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GFDRR

PERU: A COMPREHENSIVE STRATEGY FOR FINANCIAL PROTECTION AGAINST NATURAL DISASTERS

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GFDRR
Global Facility for Disaster Reduction and Recovery

02

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Abbreviations and Acronyms

AFP	Pension Fund Administrator in Peru
CAF	Andean Development Corporation
Cat DDO	Catastrophe Risk Deferred Drawdown Option
CENEPRED	National Center for the Assessment, Prevention, and Reduction of Disaster Risks
CEPLAN	National Center for Strategic Planning
DGETP	General Directorate of Public Indebtedness and Treasury (Ministry of Economy and Finance)
DGPPIP	General Directorate of Private Investment, Promotion and Policies (Ministry of Economy and Finance)
DGR	Directorate of Risk Management (Ministry of Economy and Finance)
DPL	Development Policy Loan
DRFIP	Disaster Risk Financing and Insurance Program
DRM	Disaster Risk Management
FEF	Fiscal Stabilization Fund
FOGASA	Guarantee Fund for Agricultural Insurance
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GIZ	German Agency for International Cooperation
GoP	Government of Peru
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank
INDECI	National Civil Defense Institute
INEI	National Institute of Statistics and Informatics
JICA	Japan International Cooperation Agency
MEF	Ministry of Economy and Finance
MINAG	Ministry of Agriculture
MTC	Ministry of Transportation and Communications
OECD	Organisation for Economic Co-operation and Development
OSITRAN	Supervisory Agency of Investment in Public Transportation Infrastructure
PCM	Presidency of the Council of Ministers
PIP	public investment projects
PLANAGERD	National Disaster Risk Management Plan
PML	Probable Maximum Loss
PMM	Municipal Modernization Program
PPP	Public–Private Partnership
ProInversión	Agency for Private Investment Promotion
RBB	Results-Based Budgeting
ROF	Organization and Functions Rules
SBN	National Superintendency of Public Assets
SBS	Superintendency of Banking, Insurance, and Private Pension Funds Administrators
SDRM	Secretariat for Disaster Risk Management of the PCM
SECO	State Secretariat for Economic Affairs (Switzerland)
SINAGERD	National Disaster Risk Management System
SNIP	National Public Investment System
WB	World Bank

Glossary

Contingent liabilities	Possible obligations that can be confirmed only by the occurrence or not of one or more uncertain future events that are beyond the full control of the public entity.
Direct damage	Goods or assets destroyed or damaged by the effect of a disaster, that is, total or partial destruction of physical infrastructure or buildings, including, damage to installations, machinery, equipment, means of transportation and storage, and furnishings; destruction of cultivated land, irrigation canals, crops ready to be harvested; and so on.
Emergency	State of damage to life, property, and the environment as a result of a natural or human-induced phenomenon that alters the normal progress of activities in the affected area.
Hazard or peril	Potentially harmful natural or human-induced phenomenon that can occur in a specific location with certain intensity and within a definite period of time or at a given frequency.
Indirect damage or consequences	Damage or consequences associated with an interruption of the flow of goods and services that prevents them from being produced or rendered for a period of time following the disaster up through the rehabilitation and reconstruction process. Indirect damage also includes increased expenses for emergency care, for example, the purchase of food and the cost of transporting it to the disaster area, the cost of renting offices owing to destruction of the building used for the purpose, and so on.
Loss exceedance probability–PML (probable maximum loss) curves	Annual probability that a given amount of loss will be exceeded. The exceedance probability is based on the minimum loss that could occur with a given annual probability. The level of loss associated with an exceedance probability is called probable maximum loss (PML). Technically, a PML is a percentile of the loss distribution.
Parametric (or indexed) insurance	Non-indemnity insurance that makes payouts based on an index or parameter established in the contract.
Pure premium	The expected value of annual losses calculated on the basis of the frequency and the severity of loss distributions. It is defined as the average annual incurred losses.
Subsidiarity principle	The making of decisions as closely as possible at the level of citizens. The national level, except in its areas of exclusive competence, only intervenes when the disaster response exceeds the regional or local level capacity.
Reinsurance	Insurance contract under which a reinsurance company insures an insurance company's portfolio of policies (reinsurance treaty) or an individual policy (facultative contract).
Reinsurance cession	Amount transferred by an insurance company to one or several reinsurers.
Retention	The share of losses that the insured has to pay, whether because of lack of insurance, self-insurance, or a deductible amount. In the case of reinsurance, it is the share of the risk not ceded to the reinsurer (that is, retained by the insurance company).
Return period	The inverse of the probability of exceedance. The PML curve is usually presented in relation to the return period.
Risk profile	Set of metrics (for a given geographic area and period of time, usually one year) for analyzing the losses that could occur owing to one or several given hazards.
Vulnerability	The susceptibility of a population, physical structure, or socioeconomic activity to suffer damage from the action of a hazard or peril.

Introduction

01

Disasters associated with the effect of natural events pose a major challenge for economic stability and fiscal sustainability in Peru. The country is exposed to a number of natural hazards because of its location and its geographic, social, and economic characteristics. Disasters associated with natural hazards have had adverse social and fiscal consequences throughout history. As the country's population and economy continue to grow, the level of exposure to risk will also grow, and, even if all other variables remain unchanged, the losses incurred because of these natural events will increase as well. Taking this circumstance into account, the Government of Peru (GoP) has prepared a strategy based on strategic lines of action to strengthen disaster risk financial management over the long term, adopting the comprehensive approach described in this document.

Peru has adopted disaster risk management (DRM) as a state policy. Within this context, the country needed a legal framework that reflected both national policy on the subject and internationally recognized best practices in risk management. Accordingly, an act establishing the National Disaster Risk Management System (Sistema Nacional de Gestión del Riesgo de Desastres, or SINAGERD) was promulgated in February 2011, followed by publication of its enabling regulations in May of the same year. The system's main objectives, among others, are to identify and reduce hazard-related risks and minimize their effects, prevent the occurrence of new risks, and mobilize resources both for preparedness and for response when disaster strikes. One of the SINAGERD instruments is a financial management strategy.

In March 2011, a Directorate of Risk Management (Dirección de Gestión de Riesgos, or DGR) was established within the Ministry of Economy and Finance (Ministerio de Economía y Finanzas, or MEF). It is entrusted with identifying, evaluating, and monitoring financial, operational, and contingent fiscal risks, whether legal, contractual, or derived from natural disasters, and proposing guidelines, policies, and strategies for managing them. At the end of 2012, the Risk Committee was created within the MEF. It is chaired by the minister and is responsible for managing the risks that affect the Public Finances, including those associated with disasters. Some of these initiatives have stemmed from policy commitments associated with loans from bi- and multilateral lending agencies.

Under the SINAGERD Law, the MEF is responsible for identifying and evaluating appropriate cost-effective mechanisms that will ensure that Peru has the financial capacity to manage major disasters and the subsequent reconstruction phase, as well as appropriate mechanisms for disaster risk financial management.[1] This overall context has given rise to the development of program budgets and public investment programs aimed at mitigating the economic and fiscal consequences of such events[2]—measures that are important for reducing the financial needs resulting from a major disaster.

1 Paragraph 16.4, Article 16, Subchapter I, Chapter VII, Law No. 29664 (2011).

2 The Government has integrated disaster risk management into all programs and policies. In addition to developing a Program Budget for the Reduction of Disaster-Related Vulnerability and for Emergency Response (Program PP068) in 2011, it ensured that components on DRM have been included in other programs such as the Incentive Plan for the Improvement of Municipal Management (Plan de Incentivos para la Mejora de la Gestión Municipal) and the Municipal Modernization Program (Programa de Modernización Municipal). Similarly, the National Public Investment System (Sistema Nacional de Inversión Pública) has incorporated DRM into the design, preparation, and implementation of public investment projects at all levels.

In addition, the General Law on the National System of Indebtedness establishes a legal framework that allows the GoP, through the Ministry of Economy and Finance's General Directorate of Public Indebtedness and Treasury (Dirección General de Endeudamiento y Tesoro Público, or DGETP), to contract contingent loans and other instruments available or developed by the market designed to mobilize resources in the event of a natural or technological disaster and to mitigate risks in emergencies and economic and financial crises in the country.[3] As of December 2015, the GoP held specific contingent credit lines from bi- and multilateral international agencies such as the Andean Development Corporation (CAF), the Inter-American Development Bank (IDB), the Japan International Cooperation Agency (JICA), and the World Bank (WB) for use in the event of disasters associated with natural hazards. The country also has a contingency reserve for responding to emergencies and providing rehabilitation following a disaster, as well as a Fiscal Stabilization Fund (Fondo de Estabilización Fiscal, or FEF), which can also be used in case of disasters.[4]

To strengthen the management of contingent fiscal risks that might result from natural disasters and to preserve the macroeconomic stability and sustainability of fiscal policy during such events, the MEF has defined six priority strategic lines of action for evaluating, reducing, and managing disaster-related fiscal risk, as follows:

(i) Identify, quantify, and assess the fiscal risk of disasters associated with natural hazards.

(ii) Formulate the components for developing and implementing tools for risk retention and transfer.

(iii) Establish guidelines for the use of available funds to respond to major disasters.

(iv) Promote the assessment, prevention, and reduction of disaster risk, as well as emergency preparedness through financial mechanisms within the results-based budget framework, and incorporate disaster risk management into public investment.

(v) Promote the development of a domestic catastrophe insurance market for responding to disasters associated with natural hazards.

(vi) Coordinate and promote the operational continuity of the State, which is fundamental to implementing the financial strategy for disaster risk management.

3 Paragraph 59.1, Article 59, Chapter VI, Title VII, Law No. 28563.

4 Law on Fiscal Prudence and Transparency (Law No. 27245), published in the *El Peruano Official Gazette (Diario Oficial El Peruano)* on December 27,1999; Law on Strengthening Fiscal Responsibility and Transparency (Law No. 30099).

This document describes the efforts that the MEF has made, is making, and will continue to make to implement the strategic lines of action defined above, in fulfillment of the legal mandate given by Article 16 of the SINAGERD Law.

A number of government entities, with the support of international organizations, are collaborating in the implementation of these strategic lines of action. To implement these lines of action, the MEF is currently coordinating with, among others, the Secretariat for Disaster Risk Management (Secretaría de Gestión del Riesgo de Desastres, or SDRM) of the Presidency of the Council of Ministers (Presidencia del Consejo de Ministros, or PCM); the National Civil Defense Institute (Instituto Nacional de Defensa Civil, or INDECI); the National Center for the Assessment, Prevention, and Reduction of Disaster Risks (Centro Nacional de Estimación, Prevención y Reducción de Riesgos de Desastres, or CENEPRED); the Geophysical Institute of Peru (Instituto Geofísico del Perú, or IGP); the Peru-Japan Center for Seismic Research and Disaster Mitigation (Centro Peruano-Japonés de Investigaciones Sísmicas y Mitigación de Desastres, CISMID); the National Superintendency of Public Assets (Superintendencia Nacional de Bienes Estatales, or SBN); the Superintendency of Banking, Insurance, and Private Pension Funds Administrators (Superintendencia de Banca, Seguros y AFP, or SBS); the National Center for Strategic Planning (Centro Nacional de Planeamiento Estratégico, or CEPLAN); the Supervisory Agency for Investment in Public Transportation Infrastructure (Organismo Supervisor de la Inversión en Infraestructura de Transporte de Uso Público, or OSITRAN); the Private Investment Promotion Agency (Agencia de Promoción de la Inversión Privada, or Proinversión); the Ministry of Transport and Communications (Ministerio de Transportes y Comunicaciones, or MTC); and the Ministry of Housing, Construction, and Sanitation (Ministerio de Vivienda, Construcción y Saneamiento, or MVCS). In addition, the MEF is working to strengthen financial disaster risk management and insurance with assistance from the World Bank's Disaster Risk Financing and Insurance Program (DRFIP), the State Secretariat for Economic Affairs (SECO) of Switzerland, the Global Facility for Disaster Reduction and Recovery (GFDRR), and the Inter-American Development Bank. Cooperation with Japan (JICA) and Germany (German Agency for International Cooperation [Deutsche Gesellschaft für Internationale Zusammenarbeit, or GIZ]) has also resulted in contributions in specific areas.

Within the framework of the foregoing programs, the World Bank has been providing support to the MEF and other government entities for implementing the strategic lines of action and strengthening disaster risk management in general.

02

Exposure to Natural Hazards

The risk of disasters caused by natural hazards in Peru is linked to the country's geographical location and the nature of its exposed assets and infrastructure. The country is located on the Pacific Ring of Fire, where 80 percent of the world's seismic movements occur.[5] In addition, the presence of the Humboldt Current, the proximity of the Equator, the influence of the Amazon region, and the country's rugged terrain (traversed longitudinally by the Andes mountains with their diverse geomorphology) expose it to a number of geological hazards, including earthquakes, mudflows, landslides, and erosion. Furthermore, its location in the tropical and subtropical belts on the western coast of the South American continent also exposes the country to hydrometeorological events, including El Niño phenomenon, extreme rainfall, floods, droughts, freezes, hailstorms, strong winds, and the like.

The many hazards and vulnerabilities to which the country is exposed are not present with the same frequency and severity throughout its regions. Lima and Callao are home to 31.6 percent of the 30.8 million inhabitants of the country[6] and are the source of nearly 44 percent of the national GDP.[7] The property and infrastructure of Lima and Callao are especially vulnerable to disasters because of the high-density occupation of space and intensive exercise of socioeconomic and cultural activities. Therefore, this area should be the focus of a more intensified DRM approach.

Earthquakes have caused very high human and material losses in Peru. In the specific case of the most recent earthquake in Pisco in 2007, direct and indirect losses amounted to 1.24 percent of that year's GDP, or nearly S/. 4 billion (table 1). In terms of the country's 2014 GDP of S/. 576 billion,[8] this loss would be equivalent to approximately S/. 7 billion. The social sector was most heavily affected, with losses in the subsectors of housing, education, health care, social services, sports, and culture. Emergency expenditures represented 8.42 percent of all losses.

5 Kuroiwa 2002.

6 July 11: World Population Day. INEI 2014.

7 INEI, http://series.inei.gob.pe. Information for the GDP of both Lima and Callao and the national GDP are based on 2013 prices.

8 Nominal GDP for 2014 was taken from Banco Central de Reserva de Perú, http://www.bcrp.gob.pe/estadisticas/cuadros-anuales-historicos.html.

Table 1: Losses from the Pisco Earthquake, 2007[9]

Sector	Direct Damage (S/.)	Indirect Damage (S/.)	Total (S/.)	%
Social[a]	2,813,762,799	251,546,059	3,065,308,858	77.06%
Infrastructure[b]	333,742,265	27,254,209	360,996,474	9.08%
Production[c]	39,080,457	19,587,913	58,668,370	1.47%
Emergency expenditures		335,094,042	335,094,042	8.42%
Intervention expenditures		157,609,586	157,609,586	3.96%
Environment[d]	70,002	65,254	135,256	0.00%
Total	**3,186,655,523**	**791,157,063**	**3,977,812,588**	**100.00%**
Total (% of 2007 GDP[e])	**1%**	**0.24%**	**1.24%**	

a. The social sector includes lost income resulting from the paralysis of economic activity following the earthquake. The social sector includes housing, education, health care, social services, sports, and culture. Losses in the housing subsector include the loss of assets that were destroyed and the cost of repairing the affected dwellings. The Bonos 6000 subsidies granted by the Government have been subtracted.
b. The infrastructure sector includes water and sanitation, transportation, communications, and electric power.
c. The production sector includes agriculture, fishing, and tourism.
d. The environment sector corresponds to resources spent by international agencies and cooperating countries on rehabilitation and reconstruction.
e. Nominal GDP for 2007.

Source: Evaluation of the socioeconomic and environmental effect of the earthquake that occurred on August 15, 2007. INDECI 2010.

As mentioned earlier, another major hazard in the country is flooding associated with the El Niño phenomenon, which has an especially severe effect on the production and infrastructure sectors. Peru is acutely vulnerable to severe variations in weather patterns such as those triggered by El Niño. The measure of this effect can be seen in the economic losses attributed to El Niño in 1982–83 (US$3,283 million) and 1997–98 (US$3,500 million)—losses equivalent to 11.6 percent of annual GDP for 1983 and 6.2 percent of annual GDP for 1998.[10] Climate change is expected to increase the frequency or severity of droughts, freezes, and frequent heavy rains such as those that occurred in the southern and central mountains in 2010.

9 Totals calculated in December 2008.
10 OMM, 2004. La predicción de El Niño: El aporte de la ciencia al siglo XXI. América Latina. The Flip Side of Science. M. H. Glantz. p. 43.

Legal Framework

03

The GoP has developed a financial management strategy for dealing with disaster risks associated with natural hazards within the framework of the National Accord of September 2004. The accord's 34 State Policies include a call for the reduction of poverty and emphasize the importance of fostering a culture of risk prevention and control in light of the country's vulnerability to disasters. More recently, State Policy No. 32 on DRM has been added, as well as State Policy No. 34 on territorial regulation and management.

In fulfillment of State Policy No. 32, the SINAGERD Law (Law No. 29664 [2011]), together with its enabling regulations (Supreme Decree No. 048-2011-PCM), created a legal framework for the implementation of comprehensive disaster risk management by all public entities at the three levels of government. It also defined the concept of comprehensive risk management, the principles that guide it, the national policy guidelines for DRM, and the roles of the various entities involved.

Article 16 of the SINAGERD Law states that "the MEF is responsible for evaluating and identifying appropriate cost-effective mechanisms to ensure that the State has the financial capacity to respond to major disasters and subsequent reconstruction, as well as for implementing appropriate mechanisms for the financial management of disaster risk." Thus, the MEF is responsible for developing a nationwide financial management strategy for dealing with disaster risk. These mandates were fulfilled by creation of the Directorate of Risk Management within the MEF as part of the DGETP under Ministerial Resolution No. 223-2011-EF/43 of 2011, Organization and Functions Rules (Reglamento de Organización y Funciones, or ROF) of the MEF. The regulations stated that the MEF is responsible for "developing and proposing policies, guidelines, and strategies for the management of financial risks (market, liquidity, credit and/or counterparty, investments, country risks), operational and legal or contractual contingent risks, or those associated with natural disasters." The foregoing was consolidated under the ministry's new ROF, published through the Supreme Decree No. 117-2014-EF, which reiterates the MEF's role in the management of contingent fiscal risks associated with natural disasters.

Supreme Decree No. 111-2012-PCM approved the National Policy on Disaster Risk Management as a Mandatory Policy. This instrument guides the actions of all the entities involved in protecting the physical integrity of persons and their property and promoting the country's sustainable development.

In 2012, the Indebtedness Law for FY 2013 established a permanent Risk Committee[11] within the MEF, which, in turn, created a Working Group[12] for financial coordination in the aftermath of major disasters. According to its operating rules, the Risk Committee is responsible for establishing guidelines and deciding on measures for the proper management of risks that affect the Public Finances, specifically including those associated with disasters.

In addition, in an amendment to the General Law on the National System of Indebtedness, published under Supreme Decree No. 008-2014-EF, Article 59, Chapter VI, of the law, titled "Response to Disasters and Emergency Situations," addresses contingent financing and instruments for mobilizing resources in the event of natural disasters, technological disasters, and economic and financial crises. This article authorizes the MEF, through the DGETP, "*to negotiate and contract contingent financing, such as credit lines, borrowing operations, and other instruments either now existing or to be developed by the market, that are designed to obtain resources in the event of a natural or technological disaster to cover the cost of rehabilitation and reconstruction…*" This text allows the MEF to develop a strategy for using ex ante financing instruments in advance of the postdisaster phase—instruments, which, by their nature, are used for emergency levels 4 and 5 and, in practice, especially for major disasters that exceed the financial capacity of the National Government.

The 2014–21 National Disaster Risk Management Plan (Plan Nacional de Gestión del Riesgo de Desastres 2014–2021, or PLANAGERD 2014–2021), published under Supreme Decree No. 034-2014-PCM, reinforces the foregoing with its stated objective to promote the transfer of risk, including the development and improvement of disaster insurance programs both for public entities and for concessions as well as for private individuals and businesses. PLANAGERD is the strategic instrument for implementing the priorities of the Government in the area of DRM and other aspects that will be discussed in the following chapter. One should note that in February 2015, Ministerial Resolution No. 028-2015-PCM approved guidelines developed by PLANAGERD for managing the operational continuity of public entities at all three levels of Government.

Thus, there is a robust legal framework for DRM, including specific measures and assignment of responsibility for the financial management of disaster risks, together with strategies to be implemented at various levels. The MEF has adopted an organizational structure that allows it to carry out its financial management responsibilities more easily, coordinating its work between the different areas involved within the ministry.

11 Per Law No. 28563, approved by Supreme Decree No. 034-2012-EF.
12 Per Ministerial Resolution No. 034-2015-EF/10 of January 2015.

04 Strategic Lines of Action

As part of its management of disaster-related fiscal risk, Peru has been promoting the formulation and adoption of public policies for reducing its fiscal vulnerability. It has created a legal framework, described in the previous section, that defines the legal context for DRM. The overall aim is to prevent, reduce, and control the factors associated with disaster risk in society over the long term. The Government is constantly striving to ensure that it is prepared and able to respond efficiently and effectively in the event of natural disasters.

The introduction of PLANAGERD 2014–2021 as a guide for DRM planning supports implementation of the six strategic lines of action mentioned earlier, as well as the objectives defined in the corresponding State Policies on both DRM[13] and territorial regulation and management.[14] The plan includes strategic measures that will facilitate the cross-cutting incorporation of DRM in sectoral planning and budget instruments and at regional and local government levels. Its approach is consistent with the recommendations of the Organisation for Economic Co-operation and Development (OECD) on "designing and executing adequate policies and reforms to ensure economic growth and financial stability, and above all, their sustainability."[15]

In particular, PLANAGERD 2014–2021, in its Strategic Objective 4, calls for "strengthening physical, economic, and social recovery." The guidelines for this objective recommend promoting the transfer of risk, encouraging public entities to seek insurance against disaster risks, and fostering mechanisms for accessing (and developing) disaster insurance on private property and services. PLANAGERD was drafted by PCM with the assistance of other entities, including the MEF, which led the call for including risk transfer under Strategic Objective 4.

In fact, even before the publication of PLANAGERD, the MEF, acting under its legal mandate in Article 16.4 of Law No. 29664, had been developing a financial protection strategy to prepare for the risk of disasters. It has also been promoting measures for reducing disaster risk through financing mechanisms and the incorporation of DRM into public investment. The MEF has consistently sought to develop a solid financial strategy for dealing with the effect of natural disasters, which includes the following six strategic lines of action.

13 State Policy No. 32.
14 State Policy No. 34.
15 CEPLAN. "Peru 2021: País OCDE." 2015. Peru is implementing the recommendations of the Organisation for Economic Co-operation and Development for becoming a full member.

(i) Identify, quantify, and assess the fiscal risk of disasters associated with natural hazards;

(ii) Formulate the components for developing and implementing tools for risk retention and transfer;

(iii) Establish guidelines for the use of available funds to respond to major disasters;

(iv) Promote the assessment, prevention, and reduction of disaster risk, as well as emergency preparedness through financial mechanisms within the results-based budget framework, and incorporate disaster risk management into public investment;

(v) Promote the development of a domestic catastrophe insurance market for responding to disasters associated with natural hazards;

(vi) Coordinate and promote the operational continuity of the State, which is fundamental to implementing the financial strategy for disaster risk management.

The Government's capacity for financial response in the event of a disaster will be strengthened by developing activities under each of the foregoing strategic lines of action. Such activities will also help to mitigate possible long-term fiscal impacts.

Strategic Line of Action 1

Identify, quantify, and assess the fiscal risk of disasters associated with natural hazards.

The identification, quantification, and assessment of disaster-related fiscal risk is the first critical step in efficiently managing the potential fiscal impact of disasters and therefore the linchpin for all the strategic lines of action.

In 2009, the IDB conducted a study on the financial effects of seismic risk in several countries, including Peru—specifically, Lima and Callao. The estimated losses for a major earthquake (with an annual exceedance probability of 0.1 percent), including all private property and infrastructure, were over US$72 billion for a return period of 1,000 years. This estimate, though based mainly on proxy information, gives an approximation of the damage that the country could suffer.

At the request of the GoP, in 2013 the World Bank applied its Comprehensive Approach to Probabilistic Risk Assessment (CAPRA)[16] to develop a risk profile for Lima and Callao for the education, health, and water and sanitation sectors. This study showed that probable maximum losses (PMLs) in the education and

16 http://www.ecapra.org.

health sectors follow a similar pattern. The study found the two sectors were exposed to a low frequency of small losses, yet in the case of a major event, the losses could be very high, with a high percentage of losses relative to the exposed values. In contrast, the water and sanitation sector is exposed to a high frequency of small losses. In the case of a major event, the absolute losses for this sector would not be as great as for the other two sectors, nor would the percentage of losses be as high relative to the exposed values.

With support from the IDB, in June 2014 the MEF produced a seismic risk profile for the government's assets nationwide using a probabilistic approach for assessing risk at the national level. The study took into account available knowledge about seismic hazards, information on the exposure of public property, and a combination of seismic vulnerability factors. The results of this IDB-funded exercise allowed for the calculation of expected losses and PML for different return periods. Using this information, the World Bank is supporting the MEF in the development of a tool that will enable the assessment of various strategic options for financing disaster losses while accounting for the economic opportunity cost of the different financial alternatives. This tool will strengthen the decision-making process and help optimize the combination of financing instruments.

The available probabilistic studies provide fundamental input in the development of Peru's risk profile and the technical tools for assessing strategic options for financing disaster losses. These tools will support the MEF in making decisions about the best combination of financing instruments, through a cost-benefit and dynamic financial analysis.

Although the GoP has made progress in assessing its contingent risk in the event of a natural disaster, additional studies are needed to strengthen the quality of the information and make the assessment more precise. Some examples of the improvements being planned are as follows:

- **Improving information on the exposure of buildings and infrastructure considered to be public assets.** These efforts will enhance the value of the fiscal risk profile for Peru. Currently, the GoP has only partial information, and such information is scattered across various public entities. The SBN, in its capacity as the public entity responsible for the acquisition, disposition, administration, inventory, and control of government property, is seeking to improve the quality of information on public assets. The initiative should enable the inclusion of data on the insurance of these assets and generate information on exposure and risks that is robust, complete, and accurate, thus helping improve the insurance terms and conditions for covering the portfolio of public assets.
- **Improving information on the exposure of buildings and infrastructure belonging to public–private partnerships.**
- **Promoting the use of financial analysis tools in making decisions** on the financing strategy.
- **Promoting the development of a national risk profile, including such other hazards as flooding and heavy rains. The GoP has results in hand from a study of the country's major hydrographic basins conducted for CENEPRED with IDB funding, soon to be delivered**.

Strategic Line of Action 2

Formulate the components for developing and implementing tools for risk retention and transfer.

Disasters caused by adverse natural events create volatility in the public budget because of the potential expenditures during and after such an event. When faced with the need to cover sudden unexpected expenditures, the Government should have timely access to sufficient financial resources to provide an effective response in each of the different stages—that is, during the emergency response and during rehabilitation and reconstruction—without affecting its fiscal stability.

According to the principle of subsidiarity contained in the SINAGERD Law, the national government is involved in the financial coverage strategy for events that exceed the response capacity of regional and national governments—emergency levels 4 and 5, respectively. For emergency levels 1, 2, and 3, in contrast, local and regional governments are expected to rely on their regular institutional budgets.

The SINAGERD Regulations state that each of the DRM processes has its own funding sources, as shown in table 2.

In addition to the criteria shown in table 2, public entities at all levels of government are required to assess their financial and budgetary capacity to deal with the damage caused by disasters and the cost of the ensuing reconstruction within the terms of the existing legal framework.

"Financial protection instruments" include products such as non-indemnity insurance, catastrophe bonds, and postdisaster loans. In practice, the functional distinction between these

Table 2: Funding Sources for the DRM

Process	Funding sources
Assessment of the risk	- Budget - Debt - Strategic Program Budget - Conditional transfer programs and incentives - Competitive funding
Prevention and reduction of the risk	
Preparation, response, and rehabilitation	Based on the principle of subsidiarity, use of the following resources: - Public entities budget allocations - Contingency reserve - Fiscal Stabilization Fund - Contingent credit lines
Reconstruction	- Financial protection instruments - Risk transfer for public and private assets and services

Source: Own preparation based on the Regulations of the SINAGERD Law, Article 42 (Components).

instruments is less strict than the law suggests, because more sophisticated instruments on the market are usually used for emergency and rehabilitation and some of the contingent credit lines can also be used for the early reconstruction period depending on the terms set by the lenders.

The MEF encourages the ex ante development of a layered strategy for the financial management of disaster risk for events corresponding to emergency levels 4 and 5, as shown in figure 1. **One of the ministry's objectives is to ensure that the residual risk, and hence the need to resort to additional postdisaster funding, is as low as possible.** The MEF regards residual risk as a form of involuntary retention.

A financial cost-benefit analysis, among other tools, would improve decision making on the choice of financing strategies, the scope and order in which to use the existing options, and possible consideration of new risk transfer and retention instruments.

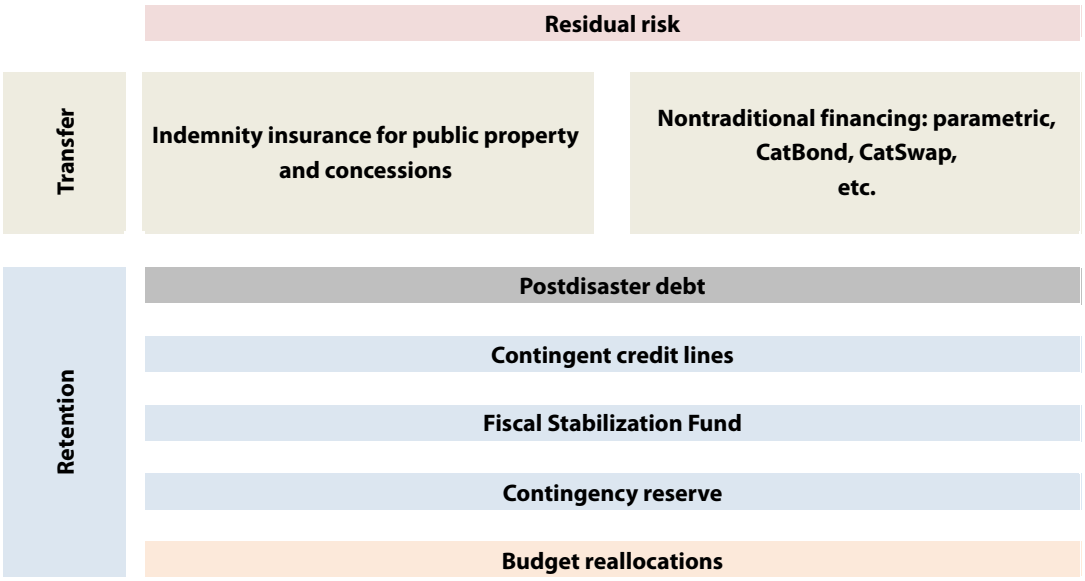
The MEF has made significant progress in designing and implementing its strategy for disaster risk financial management based on the following.

Risk Retention Instruments

These instruments are mentioned in the regulations of the SINAGERD Law for the preparation, response, rehabilitation, and reconstruction phases.

(i) **Resources from budget reallocations.** The Executive Branch has the authority to issue emergency decrees that reallocate budget funds for the purpose of responding to disasters. This action is almost always the first resort that should be considered, although when a disaster occurs toward the end of the year, it might be more difficult to use. One should consider that this approach could have consequences for projected investment.

Figure 1: Layered Financing Strategy for Major Disasters Associated with the Effect of Natural Hazards



Source: Own preparation.

(ii) **Contingency reserve.** In 2007, the Budget Law created a contingency reserve of up to S/. 50 million, to be managed by INDECI, and the amount has been renewed every year since then with the option of increasing it if necessary. This reserve is set aside every year, as stipulated in the Law on Budgetary Financial Balance, and it calls attention to the importance of a prompt response in the event of a major disaster and the need to both rehabilitate damaged public infrastructure and mitigate the damage that the disaster is likely to cause. The Budget Law for 2016 has set aside S/. 3 billion for the exclusive purpose of funding recovery efforts related to the El Niño phenomenon.

(iii) **Fiscal Stabilization Fund (FEF).** This fund was created in December 1999 under the Law on Fiscal Prudence and Transparency (Ley de Prudencia y Transparencia Fiscal). Resources from the fund can be used in the event of a national emergency or international crisis that could seriously affect the national economy. The specific legislation on the fund specifies that a proposal for drawing against it must be based on a macrofiscal assessment of the need, which is conducted by the MEF in coordination with INDECI and the sectors concerned.

(iv) **Exclusive contingent credit lines.** These credit lines provide immediate liquidity in the event of emergencies from disasters associated with the effect of natural hazards. To date, exclusive credit lines, including the ones mentioned below, amount to approximately US$1,183 million:

a. In 2013, the IDB approved US$300 million in contingent funding to be used for emergencies resulting from natural disasters caused by seismic movements in accordance with the terms and conditions of the contractual agreement.

b. Also in 2013, an agreement was signed with the CAF for an annually renewable, nonrevolving uncommitted contingent credit in the amount of US$300 million to fund response to disasters caused by natural hazards, in particular for the rehabilitation of critical public services and preinvestment studies on the rebuilding of services and public infrastructure. This new agreement amends the credit line approved in 2010.[17]

c. In 2014, a contingent credit agreement was signed with the JICA for approximately US$83 million to finance rehabilitation in the event of a natural disaster declared by supreme decree.[18]

d. The first development policy loan (DPL) with a catastrophe risk deferred drawdown option (Cat DDO) was signed with the World Bank's International Bank for Reconstruction and Development in 2010 for a total of US$100 million. It provides immediate liquidity in the event of a disaster. The loan was renewed for three years in December 2013. In addition, the GoP signed for a second Cat DDO in 2015 in the amount of US$400 million, supplementing the Cat DDO already in place. Thus, the GoP now has US$500 million available in contingent financing in the form of Cat DDOs.

17 In 2010, Supreme Decree No. 120-2010-EF approved an agreement between Peru and the CAF for a contingent credit line up to US$300 million to finance response to disasters caused by natural phenomena.

18 The agreement was made for 10,000 million yen for 40 years, with a grace period of 10 years. The interest rate is 0.01 percent per year for disbursements made during the first three years of the agreement.

One should also note that in May 2015, the MEF signed a credit line with the IDB in the amount of US$300 million to be used in financial crises and for disasters.

In April 2016, the MEF signed with the WB two contingency loans up to US$1,250 million each to timely meet the need of funds in case of natural disasters or an economic or financial crisis. These non-exclusively disaster related loans also contribute to the overall financial disaster protection strategy.

The SINAGERD Regulations do not specifically mention postdisaster financing, which could be credit granted by bi- and multilateral cooperation agencies or borrowing of funds on national and international markets. Although these options are seen as a last resort because of the fiscal rules governing debt assumed by the Government, they are still a possibility, given the powers granted to the MEF within the National System of Indebtedness and for macrofiscal management.

Risk Transfer Instruments

(i) **Although the insurance of public assets is compulsory in Peru, the regulations state that compliance may be subject to an entity's priorities and budget availability.** An analysis of public assets insurance for the National Government, undertaken by the World Bank as a request of the MEF in 2013, found that not all assets were insured and that those entities that had taken out insurance had done so individually, not on a corporate basis. Also, on several occasions, problems were identified in the procedures for selecting the insurance companies, as well as the conditions of the insurance contracts. Finally, finding bidders interested in insuring these assets was difficult. These issues were also found in both the regional and the local governments.

The MEF is promoting an improvement of both the level and the quality of catastrophic insurance of public assets in its effort to overhaul its insurance strategy. The strategy should seek to improve the coverage and pricing of catastrophic insurance for public assets. The GoP is, or will be, engaged in the following initiatives:

- **Information system on the public assets of the country.** To find better coverage and secure prices based on improved quantification and risk diversification and pooling, the government must:
    - o Compile additional information on the GoP portfolio of assets.
    - o Update information on insurance policies. To date, no government entity is responsible for centralizing the information on the insurance policies of the various public entities.

Having reliable information in hand when a disaster strikes will ensure more efficient management of compensation payments, which form part of the postdisaster resources to be used for reconstruction.

- **Use of a corporate approach for public assets insurance.** The Government is currently exploring the possibility of using a corporate approach to insure public assets. This approach would provide the benefits of risk diversification through the pooling of assets, thus reducing the cost of coverage, and at the same time make the GoP a more attractive client to large insurance companies. The MEF is reviewing the technical, legal, and financial aspects of implementing this approach with the assistance of other relevant public entities. It has also been exploring the possibility of issuing a call

to hire a risk manager (for example, an insurance broker), who would act as an intermediary between the insurance companies and the GoP and help develop a more effective insurance strategy.

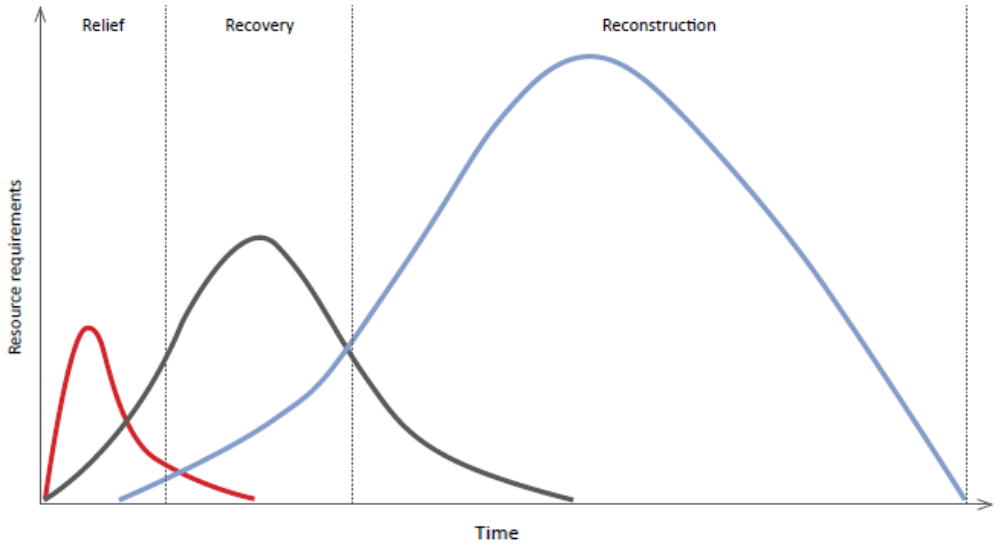
- **Better insurance practices for national government entities.** The GoP has been considering the adoption of guidelines on public assets insurance to make certain that its assets are adequately insured.
- **Better insurance practices for subnational entities.** With the experience gained from the processes mentioned earlier, guidelines can be developed to orient subnational entities on strengthening the insurance of their assets.

(ii) **The MEF has been strengthening the insurance of infrastructure and activities under public–private partnerships (PPPs):**

- **Catastrophic insurance for the current PPPs and those in the process of being negotiated.** The MEF has obtained a World Bank technical analysis of the status of insurance policies for current PPPs. The recommendations and the insurance guidelines proposed in the World Bank report, which are consistent with international best practices, have been included in recent PPP contracts and those currently being negotiated.
- **Catastrophic insurance for future PPPs.** The Government is reviewing the World Bank recommendations for strengthening PPP insurance, in particular, partnerships for roadway construction. The following steps will be necessary for this purpose:
  - **Consider the best way to make official the recommendations for strengthening PPP insurance, as well as an insurance schedule and terms (slips), or at least incorporate them into PPP practice.**
  - **Develop specific guidelines for different types of PPPs.** The GoP is also working on specific guidelines for the different types of PPPs: airports, ports, and railroads. It has set its priorities, and the World Bank is providing technical assistance in developing the guidelines.

Thus, the MEF has financial instruments for both risk retention and risk transfer, which will be supplemented with additional instruments. With the support of the financial cost-benefit analysis tool developed by the WB, the MEF is in a position to assess additional financial protection instruments to strengthen the current strategy for managing disaster financial risk. It is already looking into the possibility of resorting to the market of nontraditional

Figure 2: Financing Needs over Time



Source: Ghesquiere and Mahul 2010, adjusted to conform to the SINAGERD Law.

instruments, for example, catastrophe bonds (Cat bonds), which have become a much larger market in recent years.

The financial instruments will be selected taking into account the need for resources over time. With a view to selecting the optimum combination of these instruments, the GoP will assess the need for resources over time relative to the moment when the resources will be required, as illustrated in figure 2. When a disaster strikes, the government will have to act promptly both during the response to the emergency and during the rehabilitation of indispensable basic infrastructure and services. Reconstruction, in turn, will call for a planning process that includes considerations to avoid the original risk conditions. During reconstruction, priority should be given to certain projects that can be initiated in parallel with the response and rehabilitation phases.

For the response phase, instruments are needed that will provide immediate liquidity, such as the government's own funds. However, because these funds compete with other national needs and are not unlimited, additional resources must be available for other phases following the event, for example, reconstruction, when expenses are much greater but insurance is more cost-efficient. Consideration of nontraditional forms of coverage is recommended in order to have access to immediate liquidity for the response and rehabilitation phases together with indemnity insurance for the reconstruction of property that has been damaged or destroyed.

The choice of financial instruments needs to take into account the provisions of the General Law on the National System of Indebtedness described earlier. Contracting this type of financing is exempt from the terms of the Public Procurement Law and can be negotiated with bilateral and multilateral cooperation agencies.

Strategic Line of Action 3

Establish guidelines for the use of available funds to respond to major disasters.

Emergency spending after the Pisco earthquake amounted to 8.42 percent of total losses (table 1), an indication that having clear protocols and procedures on the proper use of available funds for postdisaster response is indispensable. This event revealed that the Government was unprepared to optimize the use and mobilization of its funds and to organize an effective rehabilitation and reconstruction process.

International experience has shown other cases in which the Government had the necessary funds for the recovery processes but was unable to draw on them rapidly and use them efficiently because of a lack of links between the regulations and protocols involved.

In January 2015, following a decision by the MEF Risk Committee, Ministerial Resolution No. 034-2015-EF/10 established a Working Group for Financial Coordination in the Aftermath of Major Disasters within the MEF. The Working Group was entrusted with organizing the various financial mechanisms available in the event of major disasters in order to ensure effective and efficient implementation of the response, rehabilitation, and reconstruction processes. Its role is strictly financial; the processes mentioned continue to be the responsibility of the same sectors and subnational governments as before.

One of the tasks assigned to this permanent Working Group of the MEF was to draft procedures, protocols, and basic principles on the use of funds available for recovery in the event of major disasters. The Working Group was also instructed to review the proposed guidelines of INDECI and CENEPRED for rehabilitation and reconstruction to make certain they are compatible with the norms governing MEF financial intervention in DRM. The guidelines must be congruent with not only those contained in the SINAGERD Law and its Regulations, but also the basic legislation on the national treasury, indebtedness, budget, and public investment systems and fiscal management regulations in general.

In addition, the Working Group coordinates with the Secretariat for Disaster Risk Management under the PCM on all financial aspects related to the response, rehabilitation, and reconstruction processes. An essential aspect of this coordination is the provision contained in Article 10, paragraph j, of Law No. 29664 (2011) calling for the proposal of an institutional and financial scheme for reconstruction in the event of major disasters that is to be presented to the National Council on Disaster Risk Management (Consejo Nacional de Gestión del Riesgo de Desastres).

To ensure that it makes informed decisions, the Working Group will also have access, among other decision-making instruments and criteria, to the cost-benefit financial analysis tool mentioned earlier.

Strategic Line of Action 4

Promote the assessment, prevention, and reduction of disaster risk, as well as emergency preparedness through financial mechanisms within the results-based budget framework, and incorporate disaster risk management into public investment.

The GoP has developed permanent financial mechanisms for the reduction of risk from disasters. In 2010, Emergency Decree No. 024-2010 created a Strategic Program Budget for Vulnerability Reduction and Response to Disaster Emergencies (Program PP068) within the results-based budget framework. The purpose was to have a connecting thread for DRM policy among the various sectors of National Government as well as regional and local governments. This tool can be used to assign resources for the implementation of interventions aimed at reducing the population's vulnerability, thus allowing the Government to identify, prioritize, and coordinate its action more efficiently.

In addition, DRM has been incorporated into the design, formulation, and execution of public investment projects (PIPs) within the framework of the National Public Investment System (Sistema Nacional de Inversión Pública, or SNIP) to ensure the sustainability of public investment and reduce the cost of restoring services and rebuilding infrastructure following a disaster. Furthermore, Supreme Decree No. 111-2012-PCM[19] approved the National Policy on Disaster Risk Management as a Mandatory Policy for National Government entities. The SNIP, for its part, has established that in order for a project to be viable, it must be socially cost-effective; sustainable; and compatible with all relevant national, sectoral, or territorial policies. For this reason, in a series of methodological documents the MEF has included the DRM approach in the project cycle and risk management in the identification, formulation, and assessment of such projects. There are also sectoral programs, including, for example, the Safe Schools Program (Programa de Escuelas Seguras), which received technical assistance from the World Bank and is being implemented within the framework of the National Education Infrastructure Program (Programa Nacional de Infraestructura Educativa, or PRONIED).

The GoP has made significant progress in the promotion and implementation of policies on disaster risk reduction. For example, Law No. 30191, passed in 2014, specified measures for disaster prevention, mitigation, and preparedness. Its purpose is to establish measures to assist national, regional, and local government entities in preventing and mitigating disaster risk factors and in preparing to respond to disasters at the national level. For example, this law led to creation of the Protection Bond for Dwellings Vulnerable to Seismic Risks (Bono de Protección de Viviendas Vulnerables a los Riesgos Sísmicos), designed to reduce the vulnerability of homes in poverty-stricken areas by structurally reinforcing the dwellings.

In addition, the multisectoral Program Budget for Vulnerability Reduction and Response to Disaster Emergencies (Programa Presupuestal de Reducción de Vulnerabilidad y Atención de Emergencias por Desastres) has been strengthened. It involves the three levels of government and has a budget of S/. 2,088 millions for 2016,[20] nearly half of which was earmarked for responding to the El Niño phenomenon.

19 Supreme Decree N° 111-2012-PCM - Objetive 3: Incorporate and implement Disaster Risk Management through Urban-Rural Development Planning and the Prioritization of Financial Resources.

20 Public Sector Budget Law 2016 (Law No. 30372)

Emergency Decree No. 004-2015, approved in September 2015, announced measures to prepare for the 2015–16 rainy season and the El Niño phenomenon with a view to prioritizing and accelerating projects to mitigate and minimize the possible effects of El Niño. These efforts allowed Government expenditure on rehabilitation owing to the 2016 El Niño phenomenon to reach only S/. 148 million.

The purpose is to facilitate the efficient allocation of risk reduction resources to avoid major Government expenditure on rehabilitation and reconstruction, that is, reduce the potential residual risk, which could be high, and create the need for additional postdisaster funding, which could have an unfavorable effect on public indebtedness ratios and therefore on the country's credit rating. Within the results-based budget framework, the sectors are expected to allocate more resources for ex ante risk reduction through Program PP068 and other mechanisms (municipal incentives and funds that promote the development of program budgets) in order to reduce the possible medium- and long-term fiscal effect of disasters on the Government. The SNIP framework seeks to ensure that public investment is made without generating new risks in public investment projects and to reduce the existing risk through "projects that have a risk management approach" (for example, levees, retaining walls, and early alert systems).

Strategic Line of Action 5

Promote the development of a domestic catastrophe insurance market for responding to disasters associated with natural hazards.

Compared with the regional average, penetration[21] of the insurance market in Peru is low. In 2013, insurance penetration in Peru was 1.6 percent, whereas the figure for Latin America and the Caribbean as a whole was 3.2 percent and for developed markets, 8.3 percent. The premium per capita in Peru is US$106, compared with US$300 in the rest of Latin America and the Caribbean and US$3,621 in developed markets.[22]

The GoP has made the following progress in developing the domestic catastrophe insurance market:

- In 2005, SBS Resolution No. 1305-2005 issued regulations for establishing the Catastrophe Hazards and Uncertain Claims Reserve (Reserva de Riesgos Catastróficos y de Siniestralidad Incierta). It is supported by a technical note prepared by CISMID that defines the technical bases for estimating losses for purposes of earthquake insurance and summarizes the methodology developed for the calculation of the PML. With technical assistance from the World Bank, the SBS is currently updating the regulations, which will strengthen the capacity of insurance companies to pay catastrophic claims.

21 Insurance penetration is defined as the ratio of premiums divided by the Gross Domestic Product.

22 Information presented by the SBS at the Workshop on the Insurance of Public Assets and Concessions, held in Lima, on October 29–30, 2014.

- The 2012 Law on the Insurance Contract (Law No. 29946) strengthens the contractual relationship by protecting the insured party.
- The General Law on the Financial and Insurance Systems and Organic Law on Banking and Insurance Oversight (Law No. 26702) was updated in 2013. This law oversees and regulates businesses that operate within the financial and insurance systems and seeks to ensure that the financial and insurance systems are competitive, solid, and reliable and that they contribute to the national development of their respective markets.
- Specific Objective 4.2 of PLANAGERD 2014–2021 is to "promote the transfer of risk," which demonstrates the commitment of the Government to development of the insurance market.
- There is continuous dialogue between the MEF and SBS for developing joint actions aimed at strengthening and further developing the catastrophic insurance market. They are also working together to develop a national financial inclusion strategy that considers insurance within those products, which need to improve their coverage.

Development of the domestic catastrophic insurance market could possibly reduce the potential demand for public resources (implicit contingent liability) in the event of a disaster and increase access to insurance by private businesses and the population in general. This approach would enable the Government to concentrate its resources on rebuilding affected infrastructure and supporting the most vulnerable population. It would also help reduce the credit risk for the financial sector in the case of a major disaster and, in general, improve the recovery capacity of individuals and businesses—and hence the real economy—after the disaster. Specifically, it offers the Government a means to reduce potential residual risk.

In this context, work is progressing along the following lines:

- **Strengthening of the catastrophic insurance market coverage.** By strengthening the PML calculation and the definition of the catastrophic reserve, insurance companies will have stronger financial capacity for fulfilling their obligations related to catastrophic events.
- **Expansion of the insurance market.** Currently, three insurance companies receive 94 percent of the net premiums for earthquake insurance and 85 percent of the net premiums for fire insurance and related lines, a branch in which some insurance companies specialize.[23] Given this concentration, ensuring that the main companies are solid enough to pay claims for damage resulting from a catastrophic event, and for more companies to become involved in this type of insurance in the future, is especially important.
- **Evaluation of household insurance instruments, including those for low-income populations.** The GoP is considering the creation of a financial instrument to help provide affordable earthquake insurance for low-income households. If the political will is found to support its creation, the seismic risk profile will be used to assess its feasibility. These instruments might be developed using an insurance pool with public–private participation similar to the Turkish Catastrophe Insurance Pool (TCIP). A scheme of this kind could be used to develop the market for household insurance in general, because the penetration of household insurance is currently very

23 Of the 18 insurance companies operating in Peru, five offer insurance against earthquakes, fire, and related lines (SBS). These five companies receive 65 percent of all premiums in the Peruvian market.

low. Even when home insurance is tied to mortgage loans, it usually does not cover the entire value of the home.

- **Development of the microinsurance market.** Microinsurance schemes focus on the low-income population, which represents 37.9 percent of the nation's inhabitants.[24] In Peru, microinsurance is regulated under SBS Resolution No. 14283-2009. Its purpose is to give low-income sectors access to the benefits of the insurance market. According to information from the SBS, as of 2011 there was no microinsurance coverage for general risks.[25] The SBS is reviewing options for expanding the list of microinsurance products and adapting current legislation with a view to promoting a responsible microinsurance market.
- **Development of the catastrophic insurance market for micro, small, and medium enterprises (MSMEs).** The GoP is interested in fostering the development of new products and expanding penetration in MSMEs, whereas some insurers have already initiated steps in this direction.
- **Strengthening of agricultural insurance.** In 2008, the GoP created the Guarantee Fund for Agricultural Insurance (Fondo de Garantía para el Seguro Agrícola, or FOGASA).[26] Operated by the Ministry of Agriculture (MINAG) with the participation of the MEF, FOGASA promotes the development of agricultural insurance throughout the country. In the most poverty-stricken areas, this fund is used to subsidize premiums for agricultural insurance within the framework of agricultural catastrophic insurance. Although the agricultural sector plays an important social role in Peru, in terms of employment and the population who depend on it for a living, the sector does not represent a significant percentage of GDP or of exports.[27] The penetration of agricultural insurance is lower than 0.2 percent.[28] According to the MINAG's Multiannual Strategic Sectoral Plan 2012–2016, one of the pillars of development will be to prioritize strengthening of the agricultural insurance. Toward this aim, the MINAG has included agricultural insurance as a component of the policy for the development of competition in Peruvian agriculture. The objective is to reduce the exposure of agricultural producers through mechanisms to finance agricultural insurance. The GoP is currently receiving technical assistance from the GIZ to improve this aspect.

24 NSE D and E. APEIM 2013.

25 According to the SBS, microinsurance was available for life, personal accidents, theft and assault, property purchases, and medical care.

26 According to Article 4 of the Law on the Guarantee Fund for Rural Areas and Agricultural Insurance (Law No. 28939), the purpose of the fund is to guarantee loans granted by financial institutions to organized rural small and medium-sized producers. The loans are intended to guide the producers' activity toward dynamic national and international markets, as well as to finance agricultural insurance mechanisms offered through the insurance system to reduce the exposure of agricultural producers such as indigenous campesino communities and small and medium-sized farmers against climate risks and plagues that have a damaging effect on their production and profitability.

27 Agricultural Insurance in Latin America: Developing the Market, December 2010.

28 Mahul and Stutley 2010.

Strategic Line of Action 6

Coordinate and promote the operational continuity of the State, which is fundamental to implementing the financial strategy for disaster risk management.

Generally speaking, the implementation of disaster risk management, even in terms of its financial components, is very difficult and even impossible if government entities are unable to guarantee their own operational continuity. This is especially true for the response, rehabilitation, and reconstruction phases. The fact is that managing operational continuity should be part of these entities' regular ongoing operation and organization.

The SINAGERD Law recognizes that one of the subprocesses of the rehabilitation process is ensuring the continuity of indispensable public services. This is seen from the macrocontinuity perspective that is essential for the comprehensive management of public and private operational continuity at the country level. Government companies, PPP operators, and regulatory entities, when faced with disaster preparation, response, and rehabilitation, have to formulate, evaluate, and execute their contingency plans and other managerial instruments while maintaining ongoing communication and coordination with their corresponding authority.

PLANAGERD Specific Objective 5.2 is to **"develop management of the operational continuity of the State,"** including the preparation of technical norms for this purpose and plans for the operational continuity of public entities. It also calls for promoting the coordination of plans for the Government's operational continuity with the private sector.

For support of the development of procedures that will help guarantee the adequate and timely management of the continuity of public entities and the implementation thereof, in February 2015 Ministerial Resolution No. 028-2015-PCM approved a set of guidelines for the operational continuity of public entities at the three levels of Government.

The objective is to ensure that all public entities have up-to-date plans in place for operational continuity. Accordingly, the head of each agency or entity was required to present to the SDRM of the PCM a schedule for the implementation of the Norm.

The MEF has had the support of SECO funding, through the International Monetary Fund, for developing the management of the operational continuity of the Government.

At the same time, the Working Group for Financial Coordination in the Aftermath of Major Disasters is also organizing itself to ensure its own operational continuity.

Summary and Conclusions

05

Disasters caused by adverse natural events can affect Peru's macroeconomic stability and fiscal sustainability. It is exposed to a number of different geological and hydrometeorological risks. In this context, the strategy developed by the Ministry of Economy and Finance for financial protection against disaster risk has great importance for the country. The strategy's six strategic lines of action will enable the reduction of the fiscal vulnerability of the Government and improve its response capacity:

(i) Identify, quantify, and assess the fiscal risk of disasters associated with natural hazards.

(ii) Formulate the components for developing and implementing tools for risk retention and transfer;

(iii) Establish guidelines for the use of available funds to respond to major disasters.

(iv) Promote the assessment, prevention, and reduction of disaster risk, as well as emergency preparedness through financial mechanisms within the results-based budget framework, and incorporate disaster risk management into public investment.

(v) Promote the development of a domestic catastrophe insurance market for responding to disasters associated with natural hazards.

(vi) Coordinate and promote the operational continuity of the State, which is fundamental to implementing the financial strategy for disaster risk management.

The objectives of the MEF are to improve the GoP's response capacity when disasters occur and to optimally manage the fiscal risks that arise in the event of a disaster associated with natural hazards. To achieve these objectives, the MEF has been building strong synergy among the government entities as well as with international partners like the World Bank (through SECO and GFDRR funding) and the IDB. In addition, it has sought to develop joint action with the private sector, for example, by strengthening the local market for catastrophic insurance.

From the outset, the MEF has focused on a comprehensive approach to financial protection against disaster risks, not limited to purely public tools and solutions or to postdisaster funding. It has been aware of the importance of

reducing residual risk as much as possible, which translates in practice to an even greater need for postdisaster financing, which, in turn affects ratios of public indebtedness and the country's credit rating. Therefore, emphasis has been placed on prior reduction of risk through such tools as budget instruments, public investment, and development of the private insurance market. At the same time, consideration has been given to the significance of operational continuity of the Government, thus integrating financial resilience with operational resilience.

The progress made by the GoP in designing and implementing the strategy for the management of fiscal risk in the event of disasters associated with the effect of natural hazards bears out the importance of ensuring that disaster risk financial management dovetails with the policy framework for the comprehensive management of disaster risks. This progress demonstrates the GoP's commitment to the management of disaster risk.

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Disaster Risk Finance helps countries improve financial resilience against natural disasters by implementing sustainable and cost-effective financial protection policies and operations. It supports governments, businesses, and households manage the financial impacts of disaster and climate risks without compromising sustainable development, fiscal stability, or wellbeing. Financial protection complements investments in risk reduction, prevention, and building resilience. It addresses residual risk, which is either not feasible or not cost effective to reduce or prevent.

Only by looking at the financial impact of disasters comprehensively can governments build the financial resilience of society as a whole. This publication proposes an operational framework to guide countries in developing and implementing such comprehensive financial protection strategies. It also takes stock of the progress in the field to date.

The *Disaster Risk Financing and Insurance Program* (DRFIP) is a joint program of the World Bank's Finance & Markets Global Practice and the Global Facility for Disaster Reduction and Recovery (GFDRR). DRFIP has provided advisory services on disaster risk financing and insurance to more than 40 countries worldwide.

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