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From Early Warning to Early Action

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Delft Software Days
7 November 2018



Nous trouverons toujours un moyen de vous secourir.
Mais nous préférierions éviter que cela n'arrive.



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Hurricane Harvey (2017) (US\$ 125 miljard)

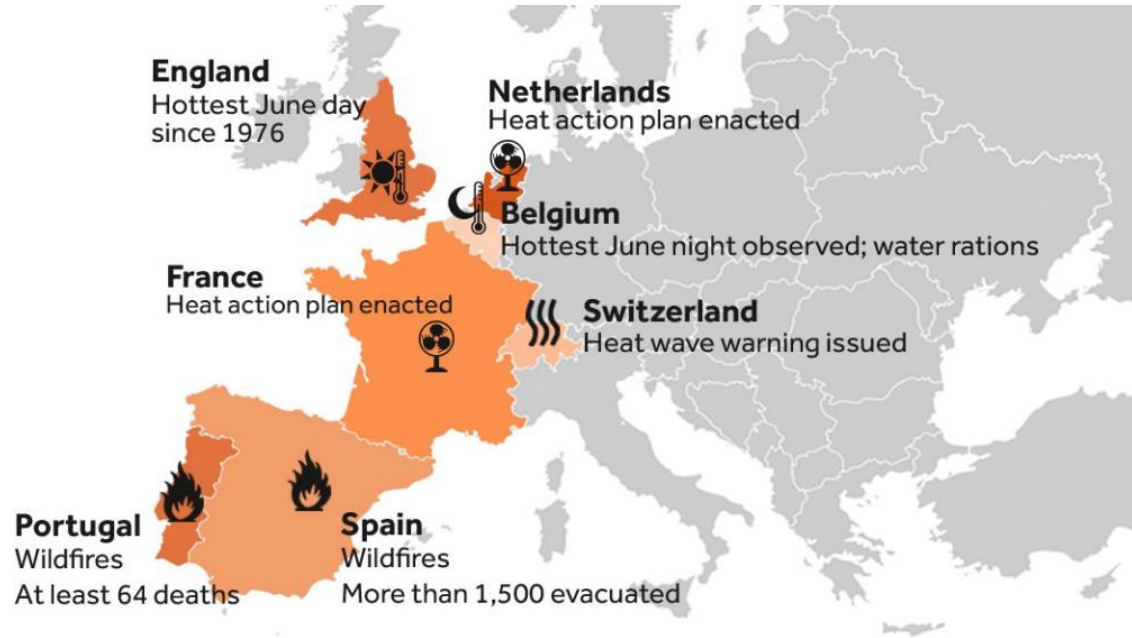


Flooding in Houston, Texas

3 times more likely due to climate change



Heat in Western Europe (2017)



Forest fires related to heat in Portugal

2 to 10 times more likely due to climate change



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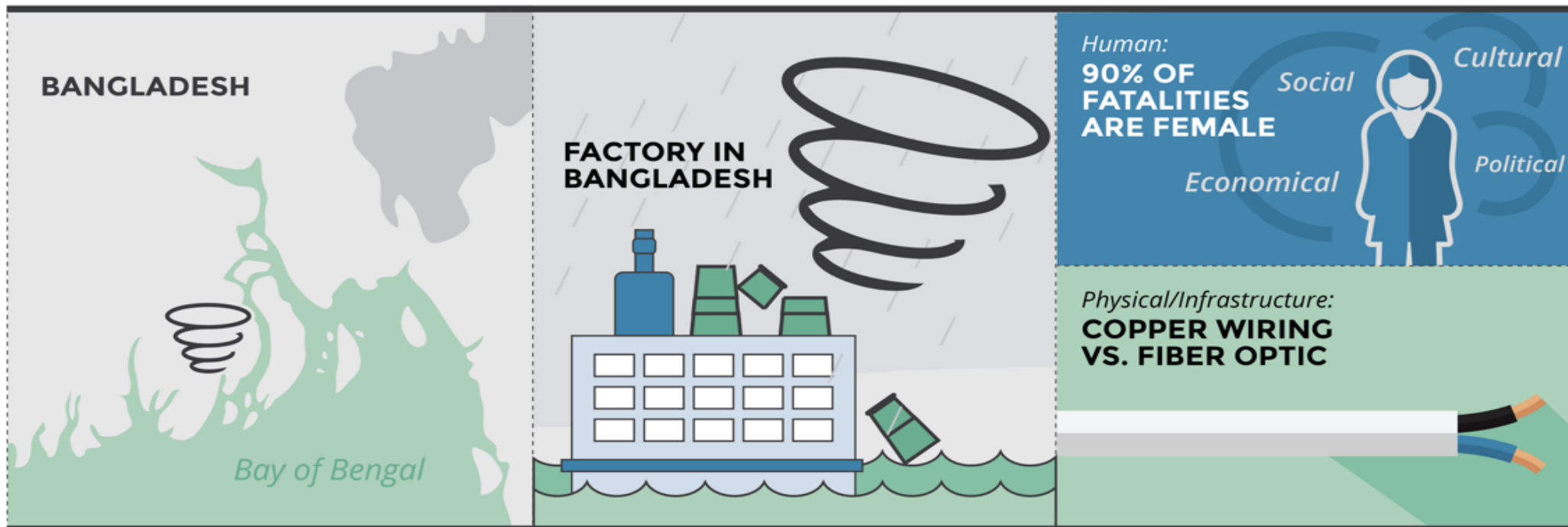
Typhoon Haiyan (Philippines, 2013)



6000 casualties, 93% by storm surge
– what to prepare for?



HAZARD, EXPOSURE & VULNERABILITY TO CLIMATE RISK



Hazard refers to the possible, future occurrence of natural or human-induced physical events that may have adverse effects on vulnerable and exposed elements.

Exposure refers to the inventory of elements in an area in which hazard events may occur (i.e. factory, workers, transport logistics, etc.)

Vulnerability refers to the underlying weaknesses that exacerbate risk. For example, intersecting inequalities in societies magnify risk for marginalized communities including women.

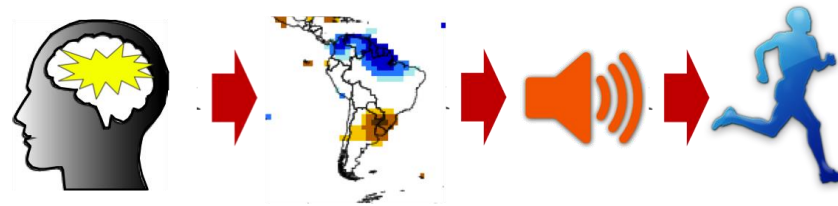


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Which forecasts are useful for humanitarian decisions?

What kind of early actions should be taken in the



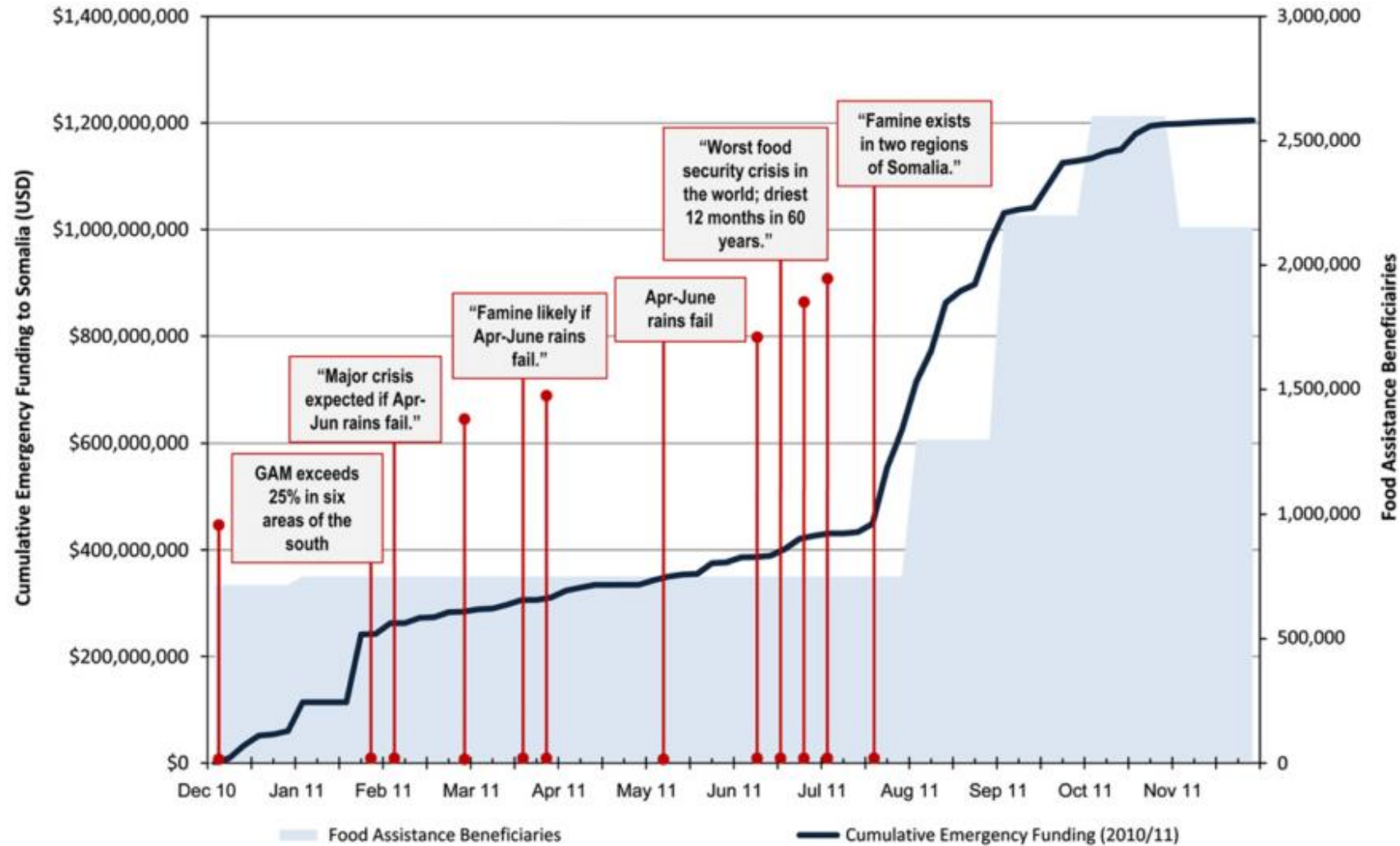
Short-term?

Medium-term?

Long-term?



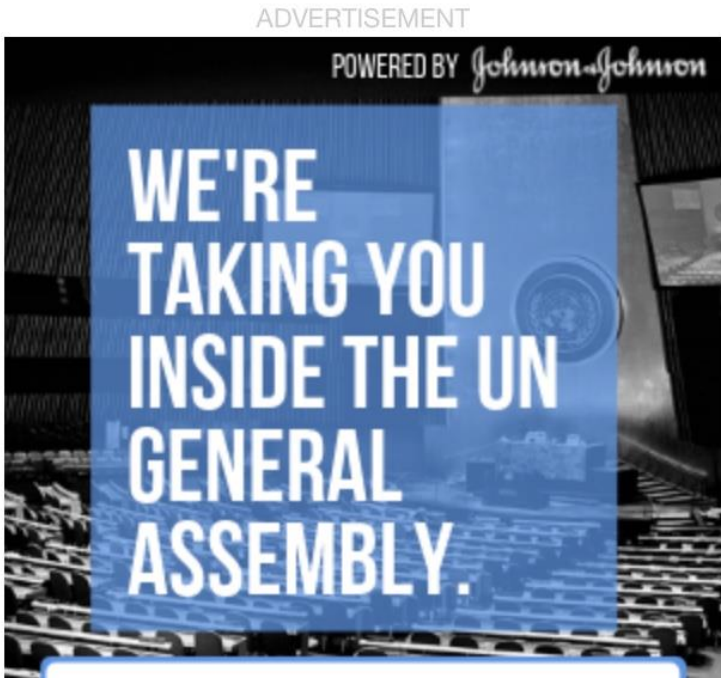
Somalia 2011



INSIDE DEVELOPMENT | INNOVATIVE FINANCING

Could we deliver aid before a disaster strikes?

By *Burton Bollag* // 01 August 2018



Forecast-based Financing

Present situation



Our vision



Key components of Forecast-based Financing:



Triggers

Matching forecasts and risks



Selection
of Actions

Reducing the impact



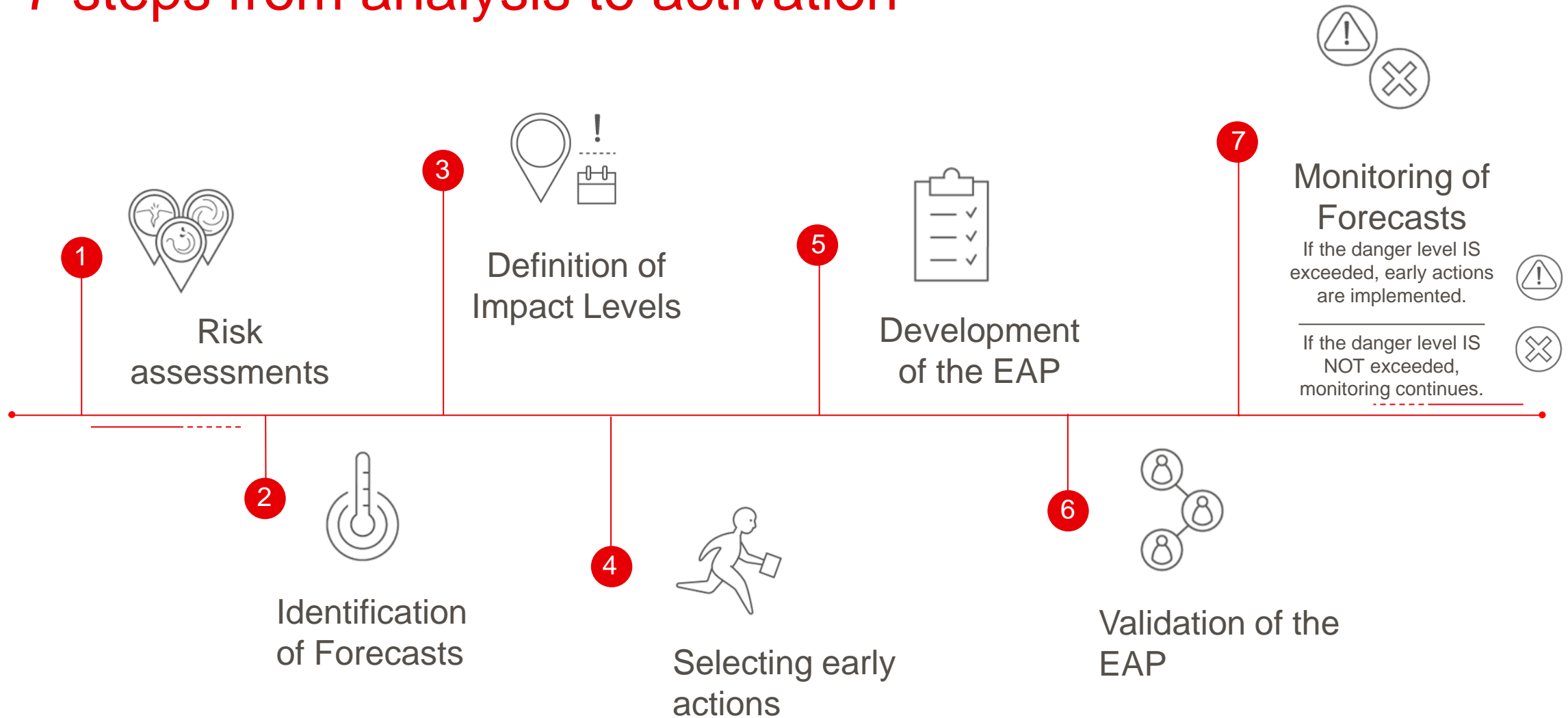
Financing
Mechanism

Automatic allocation of funds



Early Action Protocol (EAP)

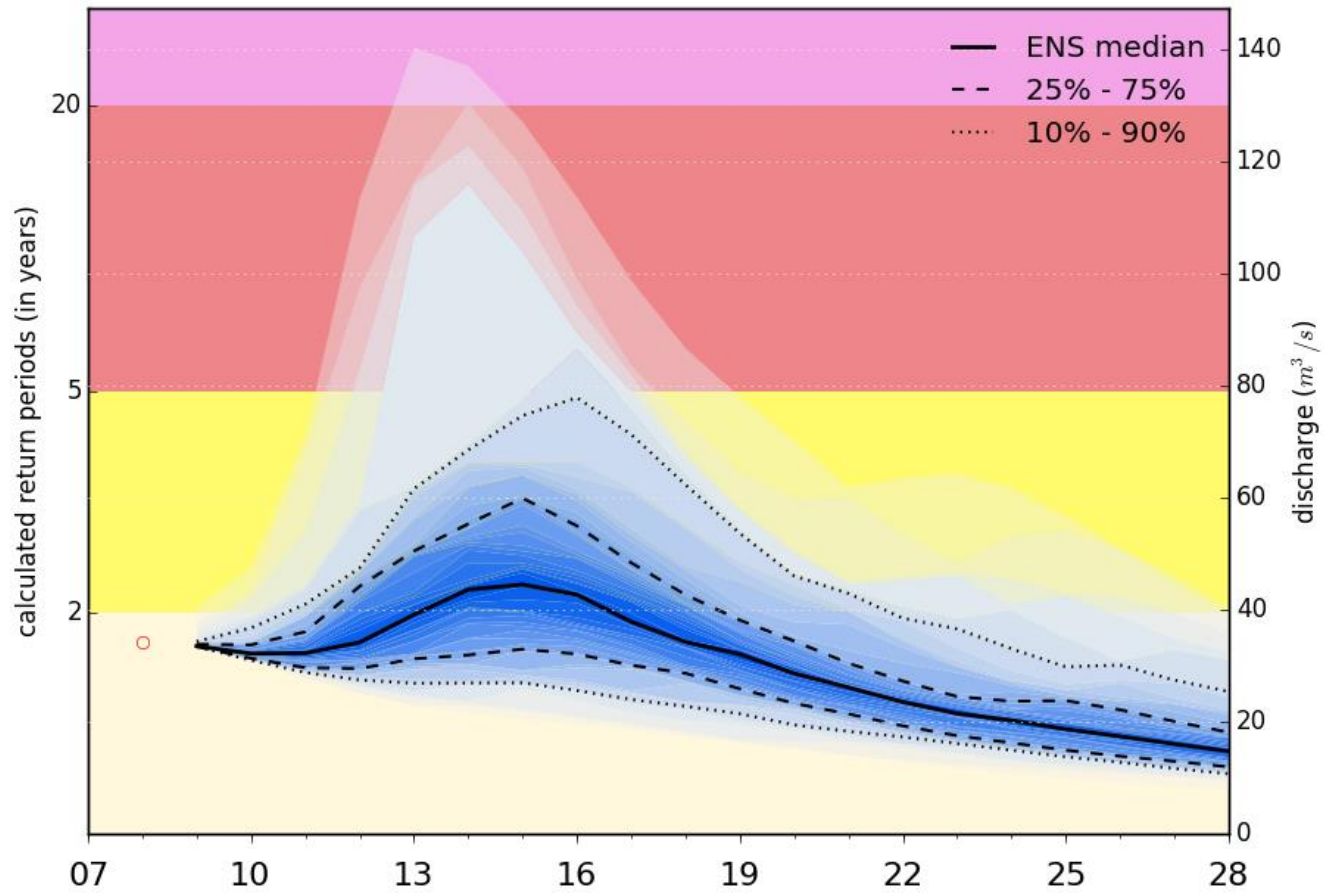
The implementation mechanism: 7 steps from analysis to activation





Floods in Uganda

GloFAS in Uganda





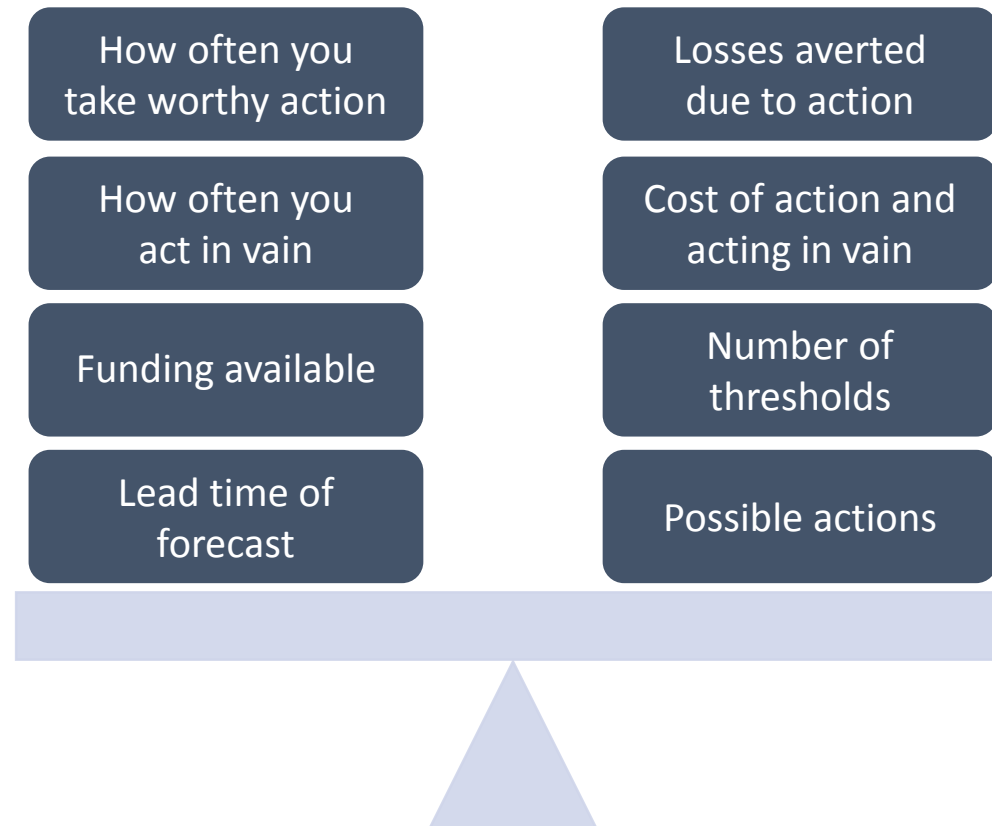
Water and sanitation



Drainage

Threshold: How do you decide?

Considerations

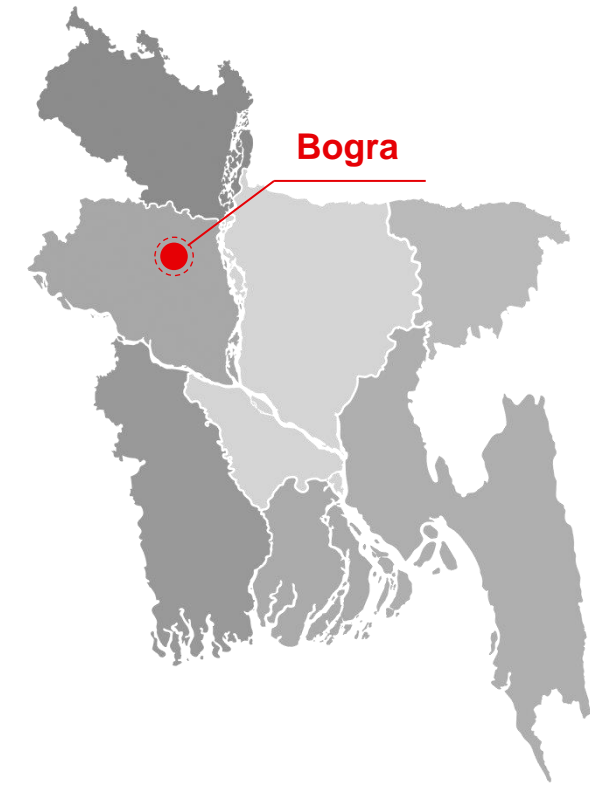




Pilot project: Bangladesh Floods 2017



- Bangladesh is extremely prone to disasters due to its geophysical setting. The country is low-lying and flat with huge inland water bodies, including some of the biggest rivers in the world.
- Flooding is an annual recurring event. While the population, knows how to deal with the impact of those annual rainfalls to some extent, in some years the floods are so extreme that millions of households are severely affected.
- The floods impact water and sanitation, and increase the risk of spreading diseases. Many families are forced to sell their livestock in order to pay for the evacuation, rations and healthcare.



1039
families



4
communities



Pilot project: Bangladesh Floods 2017 Bogra



5-day forecast

Thresholds exceeded
for Rainfall in Kamalpur,
Kazla, Bhandarbari 3,
6/7



Activation of EAP

Early warning messages
issued to the population

1039 families receive
cash transfers of 5000
Taka



Pilot project: Bangladesh Floods 2017 Bogra



Community	Trigger reached	Cash distributed	Ahead of flood peak	Duration of flood above DL	Peak above danger level
Kamalpur	04 July	07 July	7 days	14 days	98 cm
Bhandarbari 6&7	06 July	10 July	4 days	10 days	55 cm
Kazla	06 July	08 July	5 days	5.5 days	31 cm
Bhandarbari 3	09 July	11 July	3 days	4 days	15 cm



Pilot project: Bangladesh Floods 2017 Bogra



Alefa Katun, 40

*I am so grateful for the cash.
I bought fodder for my cows and could evacuate them. Without the cash, I would have had to sell them, but they are good cows, they deliver good milk and are very healthy.*

Impact Evaluation

- Rate of families who lost livestock 40% lower in FbF communities
- Rate of families who had to take up a high-interest loan 50% lower in FbF communities

Critical success factors: ownership and communication



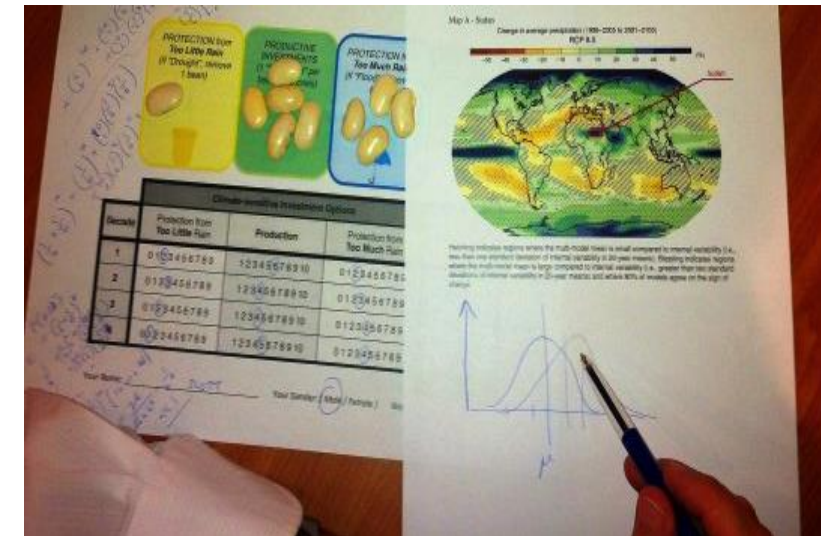
Serious Games about rising risks



from local villages ...



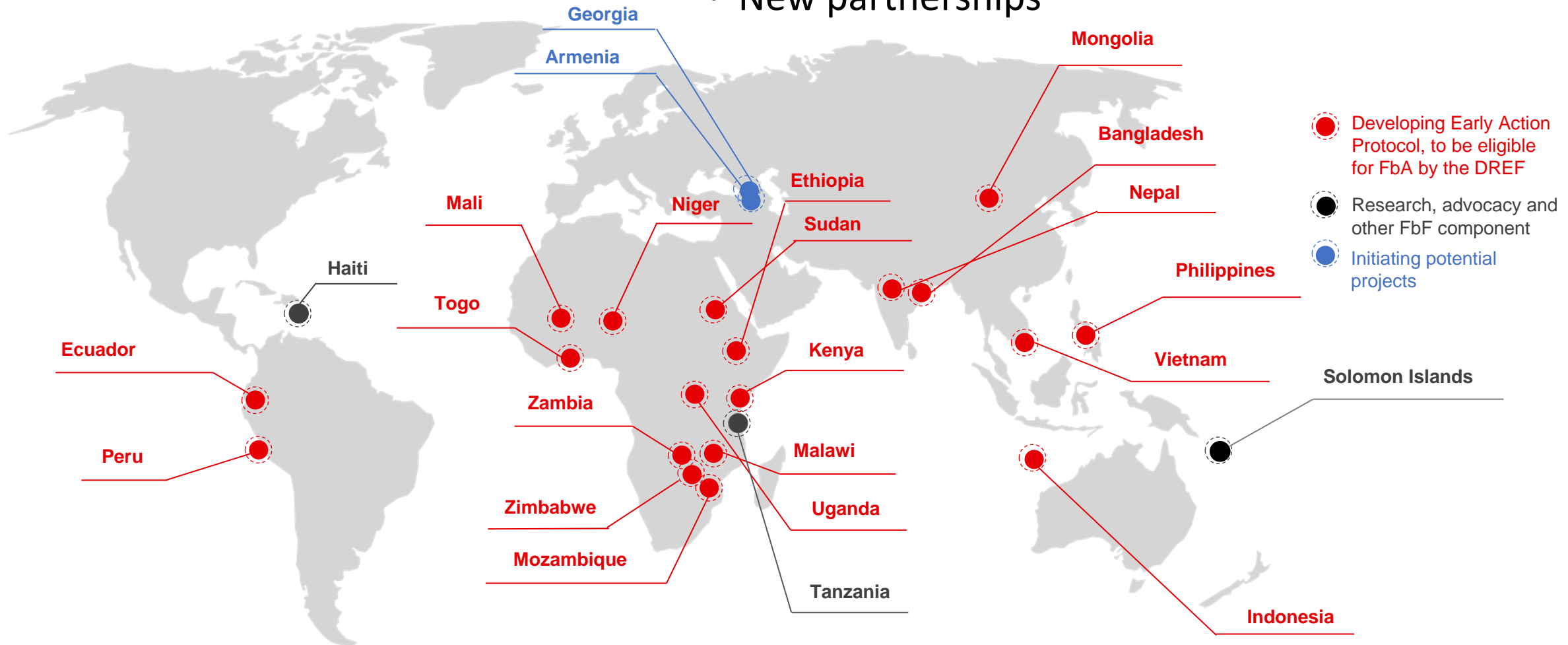
... to the White House



... and with Lead Authors of the Intergovernmental Panel on Climate Change (IPCC)

Rapid growth

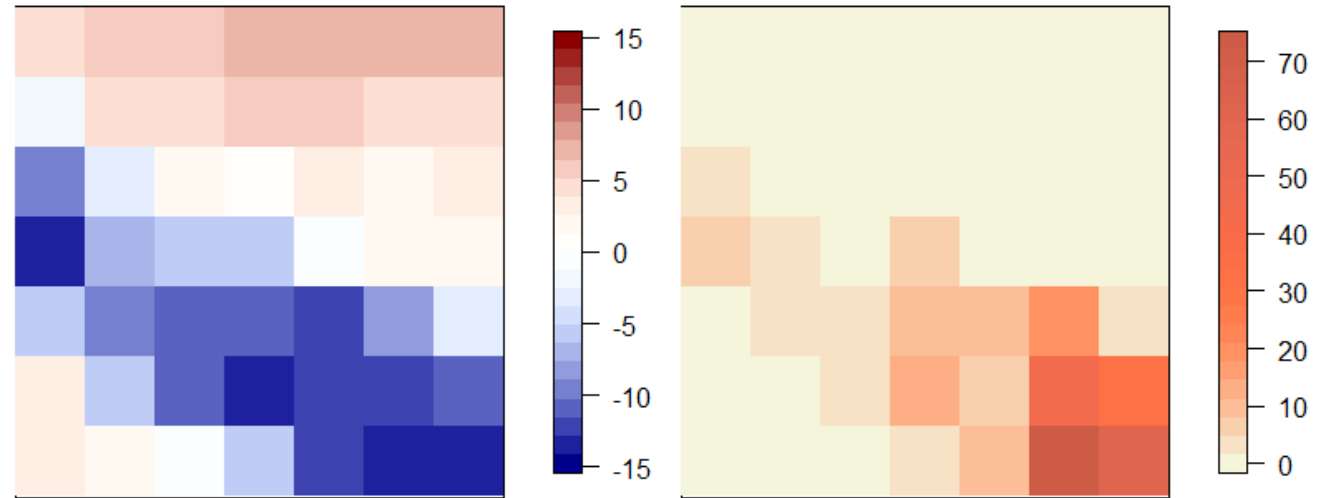
- 20+ countries
- New funding instruments
- New partnerships



Our partners: American Red Cross, Australian Red Cross, Belgian Red Cross, British Red Cross, Danish Red Cross, German Red Cross, Finnish Red Cross, Netherlands Red Cross, the Red Cross / Red Crescent Climate Centre, WFP, FAO, WMO, OCHA, Welthungerhilfe, GFDRR, ODI and research initiatives (WISER, SHEAR; FATHUM, ForPAC)

Next steps: SCALE... plus:

Towards more
impact forecasting



And identifying the right balance
between structural measures,
preparedness, forecast-based
action and enhanced response



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Nous trouverons toujours un moyen de vous secourir.
Mais nous préférierions éviter que cela n'arrive.

Avec le changement climatique, les catastrophes naturelles seront
de plus en plus nombreuses. Tout comme les personnes à secourir.
Il est encore temps de changer les choses.

