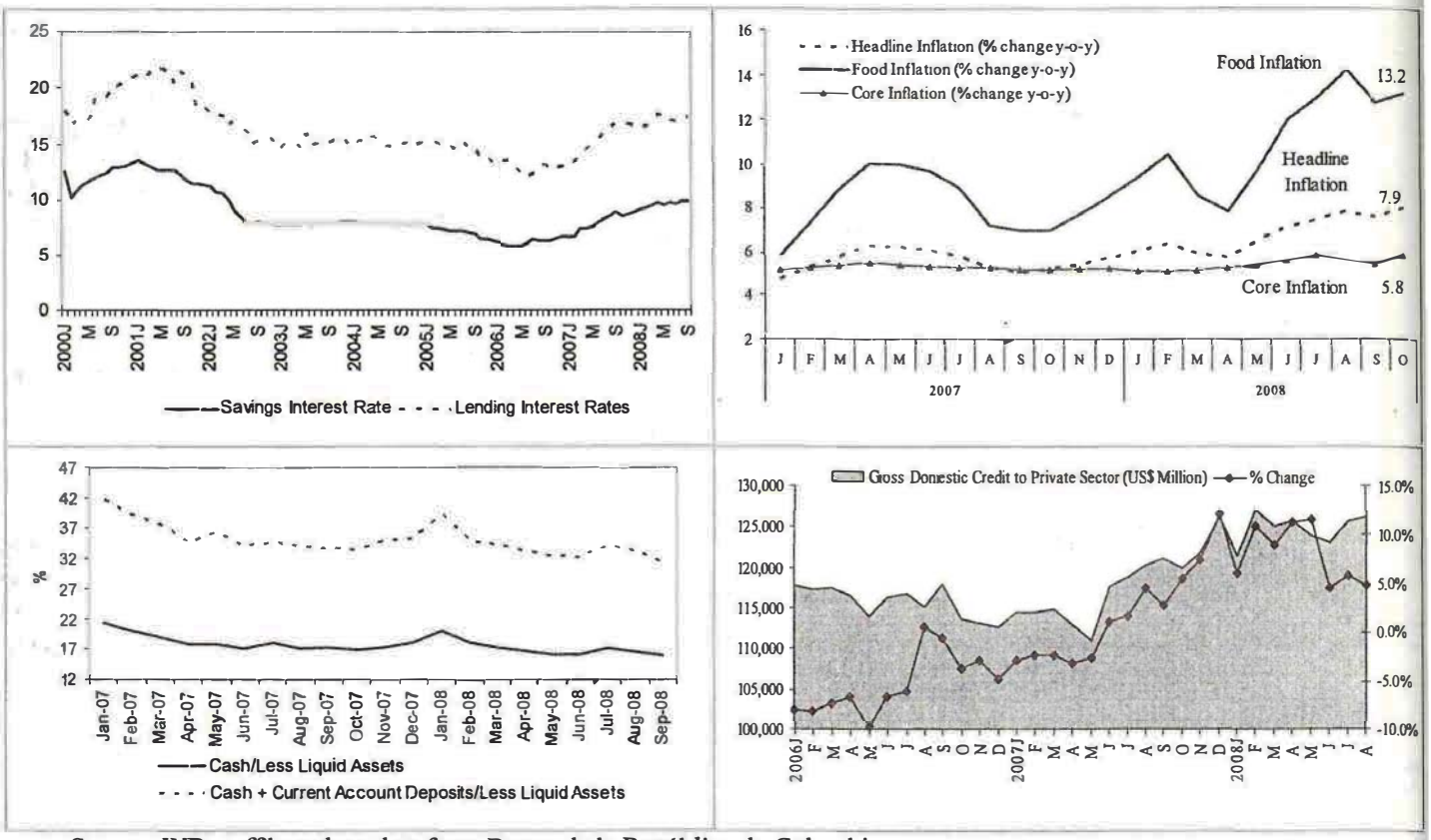


Source: WB staff based on data from Banco de la República de Colombia.

- **Interest rates and Inflation.** The Central Bank has increased interest rates moderately to contain inflationary pressures. However, the price hikes the economy has been experiencing are expected to be contained as the international food prices, a major driver of price increases in the country, continue towards a stabilization trend.

- **Liquidity and Lending.** The country is not showing evidence of liquidity constraints as the share of liquid assets has not experienced sharp movements over the past months. Gross domestic credit to the private sector continues growing and, although with a lower moderate growth rate over the past couple of months, keeps a strong pace. A potential risk is that current global conditions might lead to less FDI and to a decrease in liquidity in the exchange rate market.

Graph 5. Colombia: Financial Indicators and Inflation



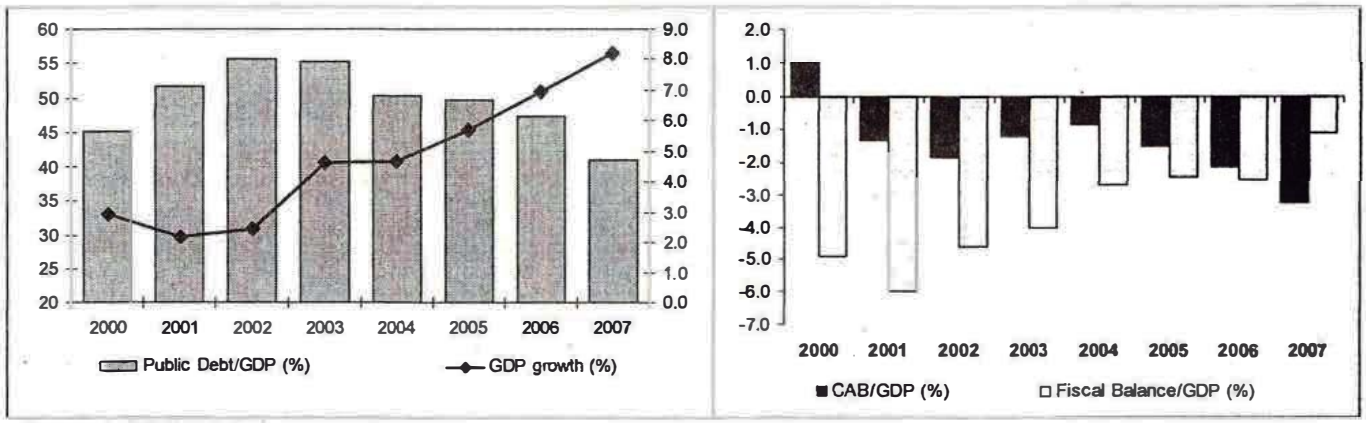
Source: WB staff based on data from Banco de la República de Colombia.

Medium-term outlook

- **The global financial turmoil could intensify pressures on Colombia's economic activity as the world economy slows down.** A decrease in commodity prices (possibly driven by a decrease in global demand) will tend to reduce Colombian exports. An increase in risk aversion might lead to capital outflows, increased pressures on the real exchange rate, a decrease in international reserves and increased in inflation. In addition, a decrease in global liquidity might lead to less FDI flows.
- **The government has taken the necessary steps to mitigate the risks from currently negative global environment.** To reduce external risks, the government has reduced the foreign currency share of its public debt and overall external debt of both the public and private sector is low at about 23 percent of GDP.[36] In addition, international reserves have increased substantially and now stand at over US$23 Billion.

[36] According to the recent debt reports published by the Banco de la República de Colombia, external debt of the private sector is estimated to remain belwo 8 percent of GDP during 2008, and public external debt is approximately 14 percent of GDP. In addition, external public debt is less than 1/3 of total public debt. See September and October reports on external debt and public debt.

Graph 6. Colombia: Macroeconomic Fundamentals



Source: LCSPE Database

- **The economy is expected to slow even further in 2009.** The fiscal position is projected to worsen, with a possible increase of the non-financial public sector deficit (to 2.5% of GDP in 2009, the highest level in the last five years). The Government already anticipates international funding (from multilateral agencies) for its financing needs in the order of US$2.4 billion for next year.. The impact in the external accounts would bring the current account deficit to as high as 3.5 percent of GDP in 2009

Table 1: Medium-Term Outlook, 2007-11

Indicator	2007	2008	2009	2010	2011
Real GDP (%)	8.2	3.5	2.5	2.9	3.5
Inflation (%)	5.7	7.6	6.1	4.9	4.0
Current Account Balance (% of GDP)	-2.9	-3.4	-3.5	-2.8	-2.6
NFPS Balance (%of GDP)	-1.0	-1.7	-2.5	-1.5	-1.2
Investment (% of GDP)	24.4	24.3	23.7	24.1	24.5
Public sector	7.7	7.6	7.5	7.6	7.7
Private sector	16.7	16.7	16.2	16.5	16.8
External Debt (% of GDP)	22.8	22.0	20.4	18.8	18.0
Nominal Exchange Rate (e.o.p., Col$/US$)	1,987.8	2,413.6	2,458.2	2,512.7	2,556.9
Oil Price (US$ per barrel)	71.1	105.0	79.3	81.3	82.1
FDI (% of GDP)	4.5	4.8	4.3	4.4	4.5
Portfolio investment (% of GDP)	0.11	0.06	0.02	0.09	0.11
Reserves (US$ Millions)	20,952.0	23,021.3	23,233.9	24,125.2	24,753.1

Source: National authorities and WB staff estimations based on RMSM-X model.

- **Sensitivity Analysis. Two scenarios are evaluated: the first one shows the impact of a drop of the oil price to a low of $60 per barrel during 2009; and a second scenario adds a further deterioration in the external environment.** As a result of these potential shocks economic growth could further deteriorate and the government balance would exhibit a higher deficit. The exchange rate will be significantly depreciated as a result of capital outflows pressures. Colombia has enough reserves to cushion potential shocks. None of these scenarios pose a serious problem to the public debt sustainability.

Table 2: Shock in Oil Price, 2007-11

Indicator	2007	2008	2009	2010	2011
Real GDP (%)	8.2	3.5	2.1	2.5	3.0
Inflation (%)	5.7	7.6	6.7	4.7	3.6
Current Account Balance (% of GDP)	-2.9	-3.4	-5.0	-3.0	-2.3
NFPS Balance (%of GDP)	-1.0	-1.7	-2.9	-2.0	-1.5
Investment (% of GDP)	24.4	24.3	23.3	23.7	23.9
Public sector	7.7	7.6	7.4	7.6	7.7
Private sector	16.7	16.7	16.0	16.1	16.2
External Debt (% of GDP)	22.8	22.0	21.4	19.8	19.0
Nominal Exchange Rate (e.o.p., Col$/US$)	1,987.8	2,413.6	2549.7	2606.3	2652.1
Oil Price (US$ per barrel)	71.1	105.0	60.0	65.0	70.0
FDI (% of GDP)	4.5	4.8	3.6	3.9	4.0
Portfolio investment (% of GDP)	0.11	0.06	-0.02	0.05	0.10
Reserves (US$ Millions)	20,952.0	23,021.3	19,600.9	20,256.9	24,808.2

Source: National authorities and WB staff estimations based on RMSM-X model.

Table 3: Higher Deterioration in Global Growth, 2007-11

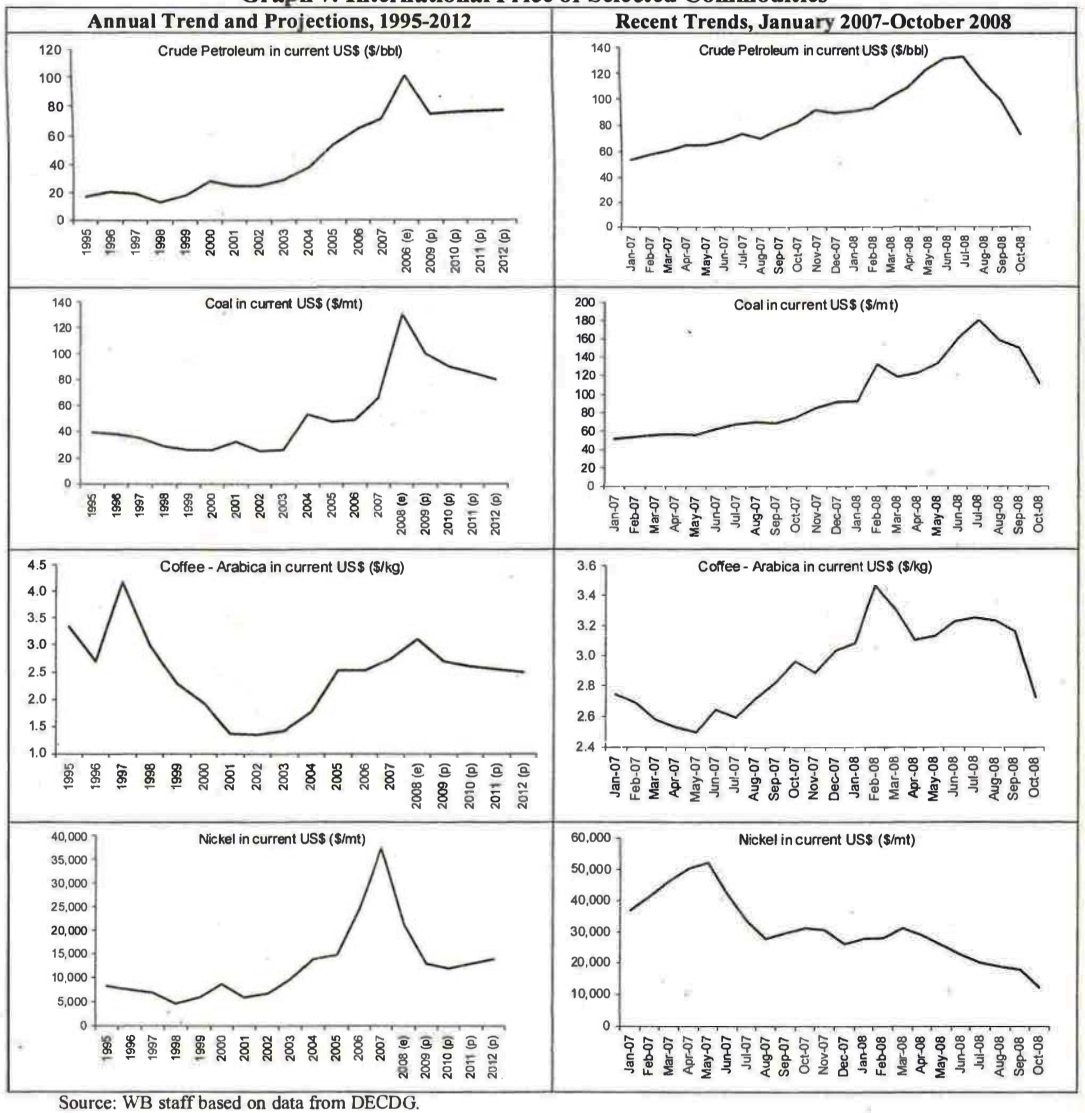
Indicator	2007	2008	2009	2010	2011
Real GDP (%)	8.2	3.5	1.6	2.0	2.7
Inflation (%)	5.7	7.7	6.5	4.2	3.3
Current Account Balance (% of GDP)	-2.9	-3.4	-5.6	-3.5	-2.9
NFPS Balance (%of GDP)	-1.0	-1.7	-3.2	-2.6	-2.2
Investment (% of GDP)	24.4	24.3	23.1	23.4	24.0
Public sector	7.7	7.6	7.4	7.6	7.6
Private sector	16.7	16.7	15.7	15.8	16.4
External Debt (% of GDP)	22.8	22.0	21.7	20.1	19.3
Nominal Exchange Rate (e.o.p., Col$/US$)	1,987.8	2,413.6	2554.9	2602.2	2644.5
Oil Price (US$ per barrel)	71.1	105.0	60.0	65.0	70.0
FDI (% of GDP)	4.5	4.8	3.4	3.8	4.1
Portfolio investment (% of GDP)	0.11	0.06	-0.10	0.04	0.09
Reserves (US$ Millions)	20,952.0	23,021.3	18,831.6	20,663.3	23,645.0

Source: National authorities and WB staff estimations based on RMSM-X model.

Key Commodities: Recent Trends and Prospects

Commodity prices have been declining during the past months and expectations are that prices will continue to soften. This is particularly important for a country like Colombia where oil exports represent approximately 25 percent of total merchandise exports, followed by coal (12 percent), coffee (6 percent) and ferronickel (6 percent). The graphs that follow present the favorable recent trends that major commodities for Colombia have exhibited in the past years and how they are expected to behave over the medium term.

Graph 7. International Price of Selected Commodities



Source: WB staff based on data from DECDG.

Annex

Short Term Monitoring Daily Report

Colombia 07-Nov-08		Latest Data Available		180 days Range Low	180 days Range High	Change Over Earlier Periods 1 day	7 days	30 days	90 days	180 days
Sovereign Spreads (bp)										
JP Morgan EMBI Global		06-Nov-08	506	156	741	13	-63	71	289	307
JP Morgan EMBI Plus		06-Nov-08	506	156	741	13	-63	71	289	307
Eurospread		07-Nov-08	477	133	718	-5	-69	-5	275	275
EMBI Global Emerging Markets	EME	06-Nov-08	659	259	891	12	-61	128	341	374
EMBI Global Regional	LAC	06-Nov-08	708	268	914	14	-36	130	364	407
Credit Default Swap		06-Nov-08	339	115	600	27	-17	66	179	193
Corporate Spreads										
JP Morgan CEMBI Broad		06-Nov-08	884	358	1,060	-2	-9	177	468	473
JP Morgan CEMBI Broad Emerging Markets		06-Nov-08	889	314	1,045	2	-124	248	506	558
GBI - EM (% yield)		06-Nov-08	12.7	10.6	14.4	0.7%	-6.6%	14.7%	10.9%	17.4%
Interest Rates (%)		31-Oct-08	10.0	9.6	10.1	0.0	0.0	0.0	0.0	0.3
Policy Interest Rate (%)		31-Oct-08	10.0	9.6	10.1	0.0	0.0	0.0	0.0	0.3
Inter Bank Rate (%)		31-Oct-08	10.0	9.6	10.1	0.0	0.0	0.0	0.0	0.3
Stock Market Index		07-Nov-08	7,099	6,461	10,211	3.3%	-1.8%	-15.6%	-20.5%	-29.4%
Reserves (US$ mn)		30-Sep-08	24,082	22,378	24,082			443	1,235	1,952
Exchange Rate (/US$) [Deprec.(-) / Apprec.(+)]		07-Nov-08	2,314.0	1,656.6	2,404.8	1.4%	2.8%	0.8%	-28.0%	-29.7%
One year forward Exchange Rate (/US$)		07-Nov-08	2,487.6	1,788.2	2,576.5	1.5%	2.8%	-4.0%	-29.0%	-29.4%

Credit Ratings for Colombia

As per October 2008

	Moodys Rating	Standar & Poor's	Fitch
Colombia Sovereign Rating (foreign currency)	Ba1 **	BB+ **	BB+**
Colombia Sovereign Rating (local currency)	Baa3***	BBB+ ***	BBB- ***
Memo:			
Minimum Investment Grade Rating Criteria	Baa3	BBB-	BBB-

Note: *** Investment grade rated; ** just below the investment grade rating.
Source: LCSPE Database

Annex 3: Organization of the National System for Disaster Management and Prevention

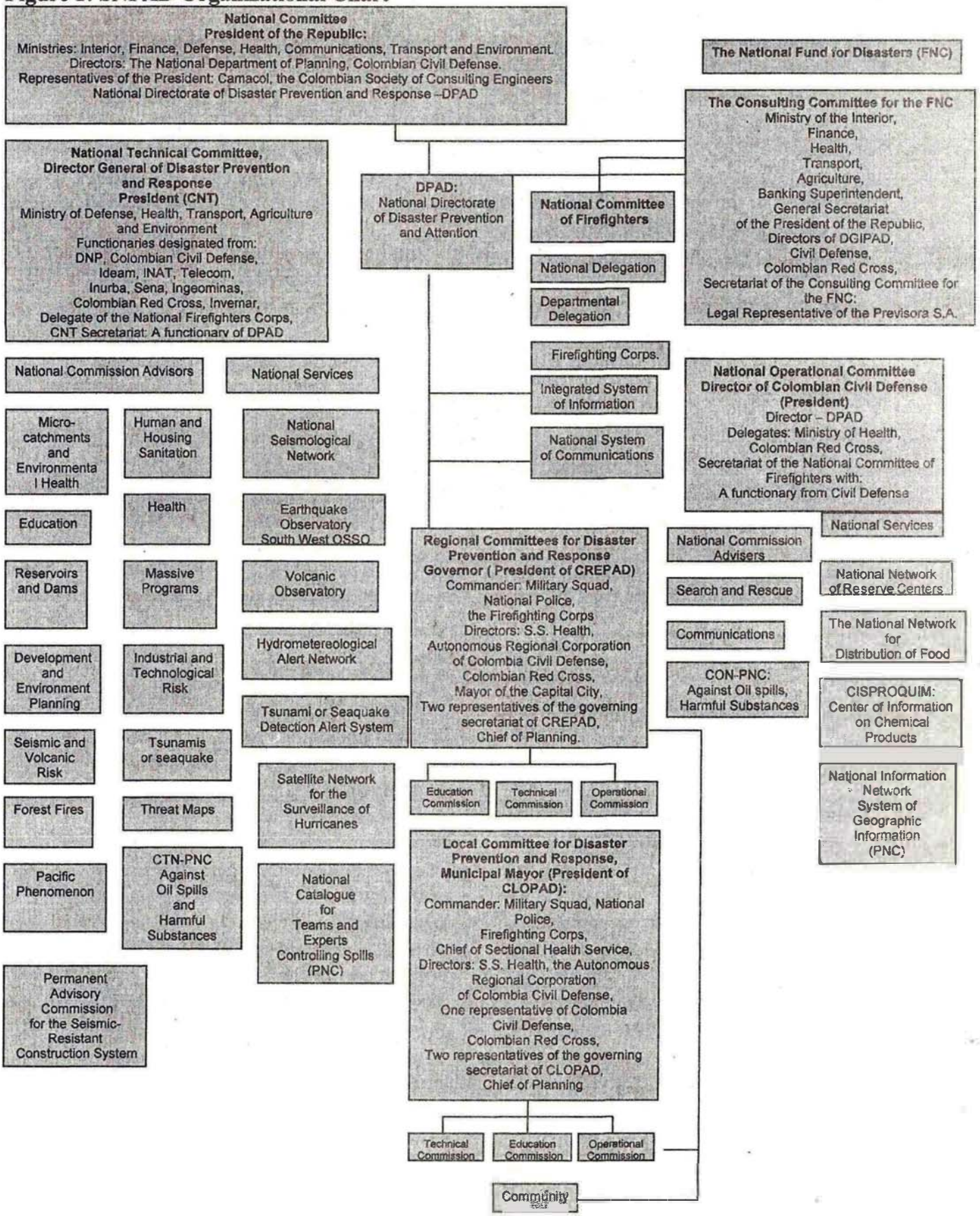
The National System, created by Law 46 (1988), is an interinstitutional entity made up of public and private actors, such as the National Committee for Disaster Prevention and Response, which is presided over by the National Technical Committee and the National Operational Committee, Regional Committees (CREPAD) and Local Committees (CLOPAD), ministries, administrative departments, and other decentralized entities involved in prevention and response. SNPAD is responsible for (a) the prevention and mitigation of risk, (b) attention to emergencies, and (c) the rehabilitation of territories affected by disasters.

The Directorate of Disaster Prevention and Attention not only is the managing coordinator of all the entities within the system but has the following responsibilities:

- to propose national strategies for risk management;
- to ensure the implementation of PNPAD;
- to provide technical, informational, economic, and educational support to members of SNPAD;
- to coordinate and ensure the functionality and organization of the committees, commissions, and national services, without ignoring the management that the Secretariat has developed; and finally
- to provide support to regional and local committees.

The following chart illustrates how SNPAD is organized:

Figure 1: SNPAD Organizational Chart



Annex 4: National Plan for Disaster Prevention and Response

The National Plan for Disaster Prevention and Response (PNPAD), and the Implementation Strategy

Ten years after the creation of SNPAD, the PNPAD was formulated through Decree 93 (1998). The objective of the plan is to orient the state's and civil society's actions toward (a) prevention and mitigation of risks, (b) preparation for response and recovery in the case of a disaster, and (c) contribution to the reduction of risk and the sustainable development of vulnerable communities before natural and technological hazards.

The strategies and projects for implementing the PNPAD are detailed in table 1, below.

Table 1: National Plan for Disaster Prevention and Response
Decree 93/1998

OBJECTIVES	• Reduction of risks and prevention of disasters • The right response to a disaster • Rapid recovery of affected zones
STRATEGIES	**PROJECTS**
Knowledge of anthropic and natural risks	• Installation and consolidation of networks, detection and alert systems for the surveillance, and proper warning for the population • Development of methodological instruments to evaluate risk • Identify and complement the hazard and risk inventory at a municipal and department level
Incorporation of prevention and reduction of risk in planning	• Incorporation of preventative and securing criteria in development plans • Management and treatment of human settlements and infrastructure localized in risky zones • Articulation of the environmental policies and the prevention of disasters
Programs that strengthen institutional development	• Strengthening of the national entities in the system • Strengthening the regional and local committees on disaster prevention and response • Strengthening the operational entities • Steps of protection and contingency in infrastructure works • Development and actualization of

	emergency and contingency plans • Design efficient mechanisms and preferential treatment of reconstruction projects • Integration of systems of information
Programs for the socialization of prevention and mitigation of disasters	• Public information for the prevention and adequate reaction of the community in the case of a disaster • Incorporation of prevention concepts and environmental protection in the formal education • Development of a national system of the capacity of functionaries and community trainers

As part of PNPAD's general strategy to consolidate the execution of the national plan, there is a focus in the medium short term on (a) establishing knowledge on natural and technological risks, (b) incorporating prevention and reduction of risks in planning, (c) strengthening institutional development, and (d) promoting awareness of prevention and mitigation of disasters.

Table 2: Strategies to Consolidate the Execution of the National Plan for Disaster Prevention and Response- PNPAD- in the Short and Medium Terms
CONPES 3146 of 2001

STRATEGIES	ACTION
Knowledge of technological and natural risks	• Advance knowledge • Develop a integrated system of information • Consolidate the monitoring and alarm networks
Prevention and mitigation of risks in planning	• Territorial planning • Sectoral planning
Institutional strengthening of the SNPAD	• Inter-institutional articulation and coordination • Articulation of the instances and entities of SNPAD in the national, regional, and local fields
Socialization of the prevention and mitigation of risks and disasters	• Training and capacity building • Communication of information for decision making • Awareness campaign for citizens

Annex 5: Exposure to Natural Hazards in Colombia

Colombia has the 11th highest economic risk to multiple hazards in the world according to the Natural Disaster Hotspot study by the World Bank; 84.7 percent of Colombia's population and 86.6 percent of its assets are located in areas exposed to two or more natural hazards.[37] The exposure is to both low-frequency high-impact events such as earthquakes, volcanic eruption, and an occasional Atlantic hurricane, and to high-frequency but lower-impact events, such as floods and landslide.

Figure 1: Colombia: Affected Area, According to Type of Hazard

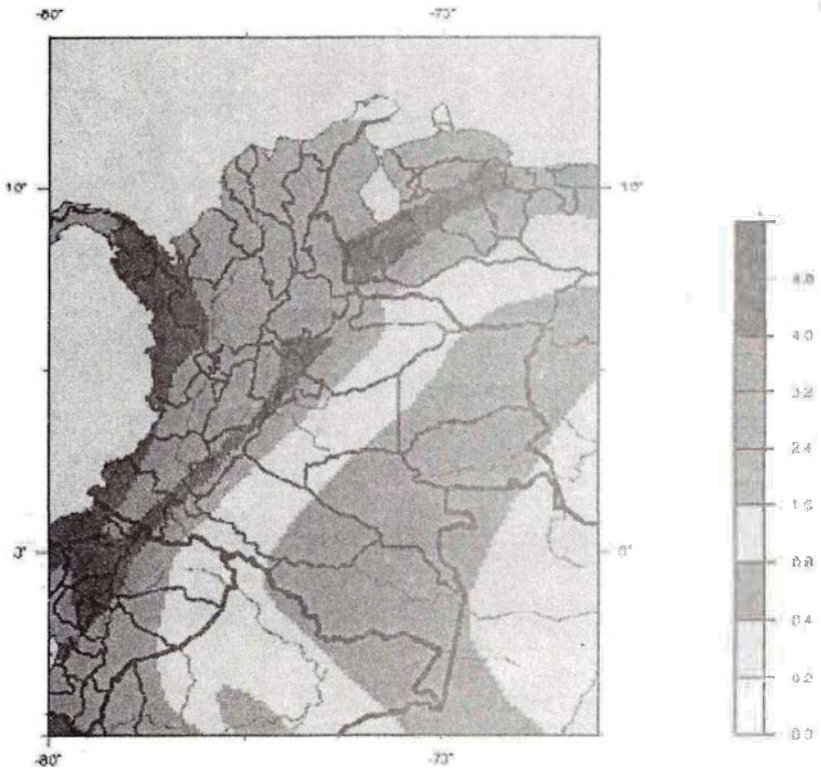
(Source: Munich Re)

37. See World Bank, *Natural Disaster Hotspots: A Global Risk Analysis* (Washington, DC: Disaster Risk Management Series, 2005), table 7.2.

Seismic exposure

Colombia is situated on the confluence of three tectonic plates; the Nazca Plate, the Caribbean Plate, and the South American plate, where the subduction of these plates creates high seismic risk, as do the various geological fault lines: the Romeral fault line, Cauca and Magdalena, and Palestina and Frontal de la Cordillera Oriental. In Colombia, earthquakes are high-impact, low-frequency events. As is evident by the map below, most of the country, including all major urban areas, is located in zones of high or very high seismic risk due to the triple conjuncture of the tectonic plates.[38]

Figure 2: Seismic Hazard Map, for a Return Period of 500 Years.[39]
(Red color indicates higher exposure.)



Peak Ground Acceleration (m/s^2) with 10% Probability of Exceedance in 50 Years[40]

38. IADB (Inter-American Development Bank) and IDEA (Universidad Nacional de Colombia - Instituto de Estudios Ambientales), Programa de Información e Indicadores de Gestión de Riesgos. Aplicación del Sistema de Indicadores a Colombia 1980-2000 (Manizales, Colombia, 2004).

39. Ibid.

40. Source: United States Geological Survey: http://earthquake.usgs.gov/regional/world/colombia/gshap.php.

Volcanic exposure

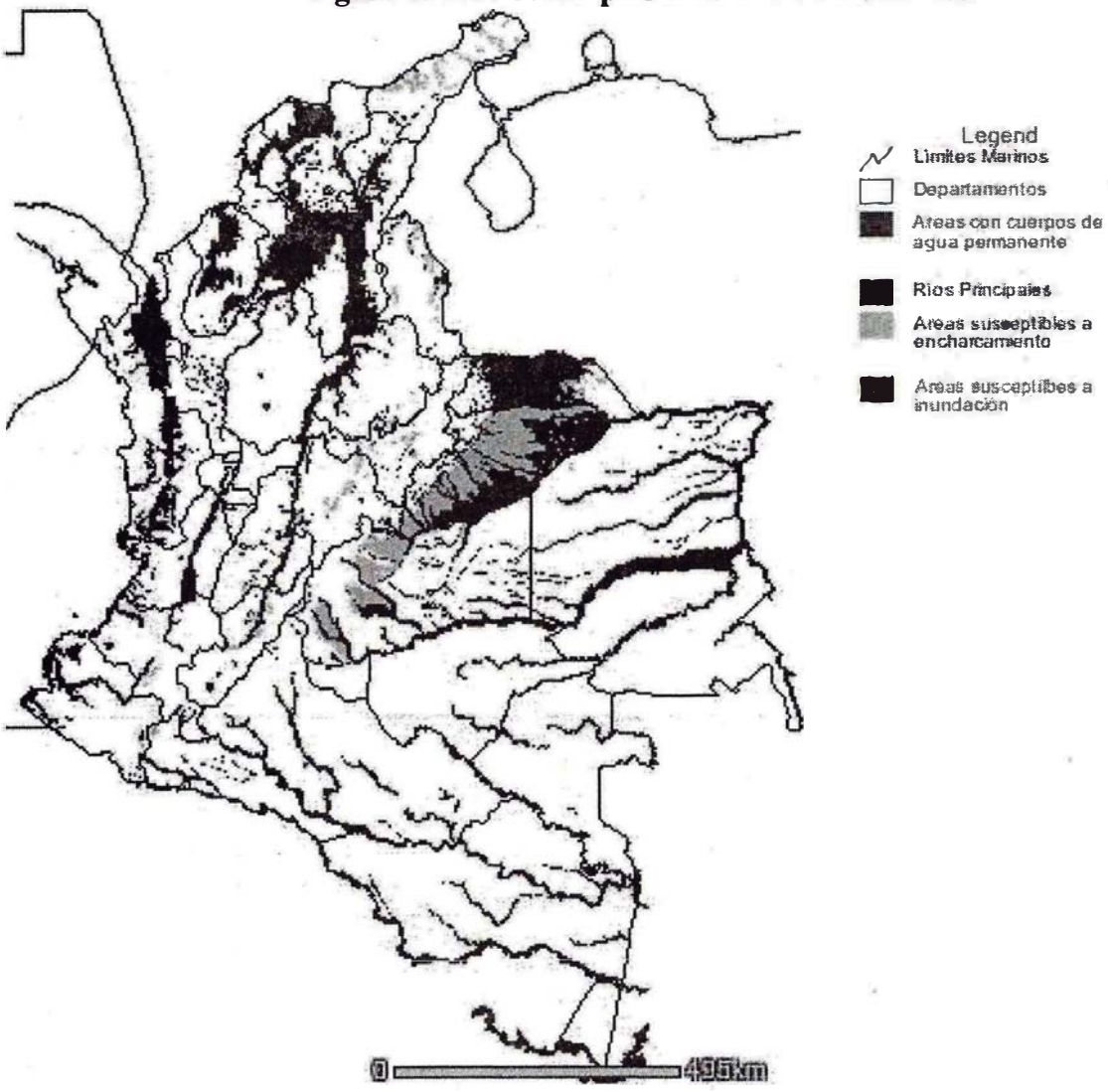
Volcanoes in Colombia are distributed along the central mountain range of the country. There are six that are still active: Nevado de Ruiz, Galera, Dona Juana, Purace, Tolima, and Huila.

Figure 3: Major Active Volcanoes in Colombia

Floods

Large parts of Colombia's territory are susceptible to flooding, especially in the lower basins and valleys of the principal rivers: the Magdalena, Cauca, Sinú, Atrato, and Putumayo. Figure 3 indicates regions that are susceptible to flooding, based on previous events that have occurred and on the area's topography.

Figure 4: Hazard Map of Potential Flood Zones.

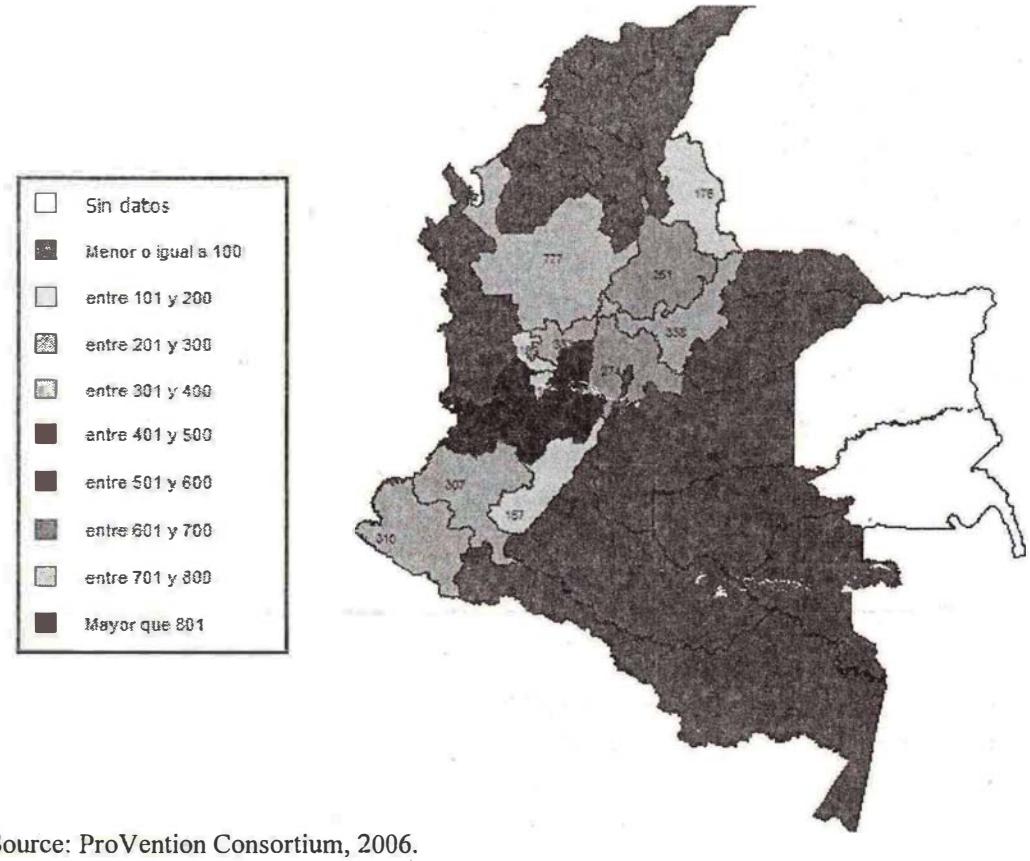


Source: IDEAM

Landslides

As mentioned above, landslides are the second most frequently occurring disasters in the country. This is partly due to the topography of the country, but a higher number can be attributed to hydrological phenomena; the softening of the ground due to heavy rains and the flooding of bodies of water are the main causes. The Natural Disaster Hotspot study by the World Bank[41] indicates that Colombia has the highest landslide risk in the Central American region, in terms of the number of fatalities per year per square kilometer.

Figure 5: Frequency of Landslides



Source: ProVention Consortium, 2006.

41. World Bank, *Natural Disaster Hotspots, A Global Risk Analysis* (Washington, DC: Disaster Risk Management Series, 2005).

Annex 6: Determinants of Vulnerability in Colombia

A natural disaster is the result of the occurrence of natural hazard event that affects a vulnerable community or assets. While natural hazard events are largely exogenous factors that are hard or impossible to control, vulnerability is a manifestation of the development patterns of a given community.

Vulnerability is the degree of susceptibility and resilience of a community's assets, population, and environment in the face of change due to external conditions. Vulnerability is a key factor to consider when trying to understand historical trends and analyzing potential impacts of natural events on the country.

Vulnerable populations around the world are economically fragile by definition and often have few or no assets and savings to help them recover from disasters. When a disaster strikes, it can destroy their existing wealth as well as their income opportunities and livelihoods, thereby further increasing their vulnerability.

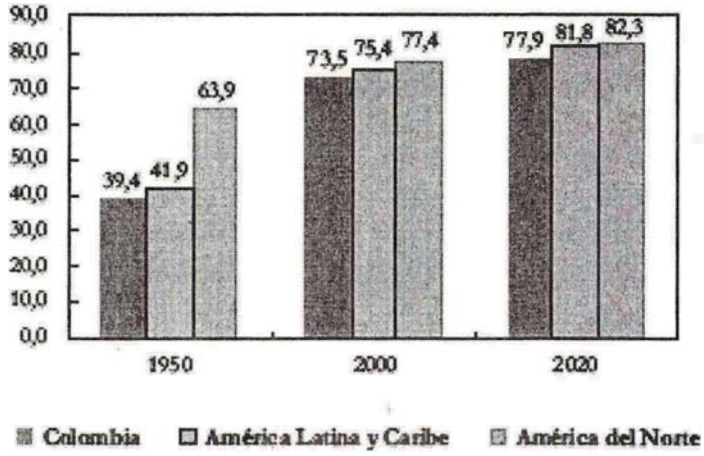
The remarkable increase in the number of reported disaster events in Colombia (see annex 8) is to a large extent due to an increase in vulnerability, and possibly in part due to climatic trends. Vulnerability has largely increased in Colombia due to insufficiently planned urban growth, inadequate environmental management and land use planning, and lax application of building codes.

Increasing Population in Urban Areas

As is the case in most Latin American countries, Colombia has seen a large increase in its urban population in the last fifty years. From 1950 to 2005, the percentage of Colombia's population living in urban areas increased from 39 percent to 73 percent[42], and it is projected that by 2020, 80 percent of the population, or approximately 43 million people, will live in cities. This trend will bring with it important economic, social, and environmental challenges. It is fair to say that the future of the Colombia will depend on the future of its cities.[43]

42. DANE (2005).
43. National Planning Department, *Document on amicable cities* , (Departamento Nacional de Planeación, *Documento Ciudades amables)* (Bogotá, Colombia, 2006)

Figure 1: Rate of Urbanization, 1950–2020



Fuente: UN-Hábitat
Source: UN-Habitat.

Unplanned Urban Growth

In Colombia, the seven most important cities house 40 percent of the country's households and 60 percent of total household income.[44] The biggest city is by far Bogota, with 18 percent of households and where 30 percent of household income is generated.

With increased urbanization has come increased vulnerability, as most Colombian cities have followed an unplanned growth pattern. Some of the most important challenges in urban areas include: the predominance of unplanned expansions, a sharp increase in informal settlements, lack of adequate construction practices, environmental degradation, poor transport infrastructure, and a lack of adequate public spaces.

Informal settlements are a physical and spatial manifestation of poverty and inequality in cities. According to the latest census, conducted in 2005, in four of Colombia's main cities, 18 percent of the residential area corresponds to informal settlements. These areas usually suffer from a lack of basic and social services and from prevalent unemployment. Currently close to 1.3 million homes in the country are in this situation (affecting 16 percent of the total urban families in Colombia). Of these homes, 63 percent suffer from poor construction quality, and 20 percent are located in high risk areas. It has been estimated that 17 percent of homes are in such inadequate quality or high risk that it is not possible to conduct retrofit them.

The environmental degradation that has resulted from the development of areas that are not suitable for urbanization, such as damage to important water sources, loss of vegetation coverage, loss of natural drainage capacity, increased erosion, and so forth, has led to increased risk to natural disasters.

44. Including Bogotá, Medellín, Cali, Barranquilla, Cartagena, Bucaramanga, and Pereira.

Although Colombia has made substantial progress through important urban reforms and comprehensive legislation on territorial planning,[45] the implementation and reinforcement of these laws have been very weak. For example, by 2005, eight years after the Territorial Planning Law # 388 passed in 1997, 97 percent of all the municipalities in the country and every major city with more than 100,000 inhabitants had adopted a Territorial Organization Plan (POT). The quality of the POTs varies substantially—there are a few very high-quality plans, but most are very weak. Only a few of these plans have implemented the management and financial tools made available by the legislation. For most, the relation between the POT and the Municipal Development Plans is not very clear. The Government of Colombia is working to change the perception of the POTs, so that they are understood as a valuable tool for long-term planning and not just another document to comply with.

Displacement Is Exacerbating Unplanned Growth in Urban Areas

Internal population displacement in Colombia is one of the sources leading to this increase in urban population in the country. According to official registries,[46] 1.9 million people were displaced between 1995 and 2006. The problem was exacerbated between 2000 and 2002 as a result of increased violence and internal conflict. During that time, internal displacement increased 325 percent on average, affecting 900 of the country's municipalities.

Table 1: Colombia's Population and Annual Average Growth Rates: 1951–2005

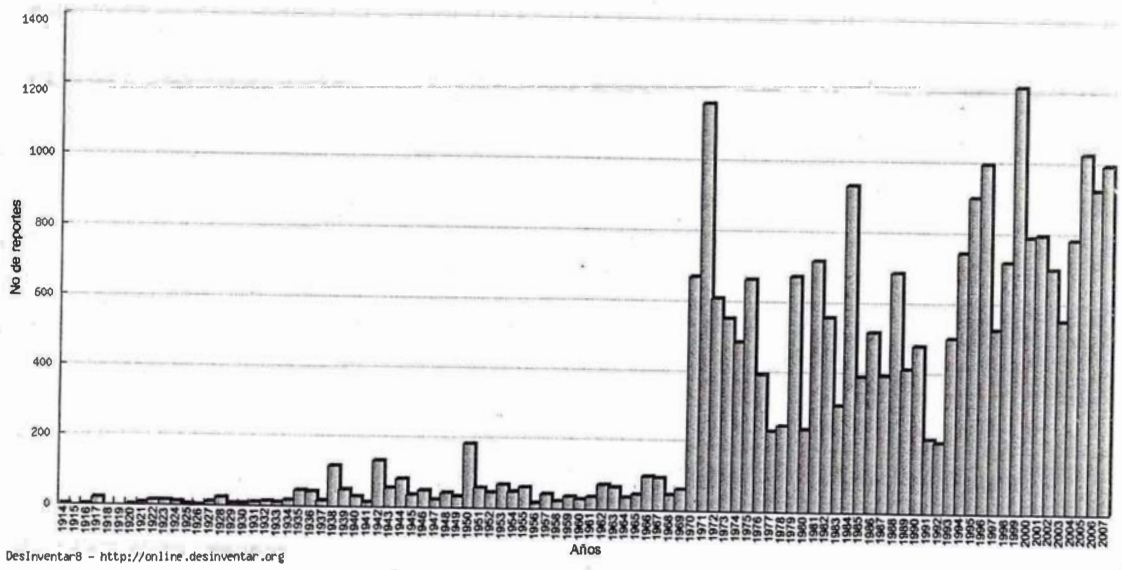
	Population						*Annual growth rate (per cent)*					
	1951	1964	1973	1985	1993	2005	1951-1964	1964-1973	1973-1985	1985-1993	1993-2005	1951-2005
Whole Country												
Total population	11932857	17444410	22947461	27837932	33109840	41468384	2.9	2.9	1.6	1.4	1.9	2.3
Total urban population	5100269	9085323	13567682	18712757	23514070	31525118	4.4	4.3	2.7	1.9	2.4	3.3
Total rural population	6832588	8359087	9379779	9125175	9595770	9943266	1.5	1.2	-0.2	0.4	0.3	0.7

45. Law 9 on Urban Reform, 1989, and Law 388 on Territorial Development, 1997.
46. Official Registry on Displaced Population (*Registro Único de Población Desplazada RUPD—ACCI*).

Annex 7: Historic Occurrence and Impacts of Disasters in Colombia

The number of disasters in Colombia is on the rise. Figure 1 illustrates the increase in the number of disasters reported in Colombia during the past three decades.

Figure 1: Reported Disasters in Colombia (1972–2007)



Source: Desinventar.

From the period of 1970 to 2007, Colombia reported the highest number of natural disaster incidences in Latin America, averaging more than 600 a year. Of these, 36.8 percent were attributed to flooding, 25.5 percent to landslides, and 7.6 percent to urban fires.[47] These small-scale but high-frequency disasters have generated damages equivalent to US$2.2 billion, left more than 9,000 people dead, impacted the lives of 14.8 million people, destroyed 89,000 homes, damaged 185,000 homes, and ruined nearly 3 million hectares of cultivated land.[48]

47. Desinventar LA RED, en Evaluación de Riesgos Naturales—ERN Colombia, 2004.
48. Desinventar LA RED, en Evaluación de Riesgos Naturales—ERN Colombia, 2004.