

[2018 Understanding Risk Forum](#)

Towards climate resilience and the effective management of risk in the hydropower sector

Sharing good practice and promoting cooperation

Concept note and workshop agenda

Date: 14 –15 May 2018

Venue: Palacio de Minería, Mexico City

This two-day event, the first of its kind at an Understanding Risk Forum, is a partnership between the International Hydropower Association (IHA) and the Red Cross Red Crescent Climate Centre that will explore ways to turn risk information into improved decision-making and better development outcomes.

Key aspects to cover for an all-round understanding of risk and associated issues

*Climate resilience

*River basins

*Floods and droughts

*Decision-making

*Finance

*Global linkages (Paris, the SDGs, etc.)

Background

With the expansion of demand for renewable energy, hydropower is playing an increasingly important role in addressing the challenges of climate change and variability, adaptation, and disaster risk management.

Dams can help downstream communities and other users of river-basin resources – irrigation, for example – to prepare for and minimize flood impacts. Improvements in modelling and machine learning are opening up opportunities for dams to contribute to integrated risk management in river basins.

At the same time, hydropower is vulnerable to climate change and changes in the use land is put to; it is dependent on precipitation and exposed to extreme events and disasters. Changes in climate risks can have significant impacts on communities downstream from dams and on energy security.

Mitigating risk and preparing for extremes, however, require clearly defined hydrologic ‘triggers’ based on reliable meteorological data and increasingly sophisticated computer modelling, backed up by multidisciplinary analysis, but the modern focus is also on simplicity (of hydrologic triggers and weather indexes) as well as accuracy.

It is essential for existing and planned dams to develop strategies to increase climate resilience to protect communities and assets in the river basins they help to manage.

Designers and owners of dams have started to respond to emerging risk; in collaboration with other stakeholders across sectors, good practice is developing all over the world and the capacity of the hydropower sector to deal with shocks is being strengthened, to the benefit of both the sector itself and of communities, businesses and livelihoods downstream.

These processes do not, of course, exist in isolation from the social aspects, local and global. Successful resilience strategies involving hydropower have a role to play in achieving global policy goals on development, risk reduction and climate.

One significant step forward is the Hydropower Sector Climate Resilience Guidelines developed by the World Bank that are now ready to be tested in selected hydropower projects supported by the bank and by the European Bank for Reconstruction and Development, and coordinated by IHA. Climate resilient management assessment is also being incorporated to the Hydropower Sustainability Assessment Protocol. The World Bank is also complementing these efforts upstream, under the Pilot Program for Climate Resilience (Climate Investment Funds), by mainstreaming climate resilience into core development planning globally along with other multilateral development banks.

The future of resilience, therefore, surely lies in such integrated risk management, and a big step toward that came last year when the Red Cross Red Crescent Climate Centre introduced the forecast-based financing (FbF) operating model that enables rapid implementation of pre-planned early actions based on forecast information and risk data at the 2017 World Hydropower Congress in Addis Ababa organised by IHA.

One of the first FbF projects, funded by the German government, applied machine learning to generate synergies between the hydropower, humanitarian and development sectors in Togo. In collaboration with the operators of the Nangbéto dam, the Global Facility for Disaster Reduction and Recovery supported the development of a flood-prediction tool called FUNES that incorporates upstream river-level observations by trained Red Cross volunteers, while downstream the Red Cross and other first-responders get better at rapidly deploying pre-funded disaster preparedness measures to reduce flood impacts.

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Objectives

The 2018 Understanding Risk Forum meeting, which offers the opportunity for useful collaboration by the hydropower, risk management, insurance, humanitarian and development sectors, has three main objectives:

- *Enhance understanding of risk in the hydropower sector and beyond
- *Unpack best practice in the management of risk, disaster preparedness and building resilience
- *Identify opportunities for cooperation by all these various sectors

Target audience

Government officials (including current and potential donors and disaster management specialists), hydropower professionals and dam operators, humanitarian and development agencies, academic specialists, insurance professionals, anyone else interested in the topic.

Agenda

Monday, 14 May 2018

Registration Open from 10:30 a.m.

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| 14:00-14:20 | Opening |
| 14:20-15:30 | Understanding risks: what, where, why? |
| 15:30-15:45 | Coffee break |
| 15:45-16:15 | What are the keys to advance in climate resilience? |
| 16:15-17:15 | Forecast-based Financing case |
| 17:15-18:00 | Rethinking the collaboration between risk practitioners and hydropower |

Tuesday, 15 May 2018

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| 09:00-09:15 | Highlights from previous day |
| 09:15-10:00 | Hydropower sector climate resilience guidelines |
| 10:00-11:30 | How to foster cooperation across sectors? |
| 11:30-11:45 | Coffee break |
| 11:45-13:00 | High Level discussion: integrating multi-sector multi-hazard risk management at the river basin scale |
| 13:00-14:00 | Lunch |
| 14:00-14:15 | Solving floods and drought risk challenges |
| 14:15-16:15 | Working groups <ul style="list-style-type: none">▪ Haiti - Dominican Republic High Level Water Table▪ TBD |
| 16:15-16:30 | Coffee break |
| 16:30-17:30 | The way forward: Concrete options for next steps |
| 17:30-18:00 | Closing |