Inter-American Development Bank

Policy and Evaluation Committee

For consideration

Subsequently Committee of the Whole, if so agreed

GN-2354-7
8 February 2007
Original: English

To:	The Board of Executive Directors
From:	The Secretary
Subject:	Integrated disaster risk management and finance approach. Discussion paper

Inquiries to: Mr. Hector Malarín (extension 3025) or Ms. Cassandra Rogers (extension 2535)

Remarks: The Spanish translation of this document will be distributed shortly.

References: GN-2339-1(3/05), GN-2354-5(2/07), RE-292(4/04)

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INTEGRATED DISASTER RISK MANAGEMENT AND FINANCE APPROACH

DISCUSSION PAPER

The project team consisting of: Cassandra Rogers (INE/RND); Carolin Crabbe (ICF/CMF); and Guillermo Collich (ICF/CMF) prepared this document.

CONTENTS

I. BACKGROUND

1.1 Disasters due to natural hazards have had significant impacts on the economic and social development of Latin America and the Caribbean (LAC). During the period between 1975 to 2002, natural disasters in the Region affected four million people annually, causing some 5,000 deaths and US$3.2 billion in physical losses per year – more than half the level of annual loan commitments by the Bank in recent years.[1] Moreover, because of changing land use patterns, increasing population densities and growing environmental degradation, the risk exposure of the Region to natural hazards such as earthquakes, hurricanes, drought and floods has steadily increased, with annual losses rising at a rate of more than four times GDP growth. The predicted impacts of climate change, including sea level rise and increases in the frequency and intensity of hydrometeorological hazards, are likely to further increase loss rates.

1.2 In 2004, the IDB's Office of Evaluation and Oversight (OVE) conducted an evaluation of the Bank's Policy and Operational Practice Related to Natural and Unexpected Disasters (RE-292). The study reviewed the Bank's Operational Policy on Natural and Unexpected Disasters (OP-704), the 2000 IDB Action Plan on Natural Disasters; and operational and non-financial activities related to disaster prevention, mitigation and response undertaken by the Bank between 1995 and 2002, in the context of the strategic framework on natural disasters and disaster risk management in the Region. The following are among the key findings and conclusions of the evaluation:

(a) While there was rising awareness and some progress in natural disaster risk management in the Region, advanced work in risk reduction completed at the regional level was not reflected in public policy at the national level, including in the most vulnerable countries. Incentives and capacity for investment in proactive risk reduction were found to be weak in general and associated with information asymmetries, the politics of emergencies, institutional constraints and the heavy reliance by many governments on international donors for post-disaster relief and reconstruction financing.

(b) Risk transfer mechanisms in the Region involving insurance markets and securitizations through the capital markets were underdeveloped.

(c) While the Bank devoted resources before, during and after a disaster, through prevention, emergency response and rehabilitation/reconstruction, its response was found to be largely reactive rather than proactive. The application of an ex post strategy at the expense of systematic risk reduction limited the ability of the Bank and affected countries to adequately address the real issues of

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[1] Inter-American Development Bank. "Evaluation of the Bank's Policy and Operational Practice Related to Natural and Unexpected Disasters". Office of Evaluation and Oversight. Document RE-292. Washington, D.C: Inter-American Development Bank, 2004.

vulnerability. Moreover, scarce financial resources were diverted from projects which were contributing to economic growth and poverty reduction, in order to finance emergency response and reconstruction.

(d) While the 2000 IDB Action Plan on Natural Disasters was grounded in a comprehensive conceptual risk management framework, its Policy on Natural and Unexpected Disasters (OP-704) and operational practice did not sufficiently stress the integrated approach to disaster risk management that is now an acknowledged prerequisite for effective disaster risk management.

1.3 In response to the recommendations of the OVE evaluation, the Bank adopted a more proactive, comprehensive approach that included both pre-disaster risk reduction as well as post-disaster recovery. Such an integrated risk management approach involved the following set of policy elements: risk analysis; risk reduction (prevention and mitigation); financial protection and risk transfer; emergency preparedness and response; and post-disaster rehabilitation and reconstruction.

1.4 In March 2005, the IDB approved the *Action Plan for Improving Disaster Risk Management 2005-2008* (GN-2339-1). Designed to help advance the development of a new disaster risk management (DRM) policy and strategic framework, the Plan promotes an integrated approach to DRM. It outlines the steps to be undertaken over the three-year period 2005 to 2008 in three priority areas that would position the Bank to better manage disaster-related risk in order to heighten development effectiveness of its lending program: (i) country programming and portfolio management; (ii) Bank's policy, procedures and financial products; and (iii) an organizational approach that focuses on ex ante risk reduction.

1.5 The *Action Plan for Improving Disaster Risk Management 2005-2008* established specific indicators that have been guiding the activities of the Bank for its implementation. During 2006 and 2007, those activities included the development of a set of *Indicators of Disaster Risk and Risk Management* as part of the Bank's contribution in country risk analysis, the approval of a *Disaster Risk Management Policy* (GN-2354-5), the implementation of two sources of non-reimbursable financing for disaster prevention, as well as the support of post-disaster rehabilitation and reconstruction in the Region.

1.6 More recently, at the request of several member countries, the Bank began to develop alternatives for natural disaster risk finance and transfer, with a view toward more effective disaster risk financing practices and long term fiscal contingent liability management.

1.7 The objectives of this document are threefold: (a) to report on progress in the implementation of the *Action Plan for Improving Disaster Risk Management 2005-2008*; (b) to describe the risk finance approach as a component of its integrated DRM approach, including its key features, specific financial instruments and proposed implementation; and (c) to report on the status of current country requests for Bank technical assistance and financial support for disaster risk finance. The following chapters present the discussions related to each of these objectives.

II. THE ACTION PLAN FOR IMPROVING DISASTER RISK MANAGEMENT (2005–2008)

A. Objectives and Scope

2.1 The *Action Plan for Improving Disaster Risk Management 2005-2008* aimed to set out a framework for Bank action in the sector incorporating the recommendations of the 2004 OVE report. It was designed to position the Bank to execute its commitment to a more proactive stance to DRM in the Region and to consolidate risk management in its operations, with a focus on pre-disaster assistance. The Plan was based on an Integrated DRM approach, which permits the Bank to expand its focus from ex post disaster financing and recovery efforts, to one which seeks to assist countries to systematically manage risks emanating from natural hazards through sustained, proactive action in DRM. The proactive stance involves a comprehensive approach, emphasizing actions taken before a hazard results in a disaster, rather than on post-disaster recovery, and consisting of:

(a) ***risk analysis*** to identify the types and magnitude of potential impacts faced by member countries and that affect development investments;

(b) ***prevention and mitigation*** measures to address the structural and nonstructural sources of vulnerability;

(c) ***financial risk management*** to provide coverage for contingent liabilities arising from disaster risk exposure;

(d) ***emergency preparedness and response*** to enhance a country's readiness to cope quickly and effectively with an emergency; and

(e) ***post-disaster rehabilitation and reconstruction*** to support effective recovery and to safeguard against future disasters.

2.2 The Action Plan included indicators for the three priority areas (¶1.4) in order to measure progress in the area of DRM. Annex I presents the performance indicators and expected outputs of the Action Plan, the outputs achieved as of 2007 and the ones expected during 2008. A summary of achievements to date is presented in the following section.

B. Results Achieved

2.3 Implementation of the Action Plan's key elements started slower than expected as additional technical expertise had to be acquired. Once the relevant staff assumed office, good progress was made and several significant targets were achieved. As a result of the Realignment in July 2007, some technical expertise was lost as RND assumed responsibility for the implementation of the Action Plan. The Division is in the process of correcting this situation.

1. Country Programming and Portfolio Management

2.4 By December 2007, *Indicators of Disaster Risk and Disaster Risk Management* (the Indicators) had been developed for 14 of the 26 borrowing countries in the Region. These Indicators are designed to assist in identifying those countries at high risk. They provide an important tool to be used by the Bank and country, to monitor and evaluate progress in country risk profiles, as well as to measure country performance in risk management. The Bank is currently preparing an updated publication of the Indicators for the 14 countries and will expand them for an additional six (6) countries during 2008. The Bank proposes to complete the Indicators for the remaining six (6) countries in 2009.

2.5 In addition, country-specific risk evaluations are in progress for four (4) of the high-risk countries (Bolivia, Guatemala, Jamaica and Peru) identified by the Indicators Program. The country risk evaluations will provide more detailed analyses that will identify important disaster risk issues in the context of the countries' development priorities and will orient the development and technical assistance needs for strengthening risk management systems. In doing so, these assessments will support the formulation and updating of the Bank's country strategies and programming dialogue. An additional six (6) evaluations are to be initiated under the Action Plan by 2008. Country-specific risk evaluations for the remaining two (2) countries (of the 12 countries committed under the Action Plan) will be evaluated in 2009.

2.6 Likewise, to date, seven (7) of the eight (8) country strategies and programming memoranda that have been generated since 2006 (Bolivia, Costa Rica, Haiti, Honduras, Jamaica, Peru and Nicaragua) include discussion of country disaster risk and its implications for the Bank's portfolio, as well as proposed actions to manage identified risk. Similarly, DRM issues were incorporated into the policy dialogue papers for four (4) countries – Barbados, Bolivia, Ecuador and Guatemala. In addition, two of the Indicators viz. the *Disaster Deficit Index* and the *Risk Management Index* were included as performance indicators in the country strategy matrix for the Dominican Republic (GN-2379). DRM sector notes for Guatemala and Nicaragua were approved, while sector notes for Belize, Bolivia, and Ecuador have been completed and are undergoing the approval process. During 2008, DRM sector notes will be prepared for the Bahamas, Colombia and Trinidad and Tobago and will inform the respective country strategies. For certain cases, the lending and TC framework also reflect appropriate management of disaster risk (Annex II): a total of three loans ($15 million)[2] and four (4) technical cooperation (TC) ($1.75 million) projects in DRM were approved. An additional five (5) TC projects ($3.0 million) are expected to be completed in 2008.

2. Bank's Policy, Procedures and Financial Products

2.7 The Bank approved a new *Disaster Risk Management Policy* (GN-2354-5) in February 2007. The Policy emphasizes ex ante DRM and has two objectives: (a) to strengthen the Bank's effectiveness in supporting its Borrowers to systematically manage risk related to natural hazards by identifying these risks, reducing vulnerability and by preventing and mitigating related disasters before they occur; and (b) to facilitate rapid and appropriate assistance for disaster response, in an effort to revitalize development efforts and avoid rebuilding vulnerability. The Policy provides two lines of action addressing (i) prevention and mitigation of disasters resulting from natural hazards through programming and proactive project work at regional, national and local levels and (ii) post-disaster response to the impacts of natural hazard events and physical damage resulting from technological accidents or other types of disasters resulting from human activity.

2.8 *Operational Guidelines for the DRM Policy* have been prepared, internally reviewed by the Administration and are expected to be approved by February 2008. The Guidelines will contribute to the mainstreaming of DRM into the Bank's programming and project cycle activities with the Borrowers, particularly in high-risk countries. *A DRM Toolkit*, which contains tools and resources that provide further information on Bank procedures for the identification and management of disaster risk, was prepared as a supplement to the Policy Guidelines. A DRM checklist[3], designed to assist project teams in the integration of disaster risk management in the project cycle, was developed and disseminated to sector specialists and 40 DRM Focal Points. The principles of the checklist have since been incorporated into a *Module for Disaster Risk Screening and Classification of Projects* that will form part of the Bank's social and environmental project screening and classification process.

2.9 The *Immediate Response Facility* (GN-2038-16) was amended to include emergencies not caused by natural disasters or market crises; and to establish a single limit of US$20 million per operation, eliminating the requirement of a limit per operation according to the funding source. As a complement to this document a *Report on Financial Instruments for Disaster Management: IDB and World Bank* (GN-2038-19) was prepared and presented to the Board.

2.10 In 2006, two new sources of non-reimbursable financing for disaster prevention, the *Disaster Prevention Fund (*DPF; US$10 million) and *Multidonor Disaster*

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[2] This includes stand-alone DRM loans; it does not include sector loans with DRM components.

[3] *Gestion de riesgo derivado de amenazas naturales en proyectos de desarollo – Lista de preguntas de verificación*; ENV-144; http://www.iadb.org/sds/ENV/publication/publication_2530_4010_e.htm

*Prevention Trust Fund (*MDPF; US$8 million; financing from Japan, Korea and Spain) were approved. These new resources add to the range of financial instruments that the Bank now has in place to encourage countries to prevent, prepare and respond to disasters and to support the mainstreaming of DRM through disaster prevention across sectors. The resources of these funds are intended to provide non-reimbursable financing for project preparation and public goods aspects of disaster prevention projects or components, as well as risk assessments that serve to inform the programming of projects with the countries.

2.11 The objectives of the Funds are to: (i) support countries to manage risks related to natural hazards by reducing vulnerability, and by preventing and mitigating disasters before they occur; (ii) leverage knowledge, good practice, tools and government commitment for risk management solutions; and (iii) provide a vehicle for developing a shared approach to supporting disaster risk management in the Region.

2.12 Bank efforts to promote the use of these two Funds among borrowing countries have been insufficient. Annex III presents resource use for these Funds as of December 2007. In the case of the DPF, four (4) projects totaling US $2.7 million have been approved and an additional US$3.2 million has been committed to seven (7) projects that are expected to be approved in 2008. In the case of MDPF, one project in the amount of US$1.0 million is expected to be approved in 2008. In 2008, the Bank will implement a more aggressive dissemination strategy for both Funds.

3. Organizational Approach for DRM

2.13 A senior DRM specialist (Turnover position) and three research fellows were engaged in 2006 and a Japanese specialist was engaged in 2007, in order to strengthen the human resource capacity in DRM and to support the implementation of the Action Plan. The Bank is in the process of restoring the human resource capacity in DRM to pre-realignment levels.

2.14 A proposal for a Communication Strategy to improve Bank-wide communication on DRM issues and the design of a DRM web page were completed. As part of this exercise, the Bank's key DRM documents have been uploaded on the Intranet and disseminated to Bank DRM Focal Points.[4] A 2006 Annual Report was also prepared.

2.15 A Bank-wide survey of knowledge and use of DRM was conducted by an interdepartmental working group coordinated by SDS/ENV from September to December 2006. On the basis of this study, a training plan to strengthen the Bank's institutional capacity in DRM was developed. Under the plan, country programming teams, sector specialists and DRM Focal Points will receive training in the application of the DRM Operational Policy Guidelines.

4 http://www.iadb.org/sds/env/site_2493_e.htm

Sensitization sessions in DRM are also proposed for managerial staff. The training plan will be implemented in 2008.

C. Working Group on Natural Disaster Risk Finance

2.16 The Action Plan also included the creation of a multi departmental Working Group on Natural Disaster Risk Finance (the Working Group) to review the Bank's financial products and to produce a staff discussion paper that analyzed how they might be used for risk transfer finance.[5]

2.17 The Working Group reviewed several risk transfer instruments and compared them with the Bank's existing loans and technical assistance, to establish if the latter could efficiently support disaster risk transfer programs in the Region. It determined that the Bank's existing technical cooperation and lending instruments could assist countries or groups of countries in efficiently mapping and modeling risks, preparing and implementing risk mitigation systems, institutional strengthening, and developing risk retention and transfer financing programs. This efficiency arises from the fact that the Bank has a relatively low cost of funding resulting from its AAA credit rating and it has access to concessional resources provided by donor countries.

2.18 In addition, the Working Group also considered the pros and cons of direct Bank intermediation in risk transfer markets on behalf of borrowing member countries concluding that the Bank's capacity and experience in underwriting disaster risk might need to be expanded. In consultation with the private sector, the Working Group further concluded that the price of risk transfer is largely dependent on the underlying physical risk and not the creditworthiness of the country entering into a risk transfer contract so that it might not be possible to pass along the benefit of the Bank's AAA rating to the country. Overall it was determined that the Bank could probably more effectively support disaster-linked catastrophe (CAT) bonds or the purchase of insurance and reinsurance protection without intermediating risk directly. The Bank's current instruments could probably achieve this objective without changing the Bank's charter to enable placing disaster risk on the Bank's books.[6]

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[5] Starting July 2007, the Group consists of representatives from SPD, RMG, CFM, LEG and RND, as coordinating Division.

[6] Risk insurance related activities have to be analyzed in depth considering the Bank's charter and policies. Financial, institutional, credit risk and legal analysis in this regard are advisable.

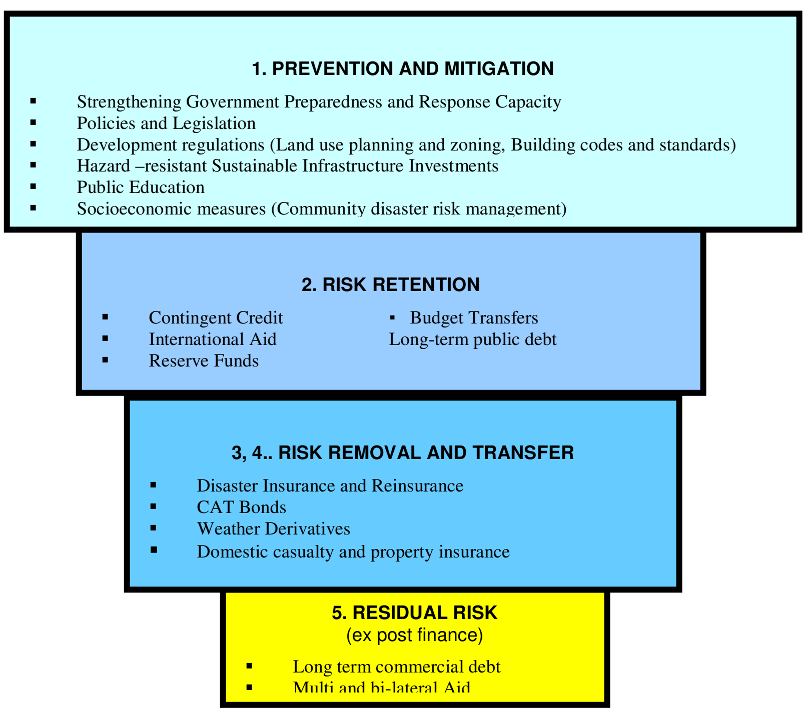
III. THE RISK FINANCE APPROACH

A. Key Features

3.1 Building upon the operational work undertaken as part of the Action Plan for Improving Disaster Risk Management 2005 – 2008, the Bank has developed a risk finance approach that is a component of the integrated DRM initiative. The objective of this approach is to promote better long-term fiscal planning in the face of natural disasters in the Region, by assisting countries to design and implement a combination of financial instruments that minimizes risk associated with natural disasters, while ensuring maximum economic returns and an efficient allocation of public and private resources for DRM.

3.2 In general, the risk of natural disasters can be prevented and mitigated, retained, removed and/or transferred through a variety of financial instruments. The selection of the optimal combination of such instruments by a country, depends on a set of factors that include the determination of probable maximum losses of a given event, the implementation cost on the country's fiscal accounts, the development of the country's capital and financial markets, and the cost of capital. Figure 1 illustrates the types of financial instruments that can be used to prevent, mitigate, retain, remove and/or transfer risk. The following sections describe these financial instruments, with particular emphasis on their cost and impact on risk reduction.

Figure 1: Financial Instruments for Natural Disaster Risk Management



B. Risk Financing Instruments

3.3 A prerequisite to the design of any combination of risk financing instruments is the assessment of the maximum probable losses, determined by identifying the asset categories (e.g. highways, low-income housing) and the risks to which the assets are exposed.[7] These assessments require the full commitment by countries to the generation of high quality data in order to facilitate robust risk analyses. Lack of this commitment may compromise the achievement of an optimal country-specific risk financial solution.

1. Risk Prevention and Mitigation

3.4 Investments in prevention and mitigation measures tend to have the largest impact on risk reduction, yielding the highest economic returns compared to investments in other financial instruments.[8] Access to grant funding and loan resources from multilateral financial institutions can ease their implementation and do not require developed financial markets. Moreover, these measures could be successfully implemented without detailed loss modeling and can contribute to reduction of implementation costs of other financial instruments that are oriented to retain, remove or transfer risk of events with high probability of occurrence.

2. Risk Retention

3.5 The risks from high probability and low cost events that cannot be effectively prevented or mitigated and would be too costly to transfer because of their high likelihood of occurrence, are normally retained. The most efficient mechanism to finance this kind of retained risk is through the creation of special reserves.

3.6 Reserve funds comprised of highly liquid assets and contingent financing mechanisms such as contingent loans and stand-by lines of credit, are a well-know mechanism for financing public contingent liabilities. An important source of risk financing resources for reserve funds often comes from segregated revenues where budgetary allocations are made on a yearly basis and used to build up the level of the reserve fund. In well-managed funds, the resources are invested outside of the country to ensure risk diversification. Furthermore, access to the funds is dependent on the occurrence of well-defined events. These funds and reserve pooling arrangements are particularly valuable when there are multiple, independent risks that cover mid-sized disaster events that occur on a regular basis. It should be mentioned that substantial fiscal and political discipline is required to insure the funds are used exclusively for DRM activities.

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[7] It is important to point out that data on both asset categories and historical data on hazards is limited in the Region and poses a stumbling block for assessing maximum probable losses and providing the information that insurance and reinsurance companies require for modeling risk. In addition, the assessment of maximum probable losses requires major fiscal planning decisions and long-term commitments.

[8] Inter-American Development Bank. "Evaluation of the Bank's Policy and Operational Practice Related to Natural and Unexpected Disasters." Office of Evaluation and Oversight. Document RE-292. Washington, D.C: Inter-American Development Bank, 2004.

3.7 Within the Region, Mexico has had a successful experience in emergency disaster finance through the *Fondo de Desastres Naturales* (FONDEN) established in 1996. Created to reduce the country's vulnerability to the impact of natural disasters and to support rapid recovery, the FONDEN covers uninsurable public assets throughout the country (see http://www.proteccioncivil.gob.mx/Portal/PtMain.php?nIdHeader=2&nIdPanel=35&nIdFooter=22).

3.8 The Bank's financing of reserve funding, however, has been limited and not focused on disaster risk. Nonetheless, it would be operationally feasible to assist the countries in this area through technical cooperation to evaluate, develop and manage reserve funds and subsequently to finance them through loans and guarantees. One option could be that the Bank provides contingent-financing equivalents through its policy-based loans and potentially develop pre-approved, immediate response loans. The Bank has a competitive advantage in these areas for the same reasons previously cited for risk prevention and mitigation.

3. Risk Removal

3.9 Creating local capacity to insure both public and private assets against natural disasters is a critical next step in any integrated disaster risk management plan. Without properly structured and priced insurance coverage, individuals and firms will be less likely to purchase insurance and will continue to rely on the government (driving up the public sector cost). A portion of the risk shown in Figure 1 could eventually be covered by the domestic insurance industry, thereby removing the risk from the fiscal liability stock of the state. This can be done through indemnity (coverage based on appraised damage) or parametric (coverage based on event occurrence) insurance instruments.

3.10 Interestingly, a few years ago Turkey implemented a program that removes risk from the government's contingent liability stock, the Turkish Catastrophe Insurance Pool (TCIP). The TCIP is a compulsory insurance policy for household owner's covering residential buildings. It was developed with support from the World Bank and consists of parametric insurance to cover the risks associated with earthquake damage based on three parameters earthquake risk zone, construction type and income level of the policyholder. It might be feasible to adapt some of the features of the TCIP in regional programs.

3.11 Another insurance product that is under development, the Global Index Reinsurance Facility (GIRIF), responds to the difficult challenge of domestic disaster risk insurance. It is intended to provide coverage to developing countries (including their private sectors, governments, local farmers and financial intermediaries). The GIRIF will be structured by a commercial risk-taking company (Partner-RE) to enable it to underwrite index-based catastrophic insurance on weather and other natural catastrophe risk events. Index based catastrophe insurance is a complex and sophisticated financial instrument, and is considered to be an efficient and effective means of intermediating catastrophic risks particularly in the absence of historical data. The GIRIF is being developed by the private sector under sponsorship of the International Finance Corporation (IFC) and in collaboration with the World Bank.[9]

3.12 The Bank has been actively involved in strengthening the insurance industry in the Region in the context of its financial sector development programs. These activities have been financed through loans, policy based loans, global loans and technical assistance. For instance, there is an ongoing technical cooperation that is performing diagnostics of the insurance regulators of Central America and Panama, with a view to align them more closely with best practices. Once the diagnostics are completed and the action plans prepared, the Bank may be requested to further assist in their implementation.

3.13 In the case of natural disaster risk insurance, there is apparent scope for the Bank to increase its activities. One particular area is to deepen business and residential property and casualty insurance coverage by regional domestic insurance markets. The Bank can also assist in the development of local capacity, especially in gathering and organizing risk information, developing human capital and in facilitating private sector access to international reinsurance and capital markets. Finally, country regulators can encourage private insurance markets to adopt modern approaches of risk management, improve management of their technical reserves and more efficiently run their loss administration program.

4. Risk Transfer

3.14 These layers of disaster risk are comprised of lower probability but higher loss events. Risk transfer is the only answer for these layers as they cannot be efficiently prevented, mitigated or provisioned. Effectively covering these risk layers requires not only the removal/transfer of the risk outside of the fiscal contingent liability stock, but also outside of the economy. Failure to do so could result in unacceptably high losses to the economy at the worst possible moments.

3.15 However, transferring this risk is problematical given that international disaster risk insurance markets are still relatively shallow and data that would facilitate risk modeling in developing countries is scarce. It should be possible for the Bank to help structure and diversify disaster risk or a number of countries on a portfolio basis in order to elicit a reduction in the cost of risk transfer.

3.16 Even if, as claimed by some of the providers of risk transfer services, the actuarial basis for pricing coverage is calculated on the contribution to the risk of an already geographically diversified portfolio, the transactions' costs and other loading charges could be brought down considerably through Bank involvement. This would be particularly the case in pooling the risk of smaller countries where

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9 http://www.ifc.org/ifcext/spiwebsite1.nsf/f451ebbe34a9a8ca85256a550073ff10/0c3e26c0a76328ec85257235005bad08?OpenDocument

the marketing, structuring and educational costs could be spread over several economies and where the risks are not well known.

3.17 This role could be considered akin to the establishment of risk retention groups that are set up by industry groups to structure insurance risk on behalf of member companies and negotiate jointly with the insurance and reinsurance industry. These pools can centralize the expertise that is needed to advise the countries of risk management practices and how to best structure disaster financing.

3.18 In addition, the reinsurance industry has historically been subject to considerable price fluctuations for covering the same volume of risk (underwriting cycles) as risk retention capacity is created and destroyed. One alternative to temper the impact of these underwriting cycles would be for the Bank to support pools, with financial capacity for risk retention.

3.19 It should, however, be noted that the Bank will need to partner with the countries and the insurance industry to properly evaluate and structure these risk pools, including a clear understanding of the impact of contingent financing (inter-temporal diversification) on the structuring and pricing of risk transfer solutions.

3.20 Recently several new risk transfer instruments have been developed to allow countries to modify and align their risk management profiles. These include the Caribbean Catastrophe Risk Insurance Facility (CCRIF) that provides Caribbean governments with index-based insurance using parametric triggers against loss caused by earthquakes and hurricanes of specified intensity and location.

3.21 The CCRIF allows governments to purchase coverage akin to a business continuity insurance that would provide them with early cash payment after the occurrence of a major hazard event, thus enabling them to overcome the typical liquidity crunch that follows a disaster. The use of parametric triggers (*i.e.* meaning that payment is triggered by the magnitude or intensity of the event, rather than being a function of the damage incurred) will allow for prompt payment of claims to affected countries. However, it should be noted that events of lesser intensity are not covered. So in effect, if a hurricane strikes and is of lower intensity, the claim may not be triggered as happened in Jamaica in 2007.

3.22 The Bank has not yet developed any comparable insurance/reinsurance scheme although it could do so. One operational alternative would be to arrange a contract with a reinsurer to design, operate and eventually transfer a regional, mutual insurance policy. Such a policy would not necessarily require establishing an institutional structure similar to that of the CCRIF. It could be, for instance, a pooled policy, mutually owned by the countries and managed by the reinsurer under a long-term agreement. Given the difficulties in developing regional indemnity coverage the facility would still only be able to offer parametric coverage similar to the CCRIF. However, unlike the CCRIF, the facility could be designed to cover a larger number of hazards such as flood and tsunamis, and include a larger number of countries.

3.23 The Bank has comparative advantages for supporting an insurance/reinsurance facility. Through its loans to individual countries, it can finance the premiums for the policy and provide any additional capitalization required for risk retention within the policy at a lower capital costs than might otherwise be available.[10] Through technical assistance it could also finance the considerable preparatory work that would be required to assist countries in identifying risks and determining maximum probable losses. The Bank could also cover the considerable start-up costs implicit in a regional policy through technical assistance. Finally, Bank involvement, through its ability to bring the member countries together and its prestige as a broker of the long-term commitment to cover subscriptions to such a facility, has been found to be highly valued by the international insurance markets. This has significant value as in the final analysis, they are the ones that intermediate this risk.

3.24 Another alternative risk transfer mechanism that uses the capital markets rather than the insurance industry is the catastrophe (CAT) bond. CAT bonds are still relatively new but gaining in popularity and between 2005 and 2006 issues doubled from US$ 2.4 billion to US$4 billion. Atlas Re, a major reinsurer issued a CAT bond of EUR 120 billion in December 2006 that covers against Japanese earthquakes and European windstorms for a term of three years. This has been the largest EURO-denominated CAT bond to date.

3.25 Earlier, in May 2006, Mexico placed two CAT bonds with an insurance component that provide the country with compensation in the case of an earthquake in three at-risk areas of the country's Pacific coast and around Mexico City (Box 1). These are the first catastrophe bonds placed by a Latin American country. It is expected to be the first step in the Mexican Government's plan to secure coverage against natural disasters, including hurricanes.

Box 1. The Mexican CAT Bond and Insurance Instruments

The operation comprises two instruments: a straight "parametric" insurance, under which Mexico will receive payments if an earthquake of a certain magnitude hits the prescribed regions over the next three years, and two catastrophe bonds whose principal will be written off if such a disaster occurs. The total face value of the two bonds is $160 million which, when added to the monetary compensation provided by the insurance contracts, totals $450 million in compensation ($150 million contingent on occurrence of an earthquake in each region). The cost to Mexico also has two parts: an annual spread of 230 basis points on the catastrophe bonds, and the direct insurance premium of about $14 million. (IPES 2007).

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10 Part of the insurance costs come from the opportunity cost of capital on the reinsurers' reserves. The average current implicit rate being charged by the international reinsurance industry is about 13 percent per annum.

3.26 The Bank has some comparative advantages in the support of the development of a CAT bond for reasons not dissimilar to those described for the insurance/reinsurance policy. It could finance the start-up costs from technical assistance and other preparatory work. Mexico was able to obtain pricing at the low end of recent CAT bonds through careful planning and well-structured risk coverage. It is unclear if the Bank's participation would allow other countries to achieve the same financial results.

5. Residual Risk

3.27 The layer of risk, constituted by very low probability (once in 200 years) and high loss events are very difficult to transfer. The cost of such coverage is prohibitively high due to the financial cost of maintaining the reserves required to ensure full and timely payment of the losses by the insurer. These layers of risk constitute what is known as residual risk. This risk is, thus technically retained, without ex ante financing of any kind. If the event and the losses occur, financing must be found ex post.

3.28 While the focus of DRM should be on prevention, mitigation and establishing ex ante financial coverage through borrowing or insurance, the Bank will undoubtedly continue to be called upon to provide financing for post-disaster recovery events. The Bank has several facilities that can aid in post-disaster financing.[11] Loan instruments include, inter alia, the *Immediate Response Facility* and reconstruction loans. An alternative to additional borrowing is the reallocation of resources to reconstruction efforts from existing development loans to address the most pressing post-disaster needs.

3.29 As a final consideration, it is important to highlight that all of the financing options discussed herein, do not represent either/or alternatives. They comprise complementary solutions that need to be tailored to each country and integrated into DRM to cover both high and low probability disasters and those of high and low loss and cost.

C. Implementation

3.30 For successful implementation of the risk finance approach, the Management will focus its efforts on the following three specific actions beginning in 2008:

(a) <u>Prepare, or make available existing disaster risk evaluations for high-risk countries, and discuss their results with Government authorities</u>. The objective is to assist countries in the quantification and modeling of risks, including estimates of probable losses and in the assessment of the impact on the country's economic outlook, a prerequisite for achieving an optimal financial solution to manage natural disaster risk. These country-specific risk

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[11] Report on financial instruments for disaster risk management: IDB and World Bank (GN 2038-19) and Miller and Keipi, 2005.

evaluations are a key output of the *Action Plan for Improving Disaster Risk Management 2005 – 2008* (¶2.5).

(b) Disseminate more aggressively the objectives and scope of the Disaster Prevention Fund and the MultiDonor Disaster Prevention Trust Fund (¶2.10–2.12). The objective of this action is to increase country use of these non-reimbursable resources to support disaster risk management activities and the preparation of disaster prevention and mitigation projects, as well as to leverage future physical investments in prevention and mitigation. The initial strategy will be to focus efforts on high-risk countries. In order to ensure the efficient allocation of these resources, the Bank will utilize information on risk management priorities, including that derived from the Indicators Program and/or country risk evaluations (¶2.4-2.5) to guide the selection of areas of intervention.

(c) Develop programs to provide efficient coverage for retention, removal and transfer of losses for natural disaster risk exposure. The objective is to promote lending programs to assist countries to implement a combination of financial instruments that minimizes risks associated with natural disasters. The Bank's new lending instruments can provide the necessary flexibility in the design of comprehensive programs in DRM. These can be designed to provide incentives for prevention and mitigation investments that can be linked to the support for risk transfer mechanisms (e.g. through insurance instruments) associated with disaster risk exposure.

IV. CURRENT REQUESTS AND RESPONSE

4.1 The Bank has recently received two regional assistance requests. The first is from the *Consejo de Secretarios de Finanzas y Ministros de Hacienda de Centroamerica, Panama y la Republica Dominicana (COSEFIM)* comprised of the finance ministers of Central America, Panama and the Dominican Republic. They would like the Bank to develop a regional insurance facility and design mechanisms to better manage contingent liabilities for DRM. The second is from the Government of Mexico, which proposes establishing a new regional Inter-American Risk Management Initiative (IRMI).

4.2 The proposed Mexican IRMI is similar to CCRIF, except rather than limiting coverage to the Caribbean it proposes to cover Central America, Mexico and possibly South American countries such as Peru and Chile. It includes coverage for wind, flooding and earthquakes, while CCRIF only covers wind and earthquakes. While the CCRIF funding instruments are limited to reinsurance, the IRMI envisions other instruments as well, such as CAT bonds and sidecars.[12]

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[12] Sidecars are financial structures that allow investors to take on the risk and return of a group of insurance policies (a "book of business") written by an insurer or reinsurer (henceforth re/insurer) and earn the risk and return that arises from that business. These structures have become quite prominent in the aftermath of Hurricane Katrina as a vehicle for reinsurers to add risk-bearing capacity, and for

Coverage under the IRMI would be limited to low probability events occurring every 50 to 250 years with high losses and cost. Participation in either the CCRIF or the IRMI does not require the existence of an integrated risk management program at country level. Consequently, the IRMI does not propose the parallel development of other risk financing instruments such as reserve funds and development of domestic property and casualty insurance markets, although it could do so.

4.3 In response to these two regional requests, the Bank is preparing a Working Plan for moving forward. It is proposed that the Bank and the requesting countries will develop the Working Plan jointly. It could include the development of several financial instruments to meet present and future contingent liabilities and eventually include the development of a risk transfer facility. Consistently with the integrated DRM approach, financial solutions will be developed in parallel and close coordination with INE/RND's work on the integrated risk management plans at country level.

4.4 As a first step, the Bank has requested from each COSEFIM country and Mexico the appointment of a high level member of the Finance Ministry to represent it and participate in a Steering Committee that will interact as the Bank's counterpart in the development and implementation of the Working Plan.

4.5 Over the past few months, the Bank has been engaged in holding initial meetings with these clients individually to assess the needs of each country. Early this year, it proposes sponsoring a group client meeting and workshop on disaster risk modeling. The preliminary agenda for this meeting could include a discussion of the financing options available and the work required to move forward. The financial options being considered envision Bank financing to individual countries to finance risk transfer and retention mechanisms and technical assistance for much of the preparatory and other work required to move forward.

4.6 The group client meeting will also review the disaster risk management activities in each country. RND is developing templates for each country that consolidate the risk management activities to be discussed at the client meeting. These templates will be maintained and regularly updated to provide a reference and blueprint of activities in each country.

4.7 In addition, the Bank has been discussing the COSEFIM and Mexican initiatives with the World Bank. It is expected that some of the work in Mexico, Central America, Panama and the Dominican Republic will be co financed with them. The World Bank is beginning to develop risk models in two of the countries, Nicaragua and Costa Rica, and has asked the Bank to finance the remaining countries.

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investors to participate in the potential profits resulting from sharp price increases in reinsurance over the four quarters following Katrina.

4.8 Finally, it should be mentioned that as part of Working Plan preparation, the Bank has initiated preparatory technical work in the COSEFIM countries. The preparatory work includes a review of public assets under insurance in each country to determine the adequacy of the level of insurance and of the management system that administers these assets. Each review will include recommendations on creating and strengthening the systems and their administration. The preparatory work also includes assessments of the fiscal situation in each country to determine the feasibility of creating reserve funds and contingent facilities to finance emergencies and low intensity disaster losses in the lower layer of risk events previously discussed. This will entail specific recommendations on the structure and size of such reserve funds and contingent facilities as well as the source of funding.

4.9 Other preparatory work being carried out by the Bank includes diagnostics of the insurance regulators of Central America with a view to strengthening and developing local insurance capability, and of domestic markets to explore the possibility of expanding disaster risk insurance activities.

Bank Action Plan for Improving Disaster Risk Management
Performance Report as of December 2007

Outcomes	Performance Indicators	Expected Outputs	Outputs Achieved as of 2007	Additional Expected Outputs/Results by December 31, 2008.	Risks/Comments
1. Country programming and portfolio management					
1.1. ***In high risk countries:*** Countries and Bank understand the disaster risk the countries face and their capacity to manage it.	By the end of 2008, all high risk countries evaluated and discussed with country authorities	Each year beginning in 2005, 3 country-specific risk evaluations prepared and discussed with government authorities (policy-level workshops)	○ 4 Country–specific risk evaluations (Bolivia, Guatemala, Jamaica and Peru) initiated in 2006. ○ Provisional classification of countries on the basis of disaster risk completed.	○ Results of risk evaluations for BO, GU, JA & PE completed and policy-level workshops with Government authorities executed. ○ Country risk evaluations for 6 additional countries (BL, ES, HO, CR, PN & DR) and policy-level workshops with Government authorities in progress.	Process delayed as the staff (3 research fellows) required to support this activity assumed office in October 2006. A proposed collaboration with the World Bank is being explored.
1.2. ***In high risk countries***: Risk management incorporated in country strategies and programming	By the end of 2008, 10 country strategies and programming memoranda include discussion of risk to country and to Bank portfolio, and the actions to manage risk. Appropriate risk management included in the Bank lending, TC and NFP portfolio, as well as donor coordination, of these countries and reported in the Annual Report on Projects in	By 2006: [i] disaster risk indicator(s) for monitoring results of country strategies and programming, with guidance document for their application, has been proposed; [ii] training module developed. 2006-2008: 10 country strategies and programming memoranda: [i] incorporate disaster risk management sections; [ii] lending, TC and	○ First draft of disaster risk indicator(s) for monitoring results of country strategies and programming completed. ○ DRM sections were incorporated into 6 country strategies and programming memoranda: BO, CR, HA, HO, JA & PE. DRM issues were incorporated into the country dialogue papers for 4 countries: BA, BO, EC & GU. ○ Country Strategy for DR (GN-2379) includes two Indicators for risk in matrix. ○ 2006: A total of 2 loans ($8.8 million), and 10 TCs ($2.2 million) in	○ Peer review completed ○ Training module in monitoring results of country strategies (which will be incorporated into training in DRM for Bank staff to be delivered in 2008 - see 2.2) ○ DRM sector notes for CO, BH & TT completed; and DRM is incorporated into respective country strategies.	Donor coordination

Outcomes	Performance Indicators	Expected Outputs	Outputs Achieved as of 2007	Additional Expected Outputs/Results by December 31, 2008.	Risks/Comments
	Execution and Results.	NFP portfolio, as well as donor coordination, include appropriate management of the risk disasters pose to effectiveness of Bank's assistance.	DRM were approved. This includes stand-alone DRM loans; does not does not include sector loans with DRM components. o 2007: One loan in preparation ($20 million); 2 TCs approved ($1.75 million); 10 TCs ($6.1 million) in pipeline. o Two loans in preparation (PE-L1035 and DR-L1008) have been reviewed for disaster risk as part of the Bank's new environmental safeguards review process. o DRM sector notes for Guatemala and Nicaragua prepared and approved. Sector notes for Belize, Bolivia, Ecuador completed. o DRM in Bank Lending, TC and NFP portfolio reported in the 2006 DRM Annual Report.	Approval of 12 TC projects in disaster risk management (US$5.9 million)	to be confirmed.
1.3. ***In high risk countries*****:** Disaster risk is managed in Bank projects under execution	By 2008, 10 countries' PPMRs findings of how the projects' development objectives, sustainability and overall performance are affected, due to disaster events.	2006-2008: 10 countries with PPMRs tracking impact of disaster events on project performance and resources. PPMRs include and track any program resources reoriented due to disasters.	o US$ 7 millions reallocated from 1198/OC-DR (Drinking Water and Sanitation Sector Reform) to finance emergency resources associated with Tropical Storm Noel. o US$ 1.9 millions relocated from 1397/OC-DR (Supporting Food and Agricultural Sector Competitiveness) to finance emergency resources associated with Tropical Storm Noel. o US$ 2.3 millions relocated from 1429/OC-DR (Equity Enhancement Basic Education Program) to finance emergency resources associated with Tropical Storm Noel.		
1.4. ***All countries:*** Comparable Disaster Risk Management Indicators profile all countries' risk and the effectiveness of their risk management systems.	By the end of 2008, the countries have current Risk Management indicators. The country strategies for high-risk countries are using disaster risk indicators for monitoring results pf managing the disaster risk to the Bank's effectiveness.	2006: Approval of the Disaster Risk Management Indicators Program with donor TC or RPG resources. 2006 – 2008: Application of indicators of 23 Bank member countries. Training/technical assistance to senior country policy makers in the use of the Indicators.	o Disaster Risk Management Indicators Program approved, financed with Japanese Special Fund resources. o Indicators program applied to 14 countries. Publication expected in Feb. 2008.	o Indicators projects for 6 additional countries: BL, HO, PN, BH, BA & GY in progress. o Training/technical assistance to senior country policy makers in the use of the Indicators completed.	DPF/MDPF will be used to finance completion of program.
2. Bank's Policy, Procedures and Financial Products					
2.1. Bank operational policy and strategic vision incorporates the disaster risk management framework and	By the end of 2008, new operations and non-financial products are consistent with the new Bank Policy. Country strategies using results indicator(s)	2005: New Bank Policy on Disaster Risk Management prepared (and approved in first quarter 2006). 2006: (i) Disaster Risk Management Strategy,	o New Disaster Risk Management Policy approved in March 2007 (GN2354-5). o DRM Policy Guidelines approved by CRG in August 2007; awaiting approval by President's Committee. o Decision taken by SDS/ENV management to not prepare Disaster Risk Management Strategy, as Action Plan for Improving DRM was	Expected outputs completed.	

Outcomes	Performance Indicators	Expected Outputs	Outputs Achieved as of 2007	Additional Expected Outputs/Results by December 31, 2008.	Risks/Comments
proactive approach		with plan for implementation of Policy. 2006: (ii) Results indicator(s) for monitoring results of country strategies and programming on country's disaster risk, with guidance document for their application.(same as one of the outputs in 1.2 above).	already in place since March 2005 (GN-2339-1). ○ See 1.2.		
2.2. The Bank has adequate financial instruments and procedures to encourage disaster risk management in the countries, and both Bank staff and country policy-makers are familiar with their application	By the end 2008, the checklist, guidance and financial instruments are used in Bank operations.	2005: Checklist for incorporating risk management in the project cycle prepared and disseminated (SDS) 2006: Position Paper on the scope of the Immediate Response Facility (IRF) and the Bank's response to slow onset disasters and to non-natural non-market rapid onset events (DEV), with possible modification of the IRF and/or other financial instruments if needed 2006: Training module designed, with 6 workshops to train Bank staff and country policymakers.	○ Checklist (Gestión de riesgo derivado de amenazas naturales en proyectos de desarollo http://www.iadb.org/sds/ENV/publication/publication_2530_4010_e.htm) completed and disseminated to sector specialists and DRM Focal points. Checklist pilot-tested in one project to date (BO). ○ Checklist principles have been incorporated into DRM Toolkit, a supplement of the DRM Policy Guidelines. ○ IRF amended to include emergencies not caused by natural disasters or market crises and to establish a single limit of US$20 million per operation, eliminating the requirement of a limit per operation according to the funding source (GN-2038-14, 16). ○ Several financial instruments to encourage countries to prevent, prepare and respond to disasters created. Recent inclusion of the DPF ($10 million) and the MDPF ($8 million) resources, approved in 2006 used in Bank operations (GN-2405-3 & GN-2427-2, resp[ectively). Widespread promotion of financial instruments by Bank staff through internal and external seminars, conference presentations, brochures. ○ A *Report on Financing Instruments for Disaster Management: IDB and World Bank* (GN-2038-19) submitted to Policy & Evaluation Committee. ○ Bank has committed to support the development of a regional insurance facility for Mexico and Central America, as part of an integrated risk management and financing strategy. ○ 3 training modules in the application of the DRM Policy Guidelines developed viz. (i) Identifying risk to country programming and strategies due to natural hazards; (ii) Managing disaster risk toward the effectiveness of Bank projects: Project preparation and Execution and (iii) Incorporating DRM in Development Programs and Projects for DRM Focal Points	Expected output completed. Expected output completed. Bank staff training to be completed.	Delay in training program due to late engagement of new staff (2006) and realignment priorities (2007).

Outcomes	Performance Indicators	Expected Outputs	Outputs Achieved as of 2007	Additional Expected Outputs/Results by December 31, 2008.	Risks/Comments
3. Development of Organizational approach					
Disaster risk management capacity in SDS and regional Departments is consolidated and able to meet commitments in the Action Plan.	Organizational resource plan fulfilled for the period of the Action Plan. The commitments in the present action plan are met annually. Agreed Bank approach for the future provision of disaster risk management services, with trust fund and administrative budget support.	2006: Proposed Strategy to coordinate trust fund and administrative budget support, including proposal for partnership with extra regional member countries to coordinate efforts and resources.	o Disaster Prevention Fund created and approved in March 2006; Mulitdonor Disaster Prevention Trust Fund (financing from Japan, Korea and Spain) approved in December 2006. o Human resource capacity in DRM improved with one Turnover position (engaged Nov. 2006), three research fellows (engaged October 2006) and one Japanese Specialist (engaged in May 2007).	Training in DRM for DRM Focal Points. Expected outputs completed.	
		By end of 2007: proposal for Bank organizational approach for the future provision of disaster risk management services.	o Environment, Rural Development and Natural Disaster Risk Management (RND) created as part of Realignment, responsible for the provision of disaster risk management services.	Proposal for Bank organizational approach for future provision of DRM services prepared and approved.	
		2006 – 2008: Communication strategy, for both external and internal audience, underway (internet webpage, bulletins, annual reporting).	o Communication Strategy proposal completed; design of DRM web page completed; 2006 Annual DRM Report completed. o DRM documents available on intranet. o DRM documents disseminated to Bank DRM Focal Points	DRM web page completed and integrated into RND web page.	

Loans, Technical Cooperation and Non-Financial Products Resulting from Country Strategies, 2006-2008

Loans

Country	Number	Operation Name	Approval Date	Fund	Amount
Dominican Republic	DR-L1007	Disaster Prevention and Risk Management Program	Dec. 2005	Disaster Prevention Sector Facility	$5,000.000
Ecuador	EC-L1003	Early Warning System and Natural Risk Management	Dec. 2005	Disaster Prevention Sector Facility	$5,000.000
Haiti	HA-L1005	National Program of Flood Early Warning	Jul. 2005	Disaster Prevention Sector Facility	$5,000.000
					$15,000,000

Technical Cooperation - Approvals

Country	Number	Operation Name	Approval Date	Fund	Amount
Bolivia	BO-T1062	Strengthening Bolivia's Capacity to Evaluate Seismic Risks	Oct. 2007	Disaster Prevention Fund	$750,000
Guatemala	GU-T1042	Plan Estratégico de Comunicación para la Reconstrucción Local Post-Stan.	Mar. 2006	Canadian Technical Program	$100,000
Haiti	HA-T1025	Support for Start up of National Flood Early Warning Program	Dec. 2005	Fund for Special Operations	$100,000
Jamaica	JA-T1019	Natural Hazard Management in Urban Coastal Areas	Dec. 2007	Disaster Prevention Fund	$800,000
					$ 1750,000

Technical Cooperation – Pipeline

Country	Number	Operation Name	Approval Date	Fund	Amount
Ecuador	EC-T1124	Strengthening Risk Capacity Management Pichincha	2008	Disaster Prevention Fund	$350,000
El Salvador	ES-T1067	Gestión de Riesgos por Inundaciones y Deslizamientos en Áreas de Alto Riesgo enfocado en las cuencas del Río Grande de San Miguel y Río Paz	2008	Multidonor Disaster Prevention Trust Fund	$1,000,000
Ecuador	EC-T1081	Natural Risk at Municipal Level in Esmeraldas	2008	Disaster Prevention Fund	$350,000
Belize	BL-T1015	Pilot Project for the Implementation of a Risk Management Plan	2008	Disaster Prevention Fund	$600,000
Peru	PE-T1043	Comprehensive system for the management of the risk caused by natural phenomena	2008	Disaster Prevention Fund	$700,000
					$ 3,000,000

Non Financial Products

Country	Number	Operation Name	Approval Date	Fund
Belize	BL-P1033	Disaster Risk Management (Sector Note)	To be Approved	OC
Bolivia	BO-P1033	Natural Disaster Management Capacity (Sector Note)	To be Approved	OC
Ecuador		Natural; Disaster Risk Management (Sector Note)	To be Approved	OC
Guatemala	GU-P1034	The risk of disaster and its management (Sector Notes)	July 2007	OC
Nicaragua	NI-P1025	Disaster Risk and risk management (Sector Note)	July 2007	OC

Use of Disaster Prevention Fund and Multidonor Disaster Prevention Trust Fund: 2005-2008

Approvals

Country	Number	Operation Name	Approval Date	Fund	Amount
Colombia	CO-T1039	Galeras Volcan -Formulation of Action Plan to Mitigate Risk of Volcanic Activity	Dec. 2006	Disaster Prevention Fund	$150,000
Bolivia	BO-T1062	Strengthening Bolivia's Capacity to Evaluate Seismic Risks	Oct. 2007	Disaster Prevention Fund	$750,000
Chile	CH-T1035	Program for Early Emergency Warning	Oct. 2007	Disaster Prevention Fund	$1,000,000
Jamaica	JA-T1019	Natural Hazard Management in Urban Coastal Areas	Dec. 2007	Disaster Prevention Fund	$ 800,000
					$2,700,000

Pipeline

Country	Number	Operation Name	Estimated Approval Date	Fund	Amount
Belize	BL-T1015	Pilot Project for the Implementation of a Risk Management Plan	2008	Disaster Prevention Fund	$600,000
El Salvador	ES-T1067	Gestión de Riesgos por Inundaciones y Deslizamientos en Áreas de Alto Riesgo enfocado en las cuencas del Río Grande de San Miguel y Río Paz	2008	Multidonor Disaster Prevention Trust Fund	$1,000,000
Ecuador	EC-T1081	Natural Risk at Municipal Level in Esmeraldas	2008	Disaster Prevention Fund	$350,000
Ecuador	EC-T1124	Strengthening Risk Capacity Management Pichincha	2008	Disaster Prevention Fund	$350,000
Honduras	HO-T1102	Fortalecimiento de la Gestión de Riesgo e Identificación de Inversión en Mitigación de Riesgos de Desastres Naturales en Honduras	2008	Disaster Prevention Fund	$500,000
Mexico	ME- T1032	Evaluación del Riesgo Sísmico en cinco ciudades del estado de Baja California, México	2008	Disaster Prevention Fund	$280,000
Regional (Eastern Caribbean States)	RS-T1319	Mainstreaming Disaster Risk Management in Organization of Eastern Caribbean States (OECS) countries	Mar. 2008	Disaster Prevention Fund	$400,000
Peru	PE-T1043	Comprehensive system for the management of the risk caused by natural phenomena	Jan. 2008	Disaster Prevention Fund	$700,000
					$4,180,000