Transforming the relationship between development and disaster risk: insights from a year of research

Underlying risks are generated inside development, and thus development itself has to be transformed in order to reduce disaster risk.

This brief presents preliminary insights from the first phase of the SEI Initiative on Transforming Development and Disaster Risk (TDDR) from 2015 to 2016 (see SEI (2015) for an introduction to the initiative). The initiative seeks to integrate disaster risk reduction (DRR) with equitable, sustainable, resilient development by transforming the complex relationship between development and disaster risk. Its goal is to improve understanding of how risks are created and how they accumulate. Analysis builds on the recognition that disaster risk and development are closely linked: the people and assets exposed to risk as well as the extent of their susceptibility and capacity are largely determined by developmental processes.

Our research in the initiative aims to contribute to breaking down existing barriers in research, policy and practice between the DRR, adaptation, development, and humanitarian communities. It also helps to clarify the connections between different global policy agendas (the 2030 Agenda for Sustainable Development, the Sendai Framework, the Paris Agreement, the UN Agenda for Humanity), and contributes to shaping a research agenda that will ensure successful outcomes of the Sendai Framework implementation and refocusing risk reduction efforts to support those most vulnerable to disaster risks.

Additionally, the initiative drives the research agenda on transformation by helping to enhance understanding in theory of why and how transformations can occur in the development-disaster risk system; by examining what types of transformations have the potential to reduce risk, and how they may be achieved in practice at different scales; and by creating the basis for actionable guidance on the decision-making processes that need to change in order to enable a substantial reduction in disaster-related losses and damages.

Work in the initiative to date has focused on articulating principles and pathways for transforming the existing relationship between development and disaster risk. The initiative has begun to examine how to transform the status quo by first unpacking this "locked-in" relationship and then developing conceptual and theoretical principles and pathways for transforming it.

The initiative's research and analysis focuses on three key areas of work: 1) Understanding the trade-offs between development and disaster risk; 2) Addressing issues of social inequity and injustice in development processes through "equitable resilience"; and 3) Transforming DRR and development governance and institutions through inclusion, collaboration, social learning and system innovation.

These insights are used to develop an integrated conceptual framework for understanding the relationship between development and disaster risk, and how this currently unsustainable relationship can be transformed to reduce risk and achieve more equitable, resilient and sustainable DRR and development outcomes.

© US Navy

A coastal village in Sumatra, Indonesia, devastated by the 2004 Indian Ocean tsunami.

1. Understanding the trade-offs between development and disaster risk

As articulated by the Sendai Framework for Disaster Risk Reduction 2015–2030, development is crucial to reducing disaster risk as poverty, weak institutions, poor infrastructure and other development-driven factors are major root causes of vulnerability (UNGA, 2015). For example, when mangroves that protect the coast are destroyed to create fish farms, or rivers are canalized in ways that exacerbate the risk of flooding. Disasters, in turn, can set back development gains by years or even decades, at an immense social and economic cost. It is therefore crucial to understand these links and to foster closer collaboration between organizations in both the DRR and development sectors.

Both disasters and resources are outcomes of human-environment interactions. Linking risk reduction and resource management is a first step towards addressing trade-offs in an effort to minimize disaster losses while maximizing benefits (i.e. efficient and sustainable use of resources). Yet in recent decades, DRR research has drifted away from such a balanced view, focusing mainly on risk management and emergency response. While the need to mainstream DRR into development has been widely emphasized, resource exploration and use remain the dominant concerns and rationales in development decision-making.

The initiative has developed a typology of the trade-offs in development decision-making as a way to diagnose the costs

© Albert Salamanca / SEI

The belfry of the oldest stone church in the Philippines destroyed during a 7.2 magnitude earthquake that struck the island of Bohol in Central Philippines.

(or risks) associated with any development decision. The key trade-offs are around the distribution of power; the inequity of decision-making processes and outcomes; weighing up current and future demands in development; and finally weighing up a range of different risks, both disaster and non-disaster, that arise from one or another development decision, as well as the different probabilities of those risks. This typology captures both the risk rationale (i.e. how risks are conceived and perceived, and how they are weighed against one another and prioritized) and the processes through which development and risk trade-offs are framed, deliberated, and negotiated.

2. Addressing social inequity and injustice in development through equitable resilience

In the face of growing disaster risks, governments increasingly recognize the need to build the resilience of societies and ecological systems to a range of risks.[1] Unfortunately, such efforts rarely address the question of whose resilience should be built and why, and how they address the root causes of vulnerability. One consequence of this is that efforts to build resilience often focus on technological solutions such as the construction of flood retention walls or drainage canals, which tend to protect primarily the wealthy, foreign investments and large businesses. By examining the literature we have explored how the outcomes of development, adaptation and resilience interventions could be made more equitable for all stakeholders. We have used critical social theory to explore how power relations, competing value systems, and social equity and justice considerations in development and DRR processes can make marginalized groups more vulnerable to disaster risk, and to also understand what challenges these groups face in preparing for and responding to different disaster risks.

Addressing the inequity of development and DRR processes is a central pillar of our articulation of how to transform these processes. Through a systematic literature review and fieldwork in Vanuatu, we have identified critical issues for engaging with equity in on-going resilience practice that will contribute to a greater understanding of what constitutes "equitable resilience". Specifically, this research reveals four specific ways in which equitable and resilient development practice can reduce disaster risk: (i) by recognizing subjectivities (i.e. how social contexts, relations of power, and categorizations are used to assign social and economic entitlements); (ii) by ensuring inclusion and representation as well as agency, as opposed to exclusionary processes by which certain groups are disenfranchised; (iii) by promoting transformation of the system(s) when it is no longer delivering well-being or reducing risks for a majority of people; and (iv) by working across scales (geographical and temporal) and levels of governance.

3. Transformative DRR and development governance

"Adaptive governance" refers to social, institutional, economic and ecological aspects of governance that help to build social-ecological resilience (see Folke et al., 2005). While adaptive governance has been extensively theorized in relation to natural resource management (e.g. Chaffin et al., 2014), to date there has been limited analysis of how it can secure the integration of disaster risk and development (Boyd and Folke, 2012). To address this gap, we have investigated what adaptive governance might look like in the context of transforming the relationship between development and disaster risk, and what institutions and processes would be needed – at the global, regional, national and sub-national scales – to achieve such transformations.

© Albert Salamanca / SEI

A grandmother and her grandson lounging in their courtyard in a village along the Xe Bang Fai River in Southern Laos. The area is prone to flooding when the Nam Theun 2 hydropower dam releases water during the rainy season.

1 Resilience is the ability of a system to recover from a shock or disturbance (Bahadur et al., 2013).

BOX 1: Sendai Framework for Disaster Risk Reduction 2015-2030: Priorities for action

Priority 1: Understanding disaster risk (in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment).

Priority 2: Strengthening disaster risk governance to manage disaster risk.

Priority 3: Investing in disaster risk reduction for resilience.

Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction

Using the adaptive governance framing, we have identified the most important characteristics of the transformative governance of development and DRR systems. These are: (i) polycentric and multi-layered institutions; (ii) inclusion and collaboration, (iii) self-organization and networks, and (iv) social learning and system innovation (Djalante et al 2011). We have taken this conceptual work a step further by looking at the key DRR global policy framework, the Sendai Framework (UNGA, 2015), through this lens to determine what opportunities it presents to integrate our transformative governance characteristics, as policy-makers and other actors move towards implementation of the framework.

The launch of the Sendai Framework which guides the design, implementation and monitoring of global DRR efforts until 2030, is an important window of opportunity to promote the transformation of DRR through adaptive governance. The Sendai Framework can be a vehicle for the implementation of novel, innovative and contextualized DRR policies and practices that take into account different national realities, capacities and levels of development while respecting national policies and priorities. This can help to reduce existing trade-offs between development and DRR decision-making.

4. Towards a framework for reducing disaster risk through equitable and resilient development

Transformation is key to moving away from current development patterns that increase or create risks and inequalities to forms of development that are equitable and resilient. Transformative pathways must include consideration of risk trade-offs in development decisions, and creating enabling conditions for approaches that strengthen the resilience of people at risk by promoting social equity and justice. Transformative governance is the vehicle through which these goals can be achieved.

By developing a conceptual framework that enables us to communicate what we mean by transforming development and disaster risk to different actors, we hope to bring together the DRR and development communities of practice for collaboration and learning.

The principles and pathways of transformation developed to date will serve as a foundation for Phase 2 of the TDDR initiative (2017–2018), in which we aim to co-create the knowledge and tools required to reduce disaster risk among poor and at-risk communities in Southeast Asia and East Africa. We plan to develop and test a practical guidance manual in close collaboration with the member states and secretariats of the Association of South East Asian Nations (ASEAN) and the Inter-governmental Authority on Development (IGAD), by facilitating multi-stakeholder dialogues and by building a global network on Transforming Development and Disaster Risk that will further promote this approach through courses, trainings and online materials.

© Outhy

Flooding in Phonexay district in Luangprabang province, Laos, in 2013. The area flooded again in 2015.

The work presented in this brief is an output of the SEI Initiative on Transforming Development and Disaster Risk (TDDR). The SEI research initiatives cover key issues around sustainable development that SEI is particularly well placed to address. They function as hubs for research supported by both core and project funding. For more information visit:
https://www.sei-international.org/initiatives

This brief was compiled by Caspar Trimmer with inputs from Frank Thomalla, Michael Boyland, Heidi Tuhkanen, Jon Ensor, Åsa Gerger Swartling and Albert Salamanca.

© Ernerot/Rigg

Children in Luangprabang province in northern Laos studying in a makeshift school. Their school was severely damaged during the flooding in 2013.

References

Bahadur, A. V., Ibrahim, M. and Tanner, T. (2013). Characterising resilience: unpacking the concept for tackling climate change and development. *Climate and Development*, 5(1). DOI:10.1080/17565529.2012.762334.

Boyd, E. and Folke, C., eds (2012). *Adapting Institutions: Governance, Complexity, and Social-Ecological Resilience*. Cambridge University Press: Cambridge and New York.

Chaffin, B. C., Gosnell, H. and Cosens, B. A. (2014). A decade of adaptive governance scholarship: synthesis and future directions. *Ecolology & Society*, 19(3). DOI:10.5751/ES-06824-190356.

Djalante, R., Holley, C. and Thomalla, F. (2011). Adaptive governance and managing resilience to natural hazards. *International Journal of Disaster Risk Science*, 2(4). DOI:10.1007/s13753-011-0015-6.

Folke, C., Hahn, T., Olsson, P. and Norberg, J. (2005). Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources*. 30. DOI: 10.1146/annurev.energy.30.050504.144511.

IPCC (2012). *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change*. Cambridge University Press: Cambridge and New York.

Koontz, T. M., Gupta, D., Mudliar, P. and Ranjan, P. (2015). Adaptive institutions in social-ecological systems governance: A synthesis framework. *Environmental Science & Policy*, 53. DOI:10.1016/j.envsci.2015.01.003.

SEI (2015). *The SEI Initiative on Transforming Development and Disaster Risk*. SEI Factsheet. https://www.sei-international.org/transforming-development-and-disaster-risk.

UNGA (2015). Sendai Framework for Disaster Risk Reduction 2015–2030. A/CONF.224/CRP.1. United Nations.

UNISDR (2015). *Making Development Sustainable: The Future of Disaster Risk Management*, Global Assessment Report on Disaster Risk Reduction. UNISDR: Geneva.

Published by:
Stockholm Environment Institute
Linnégatan 87D, Box 24218
104 51 Stockholm
Sweden
Tel: +46 8 30 80 44

Author contact:
Frank Thomalla
frank.thomalla@sei-international.org

Media contact:
Rajesh Daniel
rajesh.daniel@sei-international.org

sei-international.org
2016

Twitter: @SEIresearch, @SEIclimate