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The Mexican Disaster Risk Financing Strategy

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Fonden la construcción



FONDEN

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Background

In attention to the government's concern to increase their capacity to attend the damaged caused by natural phenomena without altering the public finances, by 1996 the Natural Disasters Fund (FONDEN) was created.

Although with the FONDEN constitution the trouble related to avoid a lead off on the regular programs resources was in a way solved, there were not a legal regulation which provides the correct control and transparency in the money application; therefore in 1999 the first FONDEN rules were issued, which has had over the years many substantial modifications to accomplish that the procedures be held with maximum efficiency and opportunity.

Presence of disasters caused by
nature



Federal
Government

MÉXICO



The Natural Disasters' Fund
(FONDEN) was created in 1996



Fonden

www.fonden.gob.mx



FONDEN

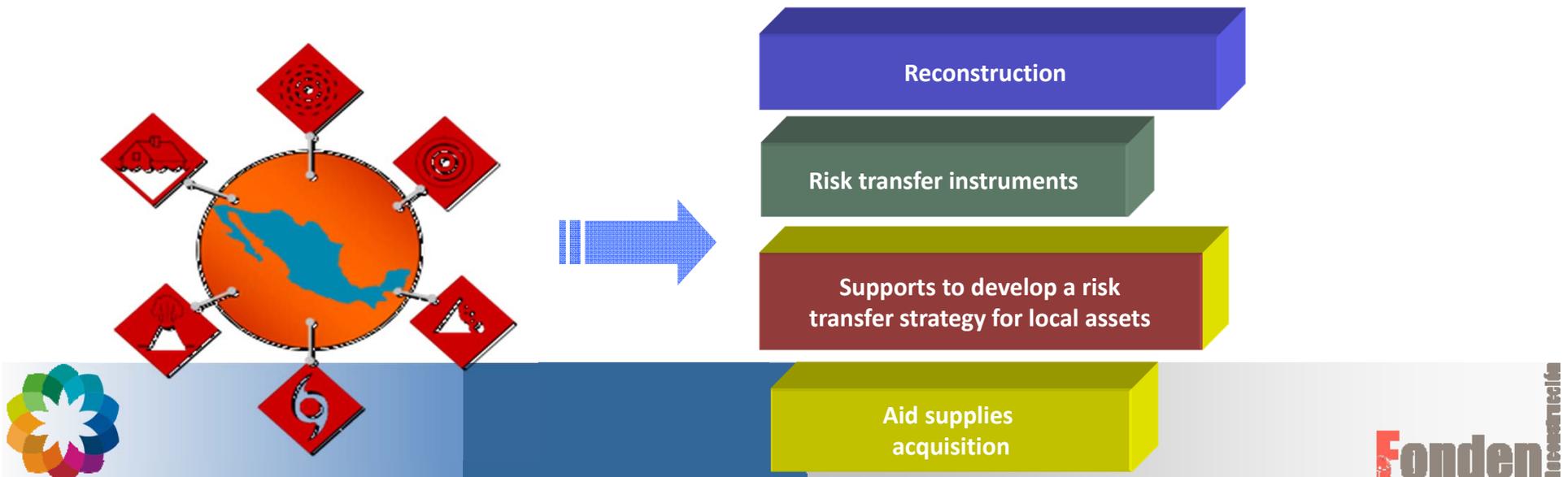
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Integration

- I. The FONDEN program.- budget line within the Federal Budgetary Expenses of every year and works mostly as a cash transfer to the FONDEN Trust;
- II. The FONDEN Trust.- financial tool which finances: i) the reconstruction of the public infrastructure and housing of low income population; ii) the acquisition of risk transfer instruments to protect it's patrimony, and iii) supports for the states to develop a risk transfer strategy for their assets;
- III. The Immediate Fund for humanitarian aid.- which is financed by the FONDEN program and/or the FONDEN trust indistinctly;

Funding mechanism:
Articles 19 and 37 of
the Federal Budget
Law





Risk analysis and risk transfer instruments

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Since 2007, the Mexican government has worked on the creation of databases and risk analysis in order to have more technical elements that support the design of risk transfer instruments that complement FONDEN.

The results of this effort allowed to obtain two essential elements to design risk transfer mechanisms:

1. A database of main public assets and infrastructure including aspects like geographical location, building characteristics and replacement cost.
 - The first stage focused on the main assets financed by FONDEN for the reconstruction: roads, hospitals, schools and water infrastructure and housing for low-income population.
2. An analysis of the main hydrometeorological and geological risks that affect the Mexican territory in order to determine the vulnerability of the infrastructure.





R-FONDEN

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What is it? How does it work?

The Loss Estimation for Federal Risk System (R-FONDEN) is a software developed by the UNAM Engineering Institute for the FONDEN.

Its objective is the estimation of potential material and human losses that may occur for earthquake, flood or tropical cyclone events.

Losses are estimated for a data base integrated with information of the main federal public infrastructure: hospitals, schools, hydraulic and energy infrastructure, roads and bridges, public buildings, among others.

Infrastructure data base contains geocoded information for each asset, structural characteristics and replacement values.

R-FONDEN uses for each selected area probabilistic simulation of historical and potential events for the natural hazards modeled. In each simulation, losses are estimated through vulnerability functions built for the infrastructure in the data base.

It also allows estimations for any geographic area, loss estimation by scenario (particular hazard and event) or for all the events modeled for each hazard.





Multi Cat 2009

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Multi Cat Mexico is a catastrophic bond that provides protection for earthquake and hurricane risks. It's a three year coverage 2009-2012.

- Multi Cat represents significant improvements with respect to Cat Mex 2006:
 - The mechanism expands coverage to Pacific and Atlantic hurricanes.
 - For the (continued) earthquake risk:
 1. the level of triggers were reduced to cover more events.
 2. the coverage zones were extended in order to protect a larger population.
- An insurance claim payment will be triggered with an official state of emergency declaration issued by the Ministry of Interior and an event occurs with the specific triggers.





Multi Cat 2009

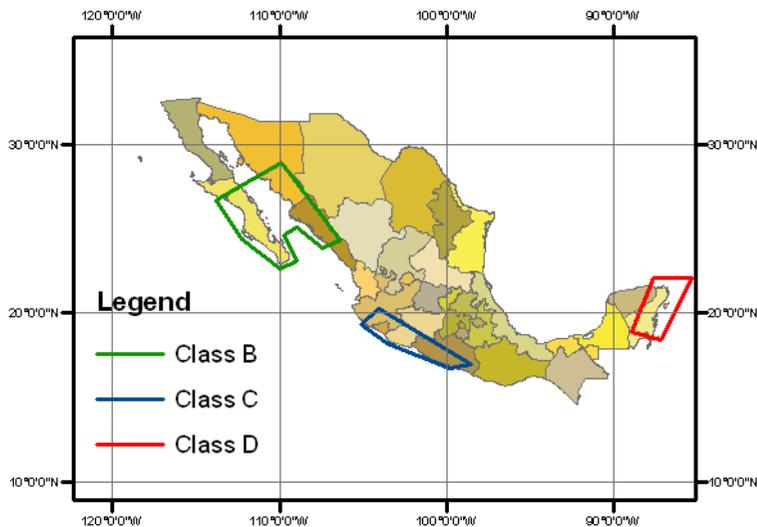
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This instrument has a 290 million dollars coverage:

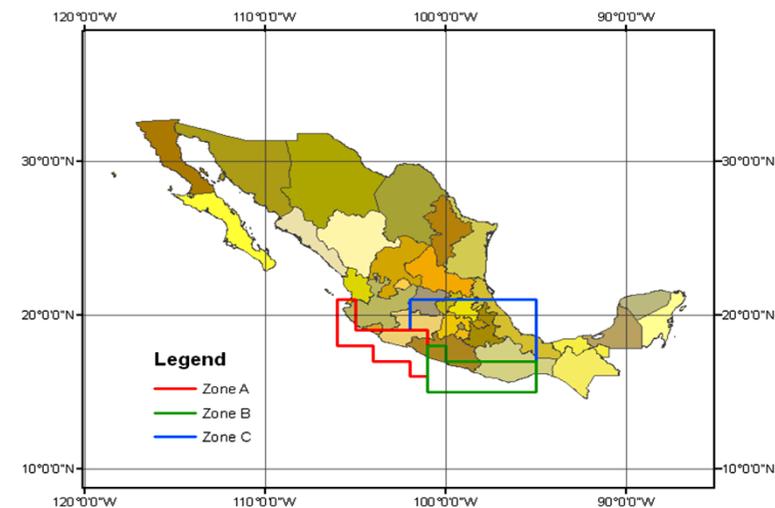
- 1) 140 MD for earthquakes;
- 2) 100 MD for hurricanes coming from the Pacific Ocean, and
- 3) 50 MD for hurricanes coming from the Atlantic Ocean.

HURRICANE ZONES



	Pacific Zone B	Pacific Zone C	Atlantic Zone D
Central Pressure	≤ 944 mb	≤ 944 mb	≤ 920 mb

EARTHQUAKE ZONES



	Zone A	Zone B	Zone C
Magnitude (Mw)	≥ 7.9	≥ 8.0	≥ 7.4
Depth (km)	≤ 200	≤ 200	≤ 200





FONDEN first insurance coverage

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With the same database and risk analysis done, Mexico developed a risk transfer scheme to cover FONDEN in excess of 1 billion dollars.

- In this regard, during the first half of 2011 Mexican Government designed and placed an excess of loss insurance coverage for FONDEN. This scheme was issued on June 10th, 2011 for a one year period and provide protection to those assets covered by FONDEN (public infrastructure and housing of low income population) and will contribute to avoid any deviations on the public finances.
- All of these, in order to give a prompt response to Mexican people, affected by the occurrence of natural disasters.
- The coverage contracted is unique in its type by an emerging country to transfer natural disasters risks.

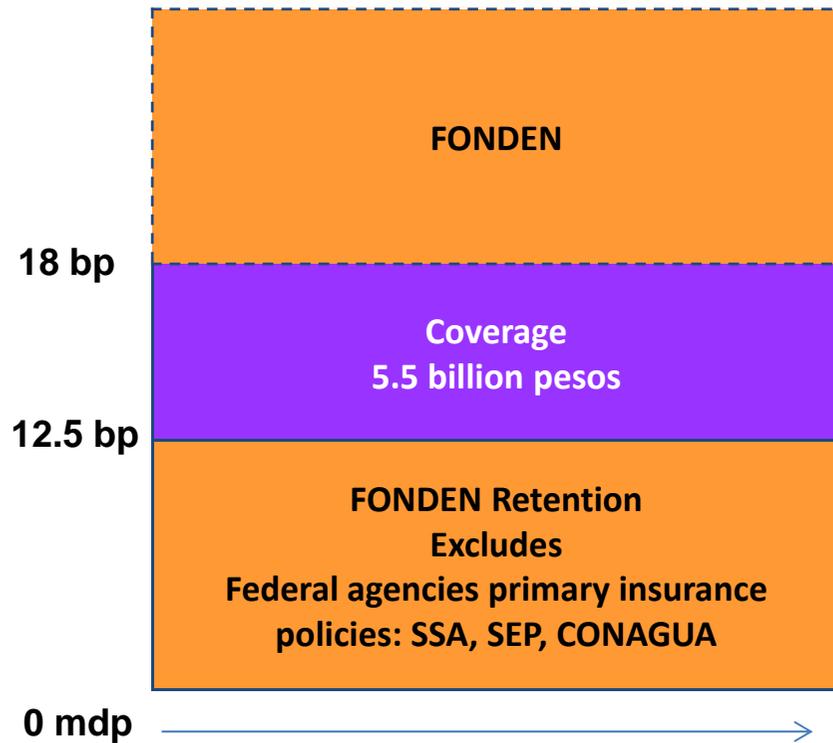




FONDEN new insurance coverage



Over 40 international reinsurance institutions took a share of the 5.5 billion pesos coverage that was placed on last June 10th 2012 to protect the FONDEN patrimony on it's aggregated losses



New coverage advantages

We manage to maintain the 12.5 billion pesos deductible in order to increase the coverage from 4.8 billion pesos to 5.5 billion pesos.

The claims protocol improved significantly since we convinced the market to accept the FONDEN damage assessment procedure as a key element to the adjustment for the insurance coverage losses.

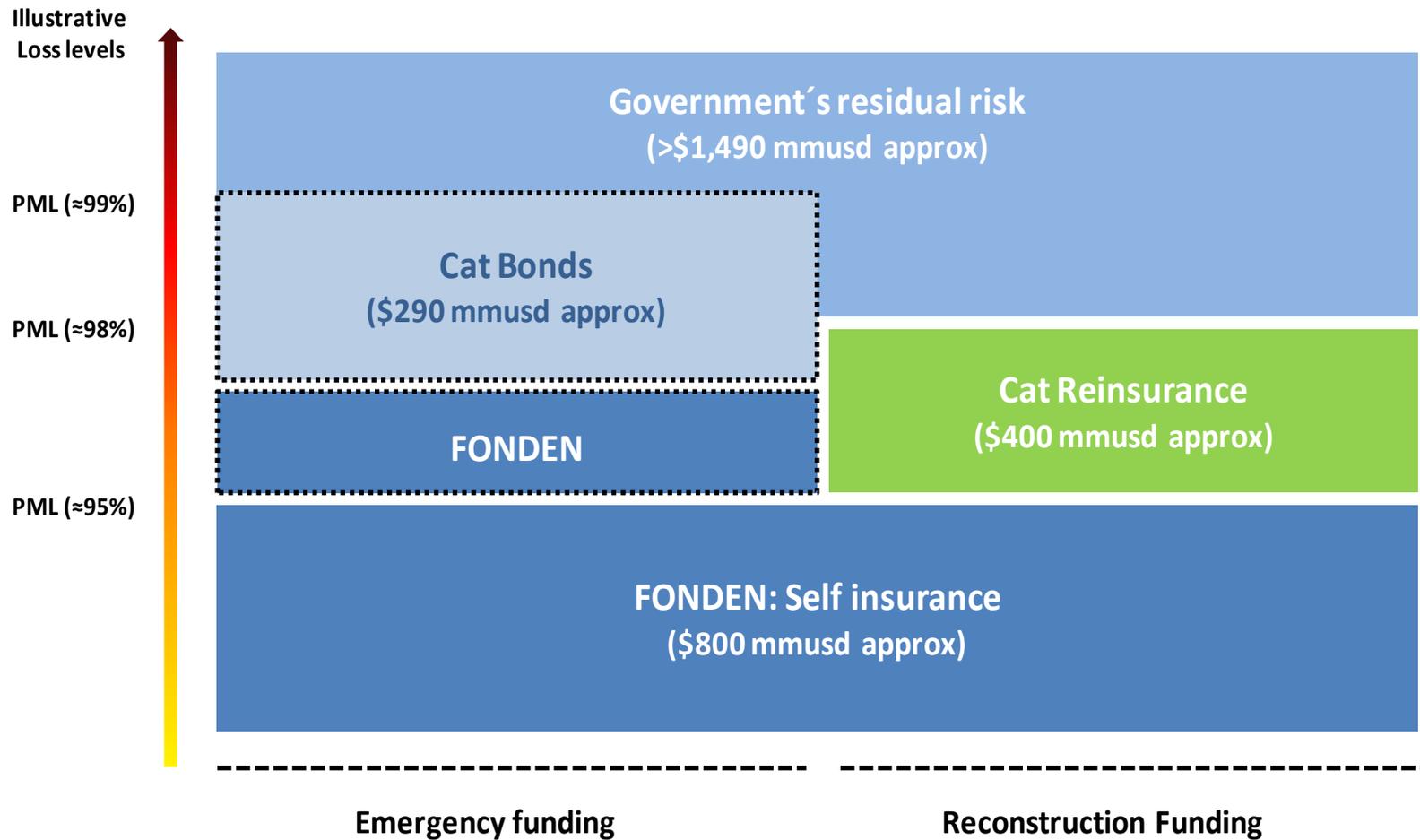
We achieved a higher participation of the reinsurance market (over 40 reinsurance companies vs 32 from last year)





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Conclusions

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1. We must continue promoting legal reforms to incorporate the disaster risk management concept as a national public policy in all national plans, programs and projects regarding public and private infrastructure in our country, in order to achieve that the investment be applied according to a permanent risk reduction strategy.
2. We must keep fortifying the financial instruments for the prevention of natural disasters, until we obtain the balance between the cost to attend the disasters and the investment applied in prevention and disaster risk reduction;
3. We have to carry on a permanent work of massive diffusion and training about the disaster risk reduction and the prevention and self-protection culture, in order to grow day by day in the society the knowledge of these concepts, so it can be introduced in their daily practices;
4. We need to conclude the transit from an intervention of the authorities based on the disaster as the center of all the actions, to other sustained in the analysis and understanding of its generator that is the presence of the risk, and
5. Manage to accomplish a complete risk transfer administration of the natural disasters to which Mexico are exposed, looking for its diversification between the different financial instruments available in the international market, so before the presence of catastrophic disasters, the national public finances are not affected and therefore our economic stability and development.





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"THANK YOU"



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