SEI's work on disaster risk reduction and sustainable development

SEI works around the world to support efforts to reduce vulnerability and enhance resilience to disaster risks among individuals, communities and societies. We have a strong track record in sustainability science; risk assessment, vulnerability, adaptation and resilience research; as well as stakeholder engagement, collaborative learning, policy engagement and capacity-building. We are thus well positioned to support global, regional and local actions for disaster risk reduction (DRR).

Reducing disaster risk by transforming its relationship with development

SEI aims to support DRR efforts under the United Nations 2030 Agenda for Sustainable Development. Through the SEI Initiative on Transforming Development and Disaster Risk, we seek to integrate DRR with equitable, sustainable and resilient development. Our focus is on how to transform the relationship between development and DRR, to turn development from a root cause of disaster risk into a means for reducing risk.

We are identifying the underlying causes of vulnerability and drivers of risk in different contexts, and working to strengthen the adaptive capacity of DRR actors and build resilience. As an independent think tank, SEI has the ability to combine holistic, cross-cutting, policy-relevant scientific research and analysis with effective engagement and implementation support. This gives SEI a competitive advantage over organizations that focus either exclusively on scientific research or on project implementation.

Reducing disaster risk is a complex task that cuts across a broad range of related thematic areas, economic sectors, and public, private and voluntary stakeholders along a diverse set of interests and spheres of influence. Understanding this complexity and finding solutions to reduce risk in a holistic way requires a systems perspective. It also involves the collaboration of researchers with diverse sets of skills, cultural backgrounds and perspectives, with experience in academia, policy and the private sector. SEI's transdisciplinary teams comprise both social and physical scientists with complementary sets of expertise.

Scientific research on disaster risk

SEI's scientific research on DRR aims to expand knowledge and understanding of how to reduce human vulnerability to natural hazards, including from climate change. Our work connects DRR, climate change adaptation and development research across urban, peri-urban and rural contexts.

Our research is people-centred and participatory, based on a strong commitment to inclusiveness and active engagement with stakeholders, particularly those who are often excluded from the process of defining the problems to be solved. We also emphasize the integration of different types of knowledge, recognizing the value not only of science, but also of local knowledge and experience.

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Families take shelter in a school in Estancia, Panay, after Typhoon Haiyan in the Philippines.

Some of the key questions pursued in our research include:

- What socio-cultural, geo-political, economic, and biophysical factors and processes drive differential vulnerability and resilience levels to disaster risk within and across communities, cultures, and nations over time and space? How to identify potential trade-offs between development decisions and resulting disaster risk to avoid making poor development choices?
- How do different lines of marginalization and disempowerment including gender, age, race, religion, culture, disability, sexual orientation affect vulnerability, risk and resilience, and how can DRR, adaptation and development policy and practice enhance inclusion and empowerment?
- How do national and global development processes strengthen or weaken adaptive capacity and resilience at the local level, and increase or reduce vulnerability to disaster risks?
- How can social-ecological resilience thinking in development practice be reconciled with normative concerns around power, competing value systems, social equity and justice?
- What is the role of adaptive governance in reducing disaster risks in social-ecological systems, and what governance transformations are necessary to build and sustain resilience?

How we contribute to policy

SEI works with policy-makers from the global to the local level, and is thus well placed to contribute to the implementation, monitoring and critical assessment of the 2030 Sustainable Development Agenda by illuminating connections between development, DRR, and responses to climate change.

We can also help enhance thinking and clarify a policy area that remains complicated and fragmented. By working across international, regional and local levels, we aim to ensure that policy debates reflect local realities and priorities, and to match local needs with larger-scale policy processes.

At the global level, SEI supports the United Nations in the development, implementation, and monitoring and evaluation of key global policy processes, such as the Sustainable

Development Goals (SDGs) and the Sendai Framework for Disaster Risk Reduction 2015–2030. We also contribute to the Intergovernmental Panel on Climate Change (IPCC) reports; to regional and global assessments for the United Nations Environment Programme (UNEP) Global Environment Outlook, and to the Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA).

SEI's DRR work in Asia and Africa, two regions with particularly high vulnerability to disasters, aims to inform regional intergovernmental organizations, processes and platforms for addressing disaster and climate change risks. In Southeast Asia, we support the Association of Southeast Asian Nations (ASEAN), and in Eastern Africa we work with the Intergovernmental Authority on Development (IGAD).

At the national and sub-national levels, we work closely with the relevant government agencies as well as other national and sub-national stakeholders, including civil society and private-sector entities involved in humanitarian aid, disaster preparedness and response, poverty reduction and community development.

Our efforts to build capacity

SEI delivers technical support, guidance and capacity-building in vulnerability, impact and adaptation assessment, risk and hazard modelling, adaptation and DRR planning, implementation and evaluation, mainstreaming of adaptation and DRR into sectoral policies, risk communication and early warning systems, gender and disability-inclusive disaster risk reduction, and ecosystem-based approaches to DRR and adaptation. In addition, we work extensively on capacity-building related to sustainable water resources management, sanitation and hygiene, resilience and poverty reduction.

Our capacity-building efforts include the creation of analytical tools and methods for decision support, communication and visualization. SEI has been a leader in the development of methods and tools for assessing climate change vulnerability and impacts, for planning adaptation, and for sharing relevant knowledge.

The BalticClimate Toolkit project, for example – *Baltic challenges and chances for local and regional development generated by climate change* (2008–2012) – is a multi-stakeholder, web-based resource that includes vulnerability assessment and spatial planning guidance tools. The *Resilience-Increasing Strategies for Coasts – toolKIT (RISC-KIT)* project (2013–2017) is developing tools and management approaches to increase coastal zone resilience to hydro-meteorological events in Europe, with a network of 18 organizations.

To support capacity-building in research, SEI, along with the United Nations International Strategy for Disaster Reduction (UNISDR), is currently sponsoring "writeshops" for early-career scientists and practitioners from developing countries, to help them to prepare articles for peer-reviewed journals and thus bring more developing-country voices into the academic literature on adaptation and DRR.

This capacity statement is an output of the SEI Initiative on Transforming Development and Disaster Risk. To learn more, visit: https://www.sei-international.org/transforming-development-and-disaster-risk.

SEI as a convener of dialogue and knowledge-sharing

SEI is a trusted and sought-after convener of high-level meetings, facilitator of multi-stakeholder assessments and participatory planning processes, and host of networks and platforms for knowledge-sharing. SEI has a long history of fostering institutional networks and developing knowledge exchange platforms. Prominent examples include the *Ecological Sanitation Research (EcoSanRes)* programme (2001–2010), with a strong emphasis on capacity-building, and the *SSEESS Planning Grant for Knowledge to Action in DRR* (2013–2014), which has helped develop a research network of Swedish and Chinese institutions.

SEI's portfolio of work on capacity-building continues to grow. The *SEI Asia Sida Conference Strategic Fund* (2013–2016) enables representatives from various stakeholder groups from countries across Asia to participate in forums and workshops for partnership and knowledge generation around sustainable development challenges, including disasters.

SEI is also involved with two EU-funded *Horizon 2020* projects related to climate and disaster risk. The *EDUCEN – European Disasters in Urban Centres: a Culture Expert Network* project works to support and build on existing European networks for DRR. The *Platform for Climate Adaptation and Risk Reduction (PLACARD)* project (2015–2020) aims to establish a knowledge exchange platform for multi-stakeholder dialogue to address gaps and challenges in current DRR and adaptation collaborative research and practice.

SEI is also the host and coordinator of *weADAPT.org*, a knowledge-sharing platform on adaptation connecting researchers and practitioners around the world to promote shared learning and collaboration and build a community of practice on adaptation. Since 2014, *weADAPT* has also included a knowledge-sharing space on disaster resilience.

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

Contacts:
Albert Salamanca,
albert.salamanca@sei-international.org

Frank Thomalla,
frank.thomalla@sei-international.org

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

sei-international.org
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Twitter: @SEIresearch, @SEIclimate