



Making the economic case for investing in risk reduction and resilience

Zurich Flood Resilience Alliance

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Michael Szönyi, Zurich Insurance Group – Flood Resilience Program Lead

In partnership with:



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Relevance to trade

- Trade-enablers are often not insured
- Supply chains take large hits and may never recover
- Risk management is seen as a cost, but risk is not
- Incorporate risk-informed decision-making into the build-up of trade channels



Photo Source: 神戸市 [Wiki creative commons](#)



Photo Source: [Public Domain, U.S. Marine Corps](#)

The pre-event prevention case is our starting point

We find
1\$
INVESTED IN PREVENTION



Saves
5\$
IN FUTURE LOSSES ^(1,2)



But only
13 %
GO INTO PRE-EVENT RESILIENCE AND RISK REDUCTION



And
87 %
GO TO POST-EVENT RELIEF ⁽³⁾



OUR MOTIVATIONS:

- ✓ **DEMONSTRATE AND MEASURE RESILIENCE-BUILDING IMPACT** by our alliance working model, thus enhancing the social return on the Z Zurich Foundation's investment
- ✓ **CREATE INNOVATIVE RESILIENCE SOLUTIONS** by bringing in our skills & expertise and scale them beyond our alliance
- ✓ **ACHIEVE SHARED VALUE BY BENEFITTING COMMUNITIES**, our NGO members, public decision-makers and our customers

1: [Zurich Risk Nexus](#): Turning knowledge into action – processes and tools for increasing flood resilience, 2015.

2: [Zurich Flood Resilience Alliance White Paper](#): Making communities more flood resilient: The Role of cost-benefit analysis and other decision support tools in Disaster Risk Reduction. White Paper, Zurich Flood Resilience Alliance, 2014.

3: [Kellett, J. & Caravani, A. 2013](#). 'Financing disaster risk reduction: A 20-year story of international aid,' ODI and the Global Facility for Disaster Reduction and Recovery at the World Bank, London/ Washington.

The Alliance in words

The Zurich Flood Resilience Alliance (“the Alliance”) is a multi-sectoral collaboration focusing on finding practical ways to help communities in developed and developing countries strengthen their resilience to flood risk.

Vision

Floods have no negative impact on people’s and businesses’ ability to thrive.

North Star

To increase social, political and financial investment in community-based flood resilience-building through public, private and third sector partnerships.

In alliance with...



Successes and Numbers from Phase 1, 2013-18

Beneficiaries:

225,000



The total number of direct beneficiaries of the Alliance is approximately 225,000.

FRMC:

The last version of the Flood Resilience Measurement for Communities has been used in over 110 communities in 13 programs within 9 countries. During its use over 1.1 million data points have been created to measure flood resilience.

Funding:

Phase 1: CHF 36.83m

Phase 2 : CHF 20.3m

Provided by the Z Zurich Foundation

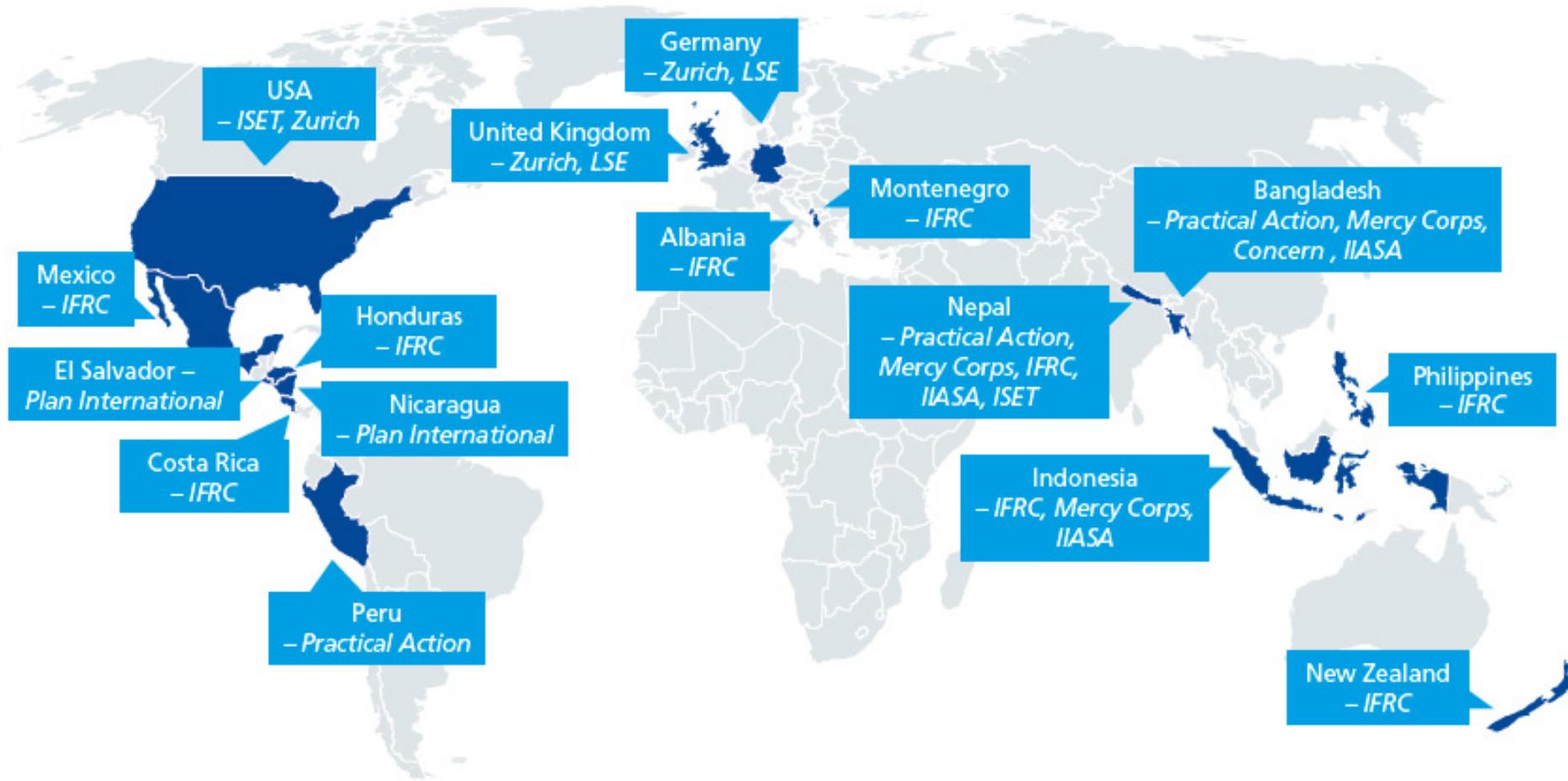
Knowledge:

- 341 knowledge outputs from the alliance
- 3 Flood Resilience Portals
- 13 Post-Event Review Capability (PERC) studies reaching >> 1 million people

Advocacy:

- Understanding Risk June 2014 – Launch of the Alliance
- Momentum for Change Award December 2014 – COP Peru
- Convergences Special Climate Prize in April / May 2015
- Practical Action / IFRC / Zurich side-event UNISDR Sendai December 2015
- UNISDR GPDRR May 2017 side-event Zurich / Practical Action / IIASA

Program countries we work in



Map indicates community-based programs, post-event analysis (PERC), research studies and public policy advocacy.

Solutions the Alliance offers:

1 - We provide learning

Our Post Event Review Capability (PERC)

- ✓ A unique forensic methodology
- ✓ Unbiased event-level learning
- ✓ Understanding why events become disasters
- ✓ We provide practical recommendations for the future



Photo Source: Michael Szónyi

Solutions the Alliance offers: 2 - We are open source

Flood Resilience Portals for cross-cutting knowledge sharing

Knowledge from the Alliance and beyond
on how to build community resilience
published on the Alliance's online portals:

Global

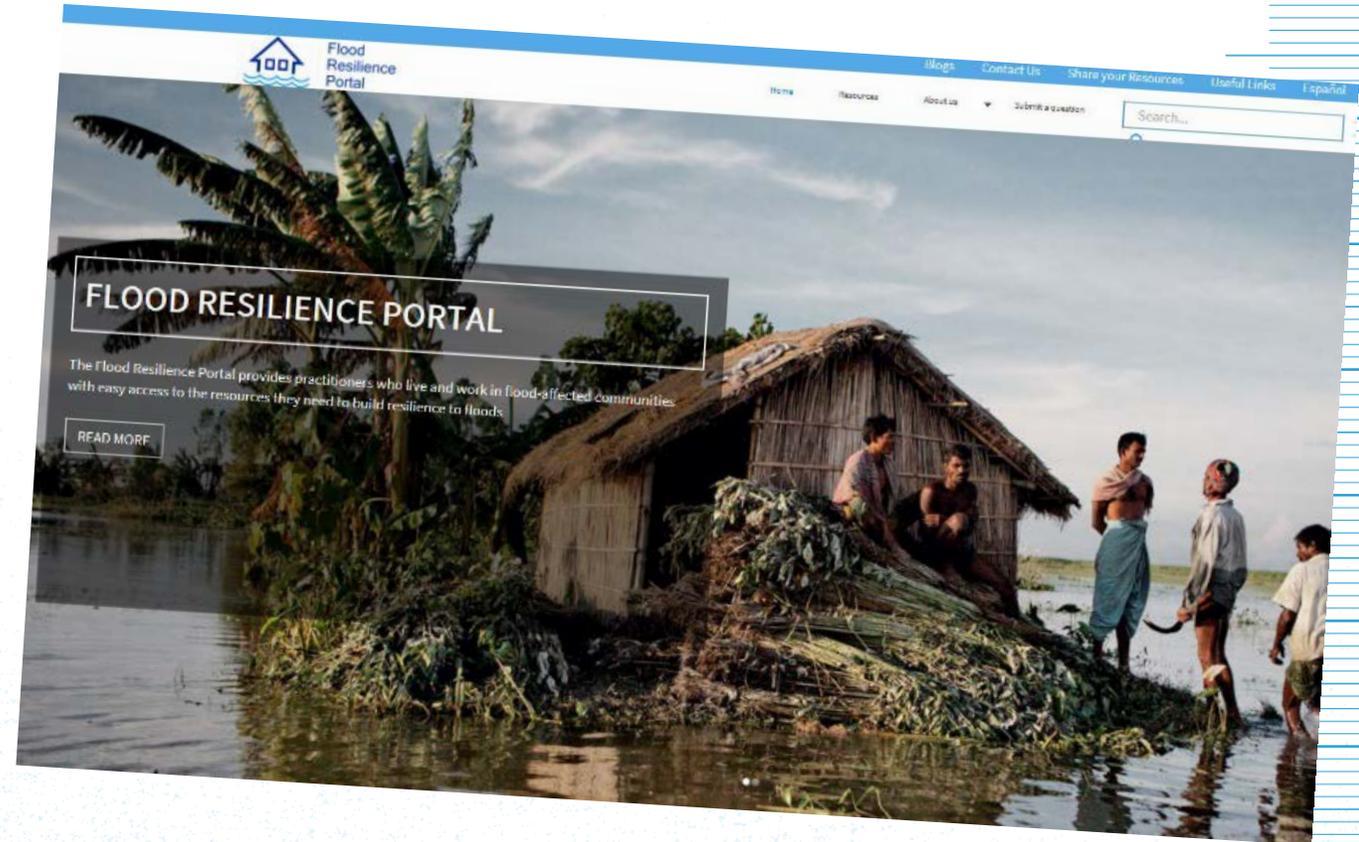
<http://floodresilience.net/>

Latin America

<https://infoinundaciones.com/>

Nepal

<http://floodresilience.net.np/>



Solutions the Alliance can offer:

3 - Deep thinking on resilience

The first practically applied flood resilience measurement for communities

- ✓ A fully integrated framework to community programming
- ✓ Helps analyze problems first before solutions
- ✓ Supports impact measurement

<https://floodresilience.net/frmc>



Risk Nexus

Hochwasser 2013 in Mitteleuropa: eine Retrospektive



Flood Resilience Review 05.14

Overcoming some hurdles: Disincentives to acting early

- Ex-post compensation is “visible” and easy
(whereas it is abstract and hard to act ex-ante)
- Difficult to invest early: Revenue, budget
constrains, political cycles
- Competing interests in
 - Land-zoning
 - Building codes
 - Finance flows in response and recovery
mechanisms
 - Risk ownership

Photo Source: Michael Szönyi, Zurich

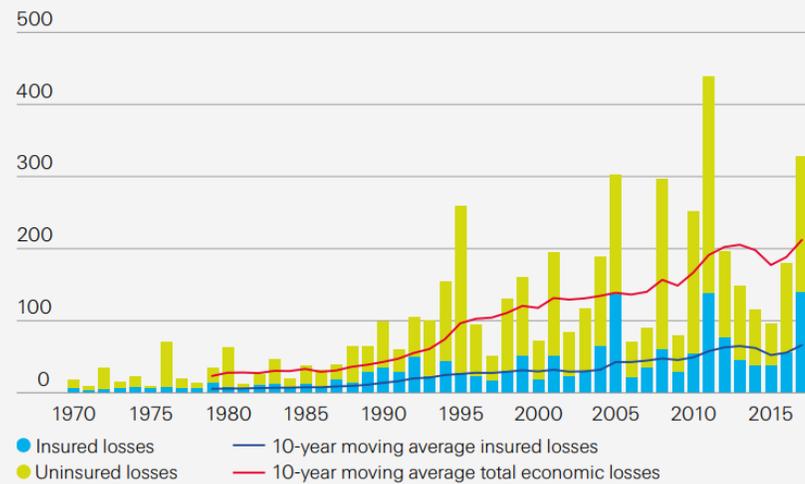


The wake up call: Move from problem statement to agreeing how to find solutions

Last year's protection gap from Natural Hazards amounts to a staggering USD 193 billion

Figure 4
Insured vs uninsured losses,
1970 – 2017, in USD billion
at 2017 prices

Economic losses
=
insured +
uninsured losses



Source: Swiss Re Institute, [Sigma1/18](#)

- Under current assumptions for population growth, urbanization and climate change: We run the risk that floods and other natural hazards may become less and less insurable
- Often, the insurance industry is focused on the classic “policy-for-premium”. Explore a “non-traditional” role of insurance to make residual risk insurable → support DRR incentives

Here's what we need to do

The “asks for resilience”

Stop admiring the problem. We know impacts are bad (but while “floods” are natural, “disasters” are not!)

Start finding solutions

- **Better incentivize risk reduction**
- **Showcase that prevention is easy and cost-effective (at large scale: ~1% add'l cost)**
- **Identify where the 4\$ go: Asymmetry of the investment (“asymmetry of flooding”)**

Highlight key challenges and work to solve them

- **Flood is an asymmetric problem both in space and time: Co-own risk with all of society**
- **Act pre-event (difficult!) as opposed to react post-event (“easy”)**



<https://youtu.be/Bg4kS1gn67I?t=80>

How you could get involved

Your “asks” for risk-informed trade

The role of trade

- Power to influence decision-making on public infrastructure
- Ask for any new infrastructure to be risk-informed
- Ensure risk management is seen as an investment:
Prospective risk reduction
- Include resilience beyond physical protection:
The 5C-4R resilience approach
- See resilience-building as an institutional investment opportunity – consider the enabling environment (e.g. access)

ZFRP definition of resilience

“The ability of a system, community, or society to pursue its social, ecological, and economic development and growth objectives, while managing its disaster risk over time in a mutually reinforcing way.”



Thank you

<http://www.zurich.com/flood-resilience>

<http://knowledge.zurich.com>



Photo Source: Michael Szönyi

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More resources to understand the Alliance

Zurich Flood Resilience Program webpage: <https://www.zurich.com/flood-resilience>

Learning to support the SDGs: Post Event Review Capability (PERC): <https://www.zurich.com/en/corporate-responsibility/flood-resilience/learning-from-post-flood-events>

Videos explaining the measurement approach in detail: <https://www.zurich.com/en/corporate-responsibility/flood-resilience/measuring-flood-resilience>

Four-pager explaining the approach in text and illustrations:
https://www.zurich.com/_/media/dbe/corporate/docs/corporate-responsibility/zurich-flood-resilience-measurement-paper-feb-2016.pdf?la=en

The Alliance knowledge & learning webpage: <http://floodresilience.net/>

COP24 reflections on the economic case for resilience: <https://www.euractiv.com/section/climate-environment/news/climate-change-the-economic-case-of-prevention-and-resilience/>

More resources – Scientific output (selection)

Flood Resilience Measurement Framework (NHESS): <http://www.nat-hazards-earth-syst-sci.net/17/77/2017/>

Disaster forensics (PERC) cross-cutting lessons (NHESS): <http://www.nat-hazards-earth-syst-sci.net/16/1603/2016/>

Disaster resilience and how it helps change development policy (Wiley):
<http://onlinelibrary.wiley.com/doi/10.1111/dpr.12201/abstract>

Technologies to support community flood disaster risk reduction (IJDRS):
<http://link.springer.com/article/10.1007%2Fs13753-016-0086-5>

Economic efficiency of disaster risk management and cost-benefit (NH):
<http://link.springer.com/article/10.1007%2Fs11069-016-2170-y>

Building resilience into our communities (Nature): <http://www.nature.com/news/we-must-build-resilience-into-our-communities-1.18223>

What drives households to buy flood insurance (EE):
<http://www.sciencedirect.com/science/article/pii/S0921800915002876>



The PERC repository

Learning from past disasters

Available at: <https://www.zurich.com/en/corporate-responsibility/flood-resilience/learning-from-post-flood-events>

The PERC manual

Learning from disasters to build resilience: a simple guide to conducting a post event review

Available at: https://www.zurich.com/_media/dbe/corporate/docs/corporate-responsibility/the-perc-manual.pdf

Or just google “Post-event review capability”

We are very keen to hear your feedback

Please be in touch with michael.szoenyi@zurich.com



PERC report name	Country	Event date
Central European floods 2013: a retrospective	Germany (focus), Austria, Czech Republic, Switzerland	June 2013
Floods in Boulder: A Study of Resilience	United States	September 2013
After the storm: how the UK's flood defenses performed during the surge following Xaver	United Kingdom	December 2013
Balkan floods of May 2014: challenges facing flood resilience in a former war zone	Bosnia and Herzegovina, Serbia, Croatia	May 2014
Emmental, Switzerland floods of July 2014: On a hot, sunny day, a flood alert!	Switzerland	July 2014
Urgent case for recovery: what we can learn from the August 2014 Karnali River floods in Nepal	Nepal	August 2014
Morocco floods of 2014: what we can learn from Guelmim and Sidi Ifni	Morocco	November 2014
Columbia and Charleston floods, South Carolina	United States	October 2015
PERC Cumbria	United Kingdom	December 2015
PERC Flash Floods	Germany	May/June 2016
PERC Peru "non-event" (in preparation)	Peru	2016
PERC Peru coastal floods (in preparation)	Peru	2017

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