

Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: PAD1683

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$ 150 MILLION

TO THE

REPUBLIC OF ECUADOR

FOR A

RISK MITIGATION AND EMERGENCY RECOVERY PROJECT

FEBRUARY 23, 2016

Social, Urban, Rural and Resilience Global Practice
Latin America and Caribbean Region

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS

The U.S. dollar is the official currency of Ecuador, effective January 2000

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BCE	Central Bank of Ecuador (<i>Banco Central del Ecuador</i>)
BP	Bank Procedure
CAF	Latin American Development Bank
CEN	Country Engagement Note
CGE	General Controller Office (<i>Contraloría General del Estado</i>)
CIFFEN	International Research Center for El Niño
DRM	Disaster Risk Management
EMP	Environmental Management Plan
EPA	Public Water Company (<i>Empresa Pública del Agua</i>)
ERL	Emergency Recovery Loan
e-Sigef	Financial Management System of the State (<i>Sistema de Gestión Financiera del Estado</i>)
ESSAF	Environmental and Social Screening and Assessment Framework
FM	Financial Management
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GoE	Government of Ecuador
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HQ	Headquarters
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank
ICR	Implementation Completion Report
IDA	International Development Association
IFR	Interim Financial Reports
IG-EPN	National Geophysics Institute (<i>Instituto Geofísico de la Escuela Politécnica Nacional</i>)
INAHMI	National Institute of Meteorology and Hydrology
IPPF	Indigenous Peoples Policy Framework
IPP	Indigenous Peoples Plan
IRI	International Research Institute for Climate and Society
ISA	International Standards on Auditing
ISN	Interim Strategy Note
ISRs	Implementation Status and Results Reports
IU	Implementation Unit

LA	Loan Agreement
MAE	Ministry of Environment
MAGAP	Ministry of Agriculture, Livestock, Aquaculture and Fisheries
MF	Ministry of Finance
MICS	Coordinating Ministry of Security
MIES	Ministry of Social and Economic Inclusion
MOU	Memorandum of Understanding
MSP	Ministry of Public Health
MTOP	Ministry of Transport and Public Works
M&E	Monitoring and Evaluation
NOAA	United States National Oceanic and Atmospheric Administration
NDRMS	National Decentralized Risk Management System
OP	Operational Policy
PAHO	Pan American Health Organization
PCU	Project Coordination Unit
PDO	Project Development Objective
POM	Project Operational Manual
PP	Procurement Plan
RAP	Resettlement Action Plan
RF	Results Framework
RFP	Request for Proposals
RPF	Resettlement Policy Framework
SAP	Safeguards Action Plan
SBD	Standard Bidding Documents
SENPLADES	National Secretariat for Planning and Development
SGR	National Secretariat of Disaster Risk Management
SOE	Statement of Expenditure
SPI	Interbank Payment System
TSA	Treasury Single Account
TTL	Task Team Leader
TWG	Technical Working Group (<i>Mesa Técnica de Trabajo</i>)
UN	United Nations
UNDB	United Nations Development Business
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction
VAT	Value Added Tax
VEI	Volcanic Explosivity Index
WB	World Bank
WHO	World Health Organization

Regional Vice President:	Jorge Familiar
Country Director:	Alberto Rodriguez
Senior Global Practice Director:	Ede Ijjasz-Vasquez
Practice Manager:	Anna Wellenstein
Task Team Leaders:	Diana Rubiano/Van Anh Vu Hong

REPUBLIC OF ECUADOR
Risk Mitigation and Emergency Recovery Project

TABLE OF CONTENTS

	Page
I. STRATEGIC CONTEXT	1
A. Country Context.....	1
B. Situations of Urgent Need of Assistance or Capacity Constraints	1
C. Sectoral and Institutional Context.....	4
D. Higher Level Objectives to which the Project Contributes	6
II. PROJECT DEVELOPMENT OBJECTIVES	6
A. Project Development Objective	6
B. Project Beneficiaries	7
C. PDO Level Results Indicators.....	7
III. PROJECT DESCRIPTION	7
A. Project Components	8
B. Project Financing	10
C. Lessons Learned and Reflected in the Project Design.....	10
IV. IMPLEMENTATION	11
A. Institutional and Implementation Arrangements	11
B. Results Monitoring and Evaluation	12
C. Sustainability.....	12
V. KEY RISKS.....	12
VI. APPRAISAL SUMMARY	13
A. Economic and Financial Analysis.....	13
B. Technical.....	14
C. Financial Management.....	15
D. Procurement	16
E. Social (including Safeguards).....	16
F. Environment (including Safeguards)	17
G. World Bank Grievance Redress.....	17

Annex 1: Results Framework and Monitoring	18
Annex 2: Detailed Project Description.....	26
Annex 3: Implementation Arrangements	36
Annex 4: Implementation Support Plan	53
Annex 5: Economic Analysis.....	57
Annex 6: Safeguards Action Plan (SAP).....	60
Annex 7: Map of Ecuador (IBRD 33399R).....	70

PAD DATA SHEET*Republic of Ecuador**Risk Mitigation and Emergency Recovery Project (P157324)***PROJECT APPRAISAL DOCUMENT***LATIN AMERICA AND CARIBBEAN*

Social, Urban, Rural and Resilience Global Practice

Report No.: PAD1683

Basic Information			
Project ID P157324	EA Category B - Partial Assessment	Team Leader(s) Diana Marcela Rubiano Vargas, Van Anh Vu Hong	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [<input checked="" type="checkbox"/>]		
	- Natural or man made disaster		
	Financial Intermediaries [<input type="checkbox"/>]		
	Series of Projects [<input type="checkbox"/>]		
Project Implementation Start Date 25-Mar-2016	Project Implementation End Date 07-Mar-2020		
Expected Effectiveness Date 25-Mar-2016	Expected Closing Date 07-Sep-2020		
Joint IFC No			
Practice Manager/Manager Anna Wellenstein	Senior Global Practice Director Ede Jorge Ijjasz-Vasquez	Country Director Alberto Rodriguez	Regional Vice President Jorge Familiar Calderon
Borrower: Republic of Ecuador			
Responsible Agency: Ministry of Finance			
Contact: Telephone No.:	Maria Mercedes Vega 59323998300	Title: Email:	Institutional Manager mefecuador@finanzas.gob.ec
Safeguards Deferral (from Decision Review Decision Note)			
Will the review of Safeguards be deferred? [<input checked="" type="checkbox"/>] Yes [<input type="checkbox"/>] No			
Project Financing Data(in USD Million)			
[<input checked="" type="checkbox"/>]	Loan	[<input type="checkbox"/>]	IDA Grant [<input type="checkbox"/>] Guarantee

<input type="checkbox"/>	Credit	<input type="checkbox"/>	Grant	<input type="checkbox"/>	Other		
Total Project Cost:		168.00			Total Bank Financing:		150.00
Financing Gap:		0.00					
Financing Source					Amount		
Borrower					18.00		
International Bank for Reconstruction and Development					150.00		
Total					168.00		
Expected Disbursements (in USD Million)							
Fiscal Year	2015	2016	2017	2018	2019	2020	2021
Annual	0.00	20.00	25.50	0.30	0.30	103.90	0.00
Cumulative	0.00	20.00	45.50	45.80	46.10	150.00	150.00
Institutional Data							
Practice Area (Lead)							
Social, Urban, Rural and Resilience Global Practice							
Contributing Practice Areas							
Climate Change, Social Protection & Labor							
Cross Cutting Topics							
<input checked="" type="checkbox"/>	Climate Change						
<input type="checkbox"/>	Fragile, Conflict & Violence						
<input type="checkbox"/>	Gender						
<input type="checkbox"/>	Jobs						
<input type="checkbox"/>	Public Private Partnership						
Sectors / Climate Change							
Sector (Maximum 5 and total % must equal 100)							
Major Sector			Sector		%	Adaptation Co-benefits %	Mitigation Co-benefits %
Agriculture, fishing, and forestry			General agriculture, fishing and forestry sector		20	10	
Health and other social services			Health		10	5	
Transportation			General transportation sector		40	20	
Water, sanitation and flood protection			Flood protection		30	15	
Total					100		

I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Social protection and risk management	Natural disaster management	100
Total		100

Proposed Development Objective(s)

The Project Development Objective is to reduce the potential effects of the El Niño phenomenon and the Cotopaxi volcano, and support the recovery of basic and production services in affected areas in case of an Eligible Disaster, in selected sectors.

Components

Component Name	Cost (USD Millions)
Component 1: Disaster Preparedness and Risk Mitigation	49.01
Component 2: Post-Disaster Recovery and Reconstruction	117.60
Component 3: Project Implementation, Monitoring and Evaluation	1.34

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	High
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	High
7. Environment and Social	Substantial
8. Stakeholders	Moderate
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes []	No [X]
Does the project require any waivers of Bank policies?	Yes []	No [X]
Have these been approved by Bank management?	Yes []	No [X]

Is approval for any policy waiver sought from the Board?		Yes []	No [X]
Does the project meet the Regional criteria for readiness for implementation?		Yes [X]	No []
Safeguard Policies Triggered by the Project		Yes	No
Environmental Assessment OP/BP 4.01		X	
Natural Habitats OP/BP 4.04		X	
Forests OP/BP 4.36		X	
Pest Management OP 4.09		X	
Physical Cultural Resources OP/BP 4.11		X	
Indigenous Peoples OP/BP 4.10		X	
Involuntary Resettlement OP/BP 4.12		X	
Safety of Dams OP/BP 4.37		X	
Projects on International Waterways OP/BP 7.50			X
Projects in Disputed Areas OP/BP 7.60			X
Legal Covenants			
Name	Recurrent	Due Date	Frequency
Appointment of Auditor. Schedule 2. Section II.B.4		03-Sep-2016	
Description of Covenant			
The Borrower shall: (a) send audit TORs for the Bank's no objection not later than four months after the Effective Date; and (b) select and contract, by no later than six months after the Effective Date, and thereafter maintain, throughout the implementation of the Project, the services of a qualified and experienced auditor acceptable to the Bank, under terms of reference satisfactory to the Bank, to serve as independent external auditor for a period of at least three consecutive years.			
Conditions			
Source Of Fund	Name	Type	
IBRD	Project Operations Manual. Article V. 5.01(c)	Effectiveness	
Description of Condition			
The Operations Manual has been approved by the Bank and adopted by the Borrower.			
Source Of Fund	Name	Type	
IBRD	ESSAF, RPF and IPPF. Article V. 5.01(b)	Effectiveness	
Description of Condition			
The Borrower has adopted and disclosed, in form and substance satisfactory to the Bank, the Environmental and Social Screening and Assessment Framework (ESSAF), the Resettlement Policy Framework (RPF), and the Indigenous Peoples Planning Framework (IPPF).			

Source Of Fund	Name		Type	
IBRD	Co-Execution Subsidiary Agreements, and EPA Subsidiary Agreement. Article V. 5.01(a)		Effectiveness	
Description of Condition				
The EPA Subsidiary Agreement between the Borrower and EPA and the Co-Execution Subsidiary Agreements between the Borrower and the respective Co-Executing Agencies have been duly executed by all parties.				
Source Of Fund	Name		Type	
IBRD	Establishment of PCU. Article V. 5.01(d)		Effectiveness	
Description of Condition				
The PCU has been established in a manner satisfactory to the Bank.				
Source Of Fund	Name		Type	
IBRD	Front-end Fee. Schedule 2. Section IV. B. 1(a)		Disbursement	
Description of Condition				
No withdrawal shall be made from the Loan Account until the Bank has received payment in full of the Front-end Fee.				
Source Of Fund	Name		Type	
IBRD	Retroactive Financing. Schedule 2. Section IV. B. 1(b)		Disbursement	
Description of Condition				
No withdrawal shall be made for payments made prior to the date of this Agreement, except that withdrawals up to an aggregate amount not to exceed \$60,000,000 may be made for payments made prior to this date but on or after December 18, 2015.				
Source Of Fund	Name		Type	
IBRD	Activation of Component 2. Schedule 2. Section IV. B. 1(c)		Disbursement	
Description of Condition				
No withdrawal shall be made under Category (2) until the Borrower has furnished evidence, satisfactory to the Bank, that the measures referred to in Section I.F of Schedule 2 to the Loan Agreement have been taken by the Borrower.				
Team Composition				
Bank Staff				
Name	Role	Title	Specialization	Unit
Diana Marcela Rubiano Vargas	Team Leader	Senior Disaster Risk Management Specialist	Disaster Risk Management	GSU10
Van Anh Vu Hong	Team Leader	Urban Development Specialist	Urban Development	GSU10

Jose Yukio Rasmussen Kuroiwa	Procurement Specialist	Senior Procurement Specialist	Procurement	GGO04	
Ana Lucia Jimenez Nieto	Financial Management Specialist	Financial Management Specialist	Financial Management	GGO22	
Ernesto Alfredo Carrasco Valdivieso	Team Member	Consultant	Social Safeguards	GSURR	
Felipe Jacome	Safeguards Specialist	Consultant	Social Safeguards	GSU04	
Maria Caridad Gutierrez Cordoba	Team Member	Team Assistant	Project Support	LCCEC	
Maria Virginia Hormazabal	Team Member	Finance Officer	Finance	WFALN	
Mariana Margarita Montiel	Counsel	Senior Counsel	Legal	LEGLE	
Martin Henry Lenihan	Safeguards Specialist	Senior Social Development Specialist	Social Safeguards	GSU04	
Nicholas James Callender	Team Member	E T Consultant	Disaster Risk Management	GSU10	
Niels B. Holm-Nielsen	Team Member	Lead Disaster Risk Management Specialist	Disaster Risk Management	GSU10	
Yohannes Kesete	Team Member	Disaster Risk Management Specialist	Disaster Risk Management	GSU10	
Tuuli Johanna Bernardini	Safeguards Specialist	Environmental Specialist	Environmental Safeguards	GEN04	
Extended Team					
Name	Title	Office Phone	Location		
Alfredo Carrasco	Social Development Specialist		Quito		
Carolina Rogelis	Water Resource Engineer		Bogota		
Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Ecuador	Zamora-Chinchipec	Provincia de Zamora-Chinchipec	X		

Ecuador	Tungurahua	Provincia del Tungurahua	X		
Ecuador	Pichincha	Provincia de Pichincha	X		
Ecuador	Pastaza	Provincia del Pastaza	X		
Ecuador	Napo	Provincia de Napo	X		
Ecuador	Morona-Santiago	Provincia de Morona-Santiago	X		
Ecuador	Manabi	Provincia de Manabi	X		
Ecuador	Los Rios	Provincia de Los Rios	X		
Ecuador	Loja	Provincia de Loja	X		
Ecuador	Imbabura	Provincia de Imbabura	X		
Ecuador	Guayas	Provincia del Guayas	X		
Ecuador	Galapagos	Provincia de Galapagos	X		
Ecuador	Esmeraldas	Provincia de Esmeraldas	X		
Ecuador	El Oro	Provincia de El Oro	X		
Ecuador	Cotopaxi	Provincia de Cotopaxi	X		
Ecuador	Chimborazo	Provincia del Chimborazo	X		
Ecuador	Carchi	Provincia del Carchi	X		
Ecuador	Canar	Provincia del Canar	X		
Ecuador	Bolivar	Provincia de Bolivar	X		
Ecuador	Azuay	Provincia del Azuay	X		
Ecuador	Sucumbios	Provincia de Sucumbios	X		
Ecuador	Orellana	Provincia de Francisco de Orellana	X		

Ecuador	Santo Domingo de los Tsachilas	Provincia de Santo Domingo de los Tsachilas	X		
Ecuador	Santa Elena	Provincia de Santa Elena	X		
Consultants (Will be disclosed in the Monthly Operational Summary)					
Consultants Required? Consultants will be required					

I. STRATEGIC CONTEXT

A. Country Context

1. **Ecuador is a middle-income country with an economy dependent on its natural resources.** Oil represented over half of total exports in 2014, followed by food and agricultural goods with approximately one-fourth of exports. Over the past decade, Ecuador experienced growth in the context of a favorable external environment that together with foreign savings financed a large expansion of the public sector. Over that same period of high oil prices, Ecuador made significant gains in reducing poverty and promoting shared prosperity. Poverty rates fell from 38.3 to 25.8 percent between 2006 and 2014, and the income of the bottom 40 percent of the population saw annualized growth rates of nearly 7 percent compared with only 4 percent nationwide.¹ These advances have placed Ecuador among the top performers in Latin America and the Caribbean in terms of reducing poverty and improving shared prosperity. These gains, however, are coming under stress. The drop in oil prices in 2014, coupled with the strengthening of the U.S. dollar are raising concerns on whether these social advances can be sustained in the coming years. The macroeconomic effects of the new global context have widened Ecuador's fiscal and external imbalances. With limited buffers to draw upon, the Government of Ecuador (GoE) has taken measures since 2014 to partially offset the impact of lower oil prices on the economy, involving budget cuts and restrictions on imports, including temporary tariff surcharges. The Government has also taken some steps to promote private investment and job creation, which nonetheless remain depressed.

2. **The Ecuadorian landscape is dominated by the Andes Mountains, fertile river valleys, and a large number of volcanoes.** Two tectonic plates, the Nazca Plate and the South American Plate, also converge in Ecuador. These geological and hydro-meteorological dynamics make Ecuador susceptible to several types of natural and geological occurrences including earthquakes, volcanic eruptions, tropical storms, floods and landslides.² Flooding mainly affects the coastal zone, while volcanic eruptions affect the central zone. Drought has been recorded in the northern coastal and central regions, and frequent landslides affect urban areas and infrastructure.³ Climate extremes are already the most common type of disasters in Ecuador, adversely affecting the population and the economy of the country. While climate change is expected to increase the frequency and intensity of extreme climate events in many regions of the world, Ecuador becomes even more vulnerable to climate change.

B. Situations of Urgent Need of Assistance or Capacity Constraints

3. **As of November 2015, Ecuador is facing two imminent natural hazards which could cause major damages and losses** (estimated at US\$6 billion⁴) at any time during the next 24 months, and have an important negative impacts on the economic and social development of the country: (i) a potential eruption of the Cotopaxi volcano, and (ii) potential adverse effects from the 2015-16 El Niño phenomenon.

¹ These are consumption based poverty rates computed using the *Encuesta de Calidad de Vida* (ECV). The income based poverty and extreme poverty rates, computed with the Encuesta Nacional de Empleo, Desempleo y Subempleo Urbano y Rural for December 2015 were 23.3 percent and 8.45 percent, respectively.

² United Nations Office for Disaster Risk Reduction (UNISDR). Ecuador Country Profile.

³ Global Facility for Disaster Reduction and Recovery (GFDRR). Ecuador Country Program Update. May 2014. World Bank.

⁴ Data from the National Secretariat of Disaster Risk Management or *Secretaría Nacional de Gestión de Riesgos* (SGR)

4. **Cotopaxi Volcano.** On August 14, 2015, the Cotopaxi volcano, about 50km south of Quito and 33km northeast of Latacunga, began erupting after being dormant for 138 years. The 5,897m high volcano released high columns of ash (up to 2km above the crater) which affected Latacunga town and put surrounding densely populated areas at risk (e.g. Quito southern neighborhoods). Since then, the volcano has shown irregular activity and has been very closely monitored, so that an evacuation alert could be immediately given to the populations if necessary. According to the national risk mapping and the analysis from the National Secretariat of Disaster Risk Management (SGR), an estimated 400,000 people (including at least 145,000 in the very high risk areas) and some key infrastructure (including 7 health centers, 133 schools, 41km of roads, 39.5km of electrical infrastructure) would be affected if an eruption triggers explosions, volcanic gases, mudslides, lava flows, lahar and debris avalanches. Potential damages and losses are estimated at US\$1.37 billion. Under a moderate eruption scenario⁵, there is a high probability of lahar and debris avalanches would damage at least 50 percent of schools, hospitals and prisons in the towns of Latacunga and San Felipe. Data from the National Institute of Geophysics (IG-EPN) confirm that a VEI2-3⁶ level of eruption (the most likely scenario at present) could generate up to 8km-high columns of ash and 30 million m³ of lahar. The level of alert since August 2015 is Yellow, meaning the volcano is exhibiting signs of elevated unrest above known background level, and could be elevated to Orange or Red at any time⁷. The GoE has been working to ensure that all technical and operational entities are alert and ready in case of an emergency, in particular through its Technical Working Groups (TWGs)⁸.

5. **El Niño Phenomenon.** In Ecuador, the El Niño phenomenon is characterized by a decrease in the intensity of trade winds, high sea surface temperatures along the coast increasing evaporation and cloud formation, and an intertropical equatorial convergence zone. These factors create favorable conditions for heavy rainfall. During an El Niño episode, the coast experiences hot and humid air from the northeast which accentuates precipitation levels. The normal process of cloud displacement to the mountainous area of the Andes is more pronounced, producing unusual rain along the coast. At a global scale, the US NOAA (National Oceanic and Atmospheric Administration) is forecasting what could become the strongest El Niño on record. The analysis conducted by the Ecuadorian National Institute of Meteorology and Hydrology (INAMHI) based on data from NOAA, indicates that the phenomenon has already started in Ecuador (as of November 2015) and that the conditions are likely to intensify in the coming months, possibly reaching similar impact levels as the past episodes of 1982-83 (strong event) or of 1986-87 (moderate event). In both cases, the phenomenon is expected to generate higher precipitation levels (than during non-El Niño years) from November 2015 to March 2016 at least. Heavy rains would affect most of the country, the littoral zone in particular, causing flooding and landslides. During the 1982-83 El Niño episode, the GoE recorded 700,000 people affected, 307 deaths, and estimated economic losses at US\$1.43 billion (2015 US\$). During the 1997-98 El Niño episode, increase in sea level reached up to 42cm in some areas, causing significant coastal flooding as well as pluvial flooding, and subsequent drainage challenges: discharges in most coastal rivers were recorded to reach return periods of 100 years. The GoE recorded 13,374 families affected, 293 deaths, 30,000 subsequent homeless people, and data

⁵ Williams, R. (2006) *Modeling Lahars Using Titan2d For The Southern Drainage Of Volcán Cotopaxi: Impact On The City Of Latacunga* By Rebecca Williams Master of Science Department of Geology. United States of the America: Buffalo University.

⁶ Volcanic Explosivity Index (VEI) 2-3 level is associated with eruptions of moderate magnitude, likely to produce some damages and health problems associated to respiratory illness due to the ashes. Such eruptions for the Cotopaxi volcano occurred in 1854.




⁷ Volcanic Activity Alert Notification System from the US Geological Survey. See *Annex 2* for more details.

⁸ Locally known as *Mesas Técnicas de Trabajo*: mechanism created by the Government to convene and coordinate the technical competences from the public and private sectors to address risk reduction and emergency response (exists at the local and national level).

from the Latin American Development Bank (CAF) reveal that the event resulted in US\$4.13 billion in damages and losses (2015 US\$). For this El Niño, the GoE is estimating potential damages and losses at US\$4.43 billion, with potentially 297,765 people, 1,303 health centers and 2,900 schools affected.

6. **National Emergency Declarations.** The Ecuadorian legislation provides various mechanisms by which to determine the imminence and classify the effects of various adverse hazards or emergency events. Each mechanism has a corresponding set of protocols further described in *Annex 2*: (i) Alert Declaration (*Declaratoria de Alerta*); (ii) Declaration of an Emergency Situation (*Situación de Emergencia*); and (iii) State of Emergency (*Estado de Excepción*).

7. The **Alert Declaration** has three established states of alert, and its upgrading or downgrading corresponds to the evolution of an identified threat, based on the ongoing monitoring by the national geological and hydrometeorological agencies:

Alert		Significance of the Alert
Yellow		Advisory of a significant activation of the threat
Orange*		Advisory of that occurrence of threat is imminent
Red**		Notice that emergency or disaster is occurring

As of December 31, 2015, there are two Alert Declarations in effect related to the Cotopaxi volcano (Yellow) and the El Niño phenomenon (Yellow).

8. **In order to accelerate preparation for the imminent effects of El Niño, a state of emergency was declared** to facilitate coordination of relevant Government entities, prepare for a coordinated disaster response and allocate resources to the required mitigation activities in advance of El Niño effects.

9. **National Response and Preparation to El Niño and Cotopaxi.** The Coordinating Ministry of Security (MICS) has been working with line Ministries and the TWGs to identify priority needs and budgets for: (i) immediate actions to mitigate the impacts; (ii) post-disaster immediate actions to ensure continuity of services; and (iii) post-disaster recovery actions to start recovery and longer term reconstruction. The GoE has estimated the public investment needs for the preparation for the two imminent events at US\$402.6 million. It has developed a high priority action plan of activities worth US\$67.8 million, aiming at mitigating and preparing for the potential impacts. It has started large civil works (e.g. dredging of river outlets) to mitigate the expected El Niño effects, and has been running simulations constantly to monitor the ocean behavior along the coast and develop the rain forecast over the country. The GoE has also been working with its development partners to address emergency needs and secure financial resources: mainly CAF, the United Nations Development Programme (UNDP), the Inter-American Development Bank (IDB) and the World Bank (WB). Part of the priority action plan will be funded through national fiscal resources while the rest will be financed by development partners. The CAF will finance preparation activities in the areas of risk management and emergency response, as well as activities to support the Ministry of Social and Economic Inclusion (MIES) and the Ministry of the Interior. In addition, the IDB is supporting the GoE through a parametric contingency fund of up to US\$300 million (depending on the scale of a

catastrophic disaster). The WB resources through the proposed Project will target specific preparation investments in the transport, water and flood protection, health, and agriculture/livestock sectors, focusing on areas and activities that are critical to the GoE and that other development partners have not addressed. In a recovery scenario, the scale of damage anticipated from both the El Niño effects and a potential Cotopaxi eruption outweigh the GoE's available resources. This emergency Project is urgently needed both to: (a) advance preparation activities to mitigate the negative effects and reduce the impact on key productive capacities and the associated costs of such a hazard event, and (b) to ensure the restoration of critical infrastructure in the event of a disaster.

C. Sectoral and Institutional Context

10. **Emergency Management and Risk Reduction.** In 2008, Ecuador transitioned from a vision of risk management focused on emergency management to a vision integrating risk management in the territorial and sectorial development. In 2010, the code for “territorial planning” was created, ensuring the inclusion of risk management into land use plans. The *Banco del Estado* (BEDE) was created to attend the Autonomous Decentralized Governments (GAD) and fund, amongst others, prevention works. The SGR was created to lead the National Decentralized Risk Management System (NDRMS). The six objectives of the SGR are to: (i) promote the reduction of vulnerability; (ii) ensure that private and public institutions include risk management in their planning; (iii) encourage the use of science and research in risk management; (iv) develop capacities for preparedness, prevention, mitigation and risk reduction; (v) organize the humanitarian response and (vi) ensure that the reconstruction processes reduce vulnerability.

11. **Hydrometeorological and Oceanic Risk Knowledge and Monitoring.** The institutions that contribute to hazard knowledge at the national level are the INAMHI, the *Instituto Nacional de Pesca* (INP) and INOCAR (for oceanographic information). At the international level, Ecuador actively participates in the regional efforts to produce information on El Niño. Since 1974, Ecuador has been part of the *Estudio del Fenómeno Regional de El Niño* (ERFEN). Additionally, the International Research Center for El Niño (CIFFEN) which was created in 2002, has its headquarters located in Ecuador. The main objective of Ecuador's participation is to promote and develop actions to consolidate science-policy interaction and the strengthening of climate and ocean services aiming to contribute to risk management and adaptation to climate change and climate variability. The correlation between the El Niño and climate variability is being studied especially through the readings over NINO3.4 (the specific Niño region defined and studied by NOAA) capturing both the important sea surface temperature variability and the changes of strong precipitation. Those inform most predictions about how the El Niño events may affect global climate variability and shifting rainfall patterns (IRI 2015b).

12. **Agriculture/Livestock.** Ecuador has 1.1 million agricultural households, regarded as small and medium producers, who own about 1.6 million hectares (25 percent of the area of the country). Over the past decade, livestock production has contributed to the Agricultural GDP by 37 percent, equivalent to approximately 3 percent of total GDP. In the last thirteen years, production of milk has contributed to 1.4 percent of total GDP, and meat to 1.3 percent. These sub-sectors are expected to grow due to the potential for generating products and by-products with high added-value and the increasing global demand for these products.

13. **Transport.** The Ecuadorian road network has a total of 5,609 km of main roads, subject to multiple hazard risks. About 52 percent of the main road network is located in landslide-prone areas. Moreover, 66 percent are located in areas where seismic intensities have been registered where the physical integrity and functionality of the road system and related infrastructure (bridges and retaining walls) are at risk. Approximately 476 km (8.5 percent of the total) of main roads are on areas with volcanic hazard - an area of 913.57 km² has a high probability of being affected by mud and lahars from a Cotopaxi eruption (including bridges connecting Quito). Besides the geophysical risk, roads are also highly vulnerable to hydro-meteorological hazards: 46 percent of main roads are in flood prone areas with 450 km on areas with high flood hazards⁹.

14. **Water Infrastructure and Flood Protection.** Water resources in Ecuador are abundant but unequally distributed, and key drivers of economic development such as the agriculture and hydropower sectors are water-intensive sectors (irrigation represents 80 percent of consumptive water uses). Hence, adequate regulation and management, and safeguarding the ecological integrity of upstream watersheds are critical to sustain environmental flows and ensure water availability for the different uses in the country, including water for human consumption. Climate change is also likely to impact water (and energy) production. Changes in rainfall patterns and the occurrence of extreme weather events are likely to increase water stress and affect the water balance, therefore affecting negatively the availability of water for investments in water supply and sanitation, as well as hydropower. Both, the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP) and the Public Water Company (EPA) intervene in water resources management, at different levels and on different scales. EPA focuses on hydraulic infrastructure mostly dedicated to flood prevention and protection (and is not a regulatory body). EPA in case of an emergency would also assist the local Governments to restore water supply and sanitation services. Although there has been great progress over the last decade in providing access to water and improved sanitation services in Ecuador, the level and quality of service provided remain low in comparison with the regional average. In 2010, the share of Ecuadorian households connected to a public drinking water distribution network was 72 percent in urban areas and 27 percent in rural areas, while the average in the Latin American and Caribbean region was 94 percent and 62 percent, respectively¹⁰.

15. **Health.** Ecuador is a country where malaria, dengue, cholera, rabies and other tropical diseases are endemic. These diseases are exacerbated by poverty, lack of access to basic water and sanitation services, housing and hygiene, as well as the effects of climate change. There is evidence in Ecuador showing the correlation between changes in weather conditions caused by El Niño and changes in occurrence of infectious diseases, especially for those caused by vectors (e.g. malaria) and those which are waterborne (e.g. cholera). The 1997-98 El Niño brought dire health consequences – on the one hand those directly related to climate events that influence health (direct rainfall, increased river flow, mudslides and landslides) and on the other hand those originating from the induced effects of these physical impacts (collapse of drainage or sewage systems, untreated water systems, overcrowded housing, accumulation of garbage, inadequacy of waste disposal systems, increased vector populations due to flooding and problems with accessibility and service delivery).

⁹ Ministry of Transport and Public Works (MTOPE), 2013

¹⁰ INEC, *Instituto Nacional de Estadísticas y Censos*; 2010 census data.

16. **Further detailed description on sectoral context** and emergency management pertaining to El Niño or Cotopaxi induced hazards can be found in *Annex 2*.

D. Higher Level Objectives to which the Project Contributes

17. **The proposed Project is fully aligned with the Bank’s Country Engagement Note (CEN) FY16-17**, which is proposed for discussion by the WB Board of Executive Directors on March 15, 2016. The CEN proposes to focus on supporting the GoE’s efforts to: (a) sustain gains in basic service delivery and strengthening safety nets, (b) promote economic diversification in a constrained macroeconomic environment, and (c) mitigate risks from climate change and other environmental threats. It is also aligned with the Bank’s Interim Strategy Note (ISN) FY14-15 discussed by the WB Board of Executive Directors on April 9, 2013.

18. **Climate change and sustainable development are strong cross-cutting themes across the engagement outlined in the CEN.** Ecuador’s extreme vulnerability and high exposure to natural hazards poses major economic challenges¹¹. Approximately 96 percent of the population lives in coastal and mountainous regions, exposed to seismic, volcanic, flood, landslide and El Niño hazards. Climate change models predict an increased occurrence of extreme events (drought, floods and frosts), rising temperatures at higher altitudes, and temporal and spatial changes in rain patterns. During the 1997-98 El Niño, the overall impact on the poverty incidence in the affected areas was estimated to be 10 percentage points at the time.¹² This Project sets in place a flexible program to address immediate needs for the mitigation of risks and the protection of infrastructure and productive processes, responding to the El Niño phenomenon, climate change effects and other emerging events in an opportune and timely manner. Furthermore, all the activities undertaken under the Project will take into account the issue of climate change adaptation, and when relevant, be designed accordingly (e.g. application of adequate standards, further analytical studies for better informed decisions).

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objective

19. **The Project Development Objective (PDO)** is to reduce the potential effects of the El Niño phenomenon and the Cotopaxi volcano, and support the recovery of basic and production services in affected areas in case of an Eligible Disaster, in selected sectors.

20. **An Eligible Disaster refers to any natural disaster, national or localized in scope, that poses or is likely to imminently pose a threat to life, assets and/or productive capacity of the GoE**, which can be originated by: (i) geological hazards, i.e. extreme natural events originated in the crust of the earth, such as earthquakes, volcanic eruptions, tsunamis or tidal waves, landslides (as a secondary event after an earthquake for example), etc.; (ii) hydro-meteorological hazards, i.e. natural events produced by the climate variability as heavy rains, flooding, landslides, etc.; (iii) intensified El Niño phenomenon causing heavy rains, floods, storm surge or landslides.

¹¹ www.gfdr.org/sites/gfdr/files/region/EC.pdf

¹² Inter-American Development Bank. Economic and Social Effects of El Niño in Ecuador, 1997-1998. October 1999.

B. Project Beneficiaries

21. **The proposed investments and activities will focus on and benefit inhabitants of the regions living at risk of an imminent disaster potentially caused by a growing activity or an eruption of the Cotopaxi volcano, or by the effects of El Niño.** These regions and the groups of beneficiaries have already been identified. The number of direct beneficiaries is estimated at more than 4 million: (i) around 240,000 through the flood mitigation works conducted by EPA and MAGAP (canal cleaning and river dredging activities, bank reinforcement works) in the provinces of Esmeraldas, Manabi, Los Rios, Guayas, El Oro, Canar; (ii) more than 1,000 farmers through the construction of emergency shelters by MAGAP to protect cattle (around 5,000 animals); (iii) more than 3.8 million through the mitigation works conducted by MTOP on vulnerable sections identified in 7 provinces; (iv) around 1.4 million with access to medical supplies and services provided by MSP. The Project will benefit the poorest segments of the population which are particularly vulnerable to natural disasters as they have a larger share of their assets exposed and have less access to adequate coping mechanisms as shown by international experience. The total number of direct beneficiaries is estimated at 4.1 million, 65 percent of which would be women (interventions in rural areas mostly). The Project will pay specific attention to the participation of women particularly in work activities involving community-based organizations.

22. **Should an Eligible Disaster occur, additional beneficiaries would be captured based on an assessment to determine the selection of activities to be financed by the Project.** For now, available data on past events and the scientific models can only give an idea of potential damages, their locations and areas of influence. However, MAGAP for instance has developed contingent plans to be able to attend 17,500 producers should they be impacted.

23. **Finally, the capacities of the institutions involved in Project implementation will be strengthened,** notably the Project Coordination Unit (PCU) within the Ministry of Finance (MF) and the co-executing agencies: the Public Water Company (EPA), the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP), the Ministry of Transport and Public Works (MTOP), and the Ministry of Public Health (MSP).

C. PDO Level Results Indicators

24. **The results will be measured through the following set of indicators¹³:** (a) Direct Project beneficiaries disaggregated by gender; (b) Number of people protected through flood mitigation and/or emergency maintenance and/or stabilization works; (c) Capacity of the shelters supported by the Project to protect and house productive animals; (d) Number of people attended by the equipment and/or services provided by the health sector supported by the Project; (e) Number of people benefiting from rehabilitated infrastructure and/or restored productive services after an Eligible Disaster occurs.

III. PROJECT DESCRIPTION

25. **Preparatory activities under Component 1 are guided by the Alert Declarations in effect related to the Cotopaxi volcano and the El Niño phenomenon, and the emergency**

¹³ Detailed in *Annex 1*

preparedness action plan prepared by the GoE. Component 2 is designed to respond to any natural disaster meeting certain trigger criteria, described in the Project's Operations Manual (POM). The main trigger is the SGR's issuance of an Orange Alert Declaration for the El Niño phenomenon, or Red for the Cotopaxi volcano or any other Eligible Disaster. While the official Declarations may be in effect for a defined period of months, implementation of Component 2 once triggered, may occur over a period of years.

A. Project Components

Component 1: Disaster Preparedness and Risk Mitigation (US\$49.06 million total; US\$43.8 million IBRD)

26. **This Component aims to reduce the potential impacts of the hazards expected from El Niño and Cotopaxi volcano, according to the emergency preparedness action plan prepared by the GoE** (jointly by the SGR, MICS and the MF). This plan is a selection of emergency activities that include, inter alia: river dredging, clearing of waterways, road rehabilitation, preventative stabilization works, building of livestock shelters, and procurement of medicines, supplies and components necessary to protect public health. Some activities require immediate action and are being prioritized because of the imminent risk of flooding due to El Niño (which is already happening in certain regions) or of an imminent volcanic eruption. The associated investments could be therefore be supported by retroactive financing. The use of the retroactive financing modality is critical to the GoE because the period of expected heavy rainfall caused by El Niño commenced at the end of December 2015. The GoE aims to mitigate the risk of flooding and infrastructure damage to protect the population and assets and avoid cost overruns in case works are interrupted due to the increased severity of the weather conditions. This Component is divided into four subcomponents corresponding to activities implemented by the co-executing agencies under the coordination of the MF: EPA, MAGAP, MTOP and MSP. It will provide support for disaster preparedness and mitigation measures in the following sectors:

27. ***Water and Flood Protection Sector, under EPA - Subcomponent 1.1 (US\$11.2 million total; US\$10.0 million IBRD)***: through the carrying out of activities aimed at mitigating the risk of flooding by ensuring river beds are cleared of sediments and riverbanks are protected, including: (i) mechanical dredging activities in select rivers and waterways, and (ii) the rehabilitation or construction of retaining and protection walls and flood control infrastructure along select rivers.

28. ***Agriculture, Livestock, Aquaculture and Fisheries Sector, under MAGAP - Subcomponent 1.2 (US\$2.24 million total; US\$2.0 million IBRD)***: through the carrying out of activities aimed at mitigating the risk of: (i) flooding by ensuring the drainage systems can accommodate excess rainfall through cleaning and desilting of select drainage channels in public irrigation and drainage systems in critical areas; and (ii) loss of dairy production by ensuring the cattle at highest risk around the Cotopaxi are evacuated and provided basic care through the construction and equipment of temporary shelters for animals.

29. ***Transport Sector, under MTOP - Subcomponent 1.3 (US\$24.42 million total; US\$21.8 million IBRD)***: through the carrying out of activities aimed at mitigating the risk of damage to the road network in critical areas by reducing its vulnerability and improving its climate resilience against the potential El Niño effects and its robustness against the potential effects

from the Cotopaxi volcano, including: (i) protection and stabilization works on select sections of the country's road network, (ii) emergency maintenance works on select sections of the country's road network and select bridges, (iii) emergency maintenance works on machinery and equipment, and (iv) the acquisition and held of Bailey bridge components, as well as the provision of services for the overhaul of the Bailey bridges.

30. **Health Sector, under MSP - Subcomponent 1.4 (US\$11.2 million total; US\$10.0 million IBRD):** through the carrying out of activities aimed at improving MSP's capacity to respond to the effects of El Niño and/or Cotopaxi eruption, in particular the occurrence of diseases, and to prepare in general for an emergency by providing resources and training to the sector, through: (i) the purchase of protective equipment, reagents, drugs, and other medical supplies, (ii) the provision of training to health centers, (iii) the purchase of ambulatory health modules.

31. **All the activities will be implemented through the carrying out of works and the provision of goods, consultants' services, non-consulting services and training.** Climate change co-benefits are expected to be brought through all the IBRD investments under Component 1 except for the Cotopaxi animal shelters (US\$41.8 million).

Component 2: Post-Disaster Recovery and Reconstruction (US\$117.6 million total; US\$105.0 million IBRD)

32. **This Component aims at providing support for the recovery and reconstruction of selected sectors (such as the transport, water and agriculture sectors), should an Eligible Disaster occur.** The Component will follow a framework approach based on a list of eligible activities that contribute to the rehabilitation or re-construction of select transport/road, water/sanitation/flood protection infrastructure, crop and livestock production or any other sector agreed between the GoE and the Bank as described in the POM.

33. **Expected damages from a volcano eruption or heavy rainfall or other extreme climate event or other natural disaster such as an earthquake, would affect the transport, water and agriculture sectors** (further potential sectoral damages are outlined in *Annex 2*). Climate change co-benefits would be brought through activities related to addressing El Niño and all hydrometeorological hazards. They cannot be accurately evaluated at the time of Project preparation and before an Eligible Disaster occurs, but can be estimated to be carried by 70 percent of Component 2 IBRD investments (US\$73.5 million).

34. **The criteria for activity selection under the Component will include:** (i) being within the geographical area impacted by the disaster noted in the Alert Declaration issued by the SGR; (ii) being classified as a Category B or C sub-project, (iii) not being an activity that would affect international waterways, (iv) to the extent possible focusing interventions on specific geographic areas to maximize the impacts of the investments; (v) recovering vital infrastructure to restore critical basic and productive services; (vi) ensuring access and connectivity; (vii) prioritizing sub-projects that have an advanced level of preparedness and can ensure rapid response and recovery.

Component 3: Project Implementation, Monitoring and Evaluation (US\$1.34 million total; US\$1.2 million IBRD)

35. **This Component will provide support to the MF, EPA, MTOP, MSP, and MAGAP and other selected sectors, for the administrative management of the Project**, including: (i) the hiring of a Project Coordinator, specialists in financial management, procurement, and monitoring and evaluation for the PCU; (ii) the hiring of other technical temporary staff (including, but not limited to, environmental and social specialists) needed during Project implementation; (iii) the carrying out of Project audits; and (iv) the financing of the necessary goods and equipment.

B. Project Financing

36. **The proposed Project will be financed by an IBRD loan in the amount of US\$150 million.** The Project cost and financing from the Bank would be as follows:

Table 1: Project Cost and Financing

Project Components	Project cost (US\$M)	IBRD Financing*
1. Disaster Preparedness and Risk Mitigation	49.06	43.8
2. Post-Disaster Recovery and Reconstruction	117.6	105.0
3. Project Implementation, Monitoring and Evaluation	1.34	1.2
Total Financing Required	168.00	150.00

* These costs are net of taxes. Counterpart funding will cover the 12 percent Value Added Taxes (VAT).

37. **Climate change co-benefits** through the proposed Project would be brought by Component 1 in the amount of US\$41.8 million and by Component 2 in the amount of US\$73.5 million, which gives a total estimated amount of US\$115.3 million or 76.9 percent of total IBRD-financed Project amount.

C. Lessons Learned and Reflected in the Project Design

38. **The Project drew on lessons from the previous WB-financed El Niño Emergency Recovery Project (P055571) - in Ecuador.** One of the critical lessons learned has to do with implementation delays in emergency works. To avoid or minimize them, it is recommended that prior to implementation, all governmental bodies involved in the Project and dealing with public contracting, participate in working sessions and training where a general design of contracts and procedures to be followed are presented and agreed. Therefore, during the preparation of this Project, procurement capacity building and contract management workshops were held to ensure all parties involved had clarity on implementation procedures. The El Niño Emergency Recovery Project (P055571) also showed that the use of local shopping for fixed price contracts for civil works can be an efficient instrument for implementation. Lastly, disaster prone areas should maintain mobile replacement assets, such as temporary bridges to quickly replace damaged ones on a short-term basis. This is the advantage of the Bailey bridges that the Project proposes to finance.

39. **The vulnerability of infrastructure can be significantly reduced through sufficient infrastructure maintenance.** Analysis shows that expenditures on prevention are generally significantly lower than those for relief and reconstruction. Prevention is rooted in quality

infrastructure, but effectiveness depends on its proper maintenance. Maintenance expenditures are often postponed by governments, in turn generating increased risks, especially in tight fiscal situations. The Project is designed to support rehabilitation and emergency maintenance works and minimize both the disaster and fiscal risks from unintentionally deferred maintenance in the wake of an emergency situation.

40. **Emergency operations have higher chances of success if they remain focused, flexible and have simple implementation arrangements.** Often, project design is burdened with ambitious targets that make a successful implementation very difficult. The Jamaica Hurricane Dean Emergency Recovery Loan (P109575) demonstrated the positive aspects of flexible project design on the scope of the works financed. This allowed the project to respond fluidly to needs. Past experiences such as from the Emergency Recovery and Disaster Management (P106449) Project in Bolivia also supported the need to simplify implementation arrangements as much as possible, especially regarding the number and responsibilities of executing agencies. The design of emergency recovery operations should be relatively simple, flexible, and focused.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

41. **The MF will be responsible for Project implementation.** A PCU will be established directly under the Office of the Minister of Finance and include technical, administrative, financial and procurement staff for the Project's effective implementation. It will have overall responsibility for ensuring compliance with fiduciary agreements, procurement guidelines, social and environmental management and monitoring and the reporting and evaluation of processes and results. The MF has never directly implemented a WB-financed project. Therefore, the WB will provide the required support and capacity building during Project implementation. Similar project implementation units, as the PCU proposed under this Project, have been established with the MF for CAF and IDB-financed investment projects.

42. **In the execution of the Project, the MF will collaborate with the four co-executing agencies:** MSP, MAGAP, MTOP and EPA. These four agencies will execute the activities and report to the MF. The agencies will use their existing fiduciary and social and environmental systems and personnel – all in compliance with WB policies and procedures – and will validate the quality of works and the invoices before sending the information to the MF. There will be one designated account managed by the MF who will consolidate all the data to be sent to the Bank and give authorization for payments or transfers. The MF will sign “Co-execution Subsidiary Agreements” with the co-executing agencies to guarantee coordination and collaboration (and a “Subsidiary Agreement” in the case of EPA which is a public company). These agreements will specify the roles and responsibilities of these agencies under the Project, specifically related to fiduciary and socio-environmental management, the execution and supervision of civil works and the procurement of goods and services. The MF will be the only channel of communication with the WB. Frequent trainings on procurement, financial management (FM), safeguards, others as necessary, will be provided to all entities during Project implementation. *Annex 3* provides a detailed description of implementation arrangements.

B. Results Monitoring and Evaluation

43. **The MF will be responsible for the overall Project Monitoring and Evaluation (M&E) and reporting.** A dedicated PCU M&E Specialist will lead the effort to collect, consolidate, analyze and report on Project performance data, as well as to provide periodic information on intermediate Project-wide results and progress towards higher level outcomes. Reliable Project data will be critical for the mid-term review of the Project as well as end evaluation. *Annex I* provides the Results Framework (RF) for the Project with the list of PDO indicators as well as the intermediate results indicators for each component, and the responsibilities for data collection.

C. Sustainability

44. **Due to the emergency situation, the sustainability of works interventions are defined as the rate by which works are completed as scheduled to a high quality standard, successfully mitigating the risks in question to the population and assets within areas of intervention.** The objective under Component 1 is to be able to advance critical emergency measures as quickly as possible with anticipated contracting and retroactive financing modalities available to support the GoE in this endeavor. The works under Component 1 not only intend to protect the population and assets in a timely manner, but they also serve to mitigate the need for further emergency expenditures in case of the occurrence of a disaster and the incompleteness of emergency works.

45. **For all civil works, the sustainability of interventions will depend on the financial resources allocated to their ongoing operation and maintenance, the capacity of national and local entities responsible for maintaining the assets, the level of ownership of the infrastructure by the beneficiaries and strong institutional arrangements.** Within Project financed works, attention will be given to the application of adequate and updated construction standards and “building back better”, with particular emphasis on climate change adaptation and seismic considerations.

V. KEY RISKS

46. **Overall Risk Rating and Explanation of Key Risks.** Overall Risk to achieving the PDO is assessed as Substantial. The key risks are:

- **Macroeconomic:** The macroeconomic effects of the new global context have widened Ecuador fiscal’s external imbalances. This, in turn, could potentially impact the availability of counterpart resources and recurring expenditures needed for Project implementation. To manage these risks, the GoE is prioritizing financing from external sources to advance key public investment projects, including securing the complementary fiscal resources needed.
- **Institutional capacity for Implementation and Sustainability:** Implementation will involve five co-executing agencies with limited recent experiences working with Bank operations. Successful implementation will require good coordination capacity as well as technical capacity in the areas of Project activities. These risks are mitigated by the Government through: (i) making the MF the coordinating ministry for the Project, relying on its strong convening power to coordinate the four co-executing technical agencies; (ii) involving

relevant technical line ministries in overseeing the design and implementation of sub-activities in their area of competence under the overall coordination of the MF; (iii) the assignment and hiring of experienced staff (to the PCU within the MF and to the implementing units of the co-executing agencies) who are familiar with Bank operations; there also are provisions under the Project for the MF to further staff the PCU or co-executing agencies as needed during Project implementation; (iv) the MF will sign Co-execution Subsidiary Agreements to reflect roles and responsibilities. In support of this, the WB will provide intensified implementation support to the GoE, and require the signature of the Co-execution Subsidiary Agreements as a condition of Effectiveness.

- ***Fiduciary:*** The fiduciary capacity of the co-executing agencies is conservatively rated as High, because of the recent re-engagement of the Bank in Ecuador. The fiduciary environment is not well known yet and the main risks are related to the level of understanding of WB procurement guidelines, and to the timely reporting of financial information. There is no long-lasting precedent on how the GoE applies the key principles of economy, efficiency, effectiveness, accountability. To reduce the fiduciary risks, the MF has explicitly requested training sessions on procurement during the Project preparation process. The MF also proposes to use the financial systems that are already in place in the country (e.g., budget arrangements, centralized payments, external audit arrangements) and to instruct clear responsibilities and reporting requirements in the Co-execution Subsidiary Agreements. Additionally, the MF and the co-executing agencies will hire or assign fiduciary staff that have previous experience with the WB or other development agencies. The Bank will provide intensified implementation support including training as needed.
- ***Environment and Social:*** Both disaster prevention and response activities may result in limited temporary or permanent involuntary resettlement or land acquisition. There may also be the presence of indigenous peoples within the Project areas of intervention. In terms of environmental impacts, especially for the activities related to flood control works, mosquito control measures, potential risks relate to the way the GoE handles construction or dredging materials and pesticides. The GoE will mitigate this by following safeguard instruments in accordance with WB procedures and by involving natural competent authorization mechanisms (most often the Ministry of Environment) The Bank will guide the PCU and the co-executing agencies in selecting, developing and applying those instruments to minimize the environmental and social impacts caused by the Project activities.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

47. **This is an emergency Project that combines ex-ante investment activities to prepare for the potential disasters (Component 1) and ex-post investment activities to restore the potential damages that could be caused by the potential disasters (Component 2).** For Component 1, an ex-ante economic cost benefit analysis was conducted based on available data. Since Component 2 implementation is contingent on the occurrence of a natural disaster, the investments will only be defined once an eligible event has triggered the component. For this reason, an economic analysis can be undertaken only once potential investments are identified. The POM will indicate how economic analysis will be used to assess eligible investments under Component 2.

48. **Based on existing information at Project Appraisal, the economic analysis focused on assessing the rate of return of capital investments for Component 1.** Under this first component, the GoE is undertaking emergency works to be prepared against the two imminent disasters of El Niño and Cotopaxi, anticipating damages and losses in selected sectors. The objective of the emergency works financed by this component is to avert future losses that would be caused by these hazards through mitigating flood risks, reducing transport interruptions and improving healthcare emergency systems. Given the lack of robust historical hydro-meteorological or volcanic data, and precise information on the probability of impact of flood and landslide events and the vulnerability of physical structures, it is difficult to determine exactly the likelihood and magnitude of losses. To incorporate this uncertainty into the understanding of the benefits of the investments, statistical tools were applied. In this case, a Monte Carlo simulation analysis was performed to account for the uncertainty in the values of variables such as the probability of impact, average damage to crop, cattle prices, average wage, and average number of days roads would be blocked. The analysis covers a period of 20 years and uses a 5 percent discount rate resulting in a Net Present Value (NPV) of US\$92.9 million and an Internal Rate of Return (IRR) of 27.6 percent.

49. **Component 2, which is the contingent part of the Project, will be activated and defined only if an Eligible Disaster occurs. For this component, there is uncertainty in the specific type of investments to be financed.** The activities under this component will depend on the nature of the disaster, the magnitude of the event, and the scale of damages. For this reason, it is not possible to conduct an economic analysis at the time of Project preparation: it will be undertaken only once potential investments are identified. However, based on the review of similar Emergency Recovery projects, the benefits of such post-disaster investments are linked to: (i) the immediate access to financing for the GoE to respond to the disaster; (ii) the speed of the delivery of emergency activities following a disaster; (iii) the replacement of existing infrastructure playing a key role in the social and economic activity of the affected area (access to health services, access to water, restored connectivity to growth poles, etc.); (iv) the long-term reconstruction taking into account higher standards to build back better and be more resilient to the effects of climate change. This type of emergency recovery investments have consistently been evaluated by IEG (Independent Evaluation Group) as having a substantial level of development effectiveness.

50. **Furthermore, the proposed Project is supporting the public sector engagement of the GoE in disaster risk management (DRM) to protect the population against the imminent natural disasters, as well as the increasing effects of climate change.** Given its fiscal constraints and current need for “liquidity funds”, the GoE has turned to its financial and development partners with a strategic program for financing. The WB adds value to improving the DRM sector by leveraging its experience worldwide and through its innovative and comprehensive framework which includes: risk identification, risk reduction, preparedness, financial protection, and resilient reconstruction.

B. Technical

51. **The proposed Project relies on approaches, methodologies, technical designs, and technologies appropriate for the Ecuadorian context.** For activities financed under Component 1, no significant technical obstacles are expected during implementation. Activities financed under Component 2 are not identified yet and will depend on the nature and magnitude

of the disaster. Consequently, the design of the works under Component 2 may apply national or international standards as appropriate. All activities under the Component will build on lessons learned from past and ongoing operations in the transport, water, agriculture sectors.

52. **The Bank has worked with each technical team from the line Ministry concerned (MTOP, MAGAP, MSP) and from EPA**, to review the technical specifications and costing of representative contracts subject to retroactive financing. This was done for at least one per type of civil work (i.e. emergency maintenance works for MTOP, dredging works for EPA, shelters construction for MAGAP, general practices for the handling of reactive products for MSP). Each co-executing agency is responsible for the quality of the works delivered under the Project. The co-executing agencies will manage preparation and execution of the bidding documents and bidding processes, manage activity supervision including the social and environmental aspects and validate the quality and delivery of the works by the contractors. The MF will allow payments of invoices based on successful technical completion. However, the MF will consolidate the information at each step of the bidding processes, ensuring the processes follow WB policies and procedures, requesting non-objection of the Bank in the case of prior review.

C. Financial Management

53. **The FM arrangements between the MF and the four co-executing agencies EPA, MAGAP, MTOP and MSP for Project implementation were found to be acceptable to the Bank during Appraisal** (details in *Annex 3*). Project implementation will rely on the country systems including budgeting arrangements, centralized payments from the Treasury Single Account (TSA) and apply external audit arrangements in accordance with the Memorandum of Understanding (MOU) agreed between the Bank and the General Controller Office (CGE for *Contraloría General del Estado*) in 2007. This is applicable to the entire WB portfolio in Ecuador.

54. **Considering the Project's complex design and the different risks and challenges associated with it the fiduciary risk is rated as Substantial**. The main challenges include the fiduciary capacity of the co-executing agencies, effective coordination between agencies and the timely delivery of fiduciary information for financial reports. In order to manage the fiduciary risk the following mitigating measures will be implemented: (i) the MF and the co-executing agencies will hire or assign fiduciary staff that have previous experience with WB or other development agency fiduciary requirements by February 29, 2016; (ii) the MF signs Co-execution Subsidiary Agreements with the co-executing agencies that include clear roles and responsibilities between the MF and the co-executing agencies; (iii) there is clear agreement on the timing, schedule, reconciliation and format of the financial information and reports that will be prepared by the MF and the co-executing agencies for purposes of financial reporting, disbursements and audits; (iv) the MF appoints an audit firm for the first two years of Project implementation by no later than six months after Project Effectiveness; (vi) the MF prepares and finalizes a POM that includes FM and disbursement arrangements.

55. **Retroactive Financing date**. Payments for expenditures incurred on or after December 18, 2015 (Appraisal completion date) may be eligible for retroactive financing under the proposed Project for an amount not exceeding 40 percent of the total loan amount which corresponds to US\$60 million.

D. Procurement

56. **Procurement responsibilities will be carried out as follows:** (i) for Component 1 they will be carried out by MAGAP, MSP, MTOP and EPA; (ii) for Component 2 they will be carried out by MTOP, MAGAP, and EPA, and; (iii) for Component 3 they will be carried out by the MF. Each entity will have an implementation unit (IU) staffed with national procurement specialists forming a Procurement Unit (PU), most of whom have experience in the implementation of IDB-financed projects.

57. **For the Project it is required that:** (i) the MF establishes assigns a dedicated procurement specialist for each co-executing agency who will carry out procurement activities; (ii) the MF and the co-executing agencies maintain facilities and support capacity, including technical and administrative staff as required; (iii) the MF and the co-executing agencies have qualified and experienced procurement staff; (iv) the MF has organized record-keeping and filing systems; (v) the MF and the co-executing agencies carry out best practices in procurement planning and monitoring/control systems, and; (vi) the MF and the co-executing agencies maintain the capacity to meet the Bank's procurement contract reporting requirements. Additional agreements were reached upon: (vii) the MF prepares a POM including, inter alia, procurement and contracting procedures *ex-ante* and *ex-post* disaster events, which will be adopted as a condition of Effectiveness; (viii) the LA includes additional provisions related to Project implementation regarding procurement, and; (ix) the Bank's work and assistance in Ecuador will include a comprehensive procurement training program for existing and new lending operations, including for the proposed operation for which the Bank will do close monitoring, particularly during the first two years of Project implementation. Additional details are presented in *Annex 3*.

E. Social (including Safeguards)

58. **The Project triggers both OP 4.10 and OP 4.12 as it may have a limited impact on indigenous populations and result in temporary or permanent involuntary resettlement or land acquisition.** Investments already identified under Component 1, including maintenance of existing infrastructure such as roads, canals, irrigation systems, the construction of cattle shelters on public land, and dredging of rivers were screened and found to trigger minimal disruption and to not require resettlement or land acquisition. The river dredging activities require adequate consultations with local authorities and the population on the disposal of large amounts of sediments. The Project will count on an Environmental and Social Screening and Assessment Framework (ESSAF) that will, amongst others, include a screening tool to verify the voluntary disposal of materials, to be applied by the contractors and supervisors for all civil works financed by the Project.

59. **Given that the identification of investments for Component 2 (and corresponding detailed designs) will only be done during the response to a disaster, the Project requires a framework approach to safeguards implementation.** This is the reason why the ESSAF was identified to be the most adequate instrument for the Project. Furthermore, in line with OP 10.00 and paragraph 12 (allowing for certain safeguards requirements' deferral to after Project Appraisal), a Safeguard Action Plan (SAP) was prepared and is detailed in *Annex 6*. The ESSAF will include a Resettlement Policy Framework (RPF) and an Indigenous Peoples Planning

Framework (IPPF), and will be applicable to all components of the Project. Further details on the ESSAF are also included in *Annex 6*.

60. **Given that the Project investments will not finance gender sensitive aspects of the preparation and response to El Niño and Cotopaxi, it will take gender into account in its broadest terms by disaggregating the number of beneficiaries.** It is expected that 65 percent of beneficiaries will be female (interventions in rural areas mostly). The Project will include a strong citizen engagement component in the road rehabilitation activities implemented by MTOP by hiring local work crews under a formalized scheme, as well as through the community-based sanitary activities “Minga” implemented by MSP. A strategy for citizen and stakeholder engagement will be prepared and carried out during early stages of Project implementation.

F. Environment (including Safeguards)

61. **The Project triggers OP/BP 4.01 on Environmental Assessment as it is classified as an "Environmental and Social Category B" operation.** Potential environmental impacts are related to both Components 1 and 2. The civil works identified and planned for preventive action under Component 1 are nevertheless mostly rehabilitative works and minor in scale and thus site-specific. The works will take place at different locations in large geographical areas. The same is expected for the recovery and reconstruction phase under Component 2; investments will focus on rebuilding and rehabilitation of existing transport/road and water/sanitation/flood protection infrastructure and crop and livestock production. Consequently, no significant or irreversible environmental impacts are anticipated.

62. **The Project triggers the following other environmental safeguard policies: Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36), Pest Management (OP 4.09), Physical Cultural Resources (OP/BP 4.11), and Safety of Dams (OP/BP 4.37).** The ESSAF will ensure identification and management of environmental issues and risks relating to Project implementation. It will include a section on environmental good practices. The ESSAF will be reviewed and approved by the Bank before final disclosure which is set as an Effectiveness condition for the Project. *Annex 6* provides in details the Project’s environmental management strategy (including the list of safeguards policies that are triggered).

G. World Bank Grievance Redress

63. **Communities and individuals who believe that they are adversely affected by a WB-supported project may submit complaints to the project-level grievance redress mechanisms established by the MF for this Project, and/or to the WB’s Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB’s independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the WB’s attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the WB’s corporate GRS, please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the WB Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Republic of Ecuador

Risk Mitigation and Emergency Recovery Project (P157324)

Project Development Objectives

PDO Statement

The Project Development Objective is to reduce the potential effects of the El Niño phenomenon and the Cotopaxi volcano, and support the recovery of basic and production services in affected areas in case of an Eligible Disaster, in selected sectors.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values					
		YR1	YR2	YR3	YR4	YR5	End Target
1. Direct project beneficiaries (Number) - (Core)	0.00	4,100,000.00	4,100,000.00	4,100,000.00	4,100,000.00	4,100,000.00	4,100,000.00
Female beneficiaries (Percentage - Sub-Type: Supplemental) - (Core)	0.00	65.00	65.00	65.00	65.00	65.00	65.00

2. Number of people protected through flood mitigation and/or emergency maintenance and/or stabilization works (Number)	0.00	4,100,000.00	4,100,000.00	4,100,000.00	4,100,000.00	4,100,000.00	4,100,000.00
3. Capacity of shelters supported by the Project to protect and house productive animals. (Number)	0.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
4. Number of people attended by the equipment and/or services provided by the health sector supported by the Project (Number)	0.00	1,400,000.00	1,400,000.00	1,400,000.00	1,400,000.00	1,400,000.00	1,400,000.00
5. Number of people benefiting from rehabilitated infrastructure and/or restored productive services after an Eligible Disaster occurs (Number)	0.00	0.00	0.00	700,000.00	700,000.00	700,000.00	700,000.00

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values					
		YR1	YR2	YR3	YR4	YR5	End Target
1. Number of people receiving improved flood protection (Number)	0.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00
2. Number of hectares of crops protected against flooding (Number)	0.00	140,000.00	140,000.00	140,000.00	140,000.00	140,000.00	140,000.00
3. Number of people benefiting from emergency maintenance and/or stabilization works (Number)	0.00	3,860,000.00	3,860,000.00	3,860,000.00	3,860,000.00	3,860,000.00	3,860,000.00
4. Number of preventive works (Number)	0.00	25.00	25.00	25.00	25.00	25.00	25.00
5. Roads rehabilitated, Rural (Kilometers) - (Core)	0.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
6. Health facilities constructed, renovated, and/or equipped (number) (Number) - (Core)	0.00	200.00	200.00	200.00	200.00	200.00	200.00
7. Number of agriculture producers	0.00	17,500.00	17,500.00	17,500.00	17,500.00	17,500.00	17,500.00

the Government can attend in case an Eligible Disaster occurs (Number)							
8. Number of community sanitation works “Minga” carried out in risk areas (Number)	0.00	450.00	450.00	450.00	450.00	450.00	450.00
9. Number of days to identify reconstruction activities by the MF following an Eligible Disaster (Number)	0.00	90.00	90.00	90.00	90.00	90.00	90.00
10. Grievances registered related to delivery of project benefits addressed (%) (Percentage) - (Core)	0.00	80.00	80.00	80.00	80.00	80.00	80.00
Grievances related to delivery of project benefits that are addressed-(number) (Number - Sub-Type: Supplemental) - (Core)	0.00	10.00	10.00	10.00	10.00	10.00	10.00

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
1. Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	Semi-Annual	MTOP; EPA; MAGAP; MSP; Project Progress Reports	MF
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.	Semi-Annual	MTOP; EPA; MAGAP; MSP; Project Progress Reports	MF
2. Number of people protected through flood mitigation and/or emergency maintenance and/or stabilization works	Measure of the number of people safeguarded from El Nino or Cotopaxi-induced flood events or who have minimized their risk of flooding as a result of the flood mitigation and/or emergency maintenance and/or stabilization works financed by the Project.	Semi-Annual	MAGAP; EPA; MTOP; Project Progress Reports	MF
3. Capacity of shelters supported by the Project to protect and house productive animals.	Quantity of productive animals who can be safeguarded from a volcanic eruption of the Cotopaxi or from El Niño-induced flooding events and housed in livestock shelters supported by the Project.	Semi-Annual	MAGAP; Project Progress Reports	MF

4. Number of people attended by the equipment and/or services provided by the health sector supported by the Project	Number of people benefiting from health services and medical resources financed by the Project as part of emergency preparedness and/or response.	Semi-Annual	MSP; Project Progress Reports	MF
5. Number of people benefiting from rehabilitated infrastructure and/or restored productive services after an Eligible Disaster occurs	Number of people benefiting from rehabilitated infrastructure (basic services such as transport, water, etc.), and/or from restored productive factors such as restoration of productive land to producers, support to producers, etc. after an Eligible Disaster occurs.	Semi-Annual	MTOP; EPA; MAGAP; Project Progress Reports	MF

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
1. Number of people receiving improved flood protection	Measure of the number of people safeguarded from El Niño or Cotopaxi-induced flood events or who have minimized their risk of flooding in general as a result of the Project interventions (works and other measures mainly carried out by EPA and MAGAP).	Semi-Annual	EPA, MAGAP; Project progress reports	MF
2. Number of hectares of crops protected against flooding	Measure of the number of hectares of crops safeguarded from El Niño or Cotopaxi-induced flood events or who have minimize their flood risk in general as a result of the Project interventions (works and other measures mainly carried out by EPA and MAGAP).	Semi-Annual	EPA, MAGAP; Project progress reports	MF
3. Number of people benefiting from emergency maintenance and/or stabilization works	Measure of the number of people benefiting from emergency maintenance and/or stabilization works (mainly carried out by MTOP).	Semi-Annual	MTOP; Project Progress Reports	MF

4. Number of preventive works	Number of works contracts executed to prepare under rapid conditions for imminent threats from El Nino and Cotopaxi.	Semi-Annual	MAGAP; EPA; MTOP; Project Progress Reports; Contractual documents	MF
5. Roads rehabilitated, Rural	Kilometers of all rural roads reopened to motorized traffic, rehabilitated, or upgraded under the project. Rural roads are roads functionally classified in various countries below Trunk or Primary, Secondary or Link roads, or sometimes Tertiary roads. Such roads are often described as rural access, feeder, market, agricultural, irrigation, forestry or community roads. Typically, rural roads connect small urban centers/towns/settlements of less than 2,000 to 5,000 inhabitants to each other or to higher classes of road, market towns and urban centers.	Semi-Annual	MTOP; Project Progress Reports. Definition of the indicator in the local context: Number of kilometers of the State highway network rehabilitated or upgraded, in preparation of the two imminent disasters (El Nino and Cotopaxi), and/or rehabilitated or upgraded and/or reopened to motorized traffic after an Eligible Disaster occurs. The State highway network is composed of access routes to cantonal and provincial capitals and of international crossings. It is classified under “rural km” for this Project.	MF
6. Health facilities constructed, renovated, and/or equipped (number)	This indicator measures the cumulative number of health facilities constructed, renovated and/or equipped through a Bank-financed project.	Semi-Annual	MSP; Project Progress Reports. Definition: Number of health facilities equipped with medicines, supplies and equipments supported by the Project.	MF

7. Number of agriculture producers the Government can attend in case an Eligible Disaster occurs	Measure of the number of agriculture producers (such as for rice, corn) the Government has the capacity to attend in case an Eligible Disaster occurs, through Project-financed activities supporting the restoration of productive capacities.	Semi-Annual	MAGAP; Project Progress Reports	MF
8. Number of community sanitation works “Minga” carried out in risk areas	Number of community-based activities or events “Minga” led by the Community leader, such as fumigation campaigns or others aimed to reduce the risk of vector-borne diseases carried out in risk areas as preparedness and/or response measures to an emergency.	Semi-Annual	MSP; Project Progress Reports	MF
9. Number of days to identify reconstruction activities by the MF following an Eligible Disaster	Measure of the speed of identification of reconstruction activities to address medium/long-term critical post-disaster needs. Different from the identification of immediate response activities following an Eligible Disaster.	Semi-Annual	MTOP; MAGAP; EPA; Project Progress Reports	MF
10. Grievances registered related to delivery of project benefits addressed (%)	This indicator measures the transparency and accountability mechanisms established by the project so the target beneficiaries have trust in the process and are willing to participate, and feel that their grievances are attended to promptly. It is understood that local sensitivities and tensions will not allow grievance or redress mechanisms to be established in all projects.	Semi-Annual	MTOP; MAGAP; EPA; Project Progress Reports	MF
Grievances related to delivery of project benefits that are addressed-(number)	No description provided.	Semi-Annual	MTOP; MAGAP; EPA; Project Progress Reports	MF

Annex 2: Detailed Project Description
Republic of Ecuador
Risk Mitigation and Emergency Recovery Project (P157324)

I. National Emergency Declarations

1. Ecuadorian legislation provides various mechanisms by which to determine the imminence and classify the effects of various adverse hazards or emergency events. These are (i) Declaration of an Alert; (ii) Declaration of an Emergency Situation; and (iii) State of Emergency.

***Alert Declaration** (Current Basis for the Execution of Component 1 of the Project, and guides the triggering of Component 2 of the Project):*

2. The Alert Declaration (*Declaratoria de Alerta*) has three established states of alert, and its upgrading or downgrading corresponds to the evolution of an identified threat. Monitoring is done by scientific and technical agencies who report to the Secretariat of Risk Management (or SGR for *Secretaría de Gestión de Riesgos*) following the protocol corresponding to the alert. Each alert categorization (described in the following table) has an associated set of actions and protocols to safeguard human life, goods and ensure continuity of services. It is not always possible, depending on the hazard situation, to gradually elevate the alert level; in some cases, there can be elevations from Yellow to Red immediately.

Alert	Significance of the Alert
Yellow	Advisory of a significant activation of the threat
Orange*	Advisory of that occurrence of threat is imminent
Red**	Notice that emergency or disaster is occurring

3. El Niño Yellow Alert. On November 13, 2015, SGR declared a Yellow Alert (RESOLUCIÓN N° SGR-059-2015) due to the threat from the El Niño phenomenon. The declaration makes reference to the provinces of Azuay, Bolívar, Cañar, Chimborazo, Cotopaxi, El Oro, Esmeraldas, Galapagos, Guayas, Imbabura, Loja, Los Rios, Manabí, Pichincha, Santa Elena and Santo Domingo de los Tsáchilas (16 provinces cited in total and under these provinces: 132 cantons and 426 parishes). This declaration has authorized and urged (i) the local Emergency Operations Committees (provincial and cantonal) to implement immediate actions to protect the population; (ii) the development/update of contingency plans in accordance with the various modeled scenarios; (iii) continuation of the monitoring and gathering of information; (iv) the Sub-Secretariat within SGR to undertake the preparation and response to adverse events; (v) public disclosure of the alert.

4. Cotopaxi volcano Yellow Alert. On August 14, 2015, SGR declared a Yellow Alert (RESOLUCIÓN N° SGR-042-2015) in the provinces of Cotopaxi and Pichincha due to the Cotopaxi volcano threat and potential damages from lahars and debris flows in the occurrence of an eruption. This declaration has: (i) restricted access to areas at risk around the volcano; (ii) authorized and urged the local Emergency Operations Committees (provincial and cantonal) in the provinces of Cotopaxi, Pichincha, Napo and Tungurahua to implement immediate actions to

protect the population; (iii) authorized and urged the revision and update of contingency plans responding to the different eruption scenarios; (iv) required IG-EPN to continue close monitoring of the volcano; (v) tasked the Sub-Secretariat within SGR to undertake the preparation and response to adverse events; (vi) authorized public disclosure of the alert.

Declaration of Emergency Situation & State of Emergency

5. The Declaration of an Emergency Situation (*Situación de Emergencia*) has at least two immediate affects: (i) it activates humanitarian assistance processes; (ii) it allows for the contracting of goods, works and services to address the emergency through special procurement procedures within the national legal framework. Emergency situations, by law, are defined as those generated from serious events such as earthquakes, floods, droughts, imminent external aggression, natural disasters at the national, sectorial or institutional level. The emergency may be declared by SGR or by the highest authority of each institution in line with the events at a local, municipal, provincial, regional or national level¹⁴.

6. A State of Emergency (*Estado de Excepción*), according to the Constitution, may be declared by the President of the Republic in the event of an aggression, international conflict, public calamity of a natural disaster. The decree would be exceptionally issued only in the event that the institutional order and systems are unable to respond to the threats caused by the event to the population and the State¹⁵. The State of Emergency is valid for 60 day and could be extended for 30 more days if necessary.

7. El Niño State of Emergency (National decree 833). On November 18, 2015, the GoE declared a State of Emergency due to the El Niño phenomenon nationwide, with the exception of the provinces of Tungurahua, Sucumbios, Orellana, Napo, Pasteza, Morona Santiago and Zamora Chinchipe. (i) This authorized and urged all entities of the Central and Institutional Public Administration and local governments of the provinces concerned by the decree to coordinate their efforts and take the necessary actions against the El Niño phenomenon; (ii) the State of Emergency had a 60 day duration; (iii) the MF allocated appropriate resources to address the situation; (iv) the declaration was notified to the National Assembly and the Constitutional Court. The State of Emergency was extended by one month to February 17, 2016.

8. In order to accelerate preparation for the imminent effects of El Niño, the state of emergency was declared to facilitate coordination of relevant Government entities, prepare for a coordinated disaster response and allocate resources to the required mitigation activities in advance of El Niño effects.

¹⁴ *Secretaría de Gestión de Riesgos – Manual del Comité de Gestión de Riesgos*, June 2014.

¹⁵ *Ibid.*

II. Sector and Institutional Context

Emergency Management and Risk Reduction

9. In 2008, Ecuador transitioned from a vision of risk management focused on emergency management to a vision integrating risk management in the territorial and sectoral development. In 2010, the code for “territorial planning” was created, ensuring the inclusion of risk management into land use plans. The *Banco del Estado* (BEDE) was created to attend the Decentralized Autonomous Governments (*GAD – Gobiernos Autónomos Descentralizados*) and fund amongst others prevention works. The SGR was created to lead the National Decentralized Risk Management System (NDRMS). The six objectives of the SGR are to promote the reduction of vulnerability, ensure that private and public institutions include risk management in their planning, encourage the use of science and research in risk management, develop capacities for preparedness, prevention, mitigation and risk reduction, organize the humanitarian response and ensure that the reconstruction processes reduce vulnerability. The SGR created the Risk Management Committees (CGRs) to support inter-institutional coordination. Risk reduction and emergency response during emergencies or disasters is a permanent responsibility of the CGRs that operate on three territorial levels: municipal, provincial and national. Despite those major advances, there is still no law regulating the NDRMS.

Hydrometeorological and Oceanic Risk Knowledge and Monitoring

10. The institutions that contribute to hazard knowledge at the national level are the INAMHI, the *Instituto Nacional de Pesca* (INP) and INOCAR (for oceanographic information). At the international level, Ecuador actively participates in the regional efforts to produce information on El Niño through (i) the *Estudio del Fenómeno Regional de El Niño* (ERFEN) since 1974, and (ii) the International Research Center for El Niño (CIFFEN) which was created in 2002 with the headquarters located in Ecuador. The main objective is to promote and develop actions to consolidate science-policy interaction and the strengthening of climate and ocean services aiming to contribute on risk management and adaptation to better cope climate change and climate variability. The correlation between the El Niño and climate variability is being studied especially through the readings over NINO3.4 (specific Niño region defined and studied by NOAA) capturing both the important sea surface temperature variability and the changes of strong precipitation. Those inform most predictions about how the El Niño events may affect global climate variability and shifting rainfall patterns (IRI 2015b).

Agriculture/Livestock

11. Ecuador has 1.1 million agricultural households each with a plot of land varying from 1 ha to 20 ha, regarded as small and medium producers, who own about 1.6 million hectares (25 percent of total country area). Over the past decade, livestock production (including cattle pigs, goats, and poultry and livestock agribusiness derivatives) has contributed to the Agricultural GDP by 37 percent, equivalent to approximately 3 percent of total GDP. In the last thirteen years, production of milk has contributed to 1.4 percent of total GDP, and meat to 1.3 percent. These sub-sectors are expected to grow due to the potential for generating products and by-products with high added-value and the increasing global demand for these products.

12. The occurrence of lahars and falling ash has a direct impact on productive capacity and the GoE has decided to take action and build safe temporary shelters to protect the productive animals around the Cotopaxi volcano. The greatest threat to sector in the case of the Cotopaxi is on dairy and agricultural production. The agricultural area at risk around the volcano account for 20 percent of the national daily milk production, involving 12,380 producers, 129,842 animals and 48,237 hectares of land. Much of this production is small scale, meaning that farmers are not likely to have the financial reserves to react to an event of this nature and mitigate production impacts. With respect to El Niño, during the past 1997-98 event, extensive floods in agriculture lands caused significant economic losses. The fall in agricultural demand for labor affected about 11 percent of the economically active population in coastal areas – which typically contain the highest agricultural production in the country (Guayas, Los Ríos and El Oro). Furthermore, cattle were lost due to the impossibility to be evacuated in time.

Transport

13. The Ecuadorian road network has a total of 5,609 km of main roads, subject to multiple hazard risks. 52 percent of the main road network is located in landslide-prone areas. Moreover, 3,754 km (66 percent of the total) are located in areas where seismic intensities have been registered where the physical integrity and functionality of the road system and related infrastructure (bridges and retaining walls) is at risk. 476 km (8.5 percent of the total) of main roads are on areas with volcanic hazard - an area of 913.57 km² has a high probability of being affected by mud and lahars from a Cotopaxi eruption (including bridges connecting Quito). Besides the geophysical risk, roads are also highly vulnerable to hydro-meteorological hazards – 2,572 km (46 percent of total) of main roads are in flood prone areas with 450 km (8 percent) on areas with high flood hazard¹⁶. During the 1997-98 El Niño, several roads and bridges were flooded, affected by landslides or destroyed. An assessment showed that the road network and bridges were suffering from a lack of maintenance prior to the event, therefore a high number of road sections and critical points of the network were vulnerable. The main damages on the road network occurred in five coastal provinces (Manabí, Guayas, El Oro, Esmeraldas and Los Ríos). A few provinces inland were also affected (in the *Sierra*: Bolívar, Chimborazo, Cañar, Azuay and Lojas). Total damages to the sector during the 1997-98 El Niño amounted to US\$785 million, corresponding to both direct damages and losses from impeded roadways and greater costs for transportation.

14. The 1997-98 El Niño showed there were vulnerable sections in the road networks because there were limitations at the time in knowledge of the phenomenon and its relation with the road network, weaknesses in integrated watershed management, high exposure of the road network infrastructure to hazard, design deficiencies, particularly related to bridge design and drainage design.¹⁷

Water Infrastructure and Flood Protection

15. Water resources in Ecuador are abundant but unequally distributed, and key drivers of economic development such as the agriculture and hydropower sectors are water-intensive sectors (irrigation represents 80 percent of consumptive water uses). Hence, adequate regulation

¹⁶ Ministry of Transportation and Public Works (MTO), 2013

¹⁷ CAF, 1998

and management, and safeguarding the ecological integrity of upstream watersheds is critical to sustain environmental flows and ensure water availability for the different uses in the country, including water for human consumption. Climate change is also likely to impact water (and energy) production. Changes in rainfall patterns and the occurrence of extreme weather events are likely to increase water stress and affect the water balance, therefore affecting negatively the availability of water for investments in water supply and sanitation, as well as hydropower. Both the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP) and the Public Water Company (EPA) intervene in water resources management, at different levels and on different scales. EPA focuses on hydraulic infrastructure mostly dedicated to flood prevention and protection (and is not a regulatory body). EPA in case of an emergency would also attend the local Governments to restore water supply and sanitation services. Although there has been great progress over the last decade in providing access to water and improved sanitation services in Ecuador, the level and quality of service provided remain low in comparison with the regional average. In 2010, the share of Ecuadorian households connected to a public drinking water distribution network was 72 percent in urban areas and 27 percent in rural areas, while the average in the Latin American and Caribbean region was 94 percent and 62 percent, respectively¹⁸.

16. Drinking water systems are highly vulnerable to volcanic activity as collection systems are derived from rivers, springs and deep wells. Collection sources, driving lines, plant treatment points and distribution lines are highly vulnerable to lahars and other volcanic flows; partial or permanent damage to units or components is a very high probability. With respect to El Niño, hydraulic systems that were designed to withstand lower risk and intensity of flooding events are highly vulnerable; the water and sanitation sector during the past El Niño episodes was heavily affected with damage concentrated in adduction pipelines, water treatment plants (where deteriorating raw water quality resulted in higher treatment costs) flooded sewer systems and sewerage treatment sites. Total damage from the 1997-98 El Niño was US\$16.7 million dollars corresponding to both direct infrastructure damage and lower revenues and higher expenses for service provision. That episode showed there were vulnerable sections in the water supply systems at the time (which contributed to the intensity of damages) because there were improper design and construction techniques, lack of capacity response, lack of maintenance, pollution of wells and weaknesses in integrated watershed management.¹⁹

Health

17. Ecuador is a country where malaria, dengue, cholera, rabies and other tropical diseases are endemic. These diseases are exacerbated by poverty, lack of access to basic water and sanitation services, housing and hygiene, as well as the effects of climate change. There is evidence in Ecuador showing the correlation between changes in weather conditions caused by El Niño and changes in occurrence of infectious diseases, especially for those caused by vectors (e.g. malaria) and those which are waterborne (e.g. cholera). The 1997-98 El Niño brought dire health consequences – on the one hand those directly related to climate events that influence health (direct rainfall, increased river flow, mudslides and landslides) and on the other hand those originating from the induced effects of these physical impacts (collapse of drainage or

¹⁸ INEC, *Instituto Nacional de Estadísticas y Censos*; 2010 census data.

¹⁹ CAF, 1998

sewage systems, untreated water systems, overcrowded housing, accumulation of garbage, inadequacy of waste disposal systems, increased vector populations due to flooding and problems with accessibility and service delivery). Damages to the health sector from the 1997-98 El Niño amounted to US\$18.8 million corresponding to costs to both infrastructure and equipment as well as increased costs for operations and disease control.

18. With respect to a volcanic eruption, besides the obvious threats of lahars or lava, the main health concern is related to the inhalation of ash particles and their impact depending on the physicochemical characteristics. The common effects of this phenomenon are irritation of the chest, nose, throat, and increasing cases of bronchitis and asthma. Ash inhalation may also increase the effects of chronic lung and heart diseases. This threat already exists in case of high volcanic activity, without eruption.

III. Project Components

Component 1: Disaster Preparedness and Risk Mitigation (US\$49.06 million total; US\$43.8 million IBRD)

19. This Component aims to reduce the potential impact of the expected hazards from El Niño and Cotopaxi volcano, according to the emergency preparedness action plan prepared by the GoE (jointly by MICS, SGR and the MF). This plan is a selection of emergency activities including, inter alia river dredging, clearing of waterways, road rehabilitation, retaining walls and other preventative stabilization works, purchase of Bailey bridge components and overhaul of the bridges, building of livestock shelters, and procurement of supplies and goods necessary to protect public health. Some activities require immediate action and are being prioritized because of the imminent risk of flooding (already happening in certain regions where the effects of El Niño have started) or risk of volcanic eruption, and the associated investments could be supported through retroactive financing. The use of the retroactive financing modality is critical to the GoE because the period of expected heavy rainfall caused by El Niño commenced at the end of December 2015 and the GoE aims to mitigate the risk of flooding to protect the population and assets in time, and avoid cost overruns in case works are interrupted due to the weather conditions.

20. This Component is divided into four subcomponents corresponding to activities implemented by three line Ministries and one public company under the coordination of the MF: EPA, MAGAP, MTOP, and MSP. It will provide support for disaster preparedness and risk mitigation measures in the following sectors:

21. ***Water and Flood Protection Sector under EPA - Subcomponent 1.1 (US\$11.2 million total; US\$10.0 million IBRD)***: through the carrying out of activities aimed at mitigating the risk of flooding by ensuring river beds are cleared of sediments and riverbanks are protected, including: (i) mechanical dredging activities in select rivers and waterways, and (ii) the rehabilitation or construction of retaining and protection walls and flood control infrastructure along select rivers.

22. ***Agriculture, Livestock, Aquaculture and Fisheries Sector under MAGAP - Subcomponent 1.2 (US\$2.24 million total; US\$2.0 million IBRD)***: through the carrying out of

activities aimed at mitigating the risk of: (i) flooding by ensuring the drainage systems can accommodate excess rainfall through cleaning and desilting of select drainage channels in public irrigation and drainage systems in critical areas; and (ii) loss of dairy production by ensuring the cattle at highest risk around the Cotopaxi are evacuated and provided basic care through the construction and equipment of temporary shelters for animals.

23. ***Transport Sector under MTOP - Subcomponent 1.3 (US\$24.42 million total; US\$21.8 million IBRD)***: through the carrying out of activities aimed at mitigating the risk of damage to the road network in critical areas by reducing its vulnerability and improving its climate resilience against the potential El Niño effects and its robustness against the potential effects from the Cotopaxi volcano, including: (i) protection and stabilization works on select sections of the country's road network, (ii) emergency maintenance works on select sections of the country's road network and select bridges, (iii) emergency maintenance works on machinery and equipment, (iv) the acquisition and held of Bailey bridge components, as well as the provision of services for the overhaul of the Bailey bridges.

24. ***Health Sector under MSP - Subcomponent 1.4 (US\$11.2 million total; US\$10.0 million IBRD)***: through the carrying out of activities aimed at improving MSP's capacity to respond to the effects of El Niño and/or Cotopaxi eruption, in particular the occurrence of diseases, and to prepare in general for an emergency by providing resources and training to the sector, through: (i) the purchase of protective equipment, reagents, drugs, and other medical supplies, (ii) the provision of training to health centers, (iii) the purchase of ambulatory health modules.

25. All the activities will be implemented through the carrying out of works and the provision of goods, consultants' services, non-consulting services and training. Climate change co-benefits are expected to be brought through all the IBRD investments under Component 1 except for the Cotopaxi animal shelters: US\$41.8 million.

Component 2: Post-Disaster Recovery and Reconstruction (US\$117.6 million total; US\$105.0 million IBRD)

26. This Component aims at providing support for the recovery and reconstruction of selected sectors (such as the transport, water and agriculture sectors), should an Eligible Disaster²⁰ occur. It will follow a framework approach based on a list of eligible activities. The Component will finance eligible activities that contribute to the rehabilitation or construction of select transport/road and water/sanitation/flood protection infrastructure crop and livestock production or any other sector agreed between the GoE and the Bank and described in the Project's Operations Manual (POM). All activities and expenditures undertaken under Component 2 shall be procured in accordance with the procurement methods and procedures set forth in the POM.

²⁰ Eligible Disaster refers to any natural disaster, national or localized in scope, that poses or is likely to imminently pose a threat to life, assets and/or productive capacity of the Borrower, which can be originated by: (i) geological hazards, i.e. extreme natural events originated in the crust of the earth, such as earthquakes, volcanic eruptions, tsunamis (tidal waves), landslides (as a secondary event after an earthquake for example), etc.; (ii) hydro-meteorological hazards, i.e. natural events produced by the climate variability as heavy rains, flooding, landslides, etc.; (iii) intensified El Niño phenomenon causing heavy rains, floods, storm surge or landslides.

27. Should the Component be triggered following an Eligible Disaster, Component activities will be implemented by MTOP, MAGAP, and EPA and possibly other selected sectors, under the coordination of the MF. The main trigger will be the SGR's issuance of an Orange Alert Declaration (in the case of El Niño) or a Red Alert Declaration (in the case of the Cotopaxi volcano or any other Eligible Disaster).

28. Additionally, the Government shall take the following measures: (1) determine that an Eligible Disaster has occurred and the Bank has agreed with said determination; (2) furnish a list of proposed investments; (3) request to finance the Emergency Expenditures under Component 2 in order to respond to said Eligible Disaster following the guidelines included in the POM, and (4) prepare, update and disclose, as the case may be, the environmental and social safeguard instruments. For instance, the MF will submit a prioritized recovery plan to the Bank outlining the Eligible Disaster, the impact zone and priority investments for rehabilitation and recovery of water, transport systems, and agriculture sector, and possibly other selected sectors, affected by the disaster. This plan will have an associated budget, for an initial period of at least three months after the disaster.

29. For an activity to be **eligible** for financing from Component 2 it has to meet the following eligibility criteria: (i) be within the geographical area impacted by the disaster noted within the SGR issued Alert Declaration; (ii) be classified as a Category B or C sub-project. **Selection and prioritization** of investments will be made on the basis of the following criteria: (i) extent of the focus on specific geographic areas to maximize impacts of a series of interventions; (ii) degree of focus on recovery of vital infrastructure to restore critical basic services; (iii) degree of focus on ensuring access and connectivity; (iv) priority to advance sub-projects that have an advanced level of preparedness and can ensure rapid response and recovery. This process will be described in the POM and it will also be compatible with the national process led by MICS and supported by the SGR and the Technical Working Groups (TWGs).

30. Expected damages from a volcano eruption or heavy rainfall or other extreme climate event or other natural disaster such as an earthquake, include:

- **Transport sector:** partial or complete destruction of bridges, damages to the primary road network, as well as the secondary network on the rural level, cutting access to key economic areas and/or leaving some populations isolated, potential damages and disturbance to Ecuador's ports, etc.
- **Water Sector:** contamination of the potable water production and distribution system, partial or complete destruction of water and sanitation systems, clogging of sewage and drainage systems, damages to flood control infrastructure, etc.;
- **Agriculture Sector:** irrigation drainage, compensation schemes to producers, etc. The eligible activities aim to address those types of damages, provided they comply with Bank policies and follow the POM and the policies and procedures applicable to the Project (safeguards, fiduciary, procurement, etc.).

31. Climate change co-benefits would be brought through activities related to addressing at least El Niño and all hydrometeorological hazards; they cannot be accurately evaluated at the time of Project preparation and before an Eligible Disaster occurs, but can be estimated to be carried by 70 percent of Component 2 IBRD investments: US\$73.5 million.

Component 3: Project Implementation, Monitoring and Evaluation (US\$1.34 million total; US\$1.2 million IBRD)

32. This component will provide support to the MF, EPA, MTOP, MSP, MAGAP and other selected sectors for the administrative management of the Project, including: (i) the hiring of a Project coordinator, specialists in financial management, procurement, monitoring and evaluation for the PCU; (ii) the hiring of other technical temporary staff (including, but not limited to, environmental and social specialists), needed during Project implementation; (iii) the carrying out of Project audits; and (iv) the financing of the necessary goods and equipment.

33. The MF through its PCU will manage, evaluate, supervise and implement the Project, coordinating and consolidating the work its four co-executing agencies EPA, MAGAP, MTOP, MSP, including fiduciary, procurement, environmental and social safeguard aspects.

Table 1. Summary Cost Tables (IBRD part)

US\$ million	Total	Considered under Retroactive financing modality	Not considered under Retroactive financing modality
Component 1	43.8	40.0	3.8
Component 2	105.0	5.0	100.0
Component 3	1.2	0.5	0.7
TOTAL	150.0	45.5	104.5

US\$ million	Total	Adaptation climate change co-benefits	Adaptation climate change co-benefits (% of total amount)
Component 1	43.8	41.8	27.87 %
Component 2	105.0	73.5	49.00 %
Component 3	1.2	0.0	0.00 %
TOTAL	150.0	115.3	76.87 %

Annex 3: Implementation Arrangements
Republic of Ecuador
Risk Mitigation and Emergency Recovery Project (P157324)

I. Project Institutional and Implementation Arrangements

1. Due to their convening and coordinating power, as well as their decision-making power in terms of financial allocation throughout the sectors, the Ministry of Finance (MF) will be the Project's implementing agency. Accordingly, a Project Coordination Unit (PCU) will be created and be responsible for overall coordination and administration of the Credit funds as well as the monitoring and evaluation (M&E) related to these components. The PCU, within the MF, will carry out the Project management and oversight with due diligence and efficiency and in accordance with sound technical, economic, financial, environmental and social management practices, all satisfactory to the International Bank for Reconstruction and Development (IBRD). Project implementation will be carried out in accordance with all the terms and conditions agreed between the Republic of Ecuador and the World Bank (WB) as set forth in the Financing or Loan Agreement (LA).

2. The PCU, under the leadership of a Project Coordinator, will directly manage the Project's technical, financial, procurement, and monitoring activities. The core staff of the PCU will include at least a Procurement Specialist, a Financial Management (FM) Specialist, and a Monitoring and Evaluation (M&E) Specialist. The Coordinator will have the overall responsibility of supervising the staff of the PCU in the planning, organizing, and executing of all day-to-day administrative, technical, and legal activities of the Project. The MF will have overall responsibility for ensuring compliance with fiduciary agreements, procurement guidelines, social and environmental management and monitoring, reporting, and evaluation of processes and results. The PCU's organizational structure and duties and responsibilities of Project staff are described in the Project Operational Manual (POM), along with the Project's technical, administrative, financial, procurement, and monitoring procedures.

3. The co-executing agencies include the Ministry of Health (MSP), Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP), Ministry of Transport and Public Works (MTO); and the Public Water Company (EPA) (see Table 1 below for agencies' roles by component). Co-Execution Subsidiary Agreements (one per co-executing agency) will specify the roles and responsibilities of these agencies under the Project. The co-executing agencies will use their existing organizational structure for Project implementation and each will create an Implementation Unit (IU). The staffing of the IU will be composed of a coordinator responsible for M&E, a specialist in procurement, another in FM, and one environmental / social specialist.

4. The co-executing agencies are responsible for the execution of the activities and will report to the MF. They will use their fiduciary and social and environmental systems and personnel – all in compliance with WB policies and procedures – and will be the ones who validate the quality of works and the invoices before sending the information to the MF. There will be one designated account managed by the MF, who will consolidate all the data to be sent to the Bank and provide authorization for payments or transfers. The MF will sign Co-execution

Subsidiary Agreements with the co-executing agencies to guarantee coordination and collaboration (or Subsidiary Agreement in the case of EPA which is a public company). These agreements will specify the roles and responsibilities of these agencies under the Project, specifically related to fiduciary and social and environmental management, execution and supervision of civil works and procurement of goods and services. The MF will be the only channel of communication with the WB. Frequent trainings on procurement, FM, safeguards, others as necessary, will be provided to all entities during Project implementation.

Table 1. Co-executing Agency by Component

<u>Component</u>	<u>Co-executing Agency</u>
<i>Component 1: Disaster Preparedness and Risk Mitigation</i>	MTOP, MAGAP, MSP, EPA
<i>Component 2: Post-Disaster Recovery and Reconstruction</i>	MTOP, EPA, MAGAP*
<i>Component 3: Project Implementation, Monitoring and Evaluation</i>	Co-executing agencies will provide inputs for M&E to the MF

* and any other selected agency

5. **Project Operational Manual (POM).** The POM will include all procedures, rules, and standards for the implementation of all components and aspects of the Project including, but not limited to, (i) institutional arrangements; (ii) operation of the PCU and four IU within the co-executing agencies; (iii) Project planning and M&E; (iv) social and environmental management, reporting, communication, and human resources; (v) procurement; (vi) administrative processes and FM; (vii) grievance procedures and (viii) procedures for amending the POM.

6. **Results Monitoring and Evaluation.** The MF will be responsible for the overall Project Monitoring and Evaluation (M&E) and reporting. A dedicated PCU M&E Specialist will lead the effort (i) to collect, consolidate, analyze and report on Project performance data, as well as (ii) to provide periodic information on intermediate Project-wide results and progress towards higher level outcomes (this will be critical for the mid-term review of the Project as well as end evaluation). Co-executing agencies will ensure adequate staff and mechanisms are in place to periodically collect data and assist the PCU M&E Specialist by providing relevant sectoral information as available and as requested. In accordance with WB policy, the Bank will complete: (a) periodic Implementation Status and Results Reports (ISRs) usually associated with semi-annual supervision missions, (b) a mid-term review at half way of implementation to revise the objectives and targets, (c) an Implementation Completion Report (ICR) within six months following the end of the Project. Supervision missions are co-organized by the MF and the Bank and entail routine quality checks at various stages of implementation, such as the undertaking of civil works activities. Periodic monitoring will include process reviews, reporting of outputs and the maintenance of updated records. The thematic areas that will be supervised and monitored include: i) social and environmental safeguards monitoring; ii) regular quality supervision and certification; iii) periodic physical progress monitoring; and iv) results M&E.

II. Financial Management, Disbursements and Procurement

II.1. Financial Management

7. The FM arrangements between the MF and the four co-executing entities EPA, MAGAP, MTOP, MSP for Project implementation were found to be acceptable to the Bank during Project Appraisal²¹.

8. The MF will be responsible for overall Project implementation and will have four co-executing agencies. Within these arrangements, FM tasks will be carried out by the PCU FM Specialist in coordination with the IU's FM Coordinators. Project design is complex given the involvement of multiple co-implementing agencies and three components with activities in different sectors. The MF will sign Co-execution Subsidiary Agreements with the four co-executing agencies to reflect roles and responsibilities in terms of FM arrangements. In order to begin implementation of Project activities as soon as possible, the Government is interested in pre-financing activities under the Project with its own fiscal resources and then requesting a reimbursement once the Project becomes effective. The Project was designed to include the possibility of retroactive financing (up to an amount of US\$60 million corresponding to 40% of total loan amount). Considering Component 2 (post-disaster) would be triggered following the issuance of Alert Declaration²², expenditures under Category 2 have a disbursement condition. Funds flow arrangements will be coordinated with the MF while the responsibility for budgeting, accounting and reporting of the execution of Project activities under each component will stay with the administrative units within each co-executing agency. Project implementation will rely on the country systems including budgeting arrangements, centralized payments from the Treasury Single Account (TSA) and apply external audit arrangements in accordance with the MOU agreed between the Bank and the *Contraloría General del Estado* (CGE).

9. The specific risks and challenges related to this operation are the following: (i) timely appointment of fiduciary staff within the MF and the co-executing agencies with the capacity to rapidly get acquainted with procurement and FM guidelines to avoid situations of misprocurement or ineligible expenditures; (ii) effective coordination between the MF and the co-executing agencies to avoid unnecessary delays in Project implementation, (iii) timely consolidation of fiduciary information from each co-executing agency that will allow the timely and accurate preparation of consolidated Project financial reports; (iv) clear definition of the roles, responsibilities and coordination procedures between the MF and the co-executing agencies. Considering the Project's complex design and the above listed risks and challenges, the fiduciary risk is rated as Substantial.

10. On the basis of the review performed, it was concluded at Appraisal that the proposed FM arrangements are acceptable to the Bank, provided the following actions and measures are taken:

²¹ A simplified FM assessment was carried out to evaluate the adequacy of the arrangements, in accordance with *Guidance Note on Financial Management in Rapid Response to Crises and Emergencies (OPSOR of June 1, 2015, Financial Management Manual for World Bank Investment Project Financing and OP/BP 10.00 and OP 8.00)*.

²² Orange Alert Declaration (in the case of El Niño) or a Red Alert Declaration (in the case of the Cotopaxi volcano or any other Eligible Disaster) issued by the SGR

11. **The MF hires a FM Specialist** under terms of reference agreed with the Bank, dedicated full-time to the Project, not later than February 29, 2016, so that he/she can rapidly gain familiarity with applicable requirements and support Project implementation.

12. **Dated covenants in the Loan Agreement:**

- (i) The Borrower shall select and contract, by no later than six months after the Effective Date, and thereafter maintain, throughout the implementation of the Project, the services of a qualified and experienced auditor, under terms of reference satisfactory to the Bank, to serve as independent external auditor for a period of at least three consecutive years.

13. **By Effectiveness**

- (i) The PCU has been established in a manner satisfactory to the Bank.
- (ii) The EPA Subsidiary Agreement between the Borrower and EPA and the Co-Execution Subsidiary Agreements between the Borrower and the respective Co-Executing Agencies have been duly executed by all parties.
- (iii) The POM has been approved by the Bank and adopted by the Borrower. (The POM) will include *inter alia* financial management and disbursement arrangements specific to the Project).

14. **Disbursement Condition in the Loan Agreement:**

- (i) No withdrawal shall be made under Category (2) until the Borrower has furnished evidence, satisfactory to the Bank, that the measures referred to in Section I.F of Schedule 2 to the Loan Agreement have been taken by the Borrower.

15. **Organization and Staffing.** For Project purposes, the FM Specialist of the PCU would have the main responsibility for managing and coordinating all operational FM aspects under the Project with the support from the IU's FM Coordinator (Financial Directorate of each co-executing agency) and the Financial Directorate's installed capacity. The FM Specialist of the PCU will be hired full-time, under Terms of Reference (TORs) agreed with the Bank and financed with loan proceeds. Co-executing agencies will assign existing staff as FM specialists responsible for the Project.

16. The PCU FM Specialist's main responsibilities will consist of the following: (i) prepare annual Project budgets; (ii) review/approve forecasts and financial information; (iii) monitor budget implementation in accordance with forecasts; (iv) reconcile advances to the Designated Account (DA) for the whole Project; (v) prepare consolidated Project financial information including Project financial statements and disbursement applications on the basis of e-Sigef (*Sistema de Gestión Financiera del Estado*), auxiliary information and information sent by co-executing agencies; (v) carry out preliminary review of supporting documentation (*ex- ante* control) of payments carried out directly by the PCU; and (vi) maintain adequate files of the whole Project.

17. Most of the co-executing agencies MTOP, MSP and MAGAP have staff familiarized with IDB's processes and procedures. Similarly, MAGAP has recently prepared a WB-financed

project and is familiar with WB policies and procedures, and MTOP's existing Directorate of Credits (currently implementing IDB-financed projects) will use their processes and procedures to implement the proposed Project. As agreed during Project Appraisal, each co-executing agency will assign their Financial Directorate as FM Coordinator of Project activities. FM Coordinators will be responsible for: (i) internal coordination within the co-executing agency and external coordination with the MF; (ii) ensuring Project activities under each co-executing agency have budget approval; (iii) carrying out preliminary review of supporting documentation (*ex- ante* control) before payments; (iv) preparing forecasts and financial information of Project activities and submitting the information to the MF; and (v) maintaining adequate original supporting documentation and files of the Project.

18. Detailed FM roles and responsibilities of the PCU and IU FM staff will be included in the POM.

19. **Budgeting.** The co-executing agencies (in this case either central Government entities or public companies) will follow local procedures regulated by COPLAFIP²³ and by the MF. EPA as a public company has to follow additionally the *Ley Organica de Empresas Publicas* for the formulation, appropriation and execution of annual budgets. The e-Sigef utilizes a programmatic structure of the budget which allows the identification of Project transactions by type of expenditure, financing source and main activity and budgetary reports (*Cédula Presupuestaria*) that are specific to the Project.

20. Each co-executing agency will verify that Project activities are linked to their current programs or update prioritization of investments with approval from SENPLADES (*Secretaría Nacional de Planificación y Desarrollo*). The PCU in coordination with the co-executing agencies will prepare consolidated Project's budget, POA (*plan operativo anual*) and procurement plan. There will be no transfers of budget spaces from the MF to the co-executing agencies. Thus each co-executing agency will be responsible for the formulation, appropriation and execution of the annual budget for the activities planned under their responsibility and incorporating them into their POA, procurement plan and institutional budget for approval. Timely recording of approved budget, commitments, accruals and payments will be carried out through the information systems E-Sigef (for the line Ministries) and Olympos (for EPA).

21. The Project envisages retroactive financing for activities to be procured with the GoE's fiscal resources before the signing date of the LA (and after December 18, 2015 corresponding to the completion of Project Appraisal) and reimbursed against adequate documentation once the Project is effective. With SENPLADES' prioritization, co-executing agencies will request the MF to submit a multi-year budgeting certification allowing for the use of WB procedures, which enables them to initiate procurement activities following WB procedures. Payments corresponding to anticipated procurement process carried out after the signature of the LA require budgetary item (*partida presupuestaria*) update and contracts modification to reflect the use of loan proceeds.

22. **Internal Control.** Local internal control framework is mainly based on the internal control standards issued by the CGE. EPA will also follow the *Ley Organica de Empresas*

²³ Código Orgánico de Planificación y Finanzas Públicas.

Públicas. Under such requirements, the co-executing agencies have specific internal processes and procedures for the review, approval, and payment of progress certificates of civil work contracts and goods/inventories, which are working well.

23. For Project purposes, the co-executing agencies will rely on their existing capacity and use their processes and procedures, with some adjustments as required and agreed with the MF. In particular, and in order to have adequate monitoring of Project implementation, the following actions will need to be taken, in addition to the ones described earlier: (i) the IU assigns the Financial Directorate as the main responsible unit for FM aspects before the MF's PCU under the Project; (ii) each co-executing agency designates contract administrators and technical specialists (possibly in the field) to supervise overall civil work progress, approve external supervision report (*reporte del fiscalizador*) and coordinate payment with central offices of co-executing agencies; (iii) all the payments are carried out at the central level (from central offices), whether they are initiated by the MF or requested by the co-executing agencies, and the MF and the co-executing agencies maintain adequate supporting documentation; (iv) the MF ensures the auxiliary systems or modules for e-Sigef and Olympo are established so that the required Project financial information including the custom reports required by the Bank for disbursement purposes are duly produced; (v) it is agreed that the MF will monitor on a monthly basis the Project financial information prepared by the co-executing agencies; (vi) a procurement *ex-post* review will be conducted by the Bank for the activities carried out by the MF and/or the co-executing agencies (according to simplified procurement protocols and procurement plans) before recognizing retroactive financing.

24. **Accounting and Information System.** The PCU and the co-executing agencies will follow the regulatory FM framework in Ecuador for central Government entities and public companies including the COPLAFIP and the Technical Accounting Norms issued by the MF that include the use of the accrual accounting basis and the chart of accounts for the public sector.

25. The use of the Governmental FM Information System e-Sigef is mandatory for all Ministries (the MF, MAGAP, MSP and MTOP) under the General Budget of the State (PGE for *Presupuesto General del Estado*), while EPA will use the information system Olympo. The e-Sigef will allow tracking of Project transactions by component, type of expenditure and financing source. E-Sigef also produces additional auxiliary information by contract. Olympo information system also allows the recording of Project transactions and submission of Project information by component and financing source. The information from e-Sigef and Olympo will be complemented with auxiliary records in Excel spreadsheets to monitor contracts execution and status of payments as required.

26. **Financial reporting.** The MF through its PCU and in coordination with the co-executing agencies will prepare consolidated Project financial information, including interim and annual financial reports. Timing, periodicity, reconciliation, core content and format of the financial reports to be prepared by the MF and the co-executing agencies for purposes of financial reporting, disbursements and audits- have been discussed and agreed during Project Appraisal.

27. *Financial Reporting by Co-executing Agencies.* Once the Project becomes effective, each co-executing agency will prepare and submit to the MF, at least on a semiannual basis, the

following information: (i) statement of sources and uses of funds; (ii) forecasts vs execution by main type of expenditure; (iii) budget report (*Cédula Presupuestaria*); (iv) reconciliation of payments requested (CUR) and effective credited to suppliers/contractors (SPI number); and (vii) a summary report of payments made by contract. EPA will prepare additionally a bank account reconciliation (TR account) of advances received, expenditures incurred and cash balance.

28. **For retroactive financing**, the MF will monitor on a frequent basis and will request the co-executing agencies to submit monthly reports on the activities executed under their control. The MF will adopt format and core content of Statement of Expenditures (SOEs) used by the Bank and will request the co-executing agencies to send information under this report, no later than 10 days after the end of each month.

29. *Financial Consolidated Reporting by the MF.* The MF through its PCU will be the main responsible for preparing consolidated financial information on Project implementation.

- *Project-Interim financial reports (IFRs)* would be used for monitoring purposes and will include loan proceeds (and local funds corresponding to the 12 percent VAT - Value Added Taxes and operating costs). These reports will be prepared in US dollars (corresponding to the local currency in the case of Ecuador) and submitted to the Bank on a semiannual basis, not later than 45 calendar days after the end of each calendar semester. IFRs will include: (i) a statement of sources (funds disbursed by the Bank and local funds) and uses of funds (effective payments documented by the co-executing agencies); (ii) statement of cumulative investments; (iii) three-month forecast broken down by disbursement category and documenting expenditures incurred in the last period; (iv) budgetary report; (v) designated account reconciliation; and (vi) explanatory notes to the financial statements.
- *Annual financial statements* for the Project would include (i), (ii) and (vi).

Table 2. Summary of Financial Reports

Summary of Financial Reports		
For Financial Management Monitoring:	Period	Deadline
Project Interim Financial Statements	Semester	45 calendar days after the end of each semester.
Project Audited Financial Statements	Annual	Before June 30, after the end of each year.
For Disbursements (retroactive financing):		
Statement of Expenditure –SOE (one withdrawal application and SOE by co-executing agency)	Retroactive financing period	-
For Disbursements (during implementation):		
Custom Report (including Semester Forecast and Statement of Expenditure –SOE to document expenditures)	Semester	-

II.2. Audit Arrangements

30. **Internal Audit.** The MF's and the co-executing agencies' internal audit units have limited capacity to carry out their role efficiently. Internal auditors would include Project activities' audits in their annual work plan to the extent that they will review the compliance of operations with the POM and other applicable laws and regulation. Therefore, additional controls specific to the implementation of Project activities will need to be included, as indicated in the internal control section, given the limited role of the internal audit function to verify compliance and facilitate information to the external auditors.

31. **External Audit.** For Bank-financed projects in Ecuador, the CGE²⁴ is responsible for selection and appointment of an independent private auditor acceptable to the Bank. The MF as the Project implementing agency will be responsible for preparing audit TORs for the Bank's no objection. External financial audits would be performed for the entire Project and would be conducted by an independent audit firm acceptable to the Bank. The audits would be carried out in accordance with International Standards on Auditing (ISAs) issued by the International Federation of Accountants (IFAC), and the audits would include visits to the MF's PCU and to the co-executing agencies. Audit costs will be financed out of loan proceeds. Audit TORs would be submitted to the Bank for no objection no later than 4 months after Project Effectiveness. The initial contract with the audit firm should cover the first 2 years of Project implementation.

32. Audit requirements will include the following:

Table 3. Due dates for audit reports

Audit Report	Due date
Project financial statements	June 30
Management Letter	June 30

II.3. Funds Flow and Disbursement Arrangements

Funds Flow Arrangements

33. In accordance with local regulations, once the LA is signed, the MF will open the dedicated Designated Account (DA) at the Central Bank of Ecuador (BCE)²⁵ to receive WB loan proceeds. Funds deposited in the DA will be immediately withdrawn to the TSA, where loan proceeds will be identified by financing agency and by loan²⁶.

34. Central Government co-executing agencies (the MF, MAGAP, MSP and MTOP) will request payments from the TSA loan funds, based on Project activities that are eligible for financing and implemented by the co-executing agencies. The public company co-executing

²⁴ The MOU signed between the CGE and the Bank, establishes that CGE appoint independent and acceptable audit firms to audit WB financed projects.

²⁵ In accordance with the local requirements, the Central Bank requests specific bank account(s) be opened for each Project financed by a specific financing agency, by the corresponding implementing agency in order to receive funding. This bank account is called *Cuenta de Crédito Externo*.

²⁶ Funds are identified by funding source and by loan number, locally called -organism and correlative loan number-.

agency EPA will open an operating account at the BCE, where loan proceeds and local counterpart funds will be deposited to carry out payments under the Project.

35. Local “counterpart” financing will cover the 12 percent Value Added Tax (VAT) and it will be available at TSA, identified under each Ministry’s and EP’s (*Empresa Publica*) budget.

36. Payments for activities carried out by the MF and the co-executing agencies will be processed through the Interbank Payment System (SPI) to carry out payments to beneficiaries’ private bank accounts through cash transfer deposits. Each payment to consultants, contractors, and other service providers, will comprise two transfers of funds (the cost will be covered by loan proceeds and the VAT will be covered by local counterpart funds).

37. Supporting documentation (original records evidencing eligible expenditures, receipts and supplier invoices, etc.) should remain at each co-executing agency for the Project activities paid by said co-executing agency, while the PCU at the MF will maintain copies of key supporting documentation (to be detailed in the POM), available for review by the Bank and external auditors.

38. *Retroactive Financing.* Components 1, 2 and/or 3 will require retroactive financing (up to 40 percent of the total Project amount which is US\$60 million). To facilitate prompt implementation of the Project and respond to the urgent need to mitigate the impacts of the two imminent disasters the country is facing, the GoE will pre-finance the activities with its own fiscal resources, requesting retroactive financing of the payments made before the signing date of the LA against adequate documentation. The GoE will be reimbursed from the loan proceeds for payments corresponding to eligible expenditures agreed with the Bank - and in accordance with the provisions detailed in the LA. Each co-executing agency will prepare a SOE summarizing eligible expenditures incurred before the date of signature of the LA. The MF will collect all this information, review first the eligibility of expenditures to be presented to the Bank, then submit it for reimbursement to the Bank. Retroactive financing will be recognized from the day Project Appraisal was completed (i.e. December 18, 2015), for an approximate amount of US\$45.5 million.

Disbursements

39. *Disbursements from WB to the MF.* As in other projects, the Bank will disburse loan proceeds using the disbursement methods of reimbursement, advance and direct payment. All methods of disbursement would be available starting on the date of Project Effectiveness assuming fulfillment of any applicable conditions.

40. *Under the advance method,* a segregated DA in US Dollars will be opened and maintained by the MF at the BCE²⁷. Funds deposited into the DA as advances, will follow Bank’s disbursement policies and procedures as described in the Disbursement Letter. Funds deposited in the DA will be immediately withdrawn to the TSA where loan proceeds will be identified by financing agency and by loan number and available to process payments requested

²⁷ In accordance with local regulations, the MF has to open separate special accounts at the Central Bank of Ecuador to manage public resources including those coming from external financing.

by co-executing agencies. The ceiling of the DA will be flexible and based on semester forecasts that reflect the Project expenditures each co-executing agency will need to pay each semester in response to implementation needs and in accordance with the procurement plan agreed and approved by the Bank. The Project may request more frequent advances to the DA as required. The MF will prepare a Customized Report for the whole Project, including semester forecast to request advances, SOEs to document expenditures and DA reconciliation.

41. Disbursements from the MF to MAGAP, MSP and MTOP. The MF will not transfer funds to the co-executing agencies that are part of the PGE and administered by the TSA mechanism. Co-executing agencies will ensure they have enough budget appropriated and approved by financing source to carry out payments of planned Project activities. Prior to requesting advances to the DA, the MF will consolidate each co-executing agency's semester forecast (based on procurement plan and annual budget) and send it as supporting documentation with the withdrawal applications requesting an advance of loan proceeds to the DA. For withdrawal applications sent to document the use of the advances, the co-executing agencies will be required to prepare a custom report including SOEs that should also include a forecast for the following semester. The MF will consolidate all forecast and SOEs, including those from EPA, and submit them along with a single withdrawal application.

42. Disbursements from the MF to EPA. The MF will advance loan proceeds from the TSA to EPA's operating bank account (opened at the BCE). Advances will be based on semester forecasts prepared by EPA and on the basis of their approved procurement plan and annual budget for activities planned under the Project. EPA will also be required to prepare a custom SOE documenting the use of the funds already advanced as well as the next semester's forecast.

43. Loan proceeds would be disbursed against the following expenditure categories:

Table 4. Loan Proceeds

Table of Loan Proceeds (expressed in US\$)		
Category	Amount of the Loan Allocated	Percentage Expenditures to be financed (exclusive of VAT)
1. Works, Goods, Consultants' services, Non-consulting services and Training under Component 1*	43,800,000	100%
2. Emergency Expenditures under Component 2**	105,000,000	100% (Disbursement condition will be activated after an Eligible Disaster occurs and implementation arrangements are in place)
3. Goods, Consultants' services (includes audits), Non-consulting services and Training under Component 3***.	1,200,000	100%
TOTAL AMOUNT	150,000,000	

* Includes retroactive financing of mitigating activities before the date of signature of the Loan Agreement, and after December 18, 2015.

** Includes retroactive financing if the event occurs before the date of signature of the Loan Agreement, and after December 18, 2015.

*** Includes retroactive financing of the staff hired under the PCU.

II.4. Procurement

44. The Project has three components. Procurement activities for Component 1 will be carried out by MAGAP, MSP, MTOP and EPA. Activities for Component 2 will be carried out by MTOP, MAGAP, and EPA. Activities for Component 3 will be carried out by the MF. Each entity will have a Procurement Unit staffed with “national procurement specialists” either assigned or hired with loan proceeds, most of whom have experience in the implementation of IDB-financed projects.

45. Procurement risks are related to the recent re-engagement between the GoE and the WB. The procurement capacity of the agencies is considered to be relatively weak as both the technical and fiduciary teams lack an adequate knowledge of Bank procurement procedures and contract monitoring. Based on the information available at the time of Project Appraisal (December 18, 2015), the preliminary assessment of procurement risk result in a rating of High. However, this risk could be reduced to substantial depending on the agencies' performance during Project implementation, and the on-the-ground training and close assistance that will be provided during Project implementation. A three-day workshop was organized before Project

Appraisal in Quito to give initial training on WB procurement and Consultant guidelines to the five executing agencies.

46. For Components 1, 2 and 3: it is required that (i) the MF establishes an organizational structure according to the legal covenants, which guarantees the assignment of a dedicated procurement specialist for each entity who will carry out procurement activities under MTOP, MAGAP, MSP and EPA, and the MF; (ii) the MF and the co-executing agencies maintain facilities and support capacity, including technical and administrative staff as required; (iii) the MF and the co-executing agencies have qualified and experienced procurement staff; (iv) the MF has organized record-keeping and filing systems; (v) the MF and the co-executing agencies carry out best practices in procurement planning and monitoring/control systems, and; (vi) the MF and the co-executing agencies maintain the capacity to meet the Bank's procurement contract reporting requirements.

47. For Components 1, 2 and 3, procurement activities under MTOP, MAGAP, MSP, EPA, and the MF will be carried out by a dedicated procurement specialist for each entity, supported by additional technical and administrative staff. It is also agreed that: (i) the MF prepares a POM including, inter alia, procurement and contracting procedures for the prevention, duration and finalization of the emergency, which will be adopted as a condition of Effectiveness; (ii) the POM includes Simplified Procurement Procedures. Moreover, the LA includes additional provisions related to Project implementation regarding procurement. Finally, the Bank's assistance and work in Ecuador includes a comprehensive procurement training program for existing and new lending operations, including for the proposed operation for which the Bank will do close monitoring, particularly during the first two years of Project implementation covering the disaster preparedness and risk mitigation stage (Component 1) and possibly the emergency and post emergency stage (Component 2).

48. Procurement for the proposed Project will be carried out in accordance with the WB "Guidelines: Procurement under IBRD Loans, IDA Credits and Grants by World Bank Borrowers", and "Guidelines: Selection and Employment of Consultants under IBRD Loans, IDA Credits and Grants by World Bank Borrowers", dated January 2011 and July 2014 respectively, and the provisions stipulated in the LA. For each contract to be financed by the loan, the different procurement methods or consultant selection methods, estimated costs, prior review requirements, and timeframe, are to be agreed upon between the MF and the Bank in the Procurement Plan. The Procurement Plan will be updated at least semiannually or as required to reflect the actual Project implementation needs and improvements in institutional capacity. Special procedures will also be incorporated for the emergency stage under Component 2.

49. Procurement of Works. Works procured under Component 1 (retroactive financing) of this Project may include dredging, channel clearing and road maintenance, and Bailey bridges rehabilitation and purchase, building of livestock shelters. Under Component 2, works may include: bridges, roads, water infrastructure, hydraulics and other related civil works infrastructure, etc. requiring International Competitive Bidding (ICB) Packages; however, packages amounting to an aggregate below US\$8,000,000 may be procured using National Competitive Bidding (NCB) processes. Shopping procedures may be used for contracts of up to US\$250,000. Procurement of works through NCB or Shopping methods would be based on

bidding documents satisfactory to the Bank. For Component, 1 MTOP will a priori be performing direct contracting of Road Maintenance Micro-enterprises in the estimated amount of one contract US\$175,000 and three contracts in the estimated amount of up to US\$100,000 each. For Component 2 Simplified Shopping and Direct Contracting would a priori be allowed for up to US\$100,000. Nonetheless, the procurement of works would not start until the environmental, social or indigenous people management plans are cleared, as applicable.

50. Procurement of Goods and Non Consultant services. Goods procured under this Project would include, inter alia: medicines, snake bite anti-venom "*suero anti ofidico*", vaccines, medical equipment, medical provisional shelters, laboratories, items deemed necessary to carry out the project activities, and goods (equipment, furniture, materials, etc.) purchased for the implementation of each component. Procurement of goods would be done using the Bank's standard bidding documents (SBD) for all ICB, and bidding documents satisfactory to the Bank for NCB or Shopping methods. It is foreseen to have Direct Contracting for the purchase of snake bite anti-venom "*suero anti ofidico*" in the estimated amount of US\$800,000, the purchase of medicines from the World Health Organization (WHO)/Pan-American Health Organization (PAHO), medical equipment, medical provisional shelters in the estimated amount of US\$500,000. The participation of the UN Agencies would be considered for Component 2. Simplified Shopping and Direct Contracting would be allowed for up to US\$100,000.

51. All procurement notices would be advertised on the executing agency Project's website, and at least one local newspaper of wide national circulation for ICB and NCB. ICB notices and contract award information would be advertised on the United Nations Development Business online (UNDB online), in accordance with the provisions of paragraph 2.60 of the Procurement Guidelines. In order to build a company (Contractors/Suppliers) database, an Expressions of Interest Advertisement would be publicized in accordance with each approved procurement plan.

52. Selection of Consultants. Consulting firm services may be contracted for supervision, technical and financial audits and evaluations. The procurement of consulting firms would be carried out using Bank Standard Request for Proposals (RFP) documents. International firms would have the opportunity to participate in all RFPs over US\$200,000. Shortlists of consultants for services estimated to cost less than a US\$200,000 equivalent per contract may be composed entirely of national consultants (firms registered or incorporated in the country) in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Consulting firms would be selected following Quality and Cost-based Selection (QCBS) for all contracts with estimated amounts over US\$200,000. Consultants Qualifications Selection and Single Source Selection would be allowed for contracts up to US\$100,000

53. Selection of Individual Consultant Services. Individual consultant services would be contracted mostly for project management and technical advice, mainly with regards to the substantive matters of the Project, but also for design, supervision and technical assistance. The TORs, job descriptions, minimum qualifications, terms of employment, selection procedures and the extent of Bank review of these procedures to contract and documents would be described in the POM and the contract would be included in the Procurement Plan. Single Source Selection would be allowed for up to US\$100,000.

54. The website of each executing agency and a national newspaper would be used to advertise expressions of interest as the basis for developing short lists of consulting firms and individual consultants, and to publish information on awarded contracts in accordance with the provisions of paragraph 2.31 of the Consultants' Guidelines and as mandated by local legislation. Contracts expected to cost more than US\$200,000 would also be advertised in UNDB online. In order to build a Consultant (Firms / Individuals) Database, an Expressions of Interest Advertisement would be publicized in accordance with the approved procurement plan.

55. Direct Contracting (DC) or Single Source Selection (SSS). - At the time of Appraisal, DC and SSS threshold amount allowed is up to US\$100,000, and in the special justified cases presented by the MSP and indicated in paragraph 49. The GoE will need to present robust justifications regarding each DC or SSS.

56. Training. Training would include: expenditures (other than those for consultant services) incurred by the GoE to finance logistics for workshops, meetings and seminars; reasonable transportation costs and per diems of trainees and trainers (if applicable); training registration fees and; training facilities and equipment rentals. Procurement for these items would be done using NCB and shopping procedures as discussed above.

57. Operating Costs. The Project as required may finance the incremental operational costs of implementing institutions and the operational costs, including salaries, travel costs and subsistence for missions, of Project staff (excluding civil servants); the establishment and operation of monitoring and supervision, and technical and financial audits; newspaper advertisements; the operation and maintenance of Project offices, including utilities and telecommunication, and; the acquisition, operation and maintenance of office and field equipment needed for Project activities. These operating costs would be administered in accordance with the Bank's Procurement Guidelines, as appropriate. Procurement of these items also would be carried out using the Bank's SBD or National SBD as agreed upon with the Bank.

58. Project Operations Manual (POM). The POM would include all procedures, rules, and standards for the implementation of all aspects of the Project including, but not limited to: institutional arrangements; the operation of the Project coordination team; Project planning, M&E; social and environmental management, reporting, communication, human resources; procurement; administrative and financial management; and procedures for amending the POM.

59. Procurement Plan (PP). A simplified draft PP encompassing Component 1 was prepared by EPA, MSP, MAGAP, MTOP and approved by the Bank during Project Appraisal (December 17-18, 2015). PP activities will consider the special nature of the Project. The PP would be updated semi-annually or as required to reflect the actual Project implementation needs and improvements in institutional capacity. The PP would set forth those contracts which shall be subject to the Bank's Prior Review. All other contracts would be subject to post review by the Bank, except for those contracts terminated by the GoE's agency for which the GoE would seek the Bank's no objection prior to the proposed termination.

60. Frequency of Procurement Implementation Support. In addition to prior review and implementation support missions carried out by the Bank, the capacity assessment of the

Institutions in general in Ecuador recommends semi-annual missions, including field visits to analyze contract implementation and monitoring, and post reviews of procurement actions. Contracts subject to post review would be reviewed by the Bank and, based on the findings of these reviews and the proposed ratings, the Bank may determine the revision of the prior review requirements.

61. Thresholds for procurement methods and prior review are as follows:

Table 5. Procurement Thresholds

Expenditure Category	Contract Value (Threshold) (US\$ thousands)	Procurement Method	Bank Prior Review
1. Works	> 8,000	ICB	All
	250 – 8,000	NCB	First two each year, and all above US\$5.0 million
	< 250	Shopping (Price Comparison)	As indicated in the PP
	>100	DC	All
2. Goods	> 500	ICB	All
	100 – 500	NCB	As indicated in the PP
	< 100	Shopping	As indicated in the PP
	>100	DC	All
3. Consultant Services	> 200	QCBS	All
	< 200	QCBS, QBS, CQS, FBS, LCS (as per Procurement Plan)	All ToRs Selection Process reviewed twice yearly (Ex Post)
	>100	SSS	All
4. Individual Consultants	> 100	IC	All
	< 100	IC	All TOR. Selection Process reviewed twice yearly (Ex Post).
	>100	SSS	All

DC Direct Contracting
 ICB International Competitive Bidding
 NCB National Competitive Bidding
 QBS Quality Based Selection
 QCBS Quality and Cost Based Selection
 LCS Least Cost Selection
 FBS Selection under a Fixed Budget
 CQS Selection Based on Consultants' Qualifications
 SSS Single Source Selection
 ToR Terms of Reference

In Spanish: CD Contratación Directa
 In Spanish: LPI Licitación Pública Internacional
 In Spanish: LPN Licitación Pública Nacional
 In Spanish: SBC Selección basada en Calidad
 In Spanish: SBCC Selección basada en Calidad y Costo
 In Spanish: SBM Selección basada en el Menor Costo
 In Spanish: SBPF Selección bajo Presupuesto Fijo
 In Spanish: SCC Selección basada en Calificaciones de Consultores
 In Spanish: SSF Selección con Base en una Sola Fuente
 In Spanish: TDR Términos de Referencia

III. Environmental and Social (including safeguards)

Social (including safeguards)

62. As mentioned under Sections G and H of the main text, in line with OP 10.00 and paragraph 12, a Safeguard Action Plan (SAP) was prepared (see *Annex 6*). The GoE has prepared the ESSAF with Bank guidance to ensure identification and management of environmental and social issues and risks relating to Project implementation. They will organize consultations in February 2016 prior to Board Approval. The final ESSAF will be reviewed and approved by the Bank before being disclosed. Disclosure is an Effectiveness condition for the Project. Please see *Annex 6* for a full presentation of the Project's social and environmental risk management.

Environment (including Safeguards)

63. Please see above and *Annex 6* for a full presentation of the Project's social and environmental risk management.

Annex 4: Implementation Support Plan
Republic of Ecuador
Risk Mitigation and Emergency Recovery Project (P157324)

I. Strategy and Approach for Implementation Support

1. The strategy for implementation support (IS) draws on the risk profile of the Project and aims to enhance the GoE's quality delivery of the proposed interventions. The Task Team Leader (TTL) of the Project would be based at World Bank headquarters (WB HQ). The team supporting the TTL, including the co-TTL and the specialists, would be a mix of personal based at WB HQ and in the Country Office. They will undertake supervision missions 2 to 3 times a year, with flexibility in the frequency of missions especially (i) for the first semester because of the retroactively-financed activities under Component 1, and (ii) in case a disaster occurs and that Component 2 needs to be activated. Regular supervision by the Bank is conducted to follow up on Project component progress and provide tailored support to the Counterparts to effectively implement the Project. It will focus on the following areas:
2. **(a) Strategic:** IS missions will meet with the MF and the co-executing agencies to: (i) review Project activities, (ii) re-confirm strategic alignment of Project activities to the PDO; and (iii) ensure the necessary coordination amongst respective stakeholders.
3. **(b) Technical:** The IS team for the Project will consist of WB technical specialists who will review and supervise the execution of the Project components with co-executing agencies, ensure the activities keep in-line with the PDO, and make adjustments to the design and procurement plan when necessary. Ongoing support for M&E will continue to strengthen MF PCU's and the Bank's ability to both monitor Project progress and assess the impact of interventions.
4. **(c) Safeguards:** Bank environmental and social specialists (HQ-based) will support the MF and the co-executing agencies in the preparation and consultation process associated with the safeguard instruments needed for the Project (ESSAF, RPF, IPF, and EMPs, RAPs and IPPs when needed). This support will continue throughout Project implementation, in particular to ensure the application and effectiveness of those instruments. These specialists will ensure: (i) MF's and the co-executing agencies' knowledge and understanding of Bank safeguard instruments and further familiarize them with those; (ii) that counterpart actors have the capacity to undertake environmental and social analyses and develop mitigation approaches; and (iii) regular and close supervision of progress and implementation of the plans.
5. **(d) Procurement and Fiduciary:** The Bank's regional and field-based FM and procurement specialists will play a key role during the first phase of the Project because it is the first time the MF through its PCU has been working with the Bank, and they are using the retroactive financing modality. In general, the FM and Procurement specialists will provide timely, targeted training to the MF (the PCU in particular) and the co-executing agencies through periodic supervision missions during Project implementation. These specialists will: (i) develop MF's and the co-executing agencies' knowledge and understanding of Bank rules and procedures and

further familiarize them with those; (ii) introduce the MF and the co-executing agencies to Bank Procurement Guidelines and prepare them to use those; (iii) ensure they have the capacity to manage the flow of funds and accounting procedures, in line with FM guidelines; and (iv) support the PCU at the MF in building its overall FM and procurement capacity to improve and facilitate project management (in the context of this Project, and in general). Supervision of the Project's FM arrangements will be conducted semi-annually and, as needed, in response to GoE's needs. Procurement supervision will also be carried out semi-annually, preferably jointly with (two of) the regularly-scheduled Bank supervision missions. The support will focus primarily on contract management and on improving proficiency and efficiency in implementation according to Bank guidelines.

6. *(e) Client-relations:* The TTL and/or the co-TTL will: (i) coordinate Bank supervision to ensure consistent Project implementation, as specified in the legal documents (i.e. Financing Agreements, Project Operations Manual); and (ii) meet regularly with the GoE to gauge Project progress in achieving the PDO and address implementation roadblocks as they may arise.

II. Implementation Support Plan and Project Partners

Table 1. Implementation Support Plan

<i>Time</i>	<i>Main Focus</i>	<i>Skills Needed</i>	<i>Resource Estimate</i>	<i>Partner Role</i>
<i>First six months</i>	<i>Recognition of eligible expenditures (under Component 1)</i>	<i>Procurement, FM and safeguards specialists in particular</i>	<i>Monthly check between Bank team and MF PCU, at least and as needed</i>	<i>Documenting and presenting full information for recognition of eligible expenditures</i>
<i>6-12 months</i>	<i>Preparing for a possible disaster</i>	<i>Multidisciplinary task team</i>	<i>Bi-annual supervision missions</i>	<i>Preparing Contingency Plans and undertaking other mitigation measure in the meantime</i>
<i>12-42 months</i>	<i>Recovery activities if an Eligible Disaster occurs (Component 2). If no disaster occurs after 12 months of implementation, restructuring</i>	<i>Multidisciplinary task team</i>	<i>Bi-annual supervision missions with frequency increased as needed (e.g. at the time of post-disaster to help select emergency recovery activities)</i>	<i>Preparing recovery action plans and implementing them if an Eligible Disaster occurs. Preparing restructuring of the Project if no disaster occurs after 12 months of implementation.</i>
<i>42-54 months</i>	<i>Closing of the Project including starting ICR process</i>	<i>Multidisciplinary task team</i>	<i>Bi-annual supervision missions with frequency increased as needed</i>	<i>Documenting and presenting full information for disbursement prior to grace period (no invoice can be dated after closing date).</i>

Table 2. Skills Mix Required

<i>Skills Needed</i>	<i>Number of Staff Weeks per year</i>	<i>Number of Trips per year</i>	<i>Comments</i>
<i>Task Team Leader Senior DRM Specialist</i>	7	4	<i>HQ-based</i>
<i>Co-TTL Urban/DRM Specialist</i>	7	4	<i>HQ-based</i>
<i>Procurement Specialist</i>	10	6	<i>Regionally based and HQ-based as needed</i>
<i>FM Specialist</i>	8	NA	<i>Country-based and HQ-based as needed</i>
<i>Environmental Specialist</i>	6	3	<i>HQ-based</i>
<i>Social Specialist</i>	6	3	<i>HQ-based and Country-based as needed</i>
<i>M&E Specialist</i>	4	2	<i>HQ-based</i>
<i>Urban/DRM Analyst</i>	8	4	<i>HQ-based</i>
<i>Transport Specialist</i>	<i>As needed</i>	<i>As needed</i>	<i>As needed</i>
<i>Water and sanitation Specialist</i>	<i>As needed</i>	<i>As needed</i>	<i>As needed</i>
<i>Assistant</i>	6	NA	<i>HQ-based and Country-based</i>

Depending on Project development, # of staff weeks and trips can be adjusted over the years.

Table 3. Project Partners

<i>Name</i>	<i>Institution/Country</i>	<i>Role</i>
<i>Client</i>	<i>MF</i>	<i>Project Counterpart, overall responsible for Project implementation, in compliance with agreements spelled out in Financing Agreement coordinating the GoE's role in Project.</i>
<i>PCU</i>	<i>MF PCU</i>	<i>Responsible for Project execution.</i>
<i>Co-executing institutions</i>	<i>EPA, MAGAP, MTOP, MSP</i>	<i>For Component 1: all four responsible for implementation (of Subcomponent 1 for EPA, Subcomponent 2 for MAGAP, Subcomponent 3 for MTOP, Subcomponent 4 for MSP) in compliance with co-execution subsidiary agreements signed between each and the MF. For Component 2: EPA, MTOP and MAGAP responsible for implementation in compliance with co-execution subsidiary agreements signed between each and the MF.</i>
<i>Co-executing IUs</i>	<i>EPA IU, MAGAP IU, MTOP IU, MSP IU</i>	<i>For execution and technical quality of supervision and outputs of specific activities related to their respective sectors, including social and environmental management. For Component 1: all four responsible for execution and</i>

Name	Institution/Country	Role
		<i>technical quality of supervision and outputs of specific activities related to their respective sectors (to Subcomponent 1 for EPA, Subcomponent 2 for MAGAP, Subcomponent 3 for MTOP, Subcomponent 4 for MSP). For Component 2: EPA, MTOP and MAGAP responsible for execution and technical quality of supervision and outputs of specific activities related to their respective sectors.</i>
<i>Partner institutions</i>	<i>SGR, Ministry of Environment</i>	<i>SGR: strategic role, in preparedness and recovery action plans, coordinating all government efforts. Ministry of Environment: provides advice and the information required to be in compliance with national regulations and apply good environmental practices.</i>
<i>Bank and other donors</i>	<i>IDB, CAF, UNDP</i>	<i>Ensure coordination so that financed programs complement one another in terms of sectors of intervention, geographic areas of intervention, time of intervention, etc. to leverage recovery measures and development impacts.</i>
<i>Associations and the Private sector</i>	<i>Various</i>	<i>Consultations, participation (direct or indirect) in Project activities.</i>

Annex 5: Economic Analysis
Republic of Ecuador
Risk Mitigation and Emergency Recovery Project (P157324)

1. This is an emergency Project that combines ex-ante investment activities to prepare for the potential disasters (Component 1) and ex-post investment activities to restore the potential damages that could be caused by the potential disasters (Component 2). As such, an ex-ante economic cost benefit analysis was only possible for Component 1 of the Project. Under this first component, the Government of Ecuador (GoE) is undertaking emergency works to be prepared against the two imminent disasters of El Niño and Cotopaxi eruption, anticipating possible damages and losses in selected sectors. This component is highly time sensitive because the benefits expected from the emergency works are critical to avert potential losses in the case of the disaster. Component 2, which is the contingent part of the Project, will be activated and defined only if an Eligible Disaster occurs. For this second component, there is uncertainty in the specific type of investment since this depends on the probability of occurrence, the nature of the disaster, the magnitude of the event, and the scale of damages. For this reason, an economic analysis for Component 2 can be undertaken only once investments are identified. However, a qualitative analysis was done based on secondary resources and previous projects with similar activities.

2. For Component 1, the data used in the analysis was obtained from various sources. For the flood risk mitigation activities, the number of beneficiaries; the number of protected productive hectares; the estimated number of livestock were obtained from the Ministry of Agriculture. The average crop yield was obtained from a World Bank publication²⁸. The analysis for the transport connectivity activities was based on data obtained from a World Bank publication on economic and social issues in Ecuador²⁹. For the healthcare sub-component of the Project, the estimated economic loss per case of malaria in Ecuador was used to calculate potential benefits of preparing for emergency and buying medical supplies³⁰.

3. The objective of the physical investments financed under Component 1 is to avert future losses that would be caused by hazards induced by El Niño and Cotopaxi. Therefore, the benefits are measured primarily in the form of losses that are averted through mitigation of flood risk, reduction of transport interruptions and reduction of potential malaria cases. Given the lack of robust historical hydro meteorological and volcanic data, and precise information on the probability of the impact of flood and landslide events and the vulnerability of physical structures and crop cultivations, it is difficult to exactly determine the likelihood and magnitude of losses and hence the averted losses. To account for this uncertainty in determining averted losses due to the investments under this Project, a range of all possible values of input variables was probabilistically considered.

4. The benefits for the flood risk mitigation sub-component mainly come from rehabilitation of vulnerable infrastructure covering 140,000 hectares of land and protection of an estimated

²⁸ <http://data.worldbank.org/indicator/AG.YLD.CREL.KG>, accessed on 2/18/2016

²⁹ Revisiting Ecuador's Economic and Social Agenda in an Evolving Landscape, Vincent et al. (Ed.), 2012, Washington D.C.

³⁰ Asenso-Okyere et al., 2009, The Linkages Between Agriculture and Malaria, Issues for Policy Research.

5,000 livestock. The investments are estimated to benefit a total of 240,000 farmers. Benefits from the transport sector investment are based on savings due to the reduction of number of days of road closures. In the event of an interruption due to flooded bridges and slope failures, currently it is estimated that it takes 7 to 14 days to recover and re-open the roads for the public. Most of the time the combination of longer travel distance, due to taking alternative routes, and lower travel speed lead to significant time and productivity loss. The economic analysis takes into account these interruptions to calculate the time cost savings. The uncertainty around vehicle occupancy rates and the number of days it takes to re-open roads to the public and the benefit associated with time cost saving is probabilistically considered. For the health care sub-component of the Project, the average cost of a case of malaria and potential reduction because of pre-positioning of medical supplies was considered to estimate benefits³¹.

5. A Monte Carlo simulation analysis was performed to account for the uncertainty in determining the probability of impact of the natural hazards and the vulnerability of physical structures and crops to these perils. For all the variables that are estimated based on secondary resources, local knowledge and assumptions, a uniform distribution was used in order to account for the uncertainty of the values and to ensure that the calculation of the rate of return is robust. For the flood risk mitigation activities of Component 1 of the Project, uncertainties in probability of impact, crop and cattle prices are considered. Similarly, possible variations in vehicle occupancy rates, average daily traffic, and average number of road blockage per year are accounted for the transport connectivity activities. For the health care emergency sub-component, uncertainty around the number of days that a case of malaria lasts and average lost wage were considered.

6. The economic analysis was done over a period of 20 years and uses a discount rate of 5 percent. Operation & Maintenance costs ranging from 1 to 2 percent were also assumed over the period of the Project life.

7. The Project fairs very well with IRR of 27.6 percent and NPV of about US\$ US 92.9 million. The possible IRR range from 10.7 to 50.8 percent. The wide range of benefits for the Project is due to the deep uncertainty that comes with the extensive area affected by these hazards and the wide range of losses they can cause to property, agriculture and overall livelihood of the beneficiaries of this Project. Overall the economic analysis shows that the rate of return on the investments is sufficiently high and satisfactory, even when values of the variables that impact benefits are at their probable lower ends (Table 1 below).

Table 1. IRR and NPV for Component 1

	IRR (%)	NPV
Expected Value	27.6	US\$ 92,898,902
Standard deviation	7.9	US\$ 30,555,548
Minimum	10.7	US\$ 23,235,400

³¹ Asenso-Okyere et al., 2009, The Linkages Between Agriculture and Malaria, Issues for Policy Research.

Maximum	50.8	US\$ 173,074,761
Coefficient of Variance	28.7	0.33

8. Component 2, which is the contingent part of the Project, will be activated and defined only if an Eligible Disaster occurs. For this component, there is uncertainty in the specific type of investments to be financed. The activities under this component will depend on the nature of the disaster, the magnitude of the event, and the scale of damages. For this reason, it is not possible to conduct an economic analysis at the time of Project preparation: it will be undertaken only once potential investments are identified. However, based on the review of similar Emergency Recovery projects, the benefits of such post-disaster investments are linked to: (i) the immediate access to financing for the GoE to respond to the disaster; (ii) the speed of the delivery of emergency activities following a disaster; (iii) the replacement of existing infrastructure playing a key role in the social and economic activity of the affected area (access to health services, access to water, restored connectivity to growth poles, etc.); (iv) the long-term reconstruction taking into account higher standards to build back better and be more resilient to the effects of climate change. This type of emergency recovery investments have consistently been evaluated by IEG (Independent Evaluation Group) as having a substantial level of development effectiveness.

9. Furthermore, the proposed Project is supporting the public sector engagement of the GoE in disaster risk management (DRM) to protect the population against the imminent natural disasters, as well as the increasing effects of climate change. Given its fiscal constraints and current need for “liquidity funds”, the GoE has turned to its financial and development partners with a strategic program for financing. The WB adds value to improving the DRM sector by leveraging its experience worldwide and through its innovative and comprehensive framework which includes: risk identification, risk reduction, preparedness, financial protection, and resilient reconstruction.

Annex 6: Safeguards Action Plan (SAP)
Republic of Ecuador
Risk Mitigation and Emergency Recovery Project (P157324)

I. Background Guidance

1. The Risk Mitigation and Emergency Recovery Project is being prepared and implemented according to Paragraph 12 of the World Bank's Operational Policy 10.00, which allows for certain exceptions to the investment project financing policy requirements, including deferral of safeguards requirements, if the Bank deems the GoE to be in urgent need of assistance because of a disaster or conflict. In the context of this Project, Ecuador is currently facing two imminent natural hazards, as of November 2015, which could cause major damages and losses (estimated at US\$6 billion in total³²) at any time during the next 24 months: (i) a potential eruption of the Cotopaxi volcano, and (ii) potential adverse effects from the 2015-16 El Niño phenomenon. These potential damages and losses would have an important negative impact on the economic and social development of the country.

2. The exception allowing for deferral of environmental and social requirements was granted for this Project and the Bank has prepared, in accordance with its policies, the present Safeguards Action Plan (SAP). This is a Project-level safeguards planning document that provides a time-bound plan setting forth the steps and the sequential planning and coordination for Project activities and the preparation by the GoE of the relevant safeguards instruments to ensure compliance with the safeguards requirements. The SAP is guided by the dual objective of ensuring that there is a roadmap for safeguards compliance during Project implementation and providing clear guidance to the GoE on the types of actions and instruments required so as to facilitate speedy implementation of emergency services.

3. The deferral of safeguards granted is for postponing the disclosure of safeguards instruments to after Appraisal. Site-specific safeguards instruments (EMPs and, if necessary, IPPs and/or RAPs) are required for all investments financed under the Project; also those subject to retroactive financing (under Component 1). Said instruments must be ready, acceptable to the Bank and disclosed as early as possible, and latest before works start on the ground. Each co-executing agency will disclose a minimum of one EMP, cleared by the Bank, associated with their respective works under Component 1.

II. Project Description

4. The Project Development Objective (PDO) is to reduce the potential effects of the El Niño phenomenon and the Cotopaxi volcano, and support the recovery of basic and production services in affected areas in case of an Eligible Disaster, in selected sectors. An Eligible Disaster refers to any natural disaster, national or localized in scope, that poses or is likely to imminently pose a threat to life, assets and/or productive capacity of the GoE, which can be originated by: (i) geological hazards, i.e. extreme natural events originated in the crust of the earth, such as earthquakes, volcanic eruptions, tsunamis (tidal waves), landslides (as a secondary event after an

³² Data from the Secretariat of Disaster Risk Management (September 2015). Cotopaxi estimated damages and losses – US\$1.37 billion; El Niño damages and losses – US\$4.43 billion

earthquake for example), etc; (ii) hydro-meteorological hazards, i.e. natural events produced by the climate variability as heavy rains, flooding, landslides, etc.; (iii) intensified El Niño phenomenon causing heavy rains, floods, storm surge or landslides.

5. ***Component 1: Disaster Preparedness and Risk Mitigation (USD\$43.8 million)***: This Component aims to reduce the potential impact of the expected hazards from El Niño and Cotopaxi volcano, according to the emergency preparedness action plan prepared by the Secretariat of Disaster Risk Management (SGR), Coordinating Ministry of Security (MICS), and Ministry of Finance (MF). This plan is a selection of emergency activities that include, inter alia, river dredging, clearing of waterways, road rehabilitation, retaining walls and other preventative stabilization works, purchase of Bailey bridge components, building of livestock shelters, and procurement of supplies and components necessary to protect public health. Some activities require immediate action and are being prioritized because of the imminent risk of flooding (already happening in certain regions where the effects of El Niño have started) or imminent risk of volcanic eruption, and the associated investments could be therefore be supported by retroactive financing. The use of the retroactive financing modality is critical to the GoE because of the heavy rainfall caused by El Niño is expected to hit by end-December 2015 and the GoE wants to mitigate the risk of flooding to protect the population and assets in time, and avoid cost overruns in case works are interrupted due to the weather conditions. This Component is divided into four subcomponents corresponding to activities implemented by three line ministries and one public company under the coordination of the MF: EPA, MAGAP, MTOP, and MSP:

6. *Subcomponent 1.1: Disaster Preparedness and Risk Mitigation Emergency measures in the water and sanitation sector under EPA (US\$10.0 million)* executed by the Public Water Company (EPA); *Subcomponent 1.2: Disaster Preparedness and Risk Mitigation measures in the Agriculture, Livestock, Aquaculture and Fisheries sector under MAGAP (US\$2.0 million)* executed by the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP); *Subcomponent 1.3: Disaster Preparedness and Risk Mitigation measures in the transport sector under MTOP (US\$21.8 million)*; executed by the Ministry of Transportation and Public Works (MTOP); and *Subcomponent 1.4: Disaster Preparedness and Risk Mitigation measures in the health sector under MSP (US\$10.0 million)* executed by the Ministry of Public Health (MSP).

7. ***Component 2: Post-Disaster Recovery and Reconstruction (USD\$105.0 million)***: This Component aims at supporting recovery and reconstruction in the transport and water and sanitation sectors, and restores crop and livestock production, should an Eligible Disaster occur. It will follow a framework approach based on a list of eligible activities that contribute to the rehabilitation or re-construction of select transport/road, water/sanitation infrastructure, crop and livestock production or any other sector agreed between the GoE and the Bank and described in the Project's Operations Manual (POM), all through the carrying out of works and the provision of goods, consultants' services, non-consulting services and training.

8. Expected damages from a volcano eruption or heavy rainfall or other extreme climate event or other natural disaster such as an earthquake, include: (i) in the transport sector: destruction of part or totality of bridges, damages to the primary road network, as well as the secondary one down to the rural level, cutting access to key economic areas and/or leaving some populations isolated, potential damages and disturbance to Ecuador's ports, etc.; (ii) in the water

and sanitation sector: contamination of the potable water production and distribution system, destruction of part or totality of water and sanitation systems, clogging of sewage and drainage systems, damages to flood control infrastructure, etc.; (iii) in the agriculture sector: irrigation, drainage, compensation schemes to producers, etc.

9. *Component 3: Project Implementation, Monitoring and Evaluation (USD\$1.2 million):*

This Component will finance the activities of the PCU within the MF. The MF will manage, evaluate, supervise and implement the Project, coordinating and consolidating the work of its four co-executing agencies EPA, MAGAP, MTOP, MSP, including on fiduciary, procurement, and environmental and social safeguard aspects. Funding will provide support to the MF, EPA, MTOP and MAGAP for Project management, monitoring and evaluation (M&E), through the procurement of consultants' services and goods, training and operating costs.

III. Project Locations and Some Salient Social and Environmental Characteristics

10. The potential Project intervention area covers the whole of the country, depending on the actual scope of the Eligible natural Disaster(s) that Component 2 will address. Respect to Component 1, the Project will cover 20 of the 25 provinces: the provinces of Cotopaxi, Napo and Tungurahua related with a potential eruption of the snow-covered Cotopaxi volcano, located about 50km south of Quito and 33km northeast of Latacunga, the capital of the Cotopaxi province, and regarding the El Niño phenomenon, 17 provinces, excluding Napo, Tungurahua, Sucumbíos, Orellana, Pastaza, Morona Santiago y Zamora Chinchipe. According to the related risk mapping, at least an estimated 400,000 people and some key infrastructure could be affected if a potential eruption triggers explosions, mudslides, avalanches or other eruption-related incidents. Data from the Institute of Geophysics of Quito, which has been monitoring the volcano for decades with high technology, show that a VEI3-4 level of eruption (as experienced in 1877) could generate ash columns up to 15km high and up to 60 million m³ of lahars pouring down at a flow rate of 40,000 m³/s. The most likely scenario according to the Institute is a VEI2-3 level of eruption (as experienced in 1854) which could generate ash columns up to 8km high and up to 30 million m³ of lahars.

11. Regarding El Niño effects, during the period November 2015-to March 2016 at least, precipitation above normal is expected in isolated coastal areas and the south of Ecuador; and precipitation below normal in the rest of the coastal region, center and north of the Andes in Ecuador. Minimum temperatures below normal are expected in the central Sierra of Ecuador. Overall, the strongest impacts are expected in the most humid zones in the coast, where the pluviometric levels are linked to the surface temperature indices of the sea. The highest precipitation anomalies occur in areas close to the cordillera, where under normal condition precipitation is also high. The Guayas flood plain seems to be the area where the impact is strongest, causing flooding and landslides. This area concentrates 40 percent of the population of the country. Medium; noticeable but weak impacts are expected in the north of the coast and the western flank of the cordillera. Lastly, insignificant impacts are expected in the interandean valleys and the Amazons basin.

12. Different types of forest exist in the Project area from dry to moist forest ecosystems, and there is a number of different categories of protected areas in both the Cotopaxi volcano and El

Niño impacted areas. People live in the buffer zones of these protected areas. In terms of social composition, there is presence of indigenous peoples across the Project area, including in the cantons of Mejía, Ruminahui, Latacunga, Salcedo, and Saquisilí that, based on the analysis of the GoE through its Technical Working Groups (TWGs), are the most affected by a potential eruption of the Cotopaxi volcano.

IV. Possible Social and Environmental Impacts/Risks

13. *Involuntary Resettlement (OP/BP 4.12)*. This policy is triggered as both disaster prevention and response activities may result in limited temporary or permanent involuntary resettlement or land acquisition. Investments identified in Component 1 including maintenance of existing infrastructure such as roads, canals, and irrigation systems, dredging of rivers, and construction of cattle shelters in public land will involve minimal disruption and will not require land acquisition. The river dredging activities in rural areas will not necessitate land acquisition, but will require adequate consultation with local authorities and beneficiaries on the disposal of large amounts of sediment on public lands and potentially on private parcels in which owners actively seek to accommodate and use the material. This consultation process and requests for sediment disposal in private land will need to be documented by the Government.

14. The Project will rely on an Environmental and Social Screening and Assessment Framework (ESSAF) that will include amongst others a screening tool to verify the voluntary disposal of materials, to be applied by the contractors and supervisors for all civil works financed by the Project. A Resettlement Policy Framework (RPF) will be developed (as an annex to the ESSAF) to guidance for land acquisition in the event that Project activities require it. All the activities financed by the Project, including those covered by the retroactive financing modality (which are mostly under Component 1) will need to comply with safeguards requirements.

15. *Indigenous Peoples (OP/BP 4.10)*: This policy is triggered due to the presence of indigenous peoples within the Project area. The TWGs (known locally as *Mesas Técnicas de Trabajo*)³³ through which the GoE is identifying and prioritizing needs, developing action and contingent plans in response to Cotopaxi's increased activity, indicate that Mejía, Ruminahui, Latacunga, Salcedo, and Saquisilí are the cantons that would be affected the most by a potential eruption, and they host indigenous populations. The majority of disaster mitigation activities around Cotopaxi will concentrate on existing infrastructure works that have been screened and found to not have negative effects on indigenous populations. Only the construction of cattle shelters in proximity of the volcano may require an Indigenous Peoples Plan (IPP) to ensure adequate consultation, communication, and inclusion of indigenous communities likely to benefit from the works. A screening of the zone of influence of the shelters for cattle to be constructed revealed that close to 90 percent of the population were Mestizo, while the indigenous populations were scattered throughout the zone and not concentrated in communities; the indigenous populations in this Project area do not meet the characteristics set out in OP 4.10. This was confirmed by the local social scientist advising the task team and the GoE.

³³ There are 8 *Mesas Técnicas*, which are the mechanisms created by the Government to coordinate the technical capacities of the public and private sectors to risk reduction and emergency response: (1) Water, (2) Health and Sanitation, (3) Infrastructure, (4) Comprehensive response to the communities, (5) Population Safety, (6) Productivity, (7) Education, Culture and Environment, and (8) Strategic Sectors.

16. An Indigenous Peoples Planning Framework (IPPF) is being prepared as part of the ESSAF to include specific guidance on how to effectively engage indigenous communities as well as procedures to be used for screening all activities identified post-Appraisal, ensuring that they maximize social benefits, and avoid or mitigate adverse impacts on indigenous peoples.

17. *Gender*: It is well documented in the literature that gender and equality have a strong link to disaster vulnerability and resilience³⁴. In view of Cotopaxi's potential eruption, the Ministry of Social and Economic Inclusion (MIES) has taken into account gender implications through the *Mesas Técnicas Sectoriales*, and included them into contingency plans for activities such as temporary shelters and non-food items. However, these activities needing a strong gender mainstreaming will be covered by other sources of funding other than the Project at hand. The Project will take gender into account in its broadest terms by disaggregating the number of beneficiaries. The target is 65 percent of female beneficiaries.

18. *Citizen Engagement*: The Project will include a strong citizen engagement component in the road rehabilitation activities implemented by the MTOP (percent of funding). The MTOP currently implements a participatory methodology in the construction and reparation of roads across the county in which small groups of people (10 to 20 people on average) become registered as a small enterprise and carry out small manual labor activities in the roads under the supervision of the Ministry's staff. These microenterprises are paid formally and contribute in taxes. Similarly, MSP will undertake community-based activities "Mingas" in areas where the risk of vector-borne diseases is high (e.g. fumigation campaigns against malaria). The Project will also include a grievance redress mechanism (GRM) and a related indicator at the intermediate level. The ESSAF will specify that contractors will have the obligation to document and resolve grievances. The GoE will follow up on the grievances expressed and report to the Project Coordination Unit (PCU) at the Ministry of Finance (MF). A strategy for citizen and stakeholder engagement will be prepared and carried out during early stages of Project implementation

19. *Environmental Assessment (OP/BP 4.01)*: The Project will be implemented in areas that are expected to be (Component 1) and will be (Component 2) hit hardest by the El Niño effects and the potential eruption of Cotopaxi. Given the magnitude of expected damage by both causes, the Project is designed to provide rehabilitation and recovery support to affected areas in which public infrastructure and services delivery result severely impacted. The Project triggers OP/BP 4.01 on Environmental Assessment as it is classified as an "Environmental and Social Category B" operation under the same. Potential environmental impacts are related to both Component 1 (Disaster Preparedness and Risk Mitigation) and 2 (Post-Disaster Recovery and Reconstruction). The civil works identified and planned for preventive action are nevertheless mostly rehabilitative works and minor in scale and thus site-specific. Three works will include dredging and require preparation of specific EMPs that EPA is finalizing in consultation with the Ministry of Environment (MAE). The works will take place at different locations in large geographical area. The same is expected for the recovery and reconstruction phase; investments will focus on rebuilding and rehabilitation of existing transport/road and water/sanitation infrastructure and crop and livestock production. Consequently, no significant or irreversible environmental impacts are anticipated due to the Project-financed activities. Furthermore, the ESSAF will include a negative list to exclude any potential "Category A" investment.

³⁴ Ferris, Petz, and Stark, 2012; IFRC, 2010; Enarson and Chakrabarti, eds, 2009; Fothegill, 2008.

20. Local extraction of construction material (sand, gravel, clay) may increase vulnerability to landslides and soil erosion and material will need to proceed from low-risk and authorized sources. Small scale construction works have minor risks related to health and safety. The Project can also contribute positively by promoting ‘build back better’ through integration of resilient and innovative ideas/technologies for rehabilitating/constructing water infrastructure, e.g. safe location, flood resistance structure, re-use of salvaged material, and alternative energy.

21. *Other Environmental Safeguards:* The projected Project intervention area includes protected areas and their buffer zones and forests of different types. The Component 1 activities will not impact such areas nor identified physical cultural resources, and the same is expected for Component 2. However, as the actual scale and location of the potential natural disaster impacts are unknown, the Project applies a precautionary principle and triggers the three related environmental safeguards; Natural Habitats OP/BP 4.04; Forests OP/BP 4.36; and Physical Cultural Resources OP/BP 4.11. Similarly, Safety of Dams OP/BP 4.37 is triggered for precautionary purposes for potential responsive action needed under Component 2, taken there are various major dams in the area susceptible to the El Niño effects. In case any major dam/reservoir would result damaged by an Eligible natural Disaster and the GoE would prioritize the reparation with Project funding, the ESSAF will provide guidance on the applicable safeguards procedures to be followed. Finally, Pest Management OP 4.09 is triggered as Component 1 will finance personal protection equipment for safe handling of chemical larvicides to control mosquitos as vectors for several diseases that are expected to spread due to the El Niño effects and might cause increased use of chemicals. The assessment of MSP’s capacity and adequacy of the system for managing chemicals is being conducted and will be finalized before Project Approval. In case a Pest Management Plan is required, it will be ready before any equipment/chemicals (financed by the Project) can be used.

V. Safeguards Instruments, Mitigation Process and Implementation Schedule

22. To address the above referred aspects under the Project, each co-executing agency counts at least with the minimum of environmental staff and management capacity to deliver the required environmental management with Bank assistance. Each Ministry has named a responsible staff to contribute to preparation of the Project’s social and environmental management instruments.

23. The co-executing agencies are preparing an ESSAF to ensure identification and adequate management of social and environmental issues and risks relating to Project implementation. Beyond the RFP and IPPF, the ESSAF will consist of:

i. Screening methodology for all types of potential civil works related with rehabilitation of water and road infrastructure, and restoration of crop and livestock production to identify relevant environmental and social issues and risks as well as environmental enhancement opportunities, as well as to determine relevant national requirements related to environmental, health and safety management and the applicability of the Bank’s Operational Policies on environmental and social safeguards. Said methodology will include a negative list to exclude any potential “Category A” investment from Project funding.

ii. A simple template for site specific EMPs to be completed and customized for each subproject based on the results of site screening to specify the siting, design, demolition/land clearing, and construction management requirements for construction and other physical activities.

iii. Procedures, roles and responsibilities for carrying out and approving site-screening templates and site specific EMPs, ensuring that subproject siting, designs, plans, specifications and implementation plans reflect the environmental screening outcomes and EMP requirements are compliant with applicable Bank safeguards and meet relevant policies/acts, strategies/rules and regulations of GoE.

iv. Approach and Action Plans, if necessary, to mitigate the direct and indirect/induced impacts on any type of forest, protected areas and buffer zones and/or physical cultural resources, considering the potential risks to these resources.

v. A multi-tiered GRM to receive and handle complaints relating to exclusion and inclusion errors during beneficiary targeting, those adversely affected by the Project, and delivery of Project benefits. Such mechanisms will rely on existing community institutions and the four Executive Units and the overall Project coordination by the Ministry of Finance, as applicable.

vii. Generic sub-project safeguard supervision/monitoring form developed for rehabilitation works to record compliance with the subproject specific safeguards instruments (EMP, IPP, RAP). These will be administered by EPA, MTOP and MAGAP that will be mobilized to provide close technical support and supervision at the local levels.

viii. Capacity building needs of EPA, MTOP and MAGAP relating to safeguards, and a plan for training programs at various levels that will be required to implement the ESSAF and monitor compliance.

24. The ESSAF will guide the co-executing agencies to: i) guide the identification of possible social and environmental issues; ii) develop mechanisms to comply with relevant GoE's and Bank's policy requirements; iii) lay out the approach and procedures relevant during sub-project planning and implementation to mitigate the potential environmental and social impacts of the proposed investments and incorporate enhancement measures where relevant and feasible; and iv) describe the institutional and implementation arrangements, the monitoring mechanisms, and the capacity building needs for effective implementation of the ESSAF, including the development of Resettlement Action Plans (RAPs) and Indigenous Peoples Plans (IPPs) in case of involuntary resettlement or impacts on indigenous peoples. On-time implementation support will be made available by the Bank to help with the preparation of the instruments. Guidance will also be provided on conducting rapid social assessments, and simplified templates will be made available for the completion of site-specific plans when required. All activities financed by the Project will comply with safeguards requirements, including those subject to retroactive financing.

25. Each planned civil work counts or will count with the necessary and minimum environmental permitting requirements by the national legislation. Each will have an applicable Environmental Management Plan (EMP), whose level of detail and scope depends on the type of activity, as acceptable to the Bank and disclosed in-country and on the WB's external website. In practice, the construction of temporary but major cattle shelters to prevent livestock lost due to a potential volcanic eruption and the dredging works require and will count with the most detailed EMPs, whereas preventive maintenance of road sections and potential canals and irrigation

systems rely on environmental good practices specified for the type of works and natural and human environment in question. Use of retroactive financing to cover costs of Component 1 requires that the GoE and Project-financed contractors and supervisors comply with the EMPs.

26. Overall, the Project is expected to contribute to enhance the Government's capacity of social and environmental management during natural disasters.

27. *Consultation and Disclosure:* Regarding the ESSAF, an advanced draft was prepared before Project Negotiations then published in-country and on the WB's external website (on February 3-4, 2016). Consultations on the draft document with relevant GoE agencies, local authorities, and civil society representatives were held until February 18, 2016, to collect feedback and contributions to the final document that will be published similarly before Project Effectiveness.

28. Environmental monitoring, evaluation and reporting on environmental and social management will be part of the Project implementation process and local authority reporting system. During construction, contractors will keep records of all activities carried out on the Project site, which will be submitted to the responsible co-executing agency. Departmental environmental officials will be responsible for monitoring at the local level on a quarterly basis. Compliance to environmental and social screening will be generated from annual reports, evaluation reports and feedback meetings and implementation support missions.

29. *Awareness on Environmental Mitigation Measures:* The ESSAF will also outline provisions for the awareness/orientation sessions for environmental and social training aimed at contractors of civil works. Appropriate training will cover areas such as: screening of projects, policy and legal framework on environment and construction, disposal of solid and liquid waste from premises, and measures to prevent the spread and contraction of HIV/AIDS. Environmental and social rules for contractors will be incorporated within construction bids and contracts to enhance obligations on contractors.

VI. Actions, Responsibilities and Implementation Schedule

Table 1. Safeguards Action Plan

No.	Action	Responsibility	Due Date**
Grievance Redress Mechanism			
1.	Confirm the Project-level grievance redress mechanism (GRM) in the POM	MF/EPA/MTOP/ MAGAP/MSP	Completed - during Appraisal mission
ESSAF incl. RPF and IPPF			
2.a	Preparation of ESSAF To be sent to WB for revision	MF (leader)/ EPA/MTOP/ MAGAP/MSP	Completed - prior to Negotiations mission
2.b	Public disclosure of draft ESSAF (draft enhanced version) In-country and on WB's external website (WB responsibility)	MF (leader)/ EPA/MTOP/ MAGAP/MSP	Completed - two weeks after Project Negotiations.
2.c	Consultations on the draft ESSAF, incl. RPF and IPPF	MF (leader)/ EPA/MTOP/ MAGAP/MSP	Completed - over a period of 15 days following public disclosure of draft ESSAF
2.d	Preparation of final ESSAF following the consultations To be sent to WB for approval	MF (leader)/ EPA/MTOP/ MAGAP/MSP	Prior to Board Approval
2.e	Public disclosure of ESSAF (final version) In-country and on WB's external website (WB responsibility)	MF (leader)/ EPA/MTOP/ MAGAP/MSP	Considered as a Project Effectiveness condition.
2.f	Delivery of training to the co-executing agencies on ESSAF/RPF/IPPF	WB	After Project launch
EMPs *			
3.	Any works contract financed by the Project requires a finalized and published EMP , before contract award can be given. Any works contract subject to retroactive financing (under Compo. 1) requires a finalized and published EMP , before the contract can be awarded, or under exceptional circumstances, prior to the commencement of works but with an enhanced draft EMP published before the contract can be awarded. For each co-executing agency and each type of works contracts: <ul style="list-style-type: none"> • Send the EMP to the WB for revision and approval, • Publish final version of EMP (in-country and on WB's external website), • For EPA: an EMP has to be published for 	MF/EPA/MTOP/ MAGAP/MSP	Prior to the award of the contract, or under exceptional circumstances, prior to the commencement of works (but with an enhanced draft EMP prior to the award of the contract)

No.	Action	Responsibility	Due Date**
	<p>each of the 3 dredging Works contracts.</p> <p>Documents revision/approval and publication on WB's external website are WB responsibility.</p>		
IPPs and RAPs when required *			
4.	<p>Any works contract financed by the Project requires an assessment of the need for an IPP and for a RAP. If required, they need to be finalized and disclosed prior to the award of the contract.</p> <p>For each work contract that requires those instruments:</p> <ul style="list-style-type: none"> • Send the instrument to the WB for revision and approval, • Publish final version of the instrument (in-country and on WB's external website). <p>Documents revision/approval and publication on WB's external website are WB responsibility.</p>	MF/EPA/MTOP/MAGAP/MSP	Prior to the award of the contract
Assessment of MSP's capacity and system adequacy for managing chemicals (OP 4.09)			
5.	Assessment to be finalized prior to Board Approval	MF/MSP/WB	Prior to Board Approval

* EMPs, IPPs and RAPs when required, will follow the same process as for the ESSAF (preparation, public disclosure and consultations, finalization).

** Appraisal was completed on Dec 18, 2015. Project Negotiations were conducted on Jan 13 and concluded on Jan 14, 2016. Board Approval is tentatively planned for Feb 25, 2016 ("Board" refers to the Board of Executive Directors of the World Bank Group).

Annex 7: Map of Ecuador (IBRD 33399R)

Republic of Ecuador
Risk Mitigation and Emergency Recovery Project (P157324)

