

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PANAMA

**PROGRAM TO REDUCE VULNERABILITY TO
NATURAL DISASTERS AND CLIMATE CHANGE II**

(PN-L1074)

LOAN PROPOSAL

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ELECTRONIC LINKS	
REQUIRED	
1.	Policy letter http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36849729
2.	Means of verification matrix http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36318884
3.	Results matrix http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36318914
OPTIONAL	
1.	Impact monitoring and evaluation plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36318676
2.	Program economic analysis http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36323031
3.	Safeguard screening form http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36147664
4.	Panama. Diagnostic assessment of vulnerability to the impacts of natural hazards http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36325246
5.	The Economics of Climate Change in Central America (ECLAC, 2010) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36147911
6.	Panama: Indicators of Disaster Risk and Risk Management (IDB, 2010) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36147921
7.	National Comprehensive Disaster Risk Management Policy (PNGIRD) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36148356
8.	Comparative matrix of commitments between PBP I and II http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36754642

ABBREVIATIONS

ANAM	Autoridad Nacional del Ambiente [National Environmental Authority]
CAPRA	Central America Probabilistic Risk Assessment
CCA	Climate change adaptation
CEPREDENAC	Coordinación para la Prevención de los Desastres Naturales en América Central [Central American Coordination Center for the Prevention of Natural Disasters]
CONACCP	Comité Nacional de Cambio Climático de Panamá [National Climate Change Committee of Panama]
CPI	Consumer price index
DCP	Dirección de Crédito Público [Directorate of Public Credit]
DDI	Disaster deficit index
DICRE	Dirección de Inversiones, Concesiones y Riesgos del Estado [Directorate of Investment, Concessions, and Risks of the State]
DM	Disaster management
DRM	Disaster risk management
FP	Financial protection
IMA	Independent macroeconomic assessment
IRR	Internal rate of return
MEF	Ministry of Economy and Finance
MIVIOT	Ministry of Housing and Land Management
NPV	Net present value
PBP	Programmatic policy-based loan
PNGIRD	Política Nacional de Gestión Integral del Riesgos de Desastres [National Comprehensive Disaster Risk Management Policy]
PNGIRH	Plan Nacional de Gestión Integral de Recursos Hídricos [National Plan for Comprehensive Management of Water Resources]
PNGRD	Plan Nacional de Gestión de Riesgos de Desastres [National Disaster Risk Management Plan]
PNRRD	Plataforma Nacional de Reducción de Riesgos de Desastres [National Platform for Disaster Risk Reduction]
RI	Risk identification
RMI	Risk management index
RR	Risk reduction
SIA	Sistema Interinstitucional del Ambiente [Interagency Environmental System]
SINAPROC	Sistema Nacional de Protección Civil [National Civil Protection System]
SINIP	Sistema Nacional de Inversiones Públicas [National Public Investment System]

PROJECT SUMMARY

PANAMA PROGRAM TO REDUCE VULNERABILITY TO NATURAL DISASTERS AND CLIMATE CHANGE II (PN-L1074)

Financial Terms and Conditions			
Borrower: Republic of Panama		Flexible Financing Facility	
		Amortization period:	20 years
Executing agency: Ministry of Economy and Finance (MEF)		Original WAL:	11.75 years
		Disbursement period:	12 months
Source	Amount (US\$ millions)	Grace period:	3 years
IDB (Ordinary Capital)	100	Interest rate:	LIBOR-based
Other/Cofinancing	0	Inspection and supervision fee:	**
Local	0	Credit fee:	**
Total	100	Currency of approval:	U.S. dollars from the Bank's Ordinary Capital
Project at a Glance			
Program objective: The general objective of the program is to help reduce Panama's vulnerability to the risks of natural phenomena and climate change. Specifically, the program will support the country in developing a framework for policy, integrated disaster risk management, and climate change adaptation that will improve its risk management index (RMI). The program establishes commitments in the areas of policy reform and institutional development, structured in two components: (1) governance and financial management; and (2) development and implementation of management instruments in the three main areas of the RMI: risk identification, risk reduction, and disaster management.			
Special contractual conditions: The single disbursement of loan proceeds will be subject to the borrower's fulfillment of the conditions stated in Annex II (Policy Matrix) of this document, in addition to others established in the loan contract.			
Exceptions to Bank policies: None.			
Project consistent with country strategy: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Project qualifies as: SEQ <input type="checkbox"/> PTI <input type="checkbox"/> Sector <input type="checkbox"/> Geographic <input type="checkbox"/> Headcount <input type="checkbox"/>			
Procurement: Not applicable because the operation in question is a policy-based loan.			

* Under the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as conversions of currency and interest rate, subject in all cases to the final repayment date and the original weighted average life (WAL). The Bank will take market conditions and operational and risk management considerations into account when reviewing such requests.

** The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

I. PROGRAM DESCRIPTION

A. Background

1. Introduction

- 1.1 The proposed program is the second operation of a series of three programmatic policy-based loans (PBPs) to support the Government of Panama in implementing legal and institutional reforms to strengthen and modernize the regulatory, institutional and policy framework for disaster risk management (DRM) and climate change adaptation (CCA), in line with the National Comprehensive Disaster Risk Management Policy (PNGIRD) instituted under the first programmatic loan (PN-L1070) (2588/OC-PN) in this series, which was approved in October 2011 in the amount of US\$100 million. The present program will provide financing up to US\$100 million from the Bank's Ordinary Capital in a single disbursement proposed for 2012, once the policy reform conditions agreed in the attached Policy Matrix are fulfilled. A third programmatic loan of up to US\$100 million is planned for 2013. This programmatic series is a key part of the Bank's agenda for promoting DRM and CCA in Panama, and is supplemented with technical studies financed through technical cooperation from the Disaster Prevention Fund, as well as operations financed by the World Bank and the Central American Coordination Center for Prevention of Natural Disasters (CEPRENAC).

2. Macroeconomic context

- 1.2 The growth rate in 2011 was 10.6% of GDP in real terms, outpacing the 7.5% recorded in 2010, and 3.2% in 2009. For 2012 and 2013, real GDP is projected to grow 7.5% and 7.0%, respectively. As in prior years, this expansion would be driven partly by high levels of public investment and continued foreign direct investment (FDI). The nonfinancial public sector ran a deficit of 2.3% of GDP in 2011, larger than in 2010 (1.9%) and smaller than projected for 2012 (2.5%). Public debt declined to approximately 41.8% of GDP at end-2011, comparable to the 45.4% and 43.7% recorded in 2009 and 2010, respectively. Forecasts are that the debt-to-GDP ratio will continue to decline in the coming years as a result of strong economic growth and the effects of cumulative inflation on nominal GDP, as well as a gradual moderation of the fiscal deficit. The Social and Fiscal Responsibility Law plays a key role in this regard, calling for the deficit to eventually return to levels of 1.0% of GDP or less.
- 1.3 In recent years the rising prices of key imports, particularly fuels, has steadily driven up the price of food, transportation, and imports in general. For these reasons, the consumer price index (CPI) climbed from 4.9% in December 2010 to 6.3% in December 2011. Consumer prices are expected to rise around 6.0% in 2012. Panama's economy is fully dollarized, so it lacks conventional monetary instruments to respond to rising import prices, but there is also no substantial risk of inflation driven by domestic causes. Rising import prices also widened the external sector current account deficit to 12.7% of GDP in 2011. Furthermore, widening the

Canal is estimated to have contributed around 4.0% of GDP in the current account deficit; that figure is expected to shrink gradually in the future. The risks to the external sector are mitigated by the fact that the deficit has been financed largely by FDI, averaging around 10% of GDP in recent years.

- 1.4 Panama has improved and diversified its access to financing in recent years. Since 2010 its sovereign debt has been rated as investment grade by the leading risk rating agencies. The Panamanian authorities are also developing the local sovereign debt market, increasing the share of local sources in the public debt. For example, while the outstanding external sovereign debt remained virtually unchanged in nominal terms in 2011, the local component had a substantial proportional increase. The country maintains a normal relationship with the International Monetary Fund (IMF), successfully completing the annual Article IV consultations, including in 2011. The projected total amount of the three PBPs in this program (US\$300 million) is equal to less than 8% of the country's gross financing requirements during the period 2011-2014. The total financing from the three PBPs is expected to equal 11% of gross financing from multilaterals during that period. Although the program has already contributed to public-sector financing with disbursement of the first PBP for US\$100 million, the program's greatest value-added is to reduce losses associated with natural disasters by improving the fiscal risk profile, reducing uncertainty and promoting long-term growth. According to the recently completed independent macroeconomic assessment (IMA), Panama's macroeconomic position is stable, and the framework is adequate to sustain policy-based lending.

3. Diagnostic assessment of the problem

- 1.5 Since this second operation is part of a programmatic series, it has been based on the diagnostic assessment performed under the first programmatic loan, PN-L1070, which describes Panama's vulnerability and exposure to a variety of hydrometeorological and geophysical hazards that historically have resulted in medium- and low-intensity disasters in different parts of the country, including earthquakes, landslides, storms, floods, droughts, forest fires, and ENSO/El Niño-La Niña episodes. In the past decade, the Government of Panama declared a state of emergency on eight occasions, most recently in December 2010 when heavy and prolonged rains forced a halt to shipping through the Panama Canal. That has occurred only three times in its 96 years of operation, and left much of Panama City without drinking water for several weeks. To deal with that event, in April 2011 the Bank approved the Emergency Program for an Immediate Response to the Flooding in Panama (loan 2522/OC-PN) for up to US\$20 million. The assessment noted that this vulnerability to disasters is compounded by the potential impacts of climate change. According to the study, [The Economics of Climate Change in Central America](#) (ECLAC, 2010), Panama could experience a temperature rise of 0.5°C to 1°C by 2020. This would cause changes in the precipitation pattern, increasing the volume and intensity of rains, which would produce physical and economic impacts, including coastal erosion, flooding,

biodiversity loss, and water salinization. Certain sectors, such as agriculture and tourism, as well as the Panama Canal watershed, are particularly vulnerable to economic impacts. It is estimated that an unmitigated high vulnerability scenario could lead to a loss in excess of 14% of GDP by 2100, along with the potential worsening of existing social problems, such as poverty, inequality, and malnutrition.

- 1.6 It is evident that intensive change in land use, especially related to accelerated urban growth, infrastructure development in hazard-prone areas, and environmental degradation of watersheds are augmenting the population's physical exposure and vulnerability to disasters. According to the technical study, [Panamá: Indicadores de Riesgo de Desastres y de Gestión de Riesgos](#) [Panama: Indicators of Disaster Risk and Risk Management] (IDB, 2010), the disaster deficit index (DDI), which reflects the country's economic capacity to address catastrophic events, shows that for an extreme 100-year event Panama could incur probable losses of 5.4% to 9.0% of GDP, and would not have sufficient resources of its own to cope with the losses and restore the affected physical inventory.
- 1.7 As part of the technical study cited in the previous paragraph, the Bank applied the [risk management index \(RMI\)](#), which measures a country's performance against the key components of DRM (i.e. governance and financial protection, risk identification, risk reduction, and disaster management). Panama's RMI score was 41.15 on a scale of 100, indicating that DRM is still at an early stage.

4. Recent government progress in the sector and remaining challenges

- 1.8 As a result of dialogue with the Bank, the Government of Panama mapped out a Strategy to Reduce Vulnerability to Natural Disasters and Climate Change, based on two essential pillars: (i) development of the institutional and public policy framework for DRM and CCA; and (ii) development of sector and territorial management instruments and capacities for DRM and CCA. The government's strategic approach is consistent with the Bank's Disaster Risk Management Policy (document GN-2354-5), calling for comprehensive intervention in the main components of DRM: (i) governance and financial management of disaster risk; (ii) risk identification; (iii) risk reduction; and (iv) disaster management. The following paragraphs describe the problems identified during the initial design of the programmatic series, as well as the progress achieved with the execution of the first programmatic loan and the remaining challenges.
- 1.9 **Governance.** Taking into account the analysis of the first programmatic series, the legal framework for DRM established under the law creating the National Civil Protection System (SINAPROC) under the Ministry of the Interior and Justice remains in effect. This law was supplemented by the establishment of the National Platform for Disaster Risk Reduction (PNRRD), as a multisector coordination mechanism to advance on risk reduction priorities in fulfillment of the country's commitments to implement the Hyogo Framework for Action 2005-2014. SINAPROC serves as the apex authority for DRM in the country and is responsible

for developing the National Emergency Plan, the National Disaster Risk Management Plan, the Centers for Emergency Operations, and the PNRRD. The main problem identified during the diagnostic assessment was that DRM in the country has focused essentially on responding to emergencies, in a context of substantial budget constraints and institutional weakness. This was reflected in the DRM subindex for governance and financial protection (FP), where Panama scored 38.33 on a scale of 100, reflecting poor performance in the absence of an institutional framework and a comprehensive policy for DRM that goes beyond an emergency response focus toward a multisector vision of prospective and corrective management.

- 1.10 With Bank support under operation 2588/OC-PN, Panama has taken some important steps to strengthen its regulatory and institutional framework for DRM, with approval of the PNGIRD and the National Disaster Risk Management Plan (PNGRD) for 2011-2015 as essential elements in planning for the country's sustainable development and guiding the national risk reduction agenda. The PNGIRD introduces the prospective and corrective risk management approaches and establishes the coordination areas of financial management of risk, land management, climate change adaptation, and disaster management. It also identifies the responsible institutions, processes, instruments, and mechanisms for PNGIRD implementation and supervision. The PNGRD, in turn, becomes a multisector planning instrument that provides a tangible vehicle for PNGIRD implementation and the consequent strengthening of the legal and institutional framework for DRM in Panama.
- 1.11 The remaining challenge is to address the fragility or weakness of governance processes and mechanisms with clearly defined responsibilities, principally in terms of interagency coordination among the various sectors directly involved in DRM, especially: (i) development of the functions to be performed by the PNRRD, in order to promote prospective and corrective risk management; (ii) mobilization of resources to implement the PNGRD 2011-2015, which will require creation of a specific budget line item for DRM that allows funding to be allocated for this purpose.
- 1.12 In terms of climate change activities, when this programmatic series began, Panama was on the way to designing a strategy and an action plan for their implementation, as well as actions and programs to be pursued at the sector and subregional levels. With Bank support under operation 2588/OC-PN, the National Environment Authority (ANAM) presented Panama's Second National Communication on Climate Change to the United Nations Framework Convention on Climate Change. That communication reported on advances in strengthening the institutional framework, generation of climate change scenarios, assessment of vulnerability and the adaptability of the country's priority sectors and regions, creation of multisector coordination instruments, and guidelines for the implementation of adaptation measures. Thus, the broad outlines have been established for CCA strategies at the sector and regional level.

- 1.13 The remaining challenge is to strengthen intersector coordination through the National Climate Change Committee of Panama (CONACCP), created to ensure interagency coordination on climate change adaptation and mitigation. This will require, first and foremost, developing mechanisms for the consolidation and implementation of climate change activities.
- 1.14 **Financial management of disaster risk.** Financial planning is fundamental for the country to reduce the adverse impact of natural disasters on public finances and respond to emergencies in a timely and effective manner. During design of the programmatic series it was determined that Panama had taken an ex post financing approach to emergencies caused by natural phenomena. Some of the shortcomings identified include: (i) a lack of clarity in defining the areas of responsibility for financial management of risks; (ii) limited institutional capacity devoted to this area; (iii) an absence of financial instruments for the retention and/or transfer of risks; and (iv) difficulty in accessing relevant information for dimensioning and structuring the financial coverage necessary for the country.
- 1.15 With Bank support under operation 2588/OC-PN, Panama made progress in institutional strengthening of the Ministry of Economy and Finance (MEF) for the financial management of disaster risks, expanding the duties and responsibilities of the Directorate of Investment, Concessions, and Risks of the State (DICRE), approved by Executive Decree 479/2011 of 22 November 2011, which will enable the creation of products and mechanisms for financial protection in the event of damage caused by disasters, in accordance with the PNGIRD.
- 1.16 The remaining challenges in this public policy area are: (i) to develop a national financial management strategy; (ii) to define ex ante the level of coverage necessary to fund emergency expenditures; (iii) to develop the most effective financial instruments for providing that coverage (budget provisions, emergency reserve funds, contingency lines of credit, risk transfer instruments); and (iv) to strengthen policies to insure infrastructure and public investments.
- 1.17 **Risk identification.** During design of the programmatic series it was also determined that the RMI subindex associated with risk identification (RI) for Panama was 53.73 on a scale of 100. Although that score recognized that there had been some progress in the identification and monitoring of natural hazards, a notable example being the introduction of tools such as the Central America Probabilistic Risk Assessment (CAPRA), the country still lacked a platform and well-established protocols for the exchange, systematization, and integration of baseline information to enrich risk assessment and enhance early warning systems (National Hyogo Framework for Action Report, 2010). One of the main problems was that the gathering and handling of primary information for risk identification and assessment was dispersed among different information systems coordinated by different public agencies. Moreover, disaster risk assessments for the main hazards in the country were limited and lacked information on the magnitude of anticipated losses, making it difficult, for example, to determine acceptable risk and target priority actions to reduce risk.

- 1.18 With Bank support under operation 2588/OC-PN, Panama prepared an inventory of information flows that provide input for the disaster risk evaluation and dissemination processes, exposing the gaps to be filled for implementation of an information platform for disaster risk assessment. Training was also provided with modules on hazards, exposure of critical infrastructure, and vulnerable structures for Ciudad de David, which is highly exposed to earthquakes, in order to replicate this experience in other cities.
- 1.19 The remaining challenges in this public policy area are: (i) to create an interagency and multidisciplinary platform for the use, exchange, and accessibility of geospatial information; and (ii) to conduct a probabilistic risk assessment for the principal natural hazards and the most vulnerable parts of the country.
- 1.20 **Risk reduction.** The diagnostic assessment conducted during design of the programmatic series determined that the public investment planning processes in Panama did not incorporate disaster risk analysis, nor did land management processes incorporate criteria for disaster risk reduction. This problem was reflected in the value of the RMI subindex associated with risk reduction (RR) and CCA, where Panama scored 33.25 on a scale of 100, suggesting that progress in reducing risk at the sector level was quite limited. Improving this indicator will require Panama's various stakeholders and institutions with development mandates to adopt RR and CCA measures and policies in their respective areas. This includes the MEF, acting through its Directorate of Investment Programming (DPI); the Ministry of Housing and Land Use Planning (MIVIOT), through its land management plans; CONACCP, as the central institution for addressing crosscutting climate change issues; and ANAM, given its role in managing watersheds.
- 1.21 With Bank support under operation 2588/OC-PN, Panama has made important strides in RR, with: (i) identification of a critical path and action plan for incorporating disaster risk analysis into the National Public Investment System (SINIP), which is a PNGIRD priority; (ii) approval of an administrative resolution identifying supplementary DRM-related functions for MIVIOT, clarifying the distribution of responsibilities and formalizing mechanisms for information exchange within the ministry; and (iii) formulation by ANAM of the National Plan for Comprehensive Management of Water Resources (PNGIRH), which includes the following areas of major focus: sustainability of water resources, water and development, water and society, vulnerability and CCA, and water institutions and governance. The PNGIRH enables the government to prioritize urgent actions in the short, medium, and long term that will ensure comprehensive management of water resources and minimize the associated risks of vulnerability and climate change.
- 1.22 The remaining challenges in the area of RR are: (i) the design of basic conceptual and methodological tools for including analysis of risk and climate change vulnerability in public investment projects, on the basis of pilot projects; and

(ii) including DRM and CCA considerations in the regulatory frameworks for land-use planning and for comprehensive management of water resources.

- 1.23 **Disaster management.** According to the diagnostic assessment conducted at the start of the programmatic series, although emergency response has historically been the focus of the country's risk management agenda through SINAPROC, this capacity was lacking at the provincial and local level, where response capabilities were minimal. The most recent emergencies in the country have shown that there are no clear protocols concerning early warning systems, nor are methodologies applied to assess damage that would facilitate effective management of response tasks. This was reflected in the RMI subindex associated with disaster management (DM), where Panama scored 39.31 on a scale of 100, indicating relative weakness.
- 1.24 With Bank support under the first PBP, Panama updated the disaster emergency protocol for the province of Chiriquí, one of the country's most vulnerable, with the active participation of the local authorities and civil society. The protocol covers the organizational structure, roles, and operating procedures for the Emergency Committee, and was validated via a thorough process of simulations and drills in the province.
- 1.25 The main challenge under this component is to move forward in the process of improving emergency response planning by updating the National Emergency Plan based on revision and update of provincial emergency plans and response protocols.

5. Operation design and its contribution to the country strategy and to the results framework of the Ninth General Capital Increase

- 1.26 The operation is designed to support and promote the reform process initiated by the government with operation 2588/OC-PN, and it addresses the main challenges facing the country in terms of comprehensive management of disaster risks, incorporating the CCA dimension and water resource management. Specifically, the program has been structured with a set of commitments intended to: (i) influence development of an effective governance framework starting with approval of the PNGIRD, which represents a significant step toward an integral approach to reducing the country's vulnerability; and (ii) develop management instruments that will improve the basic components of the country's RMI: risk identification, risk reduction, disaster management, and financial management. The first PBP laid the foundation of policy commitments with approval of the [PNGIRD](#).¹ The present program will support the process of consolidating the new institutional policy framework for DRM and CCA through the implementation of instruments and mechanisms that take an integrated approach to reducing vulnerabilities.
- 1.27 The policy commitments associated with this program are designed to assist the government in helping the population most vulnerable to natural hazards, and to

¹ Panama is the first Central American country to develop a national policy in line with the Comprehensive Disaster Risk Management Policy for Central America.

strengthen the country's DRM and CCA instruments. This operation constitutes a comprehensive application of the principles of the Bank's Disaster Risk Management Policy (document GN-2354-5), and in this sense the components and actions described below are consistent with best practices and recommendations of that policy. In addition, empirical evidence from similar operations in [Nicaragua](#) and [Colombia](#) demonstrates the effectiveness of interventions of this kind in similar contexts.

- 1.28 The programmatic design of the intervention has taken full advantage of lessons learned during the design and negotiation of the first operation. These include: (i) the importance of having a lead player like the MEF to provide political support for the reforms and consensus-building for viable solutions; and (ii) technical support from the Bank during formulation is essential to influence decision-making within a context of complex processes requiring the generation of knowledge and changes in attitude and political will.
- 1.29 **Consistency with the country strategy.** The program is consistent with the strategic objective of consolidating the institutional, legal, and regulatory framework for environmental management contained in the Bank's 2010-2014 country strategy with Panama (document GN-2596). The program was included in the 2012 country program document (GN-2661).
- 1.30 **Consistency with the Ninth General Capital Increase.** The program will contribute to the Bank's priorities as stipulated in IDB-9 (document AB-2764), primarily in terms of: (i) support to small and vulnerable countries; and (ii) support for climate change, sustainable energy, and environment initiatives through DRM. The program will also contribute to the regional development goals for reducing the economic damage caused by natural disasters and increasing the number of countries with planning capabilities for climate change mitigation and adaptation.

B. Program objectives and description

- 1.31 The general objective of the program is to help reduce Panama's vulnerability to the risks of natural phenomena and climate change. Specifically, the program will support the country in developing a framework for policy, integrated disaster risk management, and climate change adaptation that will improve its risk management index (RMI), benefiting the entire Panamanian population, especially the groups most vulnerable to natural hazards.
- 1.32 The attached Policy Matrix (see Annex II) establishes the sequence of commitments for the program, structured in the following components.
- 1.33 **Component 1. Macroeconomic stability.** Macroeconomic context consistent with program objectives and the sector policy letter.
- 1.34 **Component 2. Governance and financial management.** The governance area of this component focuses on laying the foundation for a modern risk management policy consistent with international good practices and the Bank's DRM policy, emphasizing priority policy measures to position the country with respect to the

issue of CCA. The objective of the financial management area of this component is to strengthen the role of the MEF, in order to establish and implement a disaster risk financial management strategy in the medium term. Policy commitments for each of these areas are detailed below:

- a. **Governance.** Support will be provided for the following actions: (i) update of the executive decree establishing the National Commission of CEPREDENAC, to formalize creation of the PNRRD; (ii) formulation of a resource mobilization proposal that includes a prioritized portfolio of projects for implementing the PNRRD, through the PNRRD; (iii) strengthening of the institutional framework of CONACCP by updating its internal regulations, and consolidating interministerial and interagency coordination on climate change issues; and (iv) approval by ANAM of the general outline for update of the National Climate Change Policy of 2007.
- b. **Financial management of risk,** including: (i) approval of the general outline for development of a comprehensive financial strategy for DRM in Panama; (ii) underwriting of contingent credit lines to address extraordinary emergency outlays caused by severe and catastrophic events; and (iii) approval of guidelines for determining the financial coverage necessary to respond to emergencies, and the size of a reserve fund to provide adequate coverage for recurrent events. Significantly, these policy commitments represent a major advance for the country in financial management within the region.

1.35 **Component 3. Development of instruments and capacities for sector and subnational management.** This component rounds out reforms in the country's governance and financial management through development of the following key target areas:

- a. **Risk identification.** This area aims to facilitate and improve the exchange of information related to DRM and CCA among the principal government stakeholders, while building capacity for generating, interpreting, and using models of climate change and future vulnerability. Probabilistic risk assessment is also incorporated as the basis for making decisions related to land use planning. Along these lines, policy commitments include: (i) formulation of a proposal to create the Panamanian spatial data infrastructure for using, exchanging, and accessing geospatial information; (ii) consolidation of the exchange of environmental information through a tripartite agreement among MEF, ANAM, and the Office of the Comptroller General; (iii) approval of an action plan for implementing the agreement between ANAM and Empresa de Transmisión Eléctrica, S.A. (ETESA) that will allow progress in compiling key variables for climate change studies; and (iv) modules on hazards, exposure, and seismic vulnerability in the housing and education sectors available for Ciudad de David, as well as identification of two additional scenarios for probabilistic assessment of risk from other hazards such as flooding.

- b. **Risk reduction.** This area seeks to develop and expand the coverage of tools for the inclusion of DRM in public investment projects, strengthen the regulatory framework for comprehensive management of water resources, and update the risk-related regulatory frameworks of MIVIOT. The policy commitments therefore include: (i) a diagnostic assessment of the SINIP as the basis for such inclusion, and the incorporation of risk analysis into the preinvestment phase of public investment projects, as input to the design of basic design and methodological tools for analyzing climate change risk and vulnerability; (ii) a proposal to update the National Water Resources Policy and to issue regulations under the Watersheds Act, including DRM and ACC considerations; and (iii) approval of the general outline for preparation of a Land Use Management Policy that includes DRM.
- c. **Disaster management.** This area aims to strengthen the emergency preparedness and response capability of SINAPROC and of the sector and subnational levels. To this end, the second PBP entails the following commitments: (i) continued update of the emergency response protocols in two additional provinces (Veraguas and Bocas del Toro); (ii) approval of manuals for formulating emergency operation plans at the regional and local level; and (iii) formulation of guidelines for providing care to children and teens before, during and after an emergency, so as to ensure that special protocols are in place for one of the most vulnerable segments of the population.

II. FINANCING STRUCTURE, OUTCOMES, AND RISKS

A. Financing instrument

- 2.1 This operation is the second in a series of three programmatic policy-based loans (PBPs). The third loan will be processed in 2013. The amount of this second loan will be up to US\$100 million. Disbursement of the loan proceeds will be subject to the borrower's fulfillment of the General Conditions and Special Provisions (policy reform conditions) of the respective loan contract. The PBP series option was chosen because that modality enables closer policy dialogue with the government through a process of reforms and structural changes, and the incorporation of lessons learned during preparation and negotiation of the earlier operations of the series. The first PBP defined the most important areas for reform and the initial policy commitments. The second and third PBPs will address commitments associated with achieving outcomes and specific implementation targets. A [Comparative Matrix](#) shows the commitments from the second PBP adjusted in light of approval of the National Comprehensive Disaster Risk Management Policy (PNGIRD). These adjustments do not entail any change in the original objectives, but serve rather to drive forward the reform process initiated with the first PBP.
- 2.2 Financing for the proposed program draw on the resources of the Bank's Ordinary Capital. Implementation of the policy commitments, institutional strengthening

activities, and design for the next loans in the programmatic series will be supported by technical cooperation operation ATN/OC-12763-PN approved on 1 June 2011, for up to US\$650,000.

B. Expected outcomes

- 2.3 The main expected impact upon completion of the series of three programmatic loans is to have contributed to improving disaster risk management (DRM) performance at the national level, which will be measured by using as an indicator Panama's risk management index (RMI) relative to the 2008 baseline (RMI > 41.15). The program also seeks to reduce annual economic losses caused by natural phenomena.
- 2.4 As a result of the actions envisaged in the program's components, the regulatory framework should improve substantially, consistent with international best practices and resulting in decentralized, interagency, and multisector comprehensive risk management. Specifically, the program is designed to directly impact some of the indicators measuring the country's DRM performance, as reflected in the RMI components of risk identification, risk reduction, disaster management, and governance and financial protection. Table II.1 lists the indicators under these components, the expectation being that the program will have a direct positive impact relative to the baseline levels observed in 2008.

Table II.1 Sample of Baseline Indicators and Targets

Description of indicator:	Baseline	Target
Hazard monitoring and forecasting (RI2)	3	3*
Vulnerability and risk assessment (RI4)	3	4
Risk integration in use determination and planning (RR1)	2	3
Watershed management and environmental protection (RR2)	3	3*
Emergency response planning and warning systems (DM2)	3	3*
Simulation, updating, and testing of interagency response capabilities (DM4)	2	3
Community preparedness and training (DM5)	3	3*
Decentralized, interagency, multisector organization (FP1)	3	4
Reserve funds for institutional strengthening (FP2)	2	2*
Budget localization and mobilization (FP3)	2	2*

* The target is expected to be maintain and/or consolidate the baseline measurement.

- 2.5 The [Results Matrix](#) describes the impact and results indicators, baseline, and program targets. Details related to RMI construction and implementation and its methodology and components can be found in the [Impact Monitoring and Evaluation Plan](#).

C. Economic rationale

- 2.6 The risk reduction component has been selected for the [economic assessment](#) of this operation. This component includes, as a commitment, the design of a public investment project that incorporates risk analysis in its preinvestment phase, so as to provide feedback for the design of basic design and methodological tools for risk analysis. For this pilot project, the government has identified the project for

- rehabilitation of the Río Sereno–Paso Canoa Highway, which will be climate-proofed through infrastructure works and upgrades to guarantee traffic flow during adverse weather events.
- 2.7 The Río Sereno–Paso Canoa Highway rehabilitation project, which is included in the September 2010 report on development support for road infrastructure investment projects and in the MEF Directorate of Investment Programming (DPI) project pipeline, was selected as a case study to analyze the economic feasibility of building basic risk management considerations into preinvestment evaluation in Panama.
- 2.8 The highway in question is of great economic importance to the country because of its strategic location on the border with Costa Rica, and because it represents an essential transit route for products related to the country's principal economic activities such as agriculture, livestock, and mining. In addition, its area of direct impact includes the Chiriquí region, which is the country's main farming region, contributing around 80% of Panama's agricultural GDP. The investment planned by the current administration also includes large-scale irrigation works in the region that will translate into greater agricultural productivity for the zone, making the Río Sereno–Paso Canoa Highway even more important.
- 2.9 Specifically, the cost-benefit analysis estimates that the net present value (NPV) (discount rate of 12%) generated by project benefits relating to the incorporation of DRM factors into project evaluation is US\$14.3 million, equivalent to an internal rate of return (IRR) of 57.5%, attributable to the highway's economic importance for the region as described in paragraph 2.8. The analysis assumes a 25-year horizon with benefits derived from: (i) reduced wear and tear on vehicles from use of alternative routes in case of closure; (ii) savings in bridge and highway reconstruction works; and (iii) reduced losses associated with getting products to market.
- 2.10 The following table summarizes a sensitivity analysis that varies the loss in benefits from closure to vehicle traffic caused by weather events. This analysis shows that interventions such as those covered by this project are financially viable, even if long-term benefits associated with relocations and reduced losses of human life are not quantified. The analysis also demonstrates that incorporating DRM factors into the analysis of public investments generates significant economic benefits, deriving in this particular case from the climate-proofing of infrastructure (bridges and highway).

Panama: Sensitivity of NPV (US\$ millions) according to loss in vehicle benefits factor from highway closure

ϕ	NPV (@12%)	Variation NPV	IRR
10%	8.83	-	46.6%
30%	11.58	31%	52.4%
50%	14.32	24%	57.5%
70%	17.07	19%	62.3%
90%	19.81	16%	66.6%

D. Environmental and social safeguard risks

- 2.11 Directive B.13 of the Environment and Safeguards Compliance Policy (Operational Policy OP-703) is applicable. The operation has no adverse environmental impacts and incorporates environmental sustainability as an intrinsic program requirement.

E. Other key issues and risks

- 2.12 Given the crosscutting nature of DRM and CCA, the program involves many stakeholders. This makes the reform process more complex, and its implementation is therefore subject to certain risks related primarily to poor coordination among the stakeholders. However, those risks are mitigated by the government's strong political will to reduce the country's vulnerability and, above all, by the broad process of interagency coordination promoted by the MEF with Bank support since the first PBP. The reform process is currently being driven by the MEF, in coordination with leading institutions such as SINAPROC, MIVIOT, and ANAM. Fulfillment of the commitments under the second PBP represents a notable contribution to achieving the expected outcomes for the programmatic series.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Program execution and management

- 3.1 The Republic of Panama will be the borrower. The executing agency will be the Ministry of Economy and Finance (MEF), acting through the Directorate of Public Credit (DCP) and Directorate of Investment Programming (DPI), which will be responsible for monitoring the commitments established in the Policy Matrix. The MEF will have the following responsibilities: (i) maintaining official communication with the Bank, submitting reports, documenting compliance with the operation's conditions, and delivering any other report required by the Bank in the agreed time and manner; (ii) promoting the actions designed to achieve the policy objectives defined in the program, particularly the conditions included as triggers for the second and third operations; and (iii) gathering, storing, and delivering to the Bank all information, indicators, and parameters that will help the Government of Panama and the Bank monitor, measure, and evaluate program outcomes. As part of its responsibilities, the MEF, acting through the DCP, will

coordinate the acceptance of evidence of fulfillment of commitments assumed by various institutions of the Government of Panama, as specified in the [Means of Verification Matrix](#).

B. Results monitoring and evaluation

- 3.2 The programmatic commitments listed in the Policy Matrix, together with the [Means of Verification Matrix](#) and the [Results Matrix](#), establish the parameters for the supervision and evaluation of program outcomes.
- 3.3 The methodology of the System of DRM Indicators developed by the Bank and the Environmental Studies Institute of Universidad Nacional de Colombia will be used to evaluate program outcomes. Although the program has baseline indicators for 2008, the RMI will be measured in 2012 to corroborate the current baseline, and then again in 2013 to determine the program's scope and development outcomes established in the Results Matrix. Resources from technical cooperation operation ATN/OC-12763-PN (see paragraph 2.2) have been included for the evaluation of outcomes and impacts. Activities related to the monitoring of deliverable commitments (equivalent to outputs) and evaluation of outcomes, including the timeline of activities with those responsible and respective budgets, are listed in the [Impact Monitoring and Evaluation Plan](#).
- 3.4 Once the execution of this operation is complete, the project team will produce a project completion report, which will also serve as the basis for identification of the third PBP operation and the necessary adjustments to the Policy Matrix.

C. Policy letter

- 3.5 The Bank and the Government of Panama have reached agreement on the macroeconomic and sector policies included in the [policy letter](#) sent by the MEF, describing the main components of the country's strategy with respect to this program and reaffirming its commitment to implement the activities agreed upon in the Policy Matrix.

Development Effectiveness Matrix			
Summary			
I. Strategic Alignment			
1. IDB Strategic Development Objectives	Aligned		
Lending Program	(i) Lending to small and vulnerable countries, (ii) Lending to support climate chance initiatives, renewable energy and environmental sustainability, and (iii) Lending to support regional cooperation and integration.		
Regional Development Goals	(i) Countries with planning capacity in mitigation and adaptation of climate change, and (ii) Annual reported economic damages from natural desasters.		
Bank Output Contribution (as defined in Results Framework of IDB-9)	(i) National frameworks for climate change mitigation supported, and (ii) Climate change pilot projects in agriculture, energy, health, water and sanitation, transport, and housing.		
2. Country Strategy Development Objectives	Aligned		
Country Strategy Results Matrix	GN-2596	The intervention is aligned with the objective of consolidating the institutional, legal and regulatory framework for environmental management.	
Country Program Results Matrix	GN-2661	The intervention is included in the 2012 Country Program Document.	
Relevance of this project to country development challenges (If not aligned to country strategy or country program)			
II. Development Outcomes - Evaluability	Highly Evaluable	Weight	Maximum Score
	9.1		10
3. Evidence-based Assessment & Solution	10.0	25%	10
4. Ex ante Economic Analysis	10.0	25%	10
5. Monitoring and Evaluation	6.5	25%	10
6. Risks & Mitigation Monitoring Matrix	10.0	25%	10
Overall risks rate = magnitude of risks*likelihood	Medium		
Environmental & social risk classification	B.13		
III. IDB's Role - Additionality			
The project relies on the use of country systems (VPC/PDP criteria)			
The project uses another country system different from the ones above for implementing the program			
The IDB's involvement promotes improvements of the intended beneficiaries and/or public sector entity in the following dimensions:			
Gender Equality			
Labor			
Environment			
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	PN-T1089.	
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan.	Yes	The evaluation will provide empirical evidence of the impact of strengthening the institutional and legal/regulatory framework on risk management.	

The policy based loan (PBL) has clear objectives and there is a logic to the intervention. The results matrix is primarily based on the Risk Management Index (RMI) that has been used by the Bank for these types of project.

The Monitoring and Evaluation plan notes the link between the activities in the PBL and the elements of the RMI and thus the PBL has a vertical logic. The Economic Analysis for the project focuses on conducting a cost-benefit analysis (CBA) of one aspect of the project to illustrate how a policy-based loan can induce high return investment. The type of program does not allow for an impact evaluation using experimental or non-experimental methods, but includes a careful data collection through a monitoring system that will allow before-and-after comparison. The project is considered medium risk.

POLICY MATRIX

GENERAL OBJECTIVE	The general objective of the program is to help reduce Panama's vulnerability to the risks of natural phenomena and climate change. Specifically, the program will support the country in developing a framework for policy, integrated disaster risk management, and climate change adaptation that will improve its risk management index (RMI).		
SPECIFIC OBJECTIVES	COMMITMENTS PROGRAMMATIC OPERATION I (2011)	COMMITMENTS PROGRAMMATIC OPERATION II (2012)	COMMITMENTS PROGRAMMATIC OPERATION III (2013)
Maintain a sound macroeconomic context	Macroeconomic environment consistent with the program objectives and the principal points of the sector policy letter.	Macroeconomic environment consistent with the program objectives and the principal points of the sector policy letter.	Macroeconomic environment consistent with the program objectives and the principal points of the sector policy letter.
COMPONENT 1. MACROECONOMIC STABILITY			
Maintain a sound macroeconomic context	Macroeconomic environment consistent with the program objectives and the principal points of the sector policy letter.	Macroeconomic environment consistent with the program objectives and the principal points of the sector policy letter.	Macroeconomic environment consistent with the program objectives and the principal points of the sector policy letter.
COMPONENT 2. GOVERNANCE AND FINANCIAL MANAGEMENT TO IMPROVE AND CONSOLIDATE INSTITUTIONAL CAPACITY FOR COMPREHENSIVE MANAGEMENT OF NATURAL DISASTERS AND CLIMATE CHANGE ADAPTATION			
AREA 1: GOVERNANCE AND DEVELOPMENT OF THE INSTITUTIONAL AND POLICY FRAMEWORK			
Strengthen the legal and regulatory framework for disaster risk management (DRM).	(a) National Comprehensive Disaster Risk Management Policy (PNGIRD) approved. <ul style="list-style-type: none"> Contains conceptual guidelines for disaster risk management, including the prospective and corrective management approaches. Identifies focal points and the roles of stakeholders involved in implementation. Includes financial management of disaster risk, identifying the main lines of action for implementing such management. Includes disaster risk management in the processes of land use management, climate change adaptation, and disaster management. Includes processes, instruments, and mechanisms for implementation and monitoring. 	(a) Executive Decree updated to formalize creation of the National Platform for Disaster Risk Reduction (PNRRD), replacing the National Commission of CEPREDENAC. The main features of the document are: <ul style="list-style-type: none"> To formalize the PNRRD and unify the national, regional and international counterparts for implementing DRM (National Plan, Regional Risk Reduction Plan, and Hyogo Framework of Action). To authorize development of the internal regulations. To expand the multisector makeup of the platform from 13 public institutions to 39 members including MIDES and other ministries, the Panama Canal Authority (ACP) and other agencies, groupings of local authorities such as the Association of Municipios of Panama (AMUPA); and civil society organizations such as the Panamanian Union of Engineers and Architects (SPIA). 	(a) Approval of rules of procedure for the PNRRD. (b) Publication of an outcomes report showing progress toward the operational targets of the DRM National Plan for 2013, including those relating to capacity development. (c) MEF approval of a budget line item (expenditure) for the allocation of funds to any and all public entities for prospective, corrective, and reactive DRM actions.

	<p>(b) National Risk Management Plan agreed upon at the level of the National Platform for Disaster Risk Reduction (PNRRD).</p> <ul style="list-style-type: none"> - Establishes programmatic areas with strategic objectives for implementing the PNGIRD. - Incorporates actions for the financial management of risk, land use management, climate change adaptation, disaster management, and strengthening the PNRRD. - Includes proposed priority actions for the MEF's involvement with respect to the focal point established by the PNGIRD. 	<ul style="list-style-type: none"> • to authorize the creation and development of local and traditional (indigenous) platforms <p>Responsibility: SINAPROC</p> <p>(b) Diagnostic study and proposal for prioritizing activities in order to implement the new DRM policy and program framework, formulated and validated by the National Commission of CEPREDENAC/PNRRD, including:</p> <ul style="list-style-type: none"> • Institutional analysis. • Diagnostic assessment of capacity development. • Priority lines of action for capacity development. <p>Responsibility: SINAPROC</p> <p>(c) Resource mobilization proposal for implementation of the PNGIRD and the National Disaster Risk Management Plan (PNRRD), formulated and validated by the National Commission of CEPREDENAC/PNRRD, including:</p> <ul style="list-style-type: none"> • Identification of current financing sources and mechanisms. • A prioritized portfolio of projects. • Identification of future actions. • Project proposals prepared by PNRRD members and submitted to MEF for inclusion in the project pipeline and/or national budget. <p>Responsibility: SINAPROC</p>	
Build sufficient institutional capacity and strengthen the means of interministerial/ interagency coordination in order to ensure the consolidation and startup of climate change activities.	<p>(a) Second National Communication on Climate Change produced by ANAM for the United Nations Framework Convention on Climate Change, reporting on the country's progress in implementing climate change adaptation measures.</p> <p>(b) Technical Secretary appointed by ANAM to the Board of Directors of the Interagency Environmental System (SIA).</p> <p>(c) Proposal to modify the National Climate Change Committee of Panama</p>	<p>(a) Proposal to update the Executive Decree and Internal Regulations of CONACCP, to strengthen and consolidate the structure for interministerial and interagency coordination on climate change issues, formulated by ANAM.</p> <p>Responsibility: ANAM</p> <p>(b) General outline for update of the National Climate Change Policy of 2007, approved by ANAM and submitted to CONACCP.</p> <p>Responsibility: ANAM</p>	<p>(a) Update of the Executive Decree and Internal Regulations of CONACCP.</p> <p>(b) Proposed update of the National Climate Change Policy.</p> <p>(c) Annual work plan of CONACCP approved, and funds allocated for its operation and institutional strengthening.</p>

	(CONACCP), to include as permanent members, at a minimum, representatives from the private sector, nongovernmental organizations, and civil society, approved by ANAM.		
AREA 2: FINANCIAL MANAGEMENT			
Strengthen the role of the MEF to establish and implement a National Strategy for Financial Management of Disaster Risk.	<p>(a) Strengthening of the MEF institutional framework for financial management of disaster risk by adding functions to the Directorate of Investment, Concessions and Risks of the State (DICRE) enabling it to assume responsibility for designing, developing and implementing policies for investing in financial protection for disaster risk management, in accordance with the PNGIRD.</p> <p>(b) Formal decision made by the MEF to establish contingent financing facilities to improve financial management capacity related to disaster risk and catastrophic events, in compliance with the PNGIRD.</p>	<p>(a) General outline approved by MEF/DICRE for development of a comprehensive financial strategy for DRM in Panama. Responsibility: MEF</p> <p>(b) General outline approved by MEF for determining the financial coverage necessary to respond to emergencies, and the size of a reserve fund to provide adequate coverage for recurrent events. Responsibility: MEF</p> <p>(c) Underwriting of contingent credit lines by Panama to address extraordinary emergency outlays caused by severe and catastrophic events, pursuant to the PNGIRD. Responsibility: MEF</p>	<p>(a) MEF/CGR interministerial agreement to define the function of risk administration of government capital assets.</p> <p>(b) Proposed National Strategy for Financial Management of Disaster Risks.</p> <p>(c) MEF endorsement of the technical report for determining the financial coverage necessary to respond to emergencies, and the size of a reserve fund to provide adequate coverage for recurrent events.</p>
COMPONENT 3. DEVELOPMENT OF INSTRUMENTS AND CAPACITIES FOR DISASTER RISK MANAGEMENT AND CLIMATE CHANGE ADAPTATION AT THE SECTOR AND SUBNATIONAL LEVELS			
AREA 1: RISK IDENTIFICATION			
Facilitate and improve the exchange of information related to disaster risk management and climate change, while building capacity for generating, interpreting, and using climate change models.	<p>(a) Inventory of existing legal and technical documents for exchanging information among the different government agencies on hazards, vulnerabilities, and disaster risks, prepared by the Office of the Deputy Minister for Land Management of the Ministry of Housing and Land Management (MIVIOT) and sent to the PNRRD.</p> <p>(b) Agreement reached between ANAM and Empresa de Transmisión Eléctrica, S.A.</p>	<p>(a) Proposal to create the Panamanian Spatial Data Infrastructure (IPDE), coordinated by the Office of the Deputy Minister for Land Management, for using, exchanging, and accessing geospatial information, to include “risk and disasters” as a thematic area of the spatial data infrastructure. Responsibility: MIVIOT</p> <p>(b) Signature of tripartite agreement for the exchange of information among MEF, ANAM, and the Office of the Comptroller General. Responsibility: ANAM</p>	<p>(a) Approval of the Executive Decree creating the Panamanian Spatial Data Infrastructure (IPDE) for using, exchanging, and accessing geospatial information.</p> <p>(b) Proposed program for restoration and expansion of the hydrometeorological system nationwide.</p>

	(ETESA) to exchange technical and scientific information on climate change	(c) Agreed action plan for implementation of the ANAM-ETESA agreement for the exchange of technical and scientific information. Responsibility: ANAM	
Incorporate probabilistic risk assessment as the basis for making land use management decisions.	(a) The MIVIOT has decided to conduct a probabilistic assessment of seismic risk in Ciudad de David.	<p>(a) Modules on hazards, exposure, and seismic risk in the housing and education sectors available for Ciudad de David, prepared by MVIOT in coordination with the Geosciences Institute, including:</p> <ul style="list-style-type: none"> • CRISIS modeling of the seismic hazard in rock. • Survey of the housing and education stock under the exposure module. • Vulnerability functions for different types of structures in the housing and education stock. • Findings of a probabilistic assessment of seismic risk, using the CAPRA platform for the housing and education stock. <p>Responsibility: MIVIOT</p> <p>(b) Technical staff of MIVIOT, Geosciences Institute, Ministry of Education (MEDUCA), and Ministry of Health (MINSA) trained in probabilistic risk assessment methodology using the CAPRA tool. The training includes:</p> <ul style="list-style-type: none"> • Access and support for installing the CAPRA software. • Training workshops and distance tutorials for staff throughout the process. • Participation in webinars organized by the World Bank for monitoring progress in the different stages. <p>Responsibility: MIVIOT</p> <p>(c) Interagency commitment by ANAM, ETESA, SINAPROC, MEF Administrative Unit for Reverted Assets (UABR), MINSA, MEDUCA and MVIOT to apply the CAPRA methodology</p>	<p>(a) Modules on hazards, exposure, and seismic risk in the health sector available for Ciudad de David.</p> <p>(b) Training for key public officials and academics in developing the CAPRA hazard, exposure and risk assessment modules.</p>

		<p>for probabilistic risk assessments for other scenarios and hazards (flooding). The prioritization methodology includes:</p> <ul style="list-style-type: none"> • Review of historical risk information from EM-DAT and DesInventar databases. • Review of the hazard and exposure information requirements in flooding and landslides models. • Identification matrix with prioritization criteria according to: (a) manifest risk; (b) information availability (hazard/exposure); (c) socioeconomic and environmental importance, (d) interagency coordination possibilities. • Thematic review groups (hazard and exposure) and joint review. <p>Responsibility: MIVIOT</p>	
AREA 2: RISK REDUCTION			
Develop and expand the coverage of methodological instruments to include risk management in public investment projects.	(a) The Directorate of Investment Programming (DPI) of the MEF has approved the proposed plan of action for incorporating disaster risk analysis into the National Public Investment System (SINIP).	<p>(a) Diagnostic assessment of SINIP and its potential for incorporating the analysis of risk and climate change vulnerability in public investment projects, conducted by DPI.</p> <p>Responsibility: MEF</p> <p>(b) A public investment project approved by DPI that incorporates risk analysis into its preinvestment phase on a pilot basis, as input for the design of basic design and methodological tools for analyzing climate change risk and vulnerability.</p> <p>Responsibility: MEF</p>	(a) MEF approval of the design of basic design and methodological tools for analyzing climate change risk and vulnerability in public investment projects.
Develop and implement disaster risk reduction and climate change adaptation instruments, emphasizing watershed management.	<p>(a) National Plan for Comprehensive Management of Water Resources (PNGIRH) developed by ANAM, incorporating the issues of vulnerability and climate change adaptation.</p> <p>(b) Vulnerability analysis conducted that incorporates the issue of climate change in</p>	<p>(a) Proposal to update to the National Water Resources Policy approved by ANAM, including the reduction of vulnerability to disaster risk and CCA, and harmonized with the PNGIRD.</p> <p>Responsibility: ANAM</p> <p>(b) Proposal to issue regulations under the</p>	<p>(a) Approval of the update to the National Water Resources Policy.</p> <p>(b) Approval of regulations under the Watersheds Act (Law 44 of 5 August 2002).</p> <p>(c) Approval of the PNGIRH.</p>

	the Chucunaque and Tabasará watersheds.	<p>Watersheds Act (Law 44 of 5 August 2002) approved by ANAM, whereby environmental and land use planning will take into account the location of the principal hazards and areas vulnerable to natural disasters, as well as effective mechanisms for reducing their vulnerability.</p> <p>Responsibility: ANAM</p> <p>(c) Management plans approved by ANAM, taking into account climate change vulnerability in two pilot watersheds: Chucunaque and Tabasará.</p> <p>Responsibility: ANAM</p>	
Update MIVIOT's risk-related regulatory frameworks.	<p>(a) The MIVIOT has determined which disaster risk management functions correspond to the Offices of the Deputy Ministers for Housing and Land Management within the Ministry.</p> <p>(b) The Office of the Deputy Minister for Land Management of MIVIOT has approved a proposed plan of action for incorporating risk management in land use management processes.</p>	<p>(a) Guidelines for the formulation of a Land Use Management Policy that includes risk management, approved by the Office of the Deputy Minister for Land Management.</p> <p>Responsibility: MIVIOT</p>	<p>(a) Proposed Land Use Management Policy with disaster risk reduction criteria.</p>
AREA 3: DISASTER MANAGEMENT			
Build the capacity of the National Civil Protection System (SINAPROC) to prepare for and respond to emergencies.	<p>(a) Proposal for institutional strengthening of the Civil Protection Academy, to provide training to the institutions forming the System.</p>	<p>(a) Proposal to include a line item for strengthening the preparedness and response capacities of the Civil Protection Academy in the 2013 draft budget of SINAPROC.</p> <p>Responsibility: SINAPROC</p> <p>(b) Guidelines for institutional strengthening of the Civil Protection Academy, including design of the educational curriculum, approved by the Director General of SINAPROC and submitted to the Bank for financing.</p> <p>Responsibility: SINAPROC</p>	<p>(a) Resources for strengthening the preparedness and response capacities of the Civil Protection Academy included in the 2013 national budget.</p> <p>(b) Approval of the 2013 business plan of the Civil Protection Academy.</p> <p>(c) Approval of the new structure of the Civil Protection Academy</p>
Improve emergency response planning at the sector and	<p>(a) Disaster emergency response protocols for the province of Chiriquí, based on</p>	<p>(a) Response protocols updated in two additional provinces, and validated at local workshops</p>	<p>(a) Response protocols updated in two additional provinces, and validated at</p>

subnational level.	simulations and drills.	<p>organized by the Emergency Operations Center (COE).</p> <p>These protocols will contain:</p> <ul style="list-style-type: none"> • The disaster risk context at the provincial scale. • Update methodology and guiding principles. • Protocols for preemergency processes. • Protocols for issuing alerts. • Protocols for managing information. • Protocols for care of the population. <p>Responsibility: SINAPROC</p> <p>(b) Manuals for formulating emergency operation plans at the regional and local level approved by the Director General of SINAPROC.</p> <p>Responsibility: SINAPROC</p> <p>(c) Guidelines for providing care to children and teens in an emergency, prepared and submitted formally by the Director General of SINAPROC to the National Secretariat for Childhood, Adolescence, and Family (SENNIAF).</p> <p>These guidelines will contain:</p> <ul style="list-style-type: none"> • Conceptual framework based on the rights of the child and humanitarian principles. • Basic commitments for children in emergency situations. • Specific actions and recommendations in such areas as nutrition, health, water, sanitation, and hygiene. <p>Responsibility: SINAPROC</p>	<p>local workshops organized by the Emergency Operations Center (COE).</p> <p>(b) Provincial emergency plans updated on the basis of existing provincial response protocols.</p>
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DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/12

Panama. Loan ____/OC-PN to the Republic of Panama
Program to Reduce Vulnerability to Natural Disasters
and Climate Change II

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Panama, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the second phase of a program to reduce vulnerability to natural disasters and climate change. Such financing will be for the amount of up to US\$100,000,000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2012)

LEG/SGO/CID/IDBDOCS#36773655
PN-L1074