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Global Platform for DRR 2019

Learning Lab:

Assessing the benefit-to-cost ratio of DRR measures
Using Bolivia's tool *MiResiliencia* in the context of integrated risk management – based on experiences from Switzerland

Proponents:
- Ministry of Environment and Water of the Plurinational State of Bolivia (MMAyA)
- Swiss Federal Office for the Environment (FOEN)
- Swiss Agency for Development and Cooperation (SDC)

Concept note

1. Background

The proposed theme of GP2019 will focus on how managing disaster risk and risk-informed development investments pay dividends in multiple sectors and geographies, across all scales, and throughout social, economic, financial and environmental fields. Apart from saving lives, the most straightforward benefit of DRR measures is the economic benefit of avoided damages and losses. Yet, only few in the DRR community are proficient in benefit-to-cost calculations, and many countries do not have an operational system for systematically assessing and prioritization the economic soundness of DRR investments.

Addressing these gaps, the Learning Lab will draw on Bolivia's recent WebGIS-based tool "MiResiliencia", which was developed based on the Swiss tool "EconoMe" and Switzerland's longstanding experience with benefit-to-cost calculations.

2. Objectives of the Learning Lab

a) The participants are able to **perform a simple, systematic calculation of a benefit-to-cost ratio**, taking into account the economic value of the exposed elements, their vulnerability to the prevailing hazards, as well as the return periods of events.

b) They gained insights into some more advanced calculations (monetary valuation of human lives; evaluation of indirect losses; consideration of 'resilience').

    c) They have learned how national online platforms can be used to standardize methodologies and harmonize calculations and ensure systematic economic evaluations of DRR measures, while also getting insights into the main limitations and challenges faced by such platforms.

    d) Based on the presented examples, the participants know the processes and viability how to institutionalize such national tools for benefit-to-cost calculations and implement the lessons learned during the process towards a more holistic approach in DRR. They understand the importance of properly embedding cost-benefit tools within the process of integrated risk management and a country's DRR strategy, respectively.

3. Methodology and content

The Learning Lab combines introductory presentations by professionals and exercises performed by the participants on their personal laptops. It has four parts detailed below.

Maximum number of participants: 30-40. If possible, the Learning Lab might be repeated on a second day with the same number of participants.

Part 1: Introduction to cost-effectiveness analyses in general and Switzerland's experience in the application of a national calculation tool in particular (15 min. / FOEN)

PowerPoint presentation and interactive exercise on flip chart, including:

- Focus on the importance of properly embedding such tools within the country's whole DRR strategy, definition of responsibilities, adequate training of users, importance of sound database, etc. → key message: the tool will not solve all problems
- Definition of relevant technical terms such as risk
- Switzerland's experience in developing and implementing EconoMe, a national calculation tool (background, benefits and use of results vs. main limitations and challenges, lessons learned)
- Basic equations of benefit-to-cost calculations and calculations of benefits from DRR measures involving different return periods. On the fly personal exercise of an elementary benefit calculation

Part 2: Presentation of Bolivia's tool MiResiliencia (20 min. / MMAYA)
Live presentation of the Bolivian online tool MiResiliencia
Subsequent PowerPoint presentation, including:

- Participatory process followed in Bolivia for defining a tool inspired by the Swiss tool EconoMe, but which considers the local context and the socio-economical aspects of the country.
- Particular aspects: risk analysis including indirect losses and a "resilience factor"[1]; interactive input of georeferenced data
- Main challenges encountered by Bolivia and way forward to institutionalize MiResiliencia

Part 3: Exercise using MiResiliencia (50 min. / MMAYA)

Participants will access the online calculation tool and input the data for a provided case study (see handouts mentioned under "Resources" below). They will be taken through the different steps of MiResiliencia until they get to the result, which is the case study's cost-benefit ratio. For each step, the presenter will provide a commented solution after leaving the participants the necessary time for advancing on their own.

Part 4: Conclusion (5 min. / SDC)

Wrap-up, take-home messages and contact details for further inquiries.

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[1] The degree of resilience can be defined for all properties where economic income is generated, for example, commercial or industrial plants, with criteria (community aid, early warning system, etc.), for which an index can be defined.

4. Resources

Requested from GP2019 organizers:

- One or if possible two time slots of 90 min. for Learning Lab sessions on Thursday 16 May and/or Friday 17 May. Wednesday 15 May is not possible for the Learning Lab organizers.
- Room, equipped with video projection, microphone, speakers, wifi internet access and flip chart.
- 4-5 extra laptops in case of technical problems.

Requested from participants:

- Participants have to bring along their own laptop (minimum requirement: internet browser).

Provided by the Learning Lab organizers:

- Handout with: presentation slides; data for the exercises; internet link to the calculation tool used for the exercise; internet links to further resources.

- Notice paper and pens for the handwritten exercise.

- Presenters from Switzerland (FOEN) and Bolivia; moderator; 4-5 assistants who can help respond to simple questions from participants while doing the exercises.

References:

https://www.bafu.admin.ch/bafu/en/home/topics/natural-hazards/state/natural-hazards--tools-and-methods.html

Factsheet: Resilience Toolbox Bolivia