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The Costs Of The Disaster The Reconstruction Funds



Gaceta UNAM / Erik Hubbard

Mexico is located in one of the world's areas most vulnerable to natural disasters like hurricanes, earthquakes, and even volcanic eruptions. And in recent years, the frequency and magnitude of these phenomena have increased. Despite this, we lag behind in policies for dealing with natural disasters, such as federal resources for meeting emergency situations.

In 2017, Mexico faced several of these. Two stand out that were especially serious: the two September earthquakes that shook the country physically, but also economically, politically, culturally, and, of course, socially. They brought to the fore certain irregularities that had been hidden and are now clearly evidenced in the many damaged buildings that had not complied with construction norms.

The Cost of the Earthquakes

Mexico is located on the Pacific Ocean's Ring of Fire and on five tectonic plates (Rivera, Pacific, Cocos, North American, and Caribbean), meaning it suffers from intense

seismic and volcanic activity. In 2017, 26 100 earthquakes were registered. Of those, 110 were classified as big, according to the criteria of the National Seismological System (SSN), which defines and logs them that way when they rank higher than a magnitude 5 on the Richter scale.¹

The September 7 and 19, 2017 earthquakes, with magnitudes of 8.2 and 7.1 on the Richter scale, respectively, affected Mexico City, Morelos, Puebla, the State of Mexico, Guerrero, Oaxaca, Chiapas, Tabasco, and Veracruz (the latter to a lesser degree). Taken all together, these locations constitute 39 percent of national gross domestic product (GDP), making it vital to deal with the damage as soon as possible, which, according to the federal government, came to approximately Mex\$48 billion.

The following are some of the costs:

1. 471 human lives lost
2. 12 million people affected
3. 180 731 homes damaged (50 610 are a complete loss)
4. 16 136 schools damaged (276 are a complete loss)
5. 352 health centers affected (53 with major damage).²

A large number of the buildings damaged (housing, multipurpose buildings, offices, schools, and others) had irregularities in their foundations, were built with low-

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quality materials, had billboards or antennas on roofs, and were more stories than the law allowed.

Cultural Heritage Affected

The Ministry of Culture has stated that approximately 1 452 cultural buildings were affected in some way. Those most affected were historic monuments (1 399 cases), plus 28 archeological sites, and 25 cultural centers and museums.

The damage was spread over eight territories: Chiapas, Mexico City, the State of Mexico, Guerrero, Morelos, Puebla, Tlaxcala, and Oaxaca. The latter has the most cultural buildings affected in some way (284), followed by the State of Mexico, with 266; and Morelos, with 259. However, the state that suffered the most intense damage was Morelos, since 48 percent of it was catalogued as very serious.³ The price tag for restoring and rebuilding the damaged sites will be Mex\$490.7 million for cultural spaces and Mex\$225 million for historic monuments.

Strategies for Protection Against Natural Disasters

On average, the country declares more than 30 natural disasters a year, and World Bank information states that one-third of the population lives in areas exposed to them.⁴ Therefore, the earthquake left behind more than material and monetary losses: a total of 471 lives were reported lost in the eight territories affected. The government has estimated that about Mex\$48 billion will be needed to rebuild the affected areas; that amount began to be spent in 2017 and will continue until 2019.⁵

To deal with this, the country has different strategies to protect itself in the case of natural disasters. Among them are

1. The catastrophe bond against earthquakes, which the government increased from US\$150 million in 2017 to US\$260 million for 2018; this is activated for earthquakes over magnitude 7.9 (previously, only after an 8.0-magnitude quake);
2. Two catastrophe bonds against hurricanes, which total US\$220 million and are activated only in case of winds that cause great damage;

3. The Natural Disaster Fund (Fonden), which will receive Mex\$24.67 billion in 2018.

The resources from the three bonds can be transferred to Fonden when a natural disaster fulfills the location and severity criteria established in the terms and conditions of the bonds. The Law on Federal Public Administration and the General Law on National Property stipulate that every government institution must have insurance against natural disasters to protect its property and infrastructure. In addition, beginning in 2017, all 31 states and Mexico City must have their own reserves to protect their public finances in the case of this type of event.

The Reconstruction Funds: Fonden, Fonrec, and Fopreden

Fonden

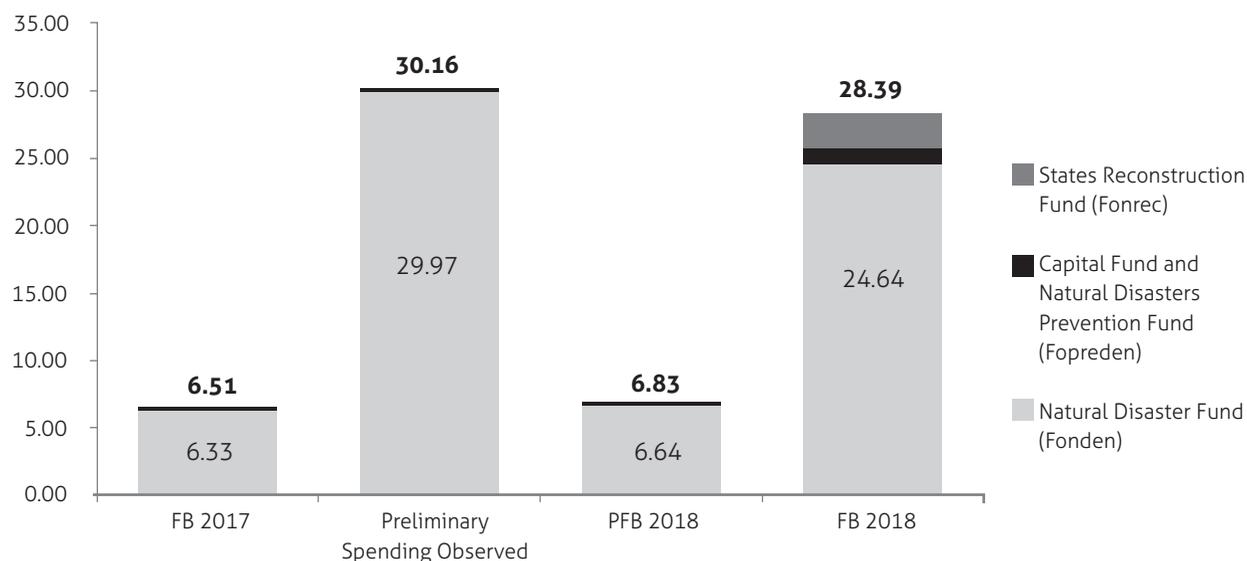
The Natural Disaster Fund (Fonden) was created to deal with the effects of unpredictable natural disasters whose magnitude surpasses the financial response capability of federal bodies, the states, and Mexico City. It is intended to complement the actions that must be carried out to deal with natural disasters. This is why, regardless of its existence and operations, it is indispensable that the federal bodies and the states strengthen their own security and prevention measures, as well as back up their public finances.

Uses of the Fonden's Resources

In the event of needing to offer aid to the population affected by disasters in 2017, Mex\$29.97 billion were authorized for Fonden, that is, Mex\$23.65 billion more than had been approved for the year.

Mexico's strategies to protect itself in the case of natural disasters include the catastrophe bond against earthquakes, two catastrophe bonds against hurricanes, and the Natural Disaster Fund (Fonden).

GRAPH 1
BUDGET APPROVED AND EARMARKED FOR FONDEN, FOPREDEN,
AND FONREC 2017-2018 (billions of pesos, 2018)



Key: Number above the columns, in bold, total expenditures approved for the four funds.
 Number inside the columns, funds specifically assigned to Fonden.
 FB - Federal budget
 PFB - Proposed federal budget

Source: Developed by the author using data from the Ministry of Finance (SHCP) website, "Finanzas públicas y presupuesto," sub-section "Paquete económico y presupuesto," http://finanzaspublicas.hacienda.gob.mx/es/Finanzas_Publicas/Paquete_Economico_y_Presupuesto.

For the year 2018, the Chamber of Deputies added Mex\$18 billion to the Mex\$6.64 billion already approved in the budget for the fiscal year. This means that it will receive Mex\$24.64 billion this year.

According to the Ministry of Finance (SHCP), the three states that received the most were Oaxaca (Mex\$6.08 billion), Guerrero (Mex\$3.54 billion), and Chiapas (Mex\$3.36 billion). In all, these three states received 43.3 percent of the fund's entire resources for the year.

Mexico City received Mex\$1.47 billion, used for the reconstruction of federal and state infrastructure damaged on September 19, earmarked for the areas of culture; sports education; forestry; hydraulics; the military; archeological, artistic, and historical monuments; the Navy; health; and housing.⁶ Of the Mex\$28.60 billion spent, Mex\$24.88 billion went to rebuild public infrastructure, representing 87 percent of the total resources allocated. In addition, Mex\$1.80 billion were used for the acquisition of rescue supplies; Mex\$1.47 billion for the Fonden insurance policy; Mex\$33.7 million for the implementation of

comprehensive risk management; and Mex\$61.1 million for specialized equipment.

It should be pointed out that the amount the SHCP cited in its preliminary report on Fonden spending in 2017 includes expenditures due to natural disasters occurred in preceding years. This is why the budget earmarked exclusively for the states affected by the September earthquakes is different, since it is included in the budgets for 2017, 2018, and even 2019.

In addition, the Ministry of the Interior (Segob) was in charge of reviewing the Fonden accounts, regardless of the budget year. Its report mentions the expenditures exclusively earmarked to deal with the damages from the September 7 and 19 earthquakes.⁷ The report cites a total of Mex\$27.63 billion, divided among the following items:

1. Partial immediate support: Mex\$6.84 billion
2. Reconstruction: Mex\$14.56 billion
3. Damage assessment: Mex\$40 million
4. State contributions: Mex\$6.18 billion.

More than 122 tons of food and beverages were donated; and 512 brigade members, doctors, and structural experts came from more than 25 countries.

Other outstanding items on the expenditures budget include the educational sector, which received Mex\$10.89 billion; housing, with Mex\$10.05 billion; and hydraulic works, with Mex\$3.02 billion.

The states that reported the heaviest spending were

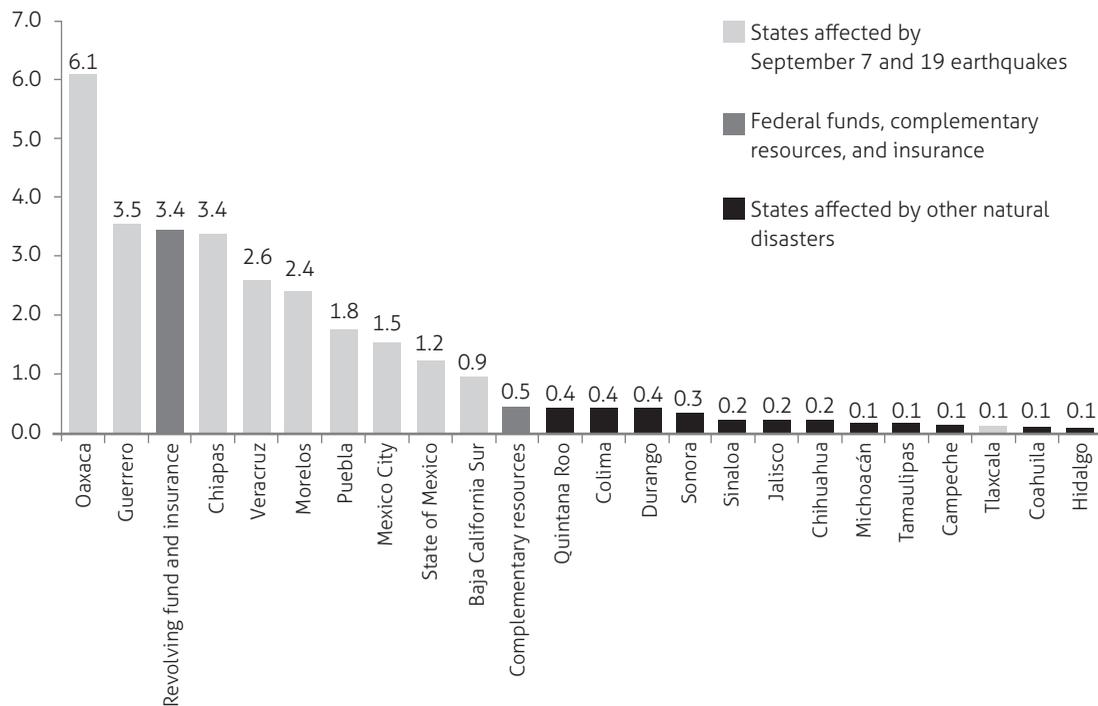
1. Oaxaca: Mex\$5.86 billion (27.4 percent)
2. Morelos: Mex\$4.40 billion (20.6 percent), and
3. Chiapas: Mex\$3.31 billion (15.5 percent).

As a result, Fonden spending complements the efforts made through the National Civil Protection System, prevention and disaster-victim support institutions, and programs set up by federal institutions and states to deal with natural disasters.⁸

The Post-Earthquake Budget Beyond the Fonden

The need to send resources to the affected areas forced the government to increase spending not only through the Fonden, but also through the Natural Disasters Prevention Fund (Fopreden) for 2017 and 2018. To that end, it approved Mex\$350.9 million in the 2018 budget, Mex\$170 million more than originally agreed in the budget bill. The approved amount will go to support and provide an imme-

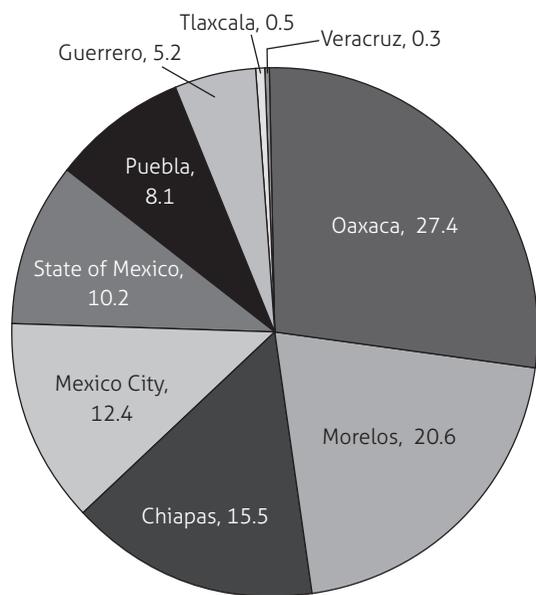
GRAPH 2
SPENDING EARMARKED FOR FONDEN BY STATE AND FUND, 2018
(billions of pesos)*



*Note: Fonden spending per state and Mexico City from January to December 2017, including expenses for damage due to natural disasters of previous years.

Source: Developed by the author using data from the Ministry of Finance (SHCP) website, "Finanzas Públicas y Presupuesto," sub-section "Informes al Congreso de la Unión, Informes Trimestrales, Anexos de Finanzas Públicas, IX. Fondo de Desastres Naturales (Fonden)," http://finanzaspublicas.hacienda.gob.mx/es/Finanzas_Publicas/Informes_al_Congreso_de_la_Union.

GRAPH 3
FONDEN RESOURCES DISTRIBUTED
TO STATES AFFECTED BY EARTHQUAKES (%)



Source: Developed by the author with information from the Transparencia Presupuestaria. Observatorio del Gasto website, “Fuerza México” page, <http://www.transparenciapresupuestaria.gob.mx/es/PTP/fuerzamexico>.

mediate response for the states, Mexico City, and government institutions in the face of any natural phenomenon that causes damages surpassing their financial capabilities.

Congress also created the States Reconstruction Fund (Fonrec), which will receive Mex\$2.5 billion so the states and municipal governments can issue 20-year zero-coupon (or accrual) bonds to finance the reparation of damages. It also approved Mex\$1.25 billion for the Mexico City Capital Fund so the city can earmark resources to the reconstruction of damaged public infrastructure and homes. In short, the funds approved by Congress to support earthquake victims and mitigate the damages will receive Mex\$28.39 billion in 2018.

The federal government also received Mex\$3.41 billion in donations from private business and Mexican civil society, as well as from state governments, organizations, and foreign celebrities to support both emergency work and reconstruction. Of that amount, 69.5 percent came from the Carlos Slim Foundation, 7.6 percent from the Fuerza México Trust, and the remaining 22.9 percent from different companies and celebrities.

In addition, more than 122 tons of food and beverages were donated; and 512 brigade members, doctors, and structural experts came, as well as 21 rescue dogs. These contributions came from more than 25 countries, the European Union, and the United Nations.⁹

General Recommendations for Prevention

Given the country’s vulnerability to natural disasters, it is indispensable for federal, state, and municipal governments to work together to educate the population in preventive measures, to improve and broaden out access to early alert systems for all types of natural disasters, to earmark greater resources to funds and natural disaster insurance, and to ensure compliance with building codes with no irregularities whatsoever. **MM**

Notes

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- 2 Gobierno Federal, “Plan de Acción Ante Sismos del 7 y 19 de septiembre 2017,” October 17, 2017, <https://es.scribd.com/document/361993553/Plan-de-Accion-Ante-Sismos-Sep-2017-171017>, accessed February 10, 2018.
- 3 Dirección General de Información Legislativa, *Noticias legislativas*, January 22, 2018, <http://sil.gobernacion.gob.mx/Archivos/Panorama/201801/noticiaslegislativas22enero2018.pdf>, accessed February 9, 2018.
- 4 Secretaría de Gobernación (Segob) y Coordinación Nacional de Protección Civil and Centro Nacional de Prevención de Desastres (Cenapred), “Impacto socioeconómico de los desastres en México durante 2015,” <http://www.cenapred.gob.mx/es/Publicaciones/archivos/340-NO.17-resumenejecutivoimpacto2015.pdf>, accessed February 10, 2018.
- 5 Luis Miguel González, “Se eleva a \$48 000 millones el costo por los sismos,” *El Economista*, October 17, 2017, <https://www.economista.com.mx/politica/Se-eleva-a-48000-millones-el-costo-por-los-sismos-20171017-0164.html>.
- 6 Secretaría de Hacienda y Crédito Público (SHCP), “Informes sobre la situación económica, las finanzas públicas y la deuda pública. Preliminar del Fondo de Desastres Naturales (Fonden), Cuarto trimestre de 2017,” http://finanzaspublicas.hacienda.gob.mx/es/Finanzas_Publicas/Informes_al_Congreso_de_la_Union, accessed February 9, 2018.
- 7 Secretaría de Gobernación (Segob), “Transparencia presupuestaria. Observatorio del gasto,” *Fuerza México*, <http://www.transparenciapresupuestaria.gob.mx/es/PTP/fuerzamexico>, accessed February 8, 2018.
- 8 Segob, “Acuerdo que establece las reglas de operación del Fondo de Desastres Naturales (Fonden),” *Diario Oficial de la Federación*, http://dof.gob.mx/nota_detalle.php?codigo=4920763&fecha=31/12/1969.
- 9 Instituto Belisario Domínguez del Senado de la República, “Aportaciones del sector privado y la sociedad civil de México y donaciones internacionales en apoyo a las fases de emergencia y reconstrucción tras los sismos de 2017,” December 2017, accessed February 11, 2018.