

Bangladesh Capacity Building for Disaster Risk Finance

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Funding Gap Analysis, April 2015*



Funding Gap Analysis: Introduction

- Funding gap is the residual between total losses as a result of natural disasters and total available funding to cover those losses.
- Damage vs loss
 - Damage: direct impact (static)
 - Loss: direct impact plus recurring impact over time (dynamic)

Funding Gap Analysis: This project

- Relies on an extensive data work bringing together comprehensive damage and funding information related to natural disasters in Bangladesh for the period 2000 to 2013.
- Meticulous library and internet search which covered various publicly available sources published by the Government of Bangladesh and international organizations.
- The extensive library and internet search has been conducted by multiple persons, which was also cross-checked by different team members to ensure data reliability and accuracy.

Table 1

Year	Disaster-Related Economic Impact	Disaster-Related Funding				Funding Gap
		Funding for recovery and rehabilitation projects	Humanitarian Aid	Foreign Aid on Disaster-Related Emergency Response	Total Funding	
2000	582	61	5	N/A	66	516
2001	85	67	2	N/A	69	16
2002	1,072	129	6	0	135	937
2003	1,042	8	4	0	11	1030
2004	2,335	60	109	209	378	1,957
2005	139	95	6	0	101	38
2006	27	58	12	0	71	-44
2007	2,744	73	300	645	1,018	1,726
2008	145	111	43	186	339	-194
2009	1,206	38	37	52	128	1,078
2010	254	52	31	1	84	170
2011	186	64	66	0	131	55
2012	626	47	32	0.2	79	547
2013	350	34	26	N/A	60	290
TOTAL	10,791	897	679	1,093	2,669	8,123

Table 50. Disaster Related Economic Impact on the Public Sector and Funding Gap in Bangladesh from 2000-2013 (Million USD)

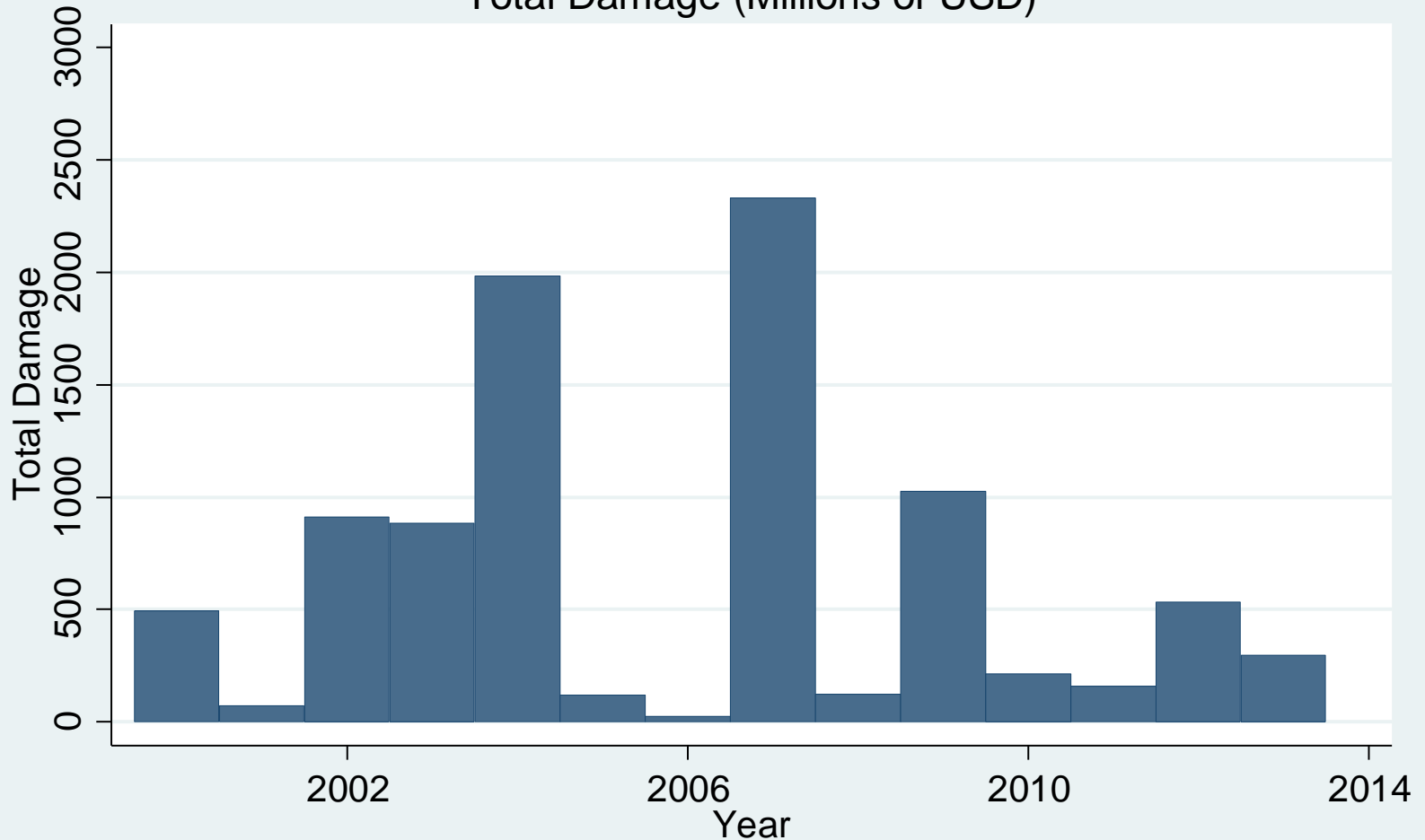
Note: All figures in the table are rounded to the nearest integer, and therefore, minor variations in the summation are due to rounding.

Data Sources on Damage

- EMDAT
- Dartmouth Flood Observatory
- Ministry of Disaster Management and Response
- BMD
- CDMP
- International Federation of Red Cross And Red Crescent Societies
- NGDC
- Martin and Szeliga (2010)
- BDNews24

Total Damage

Figure 1. Natural Disasters in Bangladesh 2000-2013
Total Damage (Millions of USD)



Source: Various Data Sources Collated by Air-WorldWide and ADPC

Total Damage, cont'd.

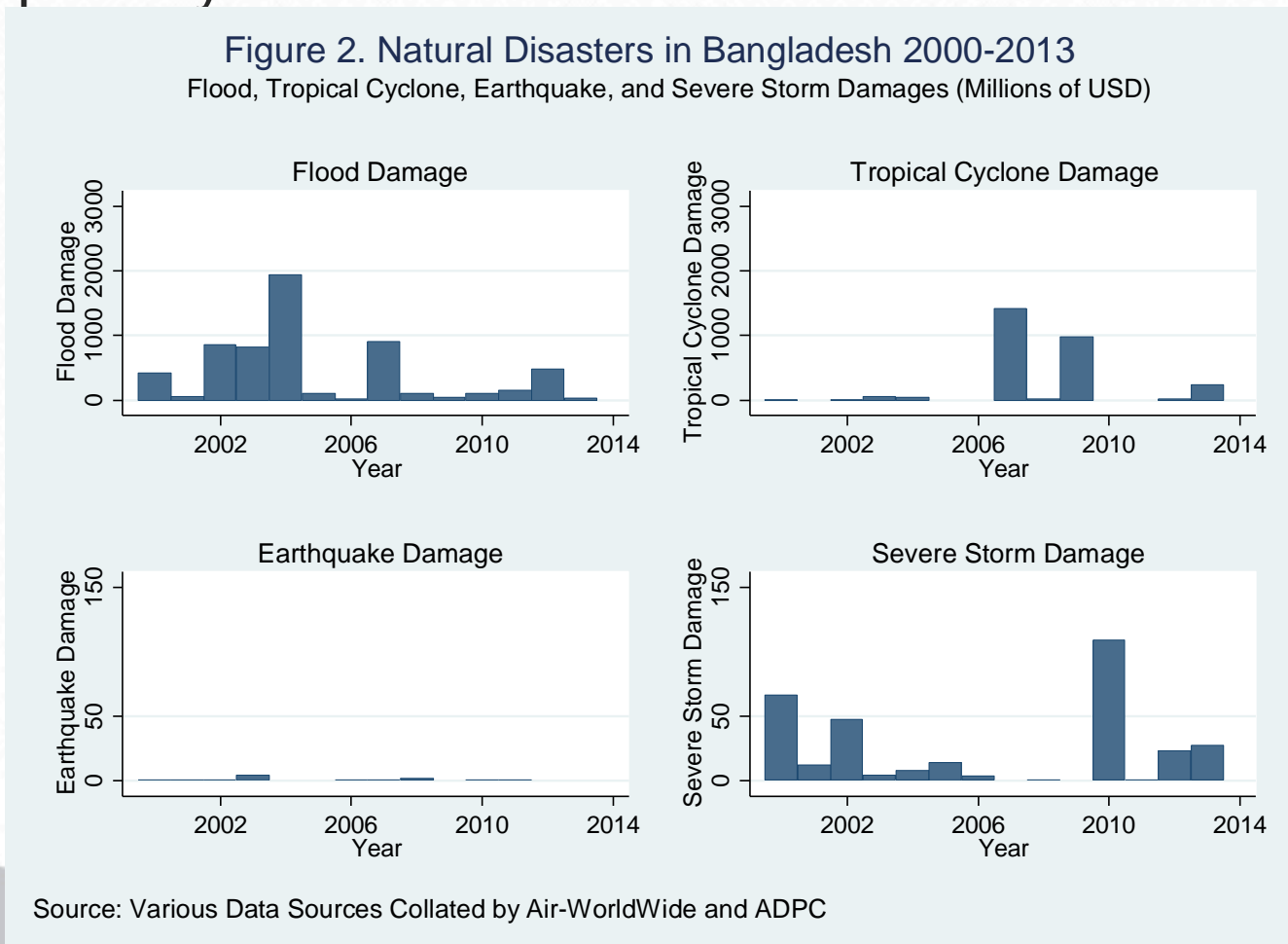
- 2003 floods: USD 1,000 million
- 2004 floods: USD 2,300 million
- 2007 Sidr tropical cyclone: USD 2,700 million
- 2009 Aila tropical cyclone: USD 1,200 million

- Although Bangladesh has not experienced any major natural disaster since 2010, the period 2010 to 2013 has still witnessed an average annual damage due to natural perils of USD 350 million.

- **The long-run damage over 14 years:** a massive total disaster-related damage of **USD 10,791 million** over the period 2000 to 2013.

Total Damage, by perils

- 90% of the total damage due to floods (USD 7,650 million) and tropical cyclones (USD 3,000 million).



Source: Various Data Sources Collated by Air-WorldWide and ADPC

Funding Data

- Three components of funding:
 - expenditures made on the recovery and rehabilitation projects (derived from the approved procurement costs of a total of 55 unique tenders implemented over the period 2000 to 2013).
 - Source: Annual Development Program of the Planning Commission, Ministry of Planning
 - humanitarian assistance;
 - Source: Financial Tracking Services of the United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA) (<http://fts.unocha.org>)
 - disaster-related foreign aid.
 - Source: Economic Relations Division, Ministry of Finance

Funding Data

- The data are currently missing some **small** emergency response expenditures made by the governmental and nongovernmental layers in disaster situations, but missing these data is unlikely to make a difference to our main conclusions.
- Disaster Risk Reduction Fund.
 - The funding amount available could not be identified, but is likely to be modest.
- Emergency Fund Disaster Management.
 - The funding amount is confirmed to be small (again, the full amount could not be identified).
- Fund for Unforeseen Incidents.
 - Available each year in the order of one billion Taka (USD 14.28 million) While this funding can be allocated for any purpose (such as computer purchase) in an ordinary year, in the disaster years it is almost certain that the whole allocation would be spent on disaster risk reduction.
- Climate Resilience Fund (PKSF)
 - The funding amount could not be identified.

Funding Component -1

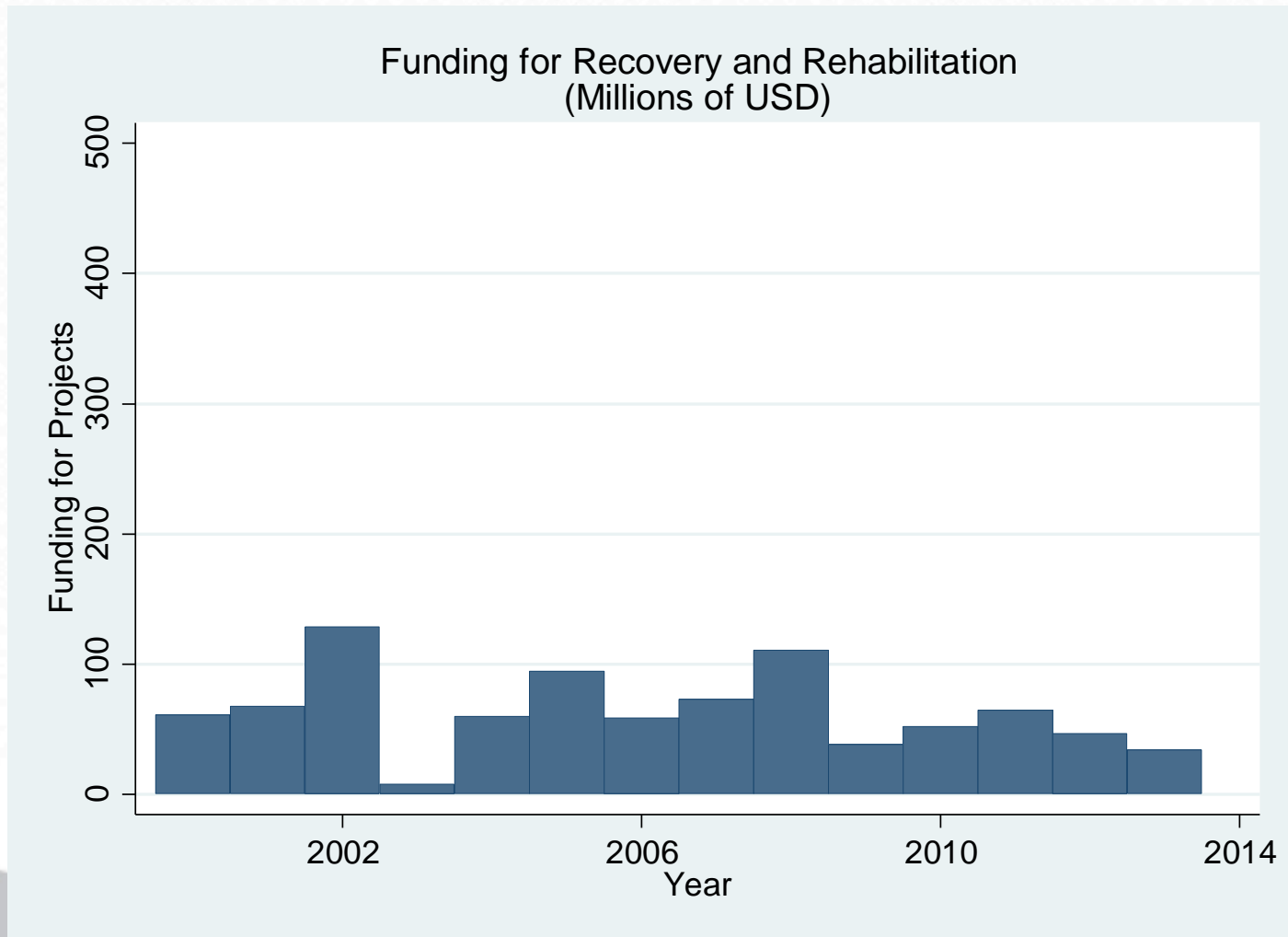
Funding for Recovery and Rehabilitation (RR) Projects

55 unique projects covering a variety of tenders, including:

- Flood rehabilitation projects,
- Cyclone rehabilitation projects,
- Maintenance, rehabilitation, and restoration of flood-affected educational buildings (e.g., primary, secondary, higher secondary schools), and other urban infrastructures,
- House construction for flood-affected landless people,
- Recovery and restoration projects for agricultural crops,
- Other emergency cyclone recovery and rehabilitation projects.

Funding Component -1, *cont'd.*

The total procurement cost of 55 projects over 2000-2013, i.e., the long-run funding, is USD 897 million.



Funding Component -1, *cont'd*

- Of all the 55 projects, 29 had foreign contributors.
- Major foreign contributor organizations included
 - World Bank (including its International Development Agency),
 - Asian Development Bank,
 - Japan Overseas Economic Cooperation Fund,
 - Japan International Cooperation Agency,
 - German KfW.
- These foreign contributors made up of 61% of the total finance, with the rest of the procurement cost being domestically financed.

Funding Component – 1, *cont'd*

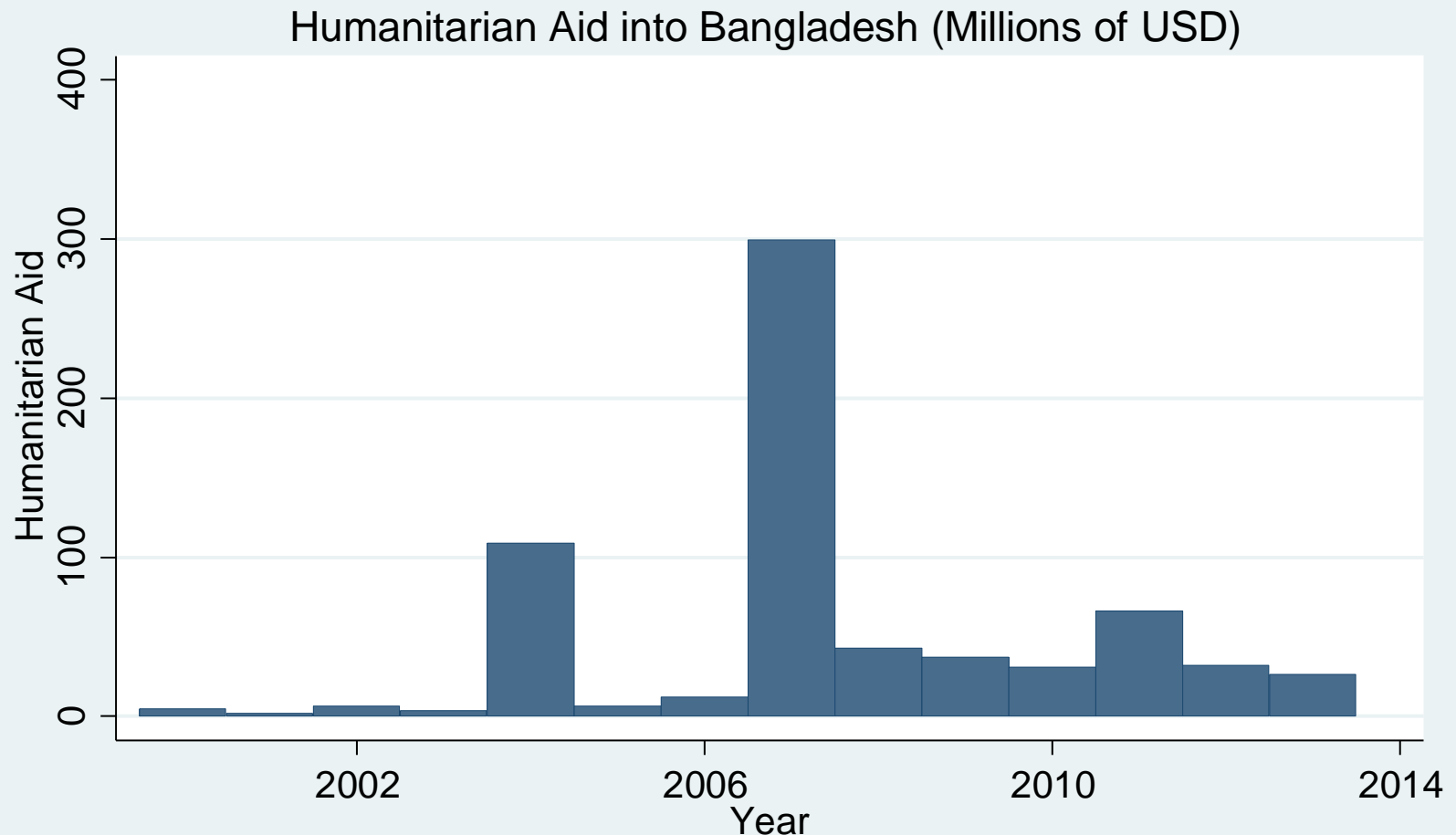
- The RR funding soared in the year following a major natural disaster, such as in the year 2005 and 2008.
- Still average amount of funding across disaster years remained modest, i.e., 100 million.
- The 2010-13 period witnessed an average funding allocations standing at USD 50 million per year despite the absence of any major natural disaster.
- Some of the recovery and rehabilitation efforts following the 2007 Sidr and 2009 Aila cyclones spilled over to the 2010-2013 period.

Funding Component -2

- Humanitarian assistance
- More than 95% of the humanitarian aid that flows into Bangladesh is upon natural disasters (<http://fts.unocha.org>).
- The humanitarian aid typically includes:
 - food (i.e., rice, lentil, wheat, salt, high energy biscuits, cooking oil, cooking utensils, and other food packages),
 - medical aid (i.e., medicine, medical supplements, intravenous fluids, essential drugs),
 - water and water purification tablets,
 - hygiene material (soap, bleach, sanitary latrines, oral rehydration salts),
 - clothing (for children and adults),
 - family kits (i.e., tent, blanket, rugs, jerry can), shelter, and
 - other relief material for disaster victims.

Funding Component – 2, *cont'd.*

Figure 4. Financing Natural Disasters in Bangladesh
2000-2013



Source: <http://fts.unocha.org>

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- food (i.e., rice, lentil, wheat, salt, high energy biscuits, cooking oil, cooking utensils, and other food packages),
- medical aid (i.e., medicine, medical supplements, intravenous fluids, essential drugs),
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- family kits (i.e., tent, blanket, rugs, jerry can),
- shelter, and
- other relief material for disaster victims.

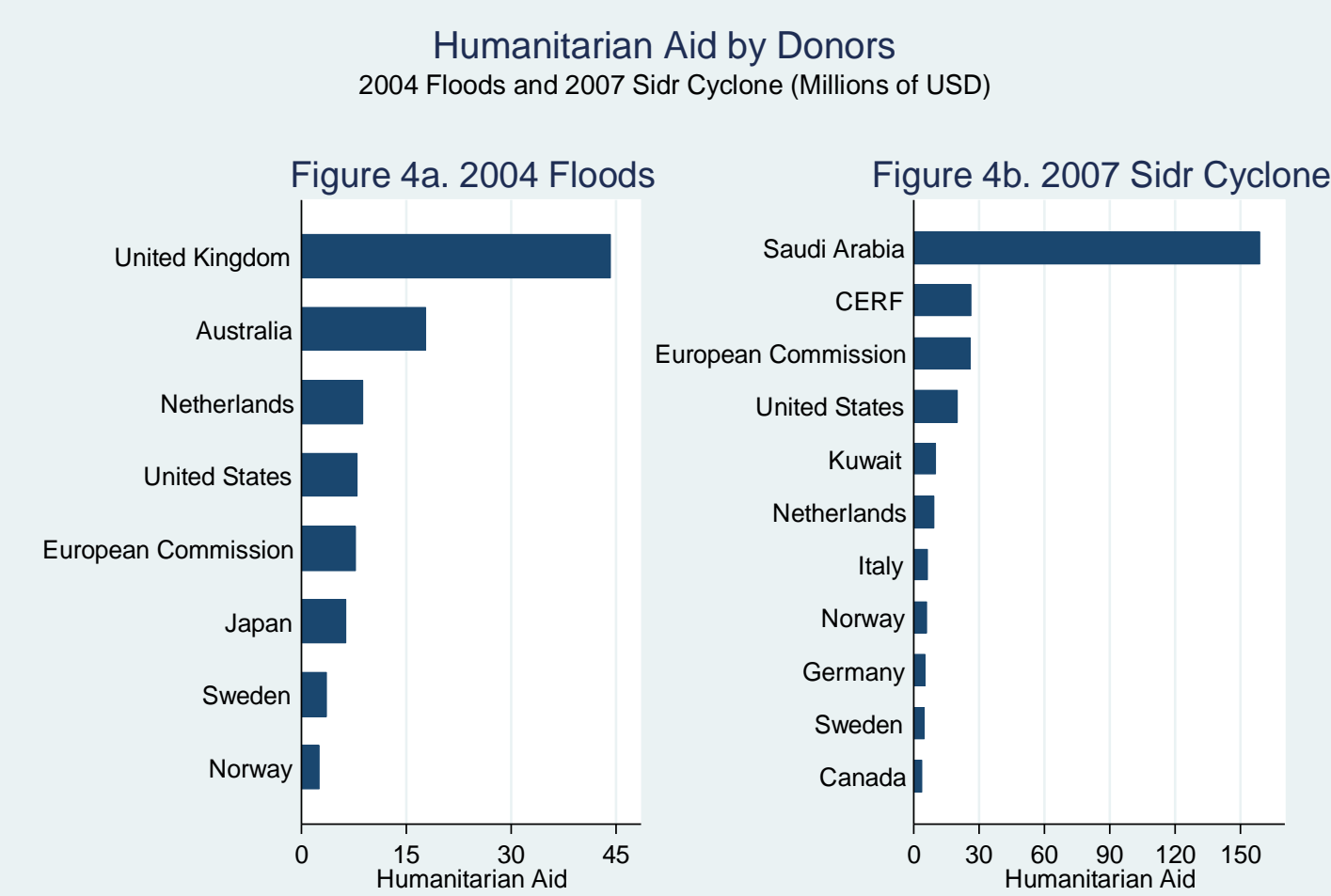
An important amount of humanitarian aid consisted of safe water and water purifiers to prevent any disease or epidemics in the post-disaster period.

Funding Component – 2, *cont'd*

- 2007 witnessed the highest amount of humanitarian aid (USD 300 million), followed by 2004 (USD 100 million). Other years, including 2009, attracted very low amounts.
- The pre-2007 humanitarian aid average was USD 20.5 per annum.
- Post-2007 average being nearly doubled, USD 37 million per annum.
- **The long-term** humanitarian aid corresponds to a total of USD 679 million over the period 2000 to 2014.

Funding Component – 2, *cont'd*

- Humanitarian aid by donor countries



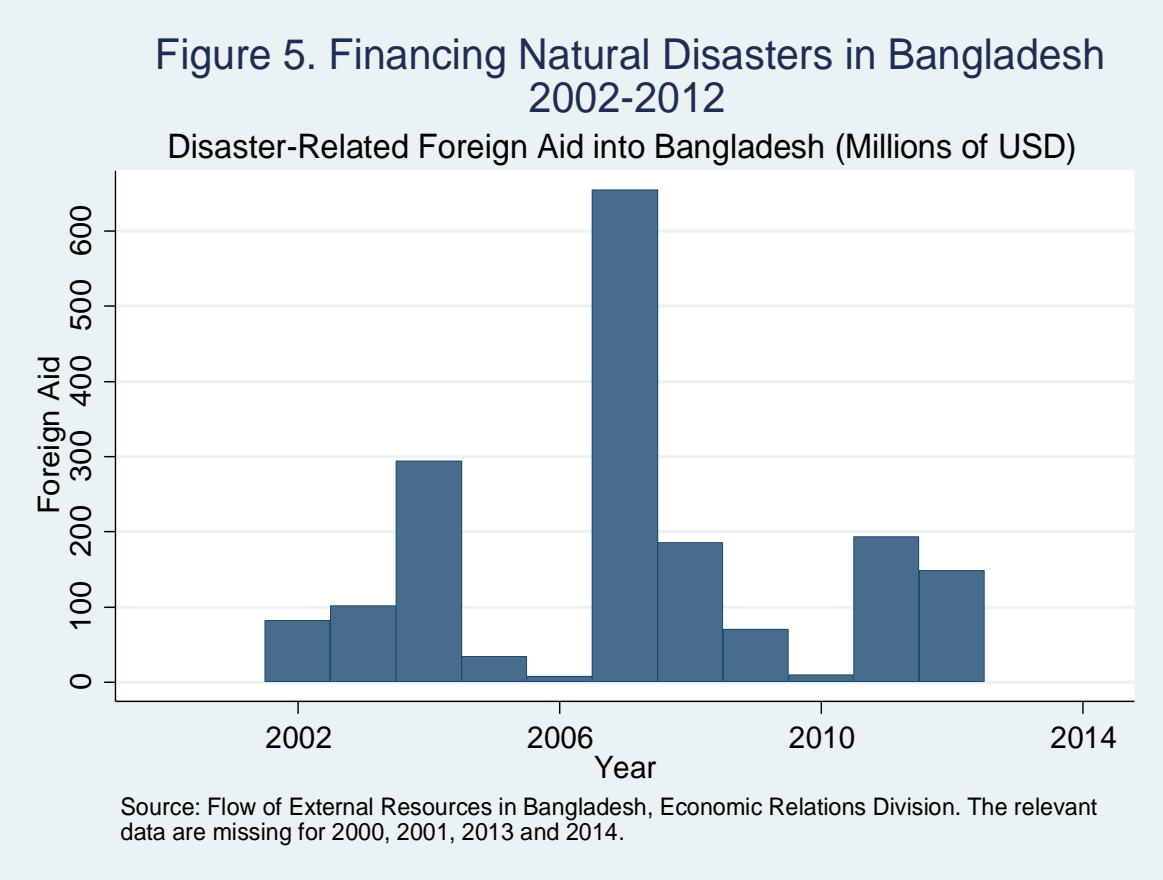
Source: UN-OCHA

Funding Component - 3

- Disaster -Related Foreign Aid
- Bangladesh receives one of the highest amounts of development-related foreign aid in the world from a number of international donors and aid agencies.
- Its development partner countries include, among others, the United States, Japan, EU, the UK, Germany, Netherlands, and China.
- The donor organizations include ADB, FAO, UNDP, IDB, ILO, UN-Women, and UNIDO.
- In 2012 alone, Bangladesh received a *total* amount of USD 5,855 million foreign aid through 110 projects spanning diverse areas.

Funding Component – 3, *cont'd.*

The year 2007, the Sidr cyclone year, witnessed more than USD 600 million development aid. The three major contributors in this year are: WB-IDA (USD 323 million), ADB (USD 125 million), and IDB (USD 130 million).



Funding Component – 3, *cont'd.*

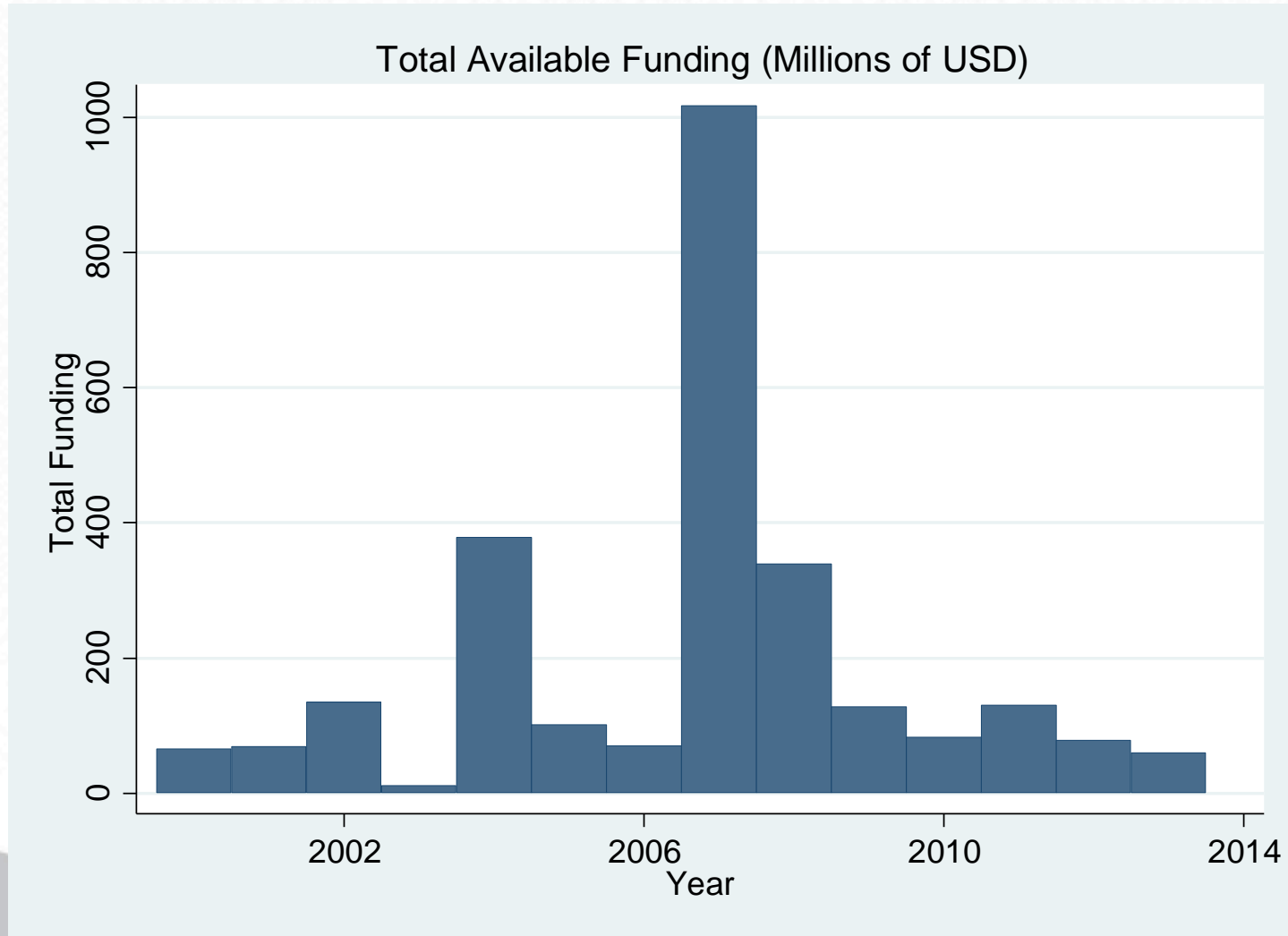
- **For the long-run perspective**, the total disaster - related foreign aid into Bangladesh over the period 2002 to 2012 is found to be USD 1,093 million.

TOTAL AVAILABLE FUNDING

- Sum of funding amounts for (1) recovery, rehabilitation and prevention projects; (2) humanitarian assistance, and (3) disaster-related foreign aid.
- **The total long-run funding over 16 years from 2000 to 2014 corresponds to USD 2,669 million.**
- The figures also show that only 13% of the total funding is met by domestic resources, while 87% with foreign sources.

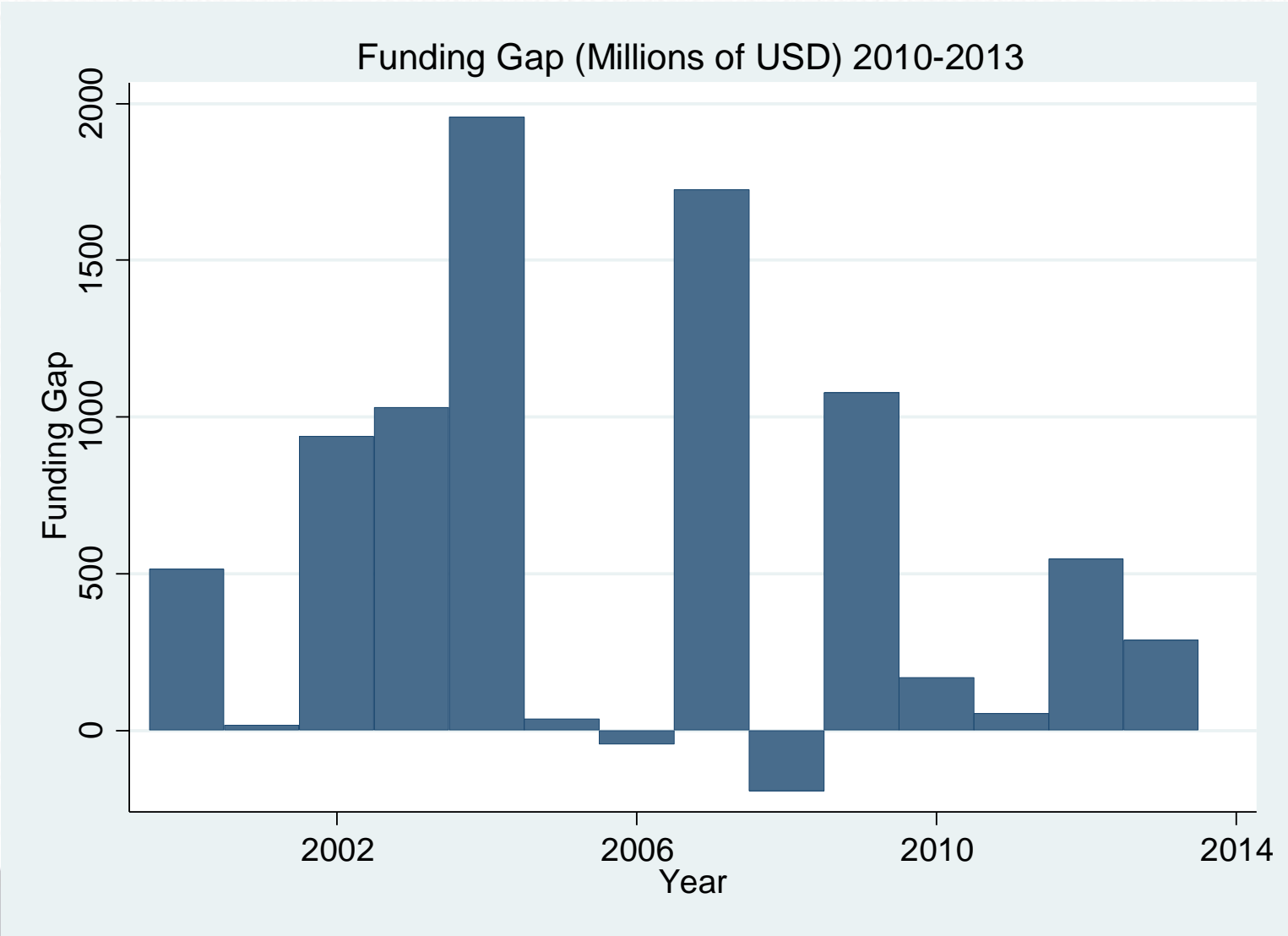
TOTAL AVAILABLE FUNDING, *cont'd.*

Consistent with the severity of the Sidr cyclone, the year 2007 had a **total** funding of USD 1018 million, followed by 2004 (USD 378 million) and 2008 (USD 339 million)



FUNDING GAP

- Funding gap = Total damage – total available funding

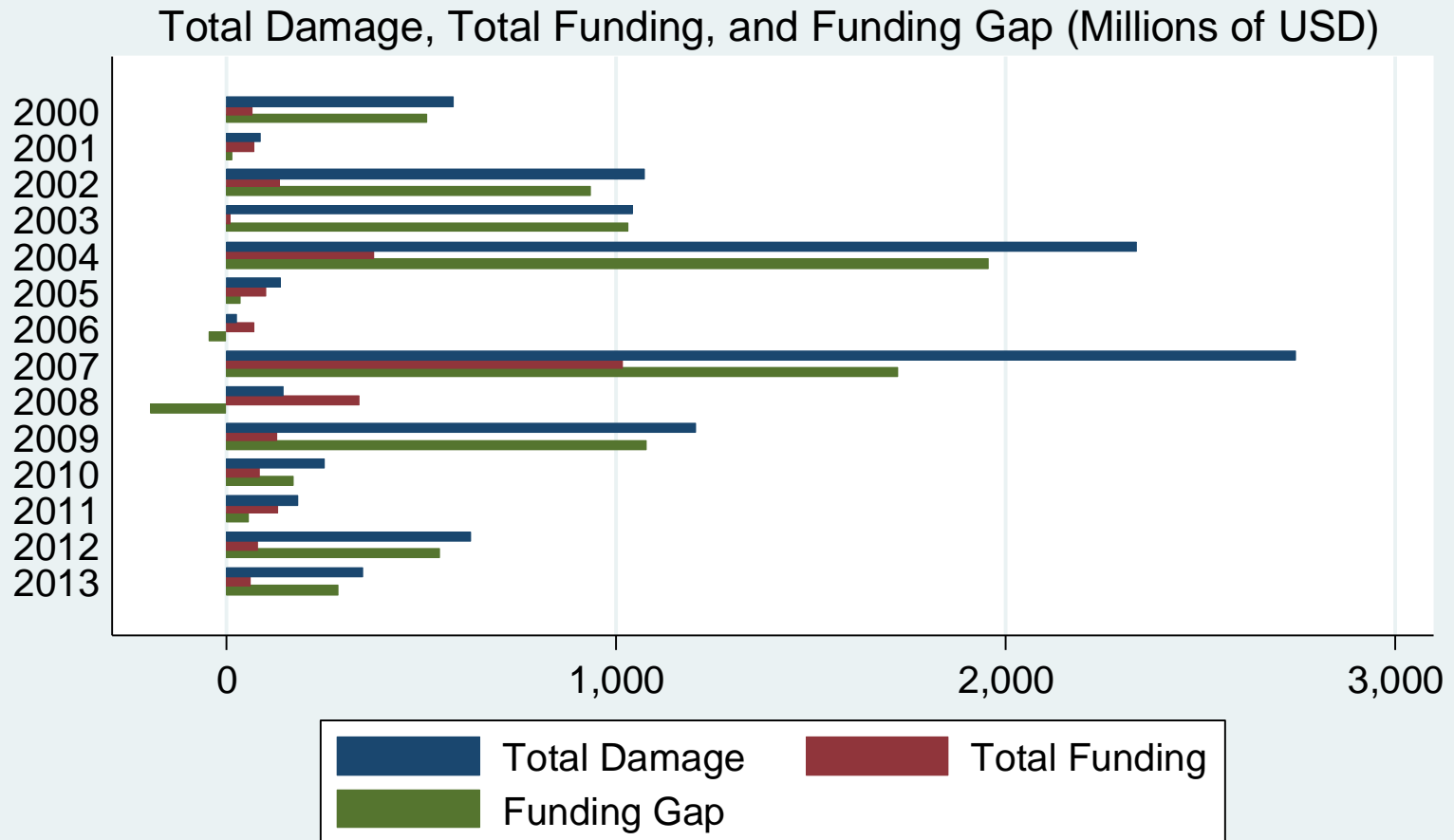


FUNDING GAP, *cont'd.*

- Concomitant with the sizeable destructions experienced in 2004, 2007 and 2009, the country saw significant **funding gaps** in those years, i.e., in the order of USD 1957, 1726 and 1078 million, respectively.
- Even the years 2000 and 2012 experienced sizeable funding gaps of slightly more than USD 500 million each.
- The funding gap was close to zero in 2001, 2005 and 2011, and even negative in 2006 and 2008. The country experienced an average funding surplus of USD 119 million in those two years.
- Nevertheless, **the long-run funding gap is massive**: USD 8,123 million over the period 2000-2013.

TOTAL DAMAGE, TOTAL FUNDING, AND FUNDING GAP AT A GLANCE

Figure 8. Natural Disasters and Funding Gap in Bangladesh 2000-2013



Source: Various Data Sources Collated by Air-WorldWide and ADPC

Damage Calculation in the Future

Damage Data available as per Following Format
(Event a & Year wise at District Level)

Date Source: Ministry of Disaster Management and Relief

SL No.	Incur loss District	Incur loss District	Damage Area(Sq m)	No. of City corporation	No. of Damage Union parished	No. of Damage family	No. of Damage people	Damage Crops(acre)		No. of Damage Houses		No. of Died people	No. of Died Livestock	Damage Road (K.m.)		No. of Damage Educational/Religious institution		Damage Dike (km)		Damage Bridge /Culvert	No. of Shelter	No. of people taken shelter
								Complete	Partial	Complete	Partial			Complete	Partial	Complete	Partial	Complete	Partial			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

- How to calculate the Monetary damage?
- Market value vs replacement value?

Funding Data in the Future

Not available as of now

- Re-allocation
- Timing
- Sectoral allocation

Available as of now

- Data on prevention projects
- Data on climate change related projects
- When these are incorporated, our main results regarding funding gap patterns did not change, though.

THANK YOU!