

The economics of public sector investment in disaster risk reduction

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A working paper based on a review of the current literature prepared for the United Nations International Strategy for Disaster Reduction (UNISDR)

December 2012

Executive summary

Disasters are costly. Investing in disaster risk reduction activities can save money and lives. Yet our governments are not investing or at best under-investing in reducing the risk of disasters. Why is this so and what can be done about it?

Perhaps an economic approach can help governments to see the cost savings and extended benefits of reducing disaster risks. Or perhaps it cannot. Economic assessments face both technical and policy challenges. This working paper makes three suggestions for improving the economic effectiveness of public sector decision-making on investing in reducing disaster risk.

Section 1 addresses the political economy of investing in disaster risk reduction. It explains that the use of economic tools and perspectives must be sensitive to political realities.

Section 2 explores the challenges of estimating the economic costs of disasters. Direct economic impacts and indirect economic impacts as well as non-economic impacts need to be considered. Nevertheless, 'thorny theoretical problems' and 'extreme data limitations' continue to make it most difficult to estimate the full economic costs of disasters. The section includes a case study on estimating disaster costs in Colombia.

Section 3 discusses the economic benefits of disaster risk reduction. Direct economic benefits and extended economic benefits need to be identified. The latter are particularly important and include the extended benefits arising from such activities as building flood protection structures and shelters, improving civil society networks and linkages, and undertaking proper planning processes. The section includes a case study on estimating the net benefits of housing retrofitting

Section 4 specifies the costs of disaster risk reduction activities which include both the direct and indirect costs of risk-reducing action. Interestingly, the current literature has little to say on how to estimate these costs or, indeed, on the actual levels and trends of these costs over recent years.

The economics of investing in disaster risk reduction

Section 5 reviews the many technical challenges of making economic assessments. The decision-making calculation appears to be simple - if benefits are greater than costs, then governments should invest in disaster risk reduction. As noted above, however, it remains difficult to estimate both benefits and costs. Selecting the right discount rate for discounting future economic flows, particularly of distant benefits, is not straightforward. Risk and uncertainty also need to be factored into the calculation by adjusting the discount rate. Finally, an aggregate calculation of net benefits does not indicate the important distributional impacts of both benefits and costs to various stakeholder groups. The section includes a case study on applying benefit-cost analysis in Sudan.

Section 6 reviews the political economy of disaster risk reduction policy-making. The key challenges are short political time horizons, political costs and opportunity costs, the public good characteristics of disaster risk reduction, incentives to increase disaster risk, and the economic implications of democratic or autocratic processes. The section includes a policy study on the role of democracy in reducing disaster risks.

Finally, section 8 makes suggestions for improving investment public sector decision-making for disaster risk reduction. Three main suggestions are presented for addressing the technical and policy challenges. These are:

- List economic benefits & costs
- List key stakeholders & distributional economic impacts
- Learn from other economic assessments

The first two suggestions enable decision-makers to understand the economic implications of investing in disaster risk reduction activities in qualitative terms and, where possible and appropriate, also in quantitative terms. They also enable decision-makers to see the linkages between the disaster-risk investments and other priority policy objectives. The third suggestion proposes a role for international and regional programmes, such as UN ISDR, to strengthen national decision-making by sharing information on economic assessments undertaken in other countries and the lessons learned.

The paper also has three appendices. Appendix A highlights the high and rising economic costs of disasters. The global costs of disasters are generally in the billions of US dollars per annum and rising. It is clear that the economic costs of disaster remain both significant and worrisome for the countries and areas impacted.

Appendix B sets out the renewed mandate for investing in disaster risk reduction which came out of the RIO+20 Conference in June 2012. The Rio+20 Outcome Document states that: “We reaffirm our commitment to the Hyogo Framework for Action 2005-2015” and “We invite governments at all levels, as well as relevant sub-regional, regional and international organizations, to commit to adequate, timely and predictable resources for disaster risk reduction.”

Appendix C provides a list of publically-available studies, reports and presentations which were used in preparing this working paper. They are organised thematically and in reverse chronological order. The documents can be downloaded from a prototype online library at: <http://risk.earthmind.net>.