



OECD Conference on the Financial Management of Flood Risk

Building financial resilience in a changing climate

PRESENTATIONS – SESSION 3

12-13 May 2016
Paris, France

This session was organised by the World Bank
Disaster Risk Financing and Insurance Program

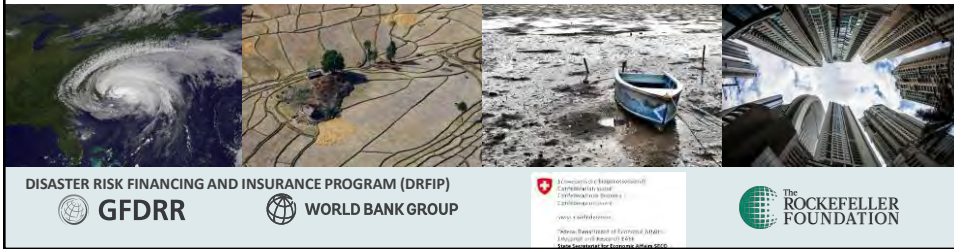


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 Building financial resilience in a changing climate
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May
12
 2016

Building Financial Resilience against Flood Risk in Developing Countries – Shifting from Crisis Responder to Risk Manager

Olivier Mahul
 Global Lead and Program Manager
 Disaster Risk Financing & Insurance Program
 World Bank



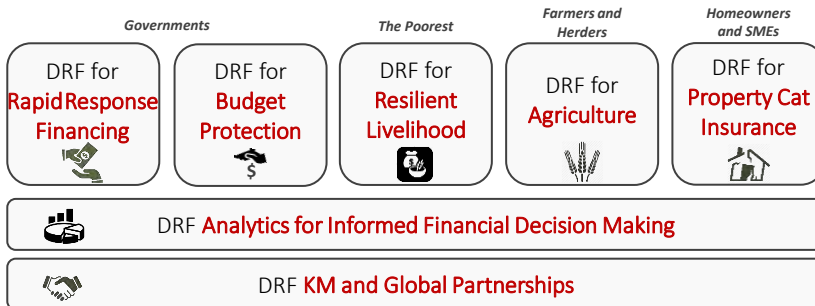
DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)

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The ROCKEFELLER FOUNDATION

Disaster Risk Financing and Insurance Program A joint program between WBG and GFDRR

DRFIP development objective to **increase financial resilience** of the countries through **minimizing the cost and optimizing the timing of meeting post-disaster funding**.
 To achieve this objective, DRFIP provides the countries with **Analytical & Advisory Services, Financial Services and Convening Services** on Disaster Risk Finance.



DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)

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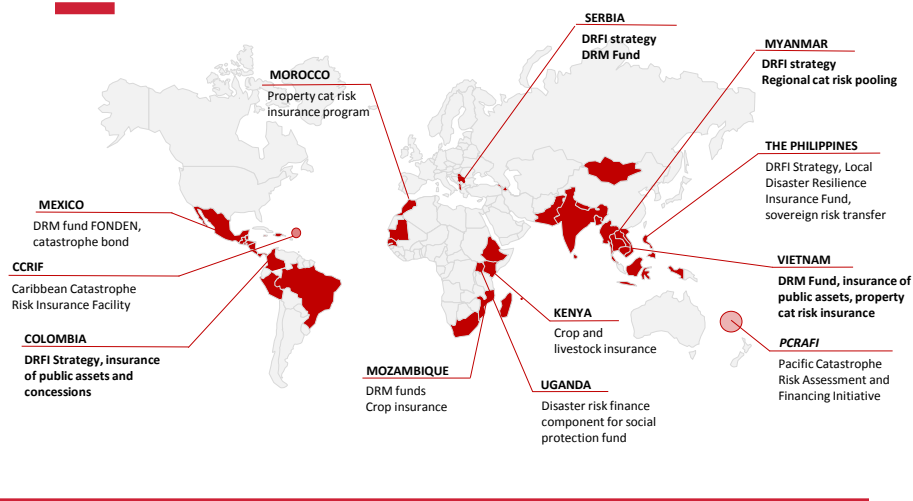
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DRFIP – Operational Engagement Worldwide

DRFIP is active in more than 50 countries



DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)



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Disaster Risk Financing and Insurance Program

Strong partnerships with GfDRR and donor partners

<p>DRF for MIDDLE INCOME COUNTRIES</p> <p>Support Middle-Income Countries to become proactive risk managers to meet the cost of disasters and climate shocks.</p>	<p>DRF for AFRICA</p> <p>Support African countries to manage the financial impact from disasters as part of building their overall resilience to climate and disaster shocks.</p>	<p>DRF for RESILIENT LIVELIHOODS</p> <p>Support governments to integrate social protection schemes in their DRF strategy to offer rapid and timely assistance to vulnerable households affected by shocks.</p>	<p>DRF for GLOBAL POLICY, KNOWLEDGE & TRAINING</p> <p>Leverage the WBGs convening power to invest in policy advice and knowledge management to support policy reforms and financial instruments.</p>
<p>DRF for SMALL ISLAND STATES</p> <p>Support SIDS to strengthen their financial resilience as part of the broader disaster risk management and climate change adaptation agenda.</p>	<p>DRF for ASIA</p> <p>Support Asian countries to manage the financial impact from disasters as part of building their overall resilience to climate and disaster shocks.</p>	<p>DRF for AGRICULTURE</p> <p>Support countries to implement sustainable, cost-effective public-private partnerships in agricultural insurance as part of broader agricultural risk.</p>	<p>DRF ANALYTICS</p> <p>Provide governments with the information and tools to make informed financial decisions on managing disaster and climate risks.</p>

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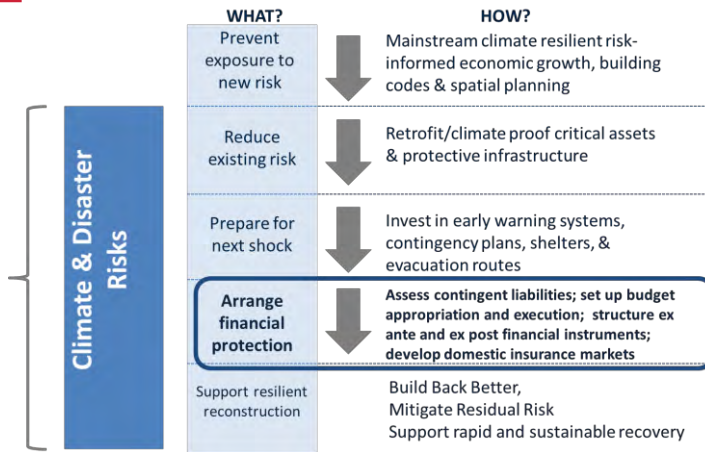
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Integrated Approach to Flood Risk Management



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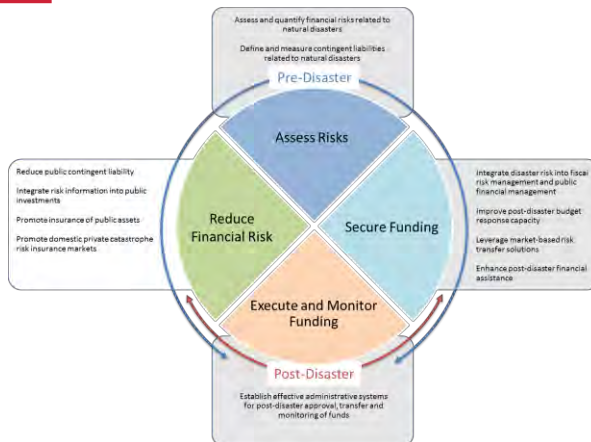


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Disaster Risk Finance Operational Framework



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Disaster Risk Layering



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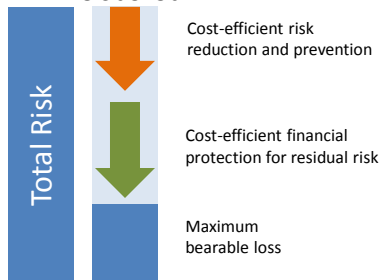
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Optimal flood risk management

Financial Protection **complements**, but does **not replace**, risk reduction and prevention measures



Disaster risk financing and insurance can help design strategies that

- (i) Minimize the cost of financing
- (ii) Optimize the timing of financing

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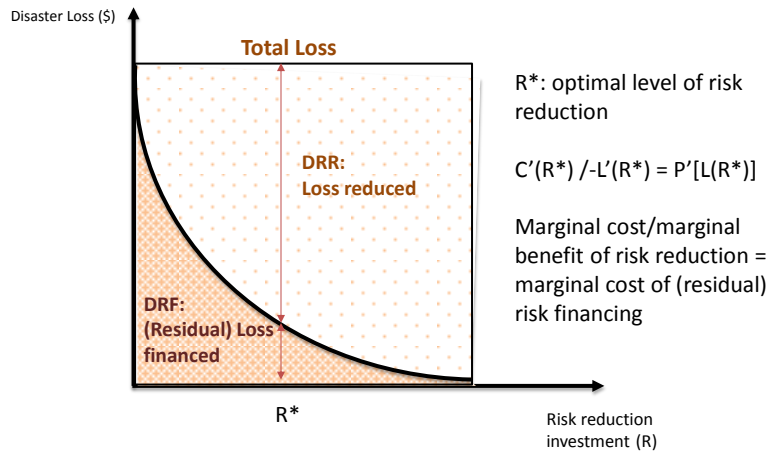
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Optimal investment in risk reduction

Where to allocate your next \$?

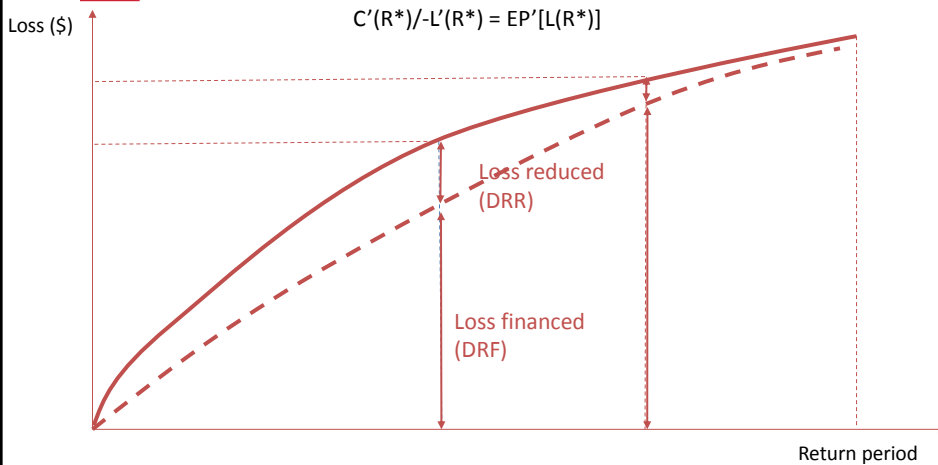


DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)



Optimal investment in risk reduction

Where to allocate your next \$?



DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)



Questions for discussion

- What is the optimal investment allocation between flood risk reduction and flood risk financing?
- What are the (institutional, technical, operational) challenges faced by emerging countries in the financial management of flood risk?
- What is the role of the private sector in supporting the development of financial solutions for floods?
- What lessons/experience can be shared with OECD countries?

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Ministry of Economic Affairs
Department of Disaster Risk Management
and Insurance



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Agenda of the session

- Moderator
 - Olivier Mahul, Global Leader and Program Manager, World Bank
- Panelists
 - Mr Andres Ricardo Quevedo Caro, Head of Risk Management, MoF, Colombia
 - Ms Daw Ni Ni Tan, Director, Treasury Department, MoF, Myanmar
 - Mr Marko Blagojevic, Director, Public Investment Management Office, Serbia
 - Mr Bui Thanh Hai, Deputy Director, Insurance Supervision Division, MoF, Vietnam

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Ministry of Economic Affairs
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Ministry of Finance and Public
Credit



Republic of Colombia



**FISCAL VULNERABILITY AND DISASTER
RISK MANAGEMENT STRATEGY IN
COLOMBIA**



Agenda

1. Statistics of damages and losses.
2. Financing strategy – Risk transfer instruments



Damages and losses of low, moderate and high intensity events (1970 – 2000)

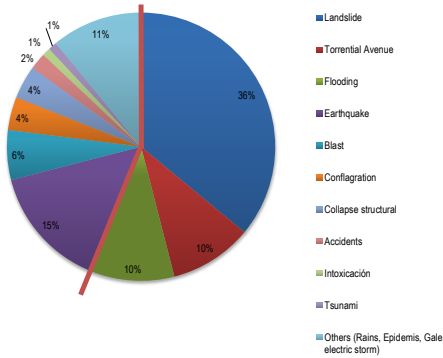
Classification of the Intensity	Disasters	Deaths	Destroyed (D) or Affect (A) dwellings	Affected Population	Economical Loss (Millions USD)
High intensity Events	Tsunami in the Nariño coast (1979)	672	3.081 (D)	1.011	22
			2.119 (A)		
	Popayán Earthquake (1983)	300	2.470 (D)	20.000	489
			11.722 (A)		
	Ruiz Volcano eruption and Armero Destruction due to landslide (1985)	Between 23.500 and 28.000	4.700 (D)	200.000	319
			5.150 (A)		
Earthquake and avalanche in the Cauca - Páez River (1994)	1.100	No available	8.000	194	
Eje Cafetero Earthquake (1999)	1186		35.949 (D)	166.336	2016
			43.422 (A)		
Subtotal	28.258		46.200 (D)	395.347	3040
			62.143 (A)		
Low and medium intensity Events	Accumulation of slides, floods and other phenomena (1970 - 2000)	9.954	89.337(D)	14,8 millions	2881
			185.365 (A)		
TOTAL AMOUNT	Big and small events	38.212	135.537 (D)	15.195.347	5921
			247.777 (A)		

Source: CONPES 3318 / 2004

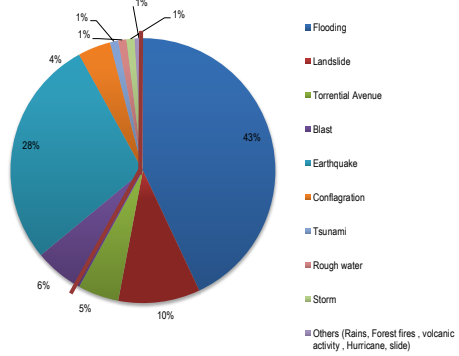


Landslides and flood risks had the most important impact between 1970 and 2011.

Lost lives



Destroyed dwellings



Source: World Bank (2012). Analysis of disaster risk management in Colombia.



Economic losses of last Colombian La Niña phenomenon

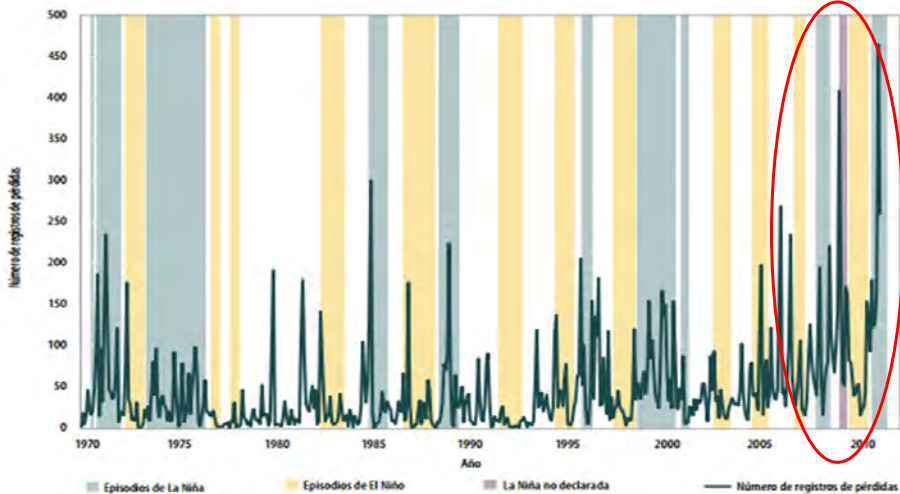
- The meteorological phenomenon that has generated greater losses in the country's history. Direct losses have been estimated in more than 3,6 million dollars and impacted all sectors of the country.

SECTOR	Economic Losses (Million USD)	%
Dwellings	1.558,20	43,7%
Social services	397,24	11,1%
Infrastructure	1.355,08	38,0%
Productive (agricultural, commerce, tourism)	256,13	7,2%
TOTAL	3.566,67	100%

Source: Ministry of Finance (2012)
Fiscal Management to Minimize Disaster Risk by natural events
*TRM 31 Dec 2015 (\$3.149,47)



Frequency and Intensity of El Niño and La Niña phenomenon have grown during the last decade.



Source: World Bank (2012). Analysis of disaster risk management in Colombia.



Investment Projects of the Adaptation Fund

More than 3.000 projects

Aimed for recovery, construction and reconstruction of areas affected by the phenomenon "La Niña" (without reconstruction of vulnerability conditions)

Around USD\$2952.9 m

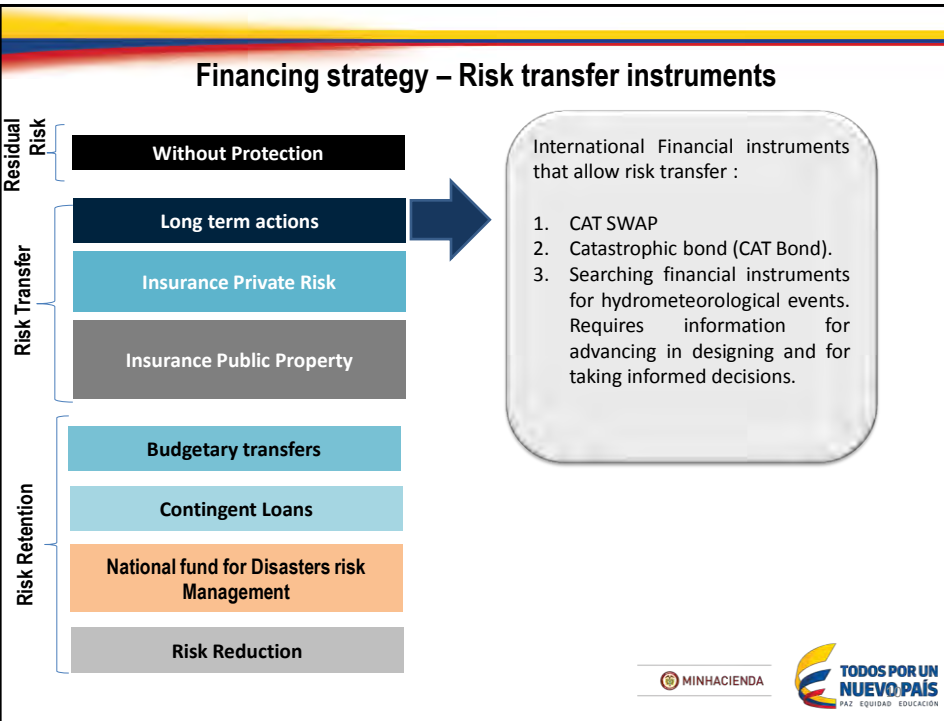
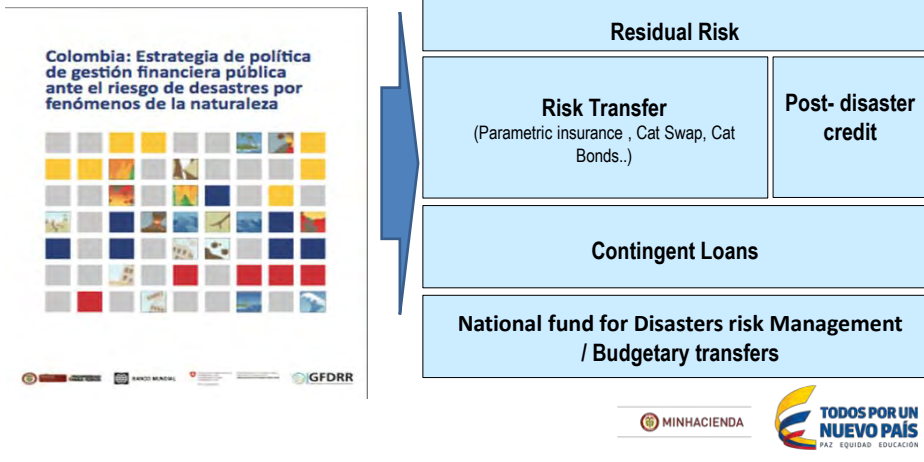
Sector	Macro-Projects	Total Target	Investment (USD\$Million)	Comprom. (USD\$Million)	% Comprom.
Risk Mitigation	Gramalote	-Construction And provision of preventive IPS -Aquaduct -Management property taxes -Project Economic recovery - specialty coffees -Urban , Road design and aqueduct -Social management	52,1	11,4	22%
	La Mojana	-Technical -Coordination -Barometric and topographic -Rise -POT -Hydrodynamics -Modeling -Defining Structural and non-structural interventions	190,5	14,9	8%
	Jarillón de Cali	-Management -Studies Threats -Studies Of essential infrastructure - Studies -Implementation of essential infrastructure	261,3	41,0	16%
	Canal del Dique	-Studies , Designs and interventorias -works Flow regulation for flood control	319,1	13,7	4%
	Río Fonce	- Validation Designs	4,8	0,32	9%
Subtotal			827,8	81,3	10%

Source: FA 2015 septiembre 30 de 2015
*TRM 31 Dec 2015 (\$3.149,47)



The Ministry of Finance (2013) identified three priority policy objectives for the management of contingent liabilities arising from disasters :

- (i) Identification and understanding of fiscal risk due to the occurrence of disasters;
- (ii) Implementation of innovative financial instruments;
- (iii) Catastrophic risk insurance of public assets.





MINISTRY OF PLANNING AND FINANCE

Strengthening Financial Resilience against
Disaster and Climate Risks in Myanmar

Ms.Ni Ni Than, Director, Treasury Department

- I. Profile of Myanmar
- II. Potential Hazards in Myanmar
- III. National Disaster Management Policy
- IV. Allocation of the Union Government for Disaster in 2015
- V. World Bank's Assistance for Disaster

I. PROFILE OF MYANMAR



- located in South-east Asia
- 1930 km coastline with the Bay of Bengal and Andaman sea.
- three seasons in Myanmar
- over 135 ethnic
- population- about 54 millions

3

II. Potential Hazards in Myanmar

- Fire
- Flood
- Cyclone
- Earthquake
- Tsunami
- Landslide
- Drought



Con :

Flood & Other Natural Disasters Profile

○ Economic Losses and Social Impact from Flood

Date	Disaster Type	No. people affected	Total damage (US\$ mil)
1991	Flood	359,976	80
1994	Storm	64,970	10
1997	Flood	137,418	-
2004	Earthquake	15,700	500
2007	Flood	166,664	-
2008	Storm	2,420,000	4,000
2010	Landslide	145,000	-
2010	Storm	260,049	57
2011	Earthquake	21,277	4
2012	Earthquake	1,486	1
2012	Flood	85,000	-
2013	Flood	73,300	-
2014	Flood	40,000	-
2015	Flood	1,616,761	1,670

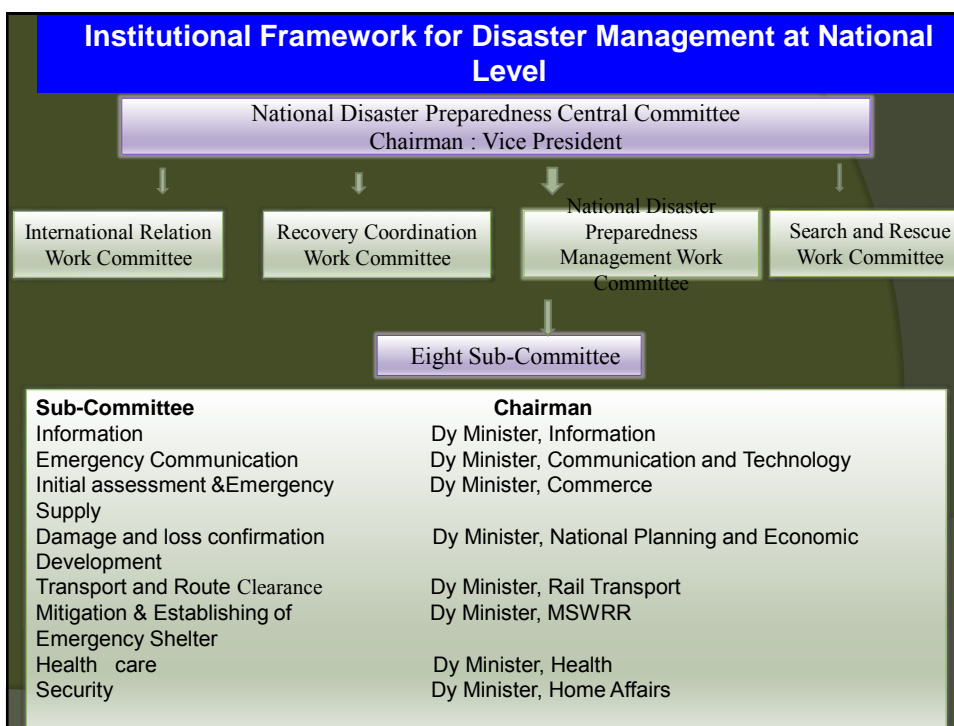
○ 2015 Flood:

- 1,676,086 people were displaced from their homes
- 132 people died
- 38954 houses were totally damaged

III. National Disaster Management Policy

1. Creating better opportunities boosting the country's socio-economic.
2. Managing the disaster as minimize risk as possible.
3. Enhancing response activities to reduce the impact of disaster.
4. Enhancing the spirit of self-reliance of the victims of disaster to stand on themselves in long term recovery independently.
5. Giving Psycho-social support to the people who suffered disaster.
6. Managing disaster with international standard.

Con :



VI. Allocation of the Union Government for Disaster in 2015-2016

- Reserved Fund (up to 17-11-2015)
- Being the Expenditure for force majeure natural disaster
 - Special case (must be incurred within the fiscal year)
 - Where transfer of budget head cannot be effected (or) don't transfer (or) no allotment by existing law)

(Kyats in million)

- The Ministry of Border Affairs	6,216.69
- The Ministry of Agriculture and Irrigation	14,078.910
- The Ministry of Livestock, Fishery and Rural Development	3,065.9005
- The Ministry of Transport	641.850
- The Ministry of Education	2,302.7472
- The Ministry of Construction	25,561.665
- Kachin state	35.220
- Kaya state	2,059.717

→ Con :

Allocation of the Union Government for Disaster in 2015-2016

	(Kyats in million)
- Sagaing Region	4,761.3096
- Bago Region	1,682.6825
- Magway Region	6,234.530
- Mandalay Region	10,487.524
- Rakhing state	1,500.000
- Yangon Region	452.400
- Ayeyarwaddy Region	1,345.000
Total	80,426.1458

V. The World Bank's Assistance for Disaster

- 5 percent of the undisbursed amount under IDA 17
- Operations Manual
- The National Disaster Fund Trustee Committee
 - Chair (The Deputy Minister of Finance)
 - Representative (President Office)
 - Director General (General Administration Department)
 - Director General (Ministry of National Planning and Economic Development)
 - Director (Ministry of Foreign Affair)
 - Director (Attorney General Organization)
 - Secretary (The Relief and Resettlement Department)
 - Director General (The Ministry of Social Welfare, Relief and Resettlement)
 - Director General (Treasury Department)

Con :

Contingent Emergency Response Implementation Plan (CERIP)

- ❑ **The Ministry of Agriculture and Irrigation**
- ❑ **The Ministry of Health**
- ❑ **The Ministry of Livestock , Fishery and Rural Development**
- ❑ **The Ministry of Education**
- ❑ **The Ministry of Construction**


Thank You

Building Financial Resilience to Flood in Serbia

Marko Blagojevic

Director, Government of Serbia Public Investment Management Office (formerly Office for Reconstruction and Flood Relief)



DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)
 **GFDRR**  **WORLD BANK GROUP**

Flood Profile

- Floods 2014 affected **119 municipalities** (out of 165) and **22% of total population**
- **More than 30 municipalities** sustained extensive damage
- **57 lives** were lost
- **32,000 families** were forced out of their homes
- Production of electricity decreased by 25%, due to the flooding of an open-pit coal mine, a key source of lignite-based power generation
- The disaster caused a **recession** in the Serbian economy
 - **GDP fell by 1.8%** in 2014, instead of growing by 0.5% as was previously projected
- Total disaster effects (damages and losses) **4.8% of GDP (EUR 1.7 billion)**
- Total needs for recovery and reconstruction estimated at **EUR 1.35 billion**
- Estimates are based on the **Post Disaster Needs Assessment** implemented by the Government of Serbia with the assistance of the WB, UN and EU

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Government Response

No adequate system was in place to respond to overwhelming needs in a coordinated fashion

Office for Reconstruction and Flood Relief was established in the midst of floods as an **operative (not political) national authority** for relief and recovery

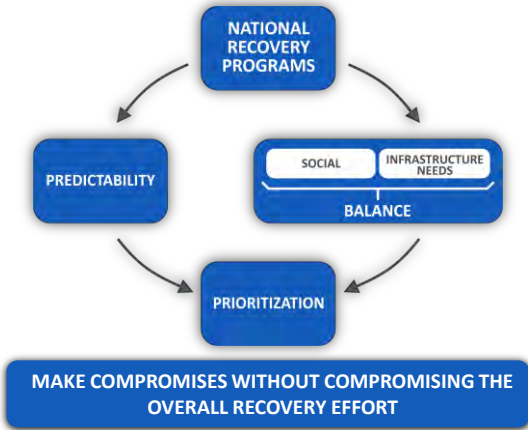
Drafting a new set of rules,
 law and bylaws

Government Response

KEY RESPONSIBILITIES OF THE OFFICE FOR RECONSTRUCTION AND FLOOD RELIEF:

- **Data** collection, processing and verification
- Drafting of **National Recovery Programs** by sectors (including detailed information on damages, proposed measures and cost estimates)
- **Fundraising** (Office as the key focal point for donors and lenders)
- **Coordination** of aid disbursement
- **Supervision of implementation** (including public procurement)
- **Approval of payments**
- **Ensuring transparency** through reporting (to the Government, general public and donors)

Government Response

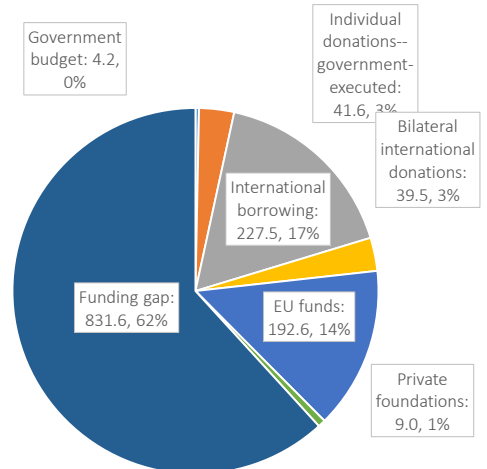


Over the past two years Serbia and its partners invested considerable resources into the recovery of:



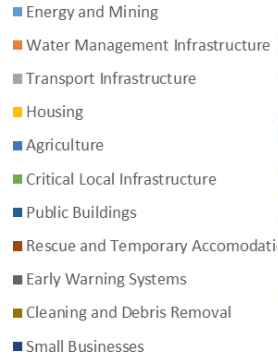
Financing of 2014 Flood Relief and Reconstruction

- In May 2014, Government established the Office for Reconstruction and Flood Relief
 - Office played a central role in coordination of aid and financing, reconstruction and rehabilitation
- In July 2014 an international donors' conference was organized for Serbia and Bosnia and Herzegovina
 - largest donor was EU (through its Solidarity Fund and IPA)
- In October 2014 Serbia and the World Bank signed a €227.5 million loan: Floods Emergency Recovery Project
- In December 2014 the Parliament passed a supplementary budget for 2014 (7 months after the disaster)
- A funding gap of over €830 still remains unbridged

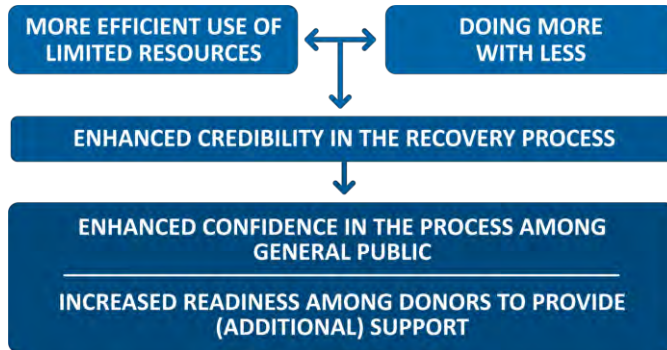


Financing of 2014 Flood Relief and Reconstruction

- Government aid of over **40 million EUR** provided to **20,929 families**.
- **5 million EUR** provided to 2006 SMEs as cash grants.
- Aid packages for over **26,000 agricultural** households in 29 municipalities affected by floods (saplings, animals, animal feed, equipment etc.)
- Cattle breeders financed from the national budget with full replacement value for almost **5000 farm** animals and farmers for **16,000 hectares**.
- Reconstruction of:
 - energy sector: mines, power generation and distribution facilities
 - transport infrastructure
 - 111 public buildings
 - 109 projects of local infrastructure



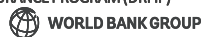
Key achievements



Current Risk Layering in Serbia

Disaster risk	Financing source available	Amount of funds available
High-risk layer (e.g., major floods, major earthquakes)	Donor assistance	Unpredictable and unreliable (e.g., in 2014 the total commitment was €235 million, often in kind)
	Emergency borrowing	Unpredictable (e.g., €227.5 million drawn from World Bank for 2014 floods emergency recovery)
Medium-risk layer (e.g., regional floods, minor earthquakes)	Contingent financing	Not currently available (\$100 million CAT DDO is in early preparation)
	Budget funds: Permanent Budgetary Reserve	€17,000 (originally budgeted, increased one-off by 2014 supplementary budget to almost €20 million)
Low-risk layer (e.g., localized floods, droughts, landslides)	Budget funds: Compensation for Damage Caused by the Natural Disasters (account 484)	€700,000 (originally budgeted, increased one-off by 2014 supplementary budget to approximately €1.5 million)
	Budget reallocation	Unclear (10% of each appropriation available immediately; higher if supplementary budget is passed)
	Catastrophe insurance	Very low because of low penetration (€16.9 million paid out for 2014 floods)

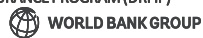
DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)



Serbia DRFI Country Note: Key Findings

- No disaster risk financing strategy currently in place
- Number of instruments available is limited
- Government currently relies largely on ex-post instruments:
 - [budget reallocation](#)
 - [emergency borrowing](#)
 - [donor financing](#)
- Current financing available insufficient even to cover recurrent losses:
 - [significant resource gap identified](#)

DISASTER RISK FINANCING AND INSURANCE PROGRAM (DRFIP)



Key Challenges

- Budget System does not allow for the accumulation of resources over a multiyear period
- Cash accounting principle
 - all the funds not spent during one year elapse at its end and therefore cannot be rolled over to the next period and accumulated
- Lack of fiscal space from ongoing fiscal consolidation efforts pursued by the Government
 - high competition for financing resources
 - difficult to set aside considerable amounts of budgetary resources for contingencies

Next steps

- Preparation of a catastrophe deferred drawdown option (**Cat DDO**) with support of World Bank
- Promotion of **catastrophe insurance** for individuals and activities for boosting private insurance sales under way
- Analysis of various **budget protection mechanisms** with Europa RE ongoing (national and local level)