

Flagship Project of International Flood Initiative (IFI)

Project to support benchmarking flood risk reduction at global, national and local levels

Concept Note

1. The Rationale

Disaster Risk Reduction (DRR) is becoming one of the pressing global issues as the world continues to experience mega-disasters that have serious, negative impacts on society, economy and politics at national, regional and global levels. It is feared that sustainable development will not be achieved without urgently addressing DRR as the combination of frequency and size of disasters will overwhelm development efforts in a world that is experiencing global changes such as population growth, accelerating urbanization, complication of social and economic systems, and climate change.

The greatest common challenge for leaders, administrators and practitioners in disaster risk reduction is to know exactly where and how much we are at risk so that appropriate actions can be developed and implemented. A further challenge we face is creating, agreeing to and monitoring a target for disaster risk reduction at the global level in the context of post-Hyogo Framework for Action (HFA) that can measure the success of these actions on disaster risk reduction.

This proposed IFI Flagship Project is an international and inter-disciplinary scientific initiative to meet this challenge by creating standardized methodologies to identify and quantify flood risks at global, national and local levels in seamless, effective, and affordable manners. The output of the project will enable the preparation, by a commonly agreed procedure, of global, national and local maps of flood risk areas, profiles of country and local risks in terms of numbers of affected people, and assessment of potential economic damage amounts. It will provide a support system for decision making in flood management at regional, national and local levels. The project will also provide the necessary scientific information and background in support of a possible DRR target in the Post-2015 agenda.

2. The Objective

The Project will develop standardized methodologies to identify flood hazard, quantify initial exposure, then risks remaining after the implementation of mitigation measures, finally benchmarking risk and creating risk profiles. It will create information to facilitate decision-making and monitoring for flood risk reduction in order to:

- ✓ make leaders understand the status of flood risk in countries and offer them decision alternatives;
- ✓ help practitioners to plan and implement effective flood management strategies;
- ✓ help effective flood management;

- ✓ support development of Sustainable Development Goals (SDG) and Post-Millennium Development Goals (MDG) Target on water and disasters;
- ✓ provide scientific tools for monitoring the progress of HFA and flood risk reduction; and
- ✓ achieve the above in a seamless and effective manner.

3. The Steps

The Project has three steps:

- ✓ To identify the original risk with no mitigation measures;
 - Identifying hazard areas in different probabilities and climate change scenarios;
 - Identifying the current and anticipated exposure level to hazardous areas (population and properties)
- ✓ To identify the reduced risks by these mitigation measures;
 - Identifying appropriate risk mitigation measures;
 - Quantifying the benefits of floods that will be balanced against flood risks with a potential negative impact in the context of Integrated Flood Management.
 - Quantifying the effect of mitigation measures (structural and non-structural) and identify the remaining risk as the benchmark;
- ✓ To facilitate decision making and benchmarking for risk reduction;

By taking advantage of the comprehensive expertise/experts' network provided by the IFI members and strengthening complementarities between them, a synergic and interdisciplinary approach will be implemented to develop standardized methodologies to achieve each step. Alternative sets of methodologies will be presented so that users (leaders, administrators, practitioners and stakeholders) can choose them according to their local conditions (e.g., time frame, availability of data, subject areas, and purposes of the use).

The details of the steps and accruing output at global, national and local levels are shown in the annex.

4. The expected outcomes

- (1) Documentation of best practice methodologies to identify flood hazard areas under different probabilities and climate change scenarios, which leads to:
 - World map of flood hazard areas;
 - National and local maps of flood hazard areas;
- (2) Documentation of best practice methodologies to quantify flood risks if no mitigation measures were taken and create risk profiles, which leads to:
 - Profiles of country and local initial risks in terms of number of affected people and possible damage amount if no mitigation measures were taken;

- Aggregate of global initial flood risks in terms of number of affected people and possible damage amount if no mitigation measures were taken;

(3) Documentation of best practice methodologies to quantify coping capacities using both structural and non-structural measures to reduce risk, which leads to:

- Profiles of country and local risk reduction levels by mitigation measures taken;
- Aggregate of global effects of risk reduction by mitigation measures taken;

(4) Identification of remaining risk as benchmark for future reduction efforts which leads to:

- National and local level benchmarking for the remaining risk to be reduced in the future;
- Global level benchmarking for flood disaster mitigation;

(5) Documentation of best practice methodologies to quantify beneficial effects of floods leading to:

- Quantitative assessments of net benefits derived from floods and balancing these against flood risks with negative impacts;
- National and local benchmarking of flood benefits versus negative impacts as decision making tool for integrated flood management practices;

(6) Support system for deciding and monitoring and implementation of flood risk reduction actions, which leads to:

- Scientific back-up for possible DRR target in Post-2015 agenda;
- Country and local action plan for flood risk management within a Plan-Do-Check-Act local system for positive spiral.

5. The essence of IFI flagship project

Benchmarking disaster risk for securing sustainability targets in post-2015

- Bring Disaster Risk Reduction targets into Sustainable Development Goals
 - Make monitoring of the progress of Hyogo Framework for Action central to post-Hyogo Framework for Action.
- Establish standard methodology of monitoring risk in a seamless manner from individual localities to the globe scale
 - Identify the current and anticipated exposure level to hazardous areas (population and properties)
 - Quantify the effectiveness of measures taken for reducing risk (structural and nonstructural)
 - Identify and quantify the positive benefits of floods
 - Identify the remaining risk as the benchmark
- Establish an operational system for monitoring risk and implementing risk reduction actions.

Steps of the Project Implementation

