

FLORES. A system's approach for assessing and bolstering disaster resilience

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BACKGROUND: THE CHALLENGE

The Zurich Flood Resilience Alliance is a five-way public-private cooperation, bringing together partners from academia (IIASA and Wharton School), from the humanitarian sector (International Federation of Red Cross and Red Crescent Societies - IFRC and Practical Action) and from the private sector (Zurich Insurance Group) to increase flood resilience. To this goal, the Alliance is working in communities and regions in developing, emerging and developed countries to identify good practices for increasing flood resilience through ex-ante risk prevention and reduction activities, while learning what makes communities more flood resilient. A key challenge addressed by the Alliance work is the nagging feeling expressed by development practitioners that a disaster could wash away generations of hard work by a community in seconds. The limitation for the humanitarian sector is a focus on urgent needs and getting the community back on track, without having the luxury of remaining with the community as they start to rebuild their lives. From a research perspective, Alliance work identified the following gaps and challenges: floods impede economic growth and development (Keating et al., 2014), flood damage is increasing, largely due to a build-up of people and assets in flood prone areas (IPCC, 2012), efforts to address flooding have been dominated by response, despite ex-ante action paying off (UNISDR, 2015), and a need for transformational change in order to learn to live, and thrive, with floods while reducing risk (O'Brien, 2012). Our discussion shows how the collaborative experience of both researchers and practitioners has led to working towards a broad-based framework to understand the complexity of the flood risk space and its implications for resilience building at the community level.

METHODS AND TOOLS: ADDRESSING THE CHALLENGE WITH A BROAD-BASED METHODOLOGICAL FRAMEWORK

Our work has led us to appreciate that enhancing flood resilience is a learning process - so we follow a learning cycle, also called an adaptive management cycle. The adaptive management cycle contains the steps that need to be taken in any process to enhance community flood resilience. It is a cycle to emphasize its learning character - starting with a systemic assessment that leads to identifying and selecting specific actions. As results are measured and evaluated, understanding grows, which leads to amended or new initiatives. This cycle of learning and action continues leading to increasing resilience.

The steps of the process and associated tools are shown on the Figure including (i) assessing and analysing the flood resilience system, (ii) identifying actions, (iii) selection and prioritizing novel interventions, (iv) implementing flood resilience enhancing initiatives, (v) monitoring and evaluating flood resilience, (vi) supporting innovation. In practical application there is often the need to change the general sequence in order to address specific issues. For example, when identifying or selecting actions, new facts may be discovered that may require to modify the results of the assessment. The process should strive to follow the main steps with additional jumps when necessary.

ASSESSING RESILIENCE: THE FLORES TOOL

The Assessment Toolbox eventually will contain frameworks, methods, models (qualitative and quantitative) used for assessment of the current state, with a flood resilience focus, as well as identifying potential for change. The assessment phase is where understanding is built amongst stakeholders about the factors and interactions driving flood risk and wellbeing. As one tool, the FLORES (FLOod REsilience System) Framework, is currently being utilized with stakeholders from the

community to national levels, to build insight on the underlying drivers of increasing flood risk, taking a holistic view of development and wellbeing, the state of disaster resilience (including pre-event risk reduction, preparedness, and financing, and post-event recovery), and the enabling environment in which these two operate to enhance or undermine development. Workshops are being implemented in Peru and Nepal with flood affected communities to validate the approach, concept and tools. The results will be used to identify priority actions to be taken for resilience building to occur that are rooted in and build on the existing development context.

Overall, the framework offers a chance to look at the project communities in a holistic way that links the two sides of the development-disaster nexus. The framework provides a first step towards understanding the complexity of the community, and, with understanding comes the potential to build resilience.

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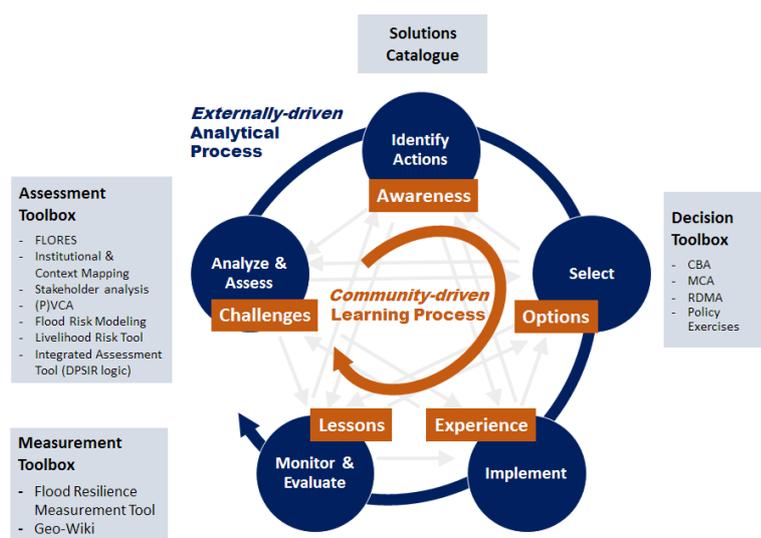


Figure 1. Flood resilience learning process and tools (Source: IIASA and Practical Action, 2015).

KEYWORDS

Resilience, flood risk, systems analysis, underlying risk drivers, model

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