



Photo: Floods in Assam, India by the Indian Red Cross Society

Interdisciplinary collaboration

SHEAR learnings

SHEAR projects are designed and implemented as consortia, with partners from diverse institutions and disciplines contributing their expertise. Multi-institutional partnerships help to ensure that research is conceptualized, designed, tested and taken up by critical stakeholders embedded in relevant institutional, political, social and economic systems. This brief outlines learnings relating to interdisciplinary collaboration.

Summary

The SHEAR programme is working to address a range of complex problems and challenges, to better understand and forecast disasters and increase the resilience of vulnerable communities. The required expertise is brought together in SHEAR by the interdisciplinary design of its projects.

Although challenging, working with a range of stakeholders is extremely important for projects to be relevant, effective and sustainable. This includes local government authorities, national hydrological, meteorological and geological agencies, and civil society stakeholders including non-governmental organizations, schools and research institutes.

Time is needed to build relationships, trust, understanding and consensus across stakeholders in projects and programmes.

Interdisciplinary and multi-institutional collaboration

The [Science for Humanitarian Emergencies and Resilience \(SHEAR\) programme](#) teams are interdisciplinary, bringing together experts from diverse fields to holistically address the different components and drivers of disaster risk. SHEAR consortia came from applied, academic and governmental institutions, bringing expertise in computer sciences, disaster risk financing and insurance, disaster risk management practice and governance, engineering, geology, meteorology, and social sciences. This interdisciplinary and multi-institutional approach was integral to the successes of SHEAR in improving data, decision making, disaster risk management capacity, forecasting, and tools.

Operationally, working with colleagues from diverse disciplines and institutions introduces different working practices, cultures and even terminologies. SHEAR teams emphasized the importance of developing shared, or at least mutually understood, language or ways of working. SHEAR teams recommended prioritizing this from the outset, enabling the development of shared ways of working, and avoiding cross-disciplinary confusion or disagreement.

- In the [SatWIN-ALERT project](#) (index-based drought insurance), interdisciplinary collaboration enabled the evaluation of decision support systems in regions without quantitative data. For example, semi-structured interviews conducted in Malawi by social scientists and agronomists at CARD (University of Lilongwe) enabled the biophysical assessment of drought. Working with in-country organizations (e.g., One Acre Fund and Risk Shield Ltd) enabled the team to pilot decision support systems and financial products in the timescale of SHEAR.
- In the [Mitigating Basis Risk](#) project, the integration of skills and knowledge from both the biophysical and social sciences enabled the development of new crop monitoring approaches and insurance products that are both technically robust and cost-effective for farmers and insurers. Partnerships with local insurers (e.g., HDFC ERGO in India) and financial service organizations (e.g., Dvara Trust in India) were critical to ensuring products were responsive to end users' needs, reflected logistical and technical implementation constraints, and exploited synergies (e.g., through bundling of insurance with credit and advisories) to maximize value for stakeholders.

About SHEAR

The SHEAR programme (Science for Humanitarian Emergencies and Resilience) carried out innovative research, in some of the most hazard-prone parts of the world, to better understand and forecast disasters, and minimize the risk they pose to vulnerable communities.

SHEAR cutting-edge research aimed to enhance the quality, availability and use of risk information and early warning systems.

SHEAR research brought together the unique knowledge and skills of stakeholders in physical and social sciences, disaster risk management practice, and policymaking. Effectively managing this range of expertise enabled SHEAR to deliver holistic cross-disciplinary, high-impact work on disaster risk and resilience.

For further information please see the [SHEAR Knowledge Product Directory](#).

External and cross-SHEAR collaboration

SHEAR teams highlighted the need for cooperation with other related initiatives in the same geographic area. Such collaboration can enable the development of shared or complementary plans or priorities, the exchange of knowledge and lessons learnt, and avoid duplication or working at cross purposes.

- After the 2015 Gorkha Earthquake in Nepal, [SHEAR-funded research](#) modelled the risks posed by 20,000 potential landslides. To widen the use of this information the team shared its work with other earthquake response and reconstruction projects, informing decisions on the relocation of at-risk settlements, and enhancing risk-sensitive land use planning at local government level. This necessitated collaboration and the refinement of how risks and their uncertainties were described, enabling the research outputs to be understood and applied by wider projects and partners.

Coherence and vision setting

SHEAR's collaborative, interdisciplinary research projects involved a wide range of actors in different fields, with varying perspectives, goals and interests. For everyone involved in the programme to be able to work together, clear alignment and consensus on shared goals were vital.

Risk and resilience are complex concepts, and different stakeholders bring different perspectives according to their own experience. SHEAR teams found a range of perspectives strengthened their work, enabling a holistic and multi-faceted analysis. SHEAR teams highlighted the importance of taking time to share diverse perspectives and reach a shared vision of the research goals. The co-development of a Theory of Change from the outset of a project was a useful way to align expectations and goals. SHEAR teams noted that some partners are less familiar with this approach and needed support and mentoring to contribute to a shared Theory of Change.

In interdisciplinary collaborations, different partners will have different priorities and measures of success for the research. Academic researchers, humanitarian and development practitioners, and policymakers will have different ways of understanding and thinking about impact, and these varying views on what successful outcomes look like should be built into the monitoring, evaluation and ongoing reflection and learning of the research. SHEAR teams emphasized the importance of making explicit the different priorities of all actors, enabling the articulation of a shared vision.

- In India, the [LANDSLIP project](#) brought together diverse stakeholders from different disciplinary backgrounds and institutions to develop a shared understanding of what constitutes a Landslide Early Warning System. This was an interesting exercise and resulted in diverse team members seeing where their bit of the project fitted into the wider project landscape. A diagram was developed, revisited and refined as the project evolved, enabling a shared vision of the aims and scope of the project.