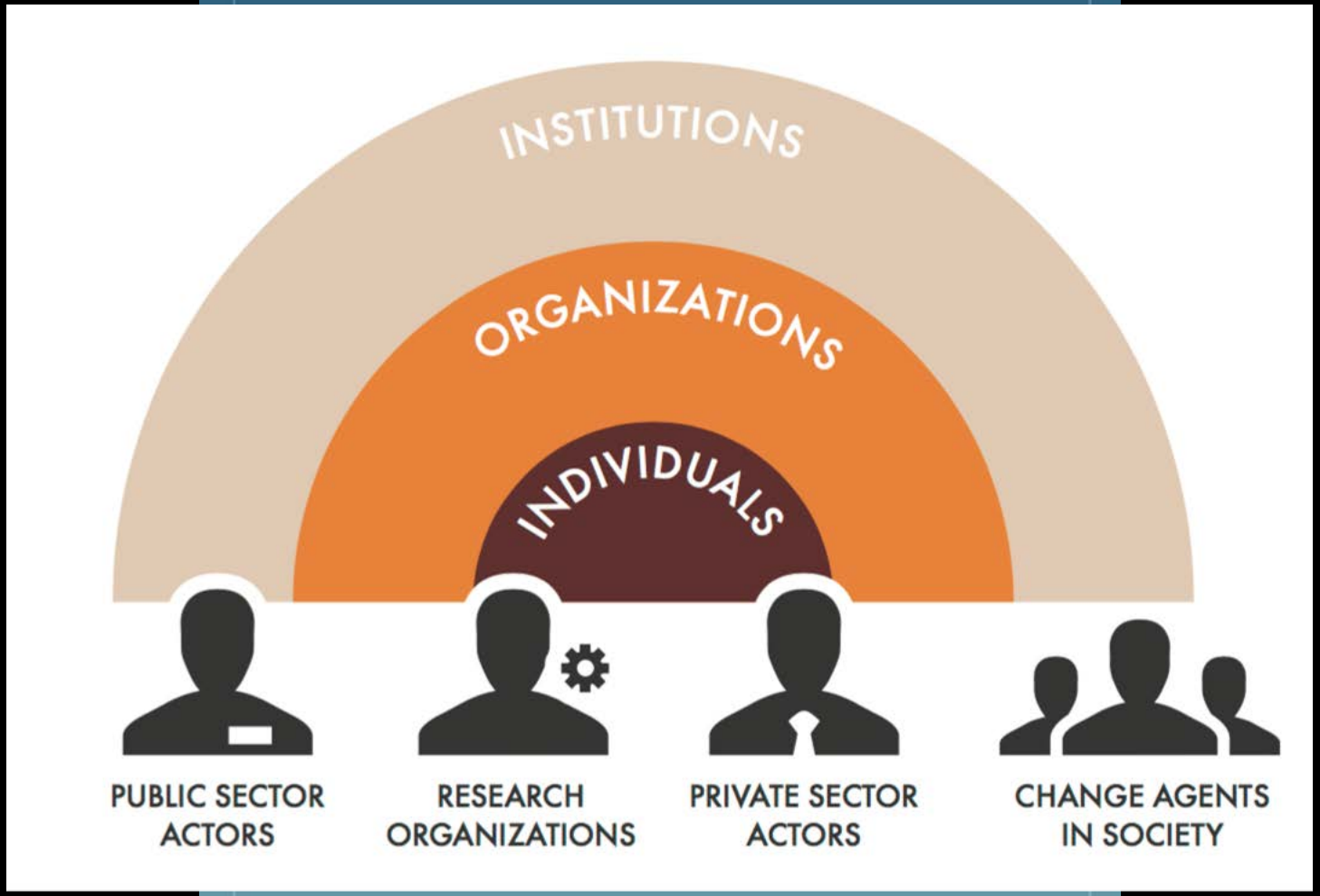
Bridging science and policy

SEI Strategy 2015-2019

VISION

A sustainable,
prosperous future for all



STRATEGY FRAMEWORK

SEI STOCKHOLM AND SEI HQ

SEI Stockholm is comprised of SEI Headquarters and the Stockholm Centre. SEI HQ serves all the SEI centres and totals about 20 staff, including the Executive Director, Deputy Directors, and the finance and communications departments. The Stockholm Centre has around 50 full-time equivalent staff and is divided into three operational units: Natural Resources, Environment and Development; Governance and Institutions; and Climate Energy and Society. Key areas of expertise include productive sanitation; energy production, access and system planning; analysis of the water-energy-food nexus; climate mitigation and adaptation; and private sector engagement for sustainable business models.

SEI TALLINN

SEI Tallinn has deep expertise on environment and energy, and a range of policy issues in Estonian society linked to sustainable development. The centre employs innovative methods in communicating its work to governments, the private sector, other research institutes, and the society as a whole. A central part of SEI Tallinn's work is analysing the impact of Estonian Government and EU policies and contributing to policy and legislation design. SEI Tallinn has 21 staff.

SEI YORK

The SEI York Centre was established in 1989, and is embedded in the Environment Department at the University of York. The centre comprises around 30 full-time equivalent staff, while its research falls into four broad categories: atmosphere, climate change and biogeochemical cycling; agricultural water management and governance; sustainable consumption, production and trade; and human wellbeing and behavioural change.

SEI OXFORD

SEI Oxford has 10 full-time staff. It has specific expertise in vulnerability assessment, adaptive planning and risk governance in the fields of climate change, water and food security, agriculture, ecosystems management. It also focuses on the synergies between climate change adaptation and mitigation, and hosts weADAPT, a collaborative platform for climate adaptation.

SEI U.S.

SEI U.S. is affiliated with Tufts University in Massachusetts. Its main office is on the Tufts campus, and it has two other offices in Davis, California, and Seattle, Washington. The centre conducts applied research drawing on engineering,

SEI ASIA

The SEI Asia Centre in Bangkok was established in 2004 and has a multinational staff with strong connections across the region. Its work is focused on two key areas: Climate change and resilient development in Southeast Asia and the governance of disaster risk and adaptation at multiple scales. The centre prioritizes building a strong network of research and policy organizations in the region and to provide platforms to share knowledge and engage stakeholders.

SEI AFRICA

SEI's Africa Centre supports close collaboration with African organizations and networks on key environmental and development issues, acting as a hub for SEI's engagement across the continent. The centre was established in 2008, and as of July 2013, it has been based in Nairobi, Kenya, hosted by the World Agroforestry Centre. The Africa Centre's work focuses on four key areas: Climate change adaptation, sustainable energy development, agriculture growth, livelihoods and rural development and urbanization

SEI STOCKHOLM ENVIRONMENT INSTITUTE

OUR WORK

SEI is active in all the world's regions. These pages map a selection of our projects around the world, and the following pages detail highlights of our work from 2011, organized under our four research themes.

EUROPE

EUREAPA

What policies promote sustainable consumption and production in Europe and beyond? EUREAPA is an online policy assessment tool that is helping to answer this question. Using its scenario functions, policymakers can visualise the environmental impacts of consumption in the context of lifestyles or national differences. EUREAPA, which is funded by the European Union FP7 OPEN:EU project, contains baseline data on the economy, greenhouse gas emissions, ecological footprints and water footprints for every EU member state and 16 other countries and regions of the world.

NORDIC REGION

Mistra/SWECIA

This programme asks how climate change, economics and adaptation hang together at the global regional and local level. Specifically, SEI is examining how forestry – one of Sweden's key industries – can adapt and thrive in a changing climate. Through interdisciplinary research, field studies, and close links to Swedish policy-makers, our work offers an improved knowledge base for decision making.

AFRICA

Food security in Niger

SEI is taking forward its work to tackle Africa's three-way squeeze on food security from low yields, import problems and a growing population. Our controlled field trials in Niger took an integrated approach to the issue, testing whether productive sanitation, water harvesting and conservation tillage can increase resilience and food security. Our 2011 baseline studies say it can, and we are now moving the trials to real world 'on farm' situations in Ethopia. SEI has also set up a working group across ministries universities and NGOs to build policy momentum behind the approach.

ARCTIC

Assessing Arctic futures

Many have a stake in the Arctic, and many want to shape its future. SEI is working to understand why and how Arctic futures are created. Assessing Arctic futures is about analyzing the political contexts of the race for resources in the Arctic, today and in the past, in order to offer new tools to policymakers. (See also page 16)

CHINA

China: inside and out

In 2011 SEI has continued its strategic engagement in China. On the domestic front, we published a report on domestic carbon trading and a project to assess the impact of China's twelfth five-year plan for energy, climate and the environment. And we've helped to build understanding of China and its role in a changing geopolitical context through our report on the BASIC countries' (Brazil, India, South Africa and China) approach to climate policy, and research on the true scale and meaning of Chinese land investments abroad.

INDIA

Urban metabolic mapping

Many cities have already overwhelmed their ecologocal resource base. In the booming city of Bangalore there are chronic shortages of water electricity and water, while pollution is a serious problem. An SEI project has set out to to develop a tool for decision-makers that treats the city as a "living entity". By mapping the city's "metabolism" in the context of socio-demographic trends – how it uses resources and produces useful products and waste – the model will support action toward urban sustainability, and can in turn be applied to different cities.

INDONESIA, THAILAND, CAMBODIA

Agricultural transformation

Agriculture is vital for social and economic development in the Greater Mekong region. Rapid changes in demography, income, production, and industry (especially biofuels), combined with environmental change, are reshaping agricultural systems just as the urban and rural poor are becoming less food secure. We are working towards a deeper understanding of rural change in the region, and to use this new knowledge to influence land use planning and development policy to enhance ecosystem services and support livelihoods.

UNITED STATES

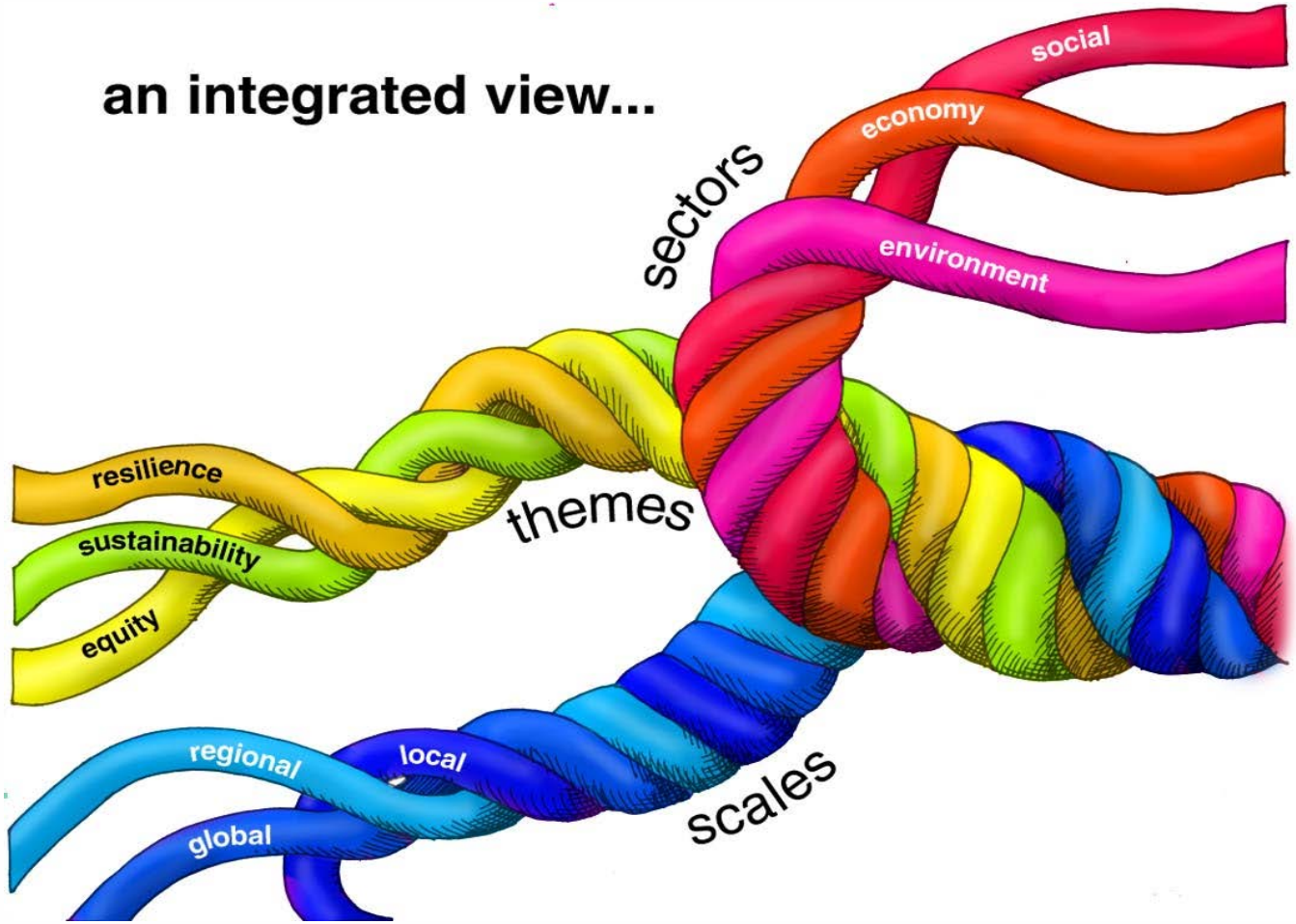
Low-carbon development

Emissions produced within a country or area are only one way to measure them. King County in Washington State and the State of Oregon commissioned SEI to produce a truer picture of emissions – one that can help people take more effective action. And the City of Seattle hired SEI to build on this work by developing a carbon neutral scenario for the city. The scenario spells out how taking measures like retrofitting buildings and shifting to electric cars and biking can feasibly decrease per capita greenhouse gas emissions by 90% by 2050, relative to 2008 levels.

LATIN AMERICA

WEAP

SEI is helping to more effectively manage wa
resources in Latin America via WEAP – its w
evaluation and planning system. As part of a
2011 World Bank investigation into how clim
change might impact on water resources, SE
combined WEAP with measurements of gla
evaporation and accumulation in Peru. We a
also using WEAP to help bring about institut
nal change in the Andes. The tool is supporti
negotiations between countries on the best
to share the benefits of Andean rivers across
national borders.


an integrated view...
social
economy
environment
sectors
resilience
sustainability
equity
themes
regional
local
global
scales

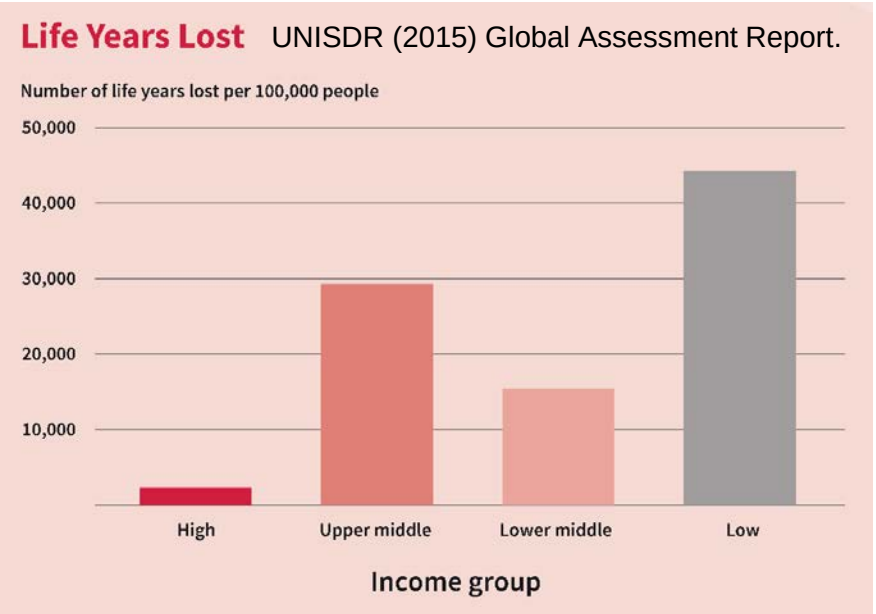
- Behaviour and Choice
- Development and Disaster Risk Reduction
- Fossil Fuel Development and Climate Change Mitigation


United Nations
Climate Change Conference
INDONESIA
IRAQ
NAURU
NEPAL
NETHERLANDS
NEW ZEALAND

SEI Initiative on Transforming Development and Disaster Risk

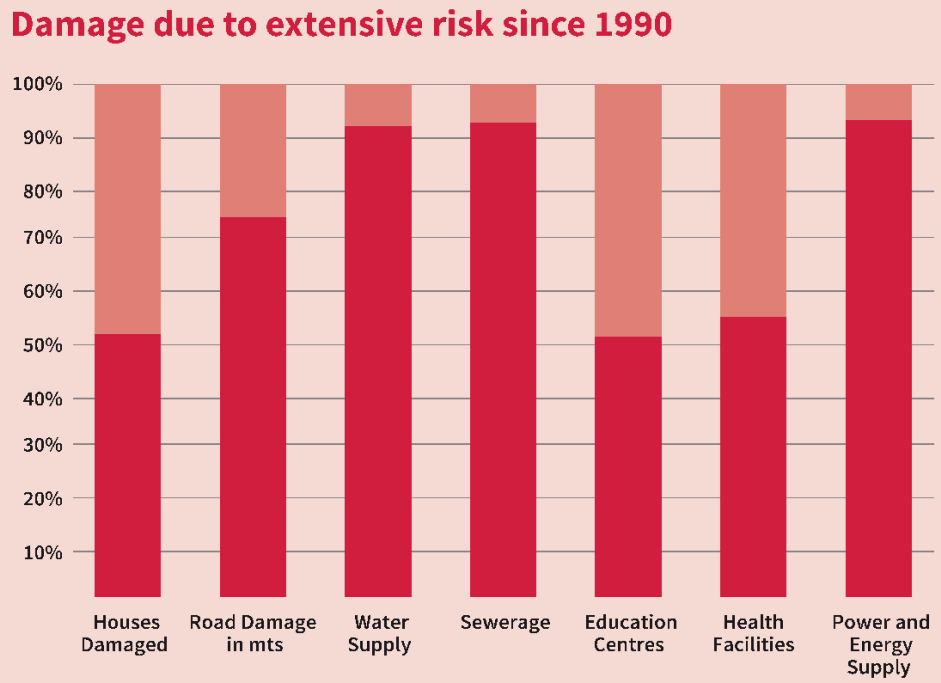
Initiative contacts:
Albert Salamanca – albert.salamanca@sei-international.org
Frank Thomalla – frank.thomalla@sei-international.org

Increasing disaster impacts and risk



- Economic and non-economic losses and damages are increasing
- The human cost of disasters is shouldered by the poorest nations
- Mortality is concentrated in very intensive disaster events, but still increasing for small-scale events

- The majority of economic damage occurs in small-scale disasters; constantly eroding essential assets and reversing development gains
- Low and middle income countries shoulder the burden, whilst already struggling to maintain development investments



The limits of disaster risk reduction

Context:

- Significant progress in disaster risk *management* during the Hyogo Framework for Action 2005-2015 years:
  - Risk assessment, preparedness, early warning, and response
- But, little progress in addressing root causes of risk (UNISDR, 2015)
- **Sendai Framework for Disaster Risk Reduction 2015-2030** (SFDRR) calls for action on tackling risk drivers such as poverty and inequality, unplanned urbanization, unsustainable natural resource use, weak institutional arrangements, non-risk-informed policies, and climate change and variability.

- ***Inequitable and unsustainable development drives risk***

TDDR has identified three key gaps in DRR research, practice and policy:

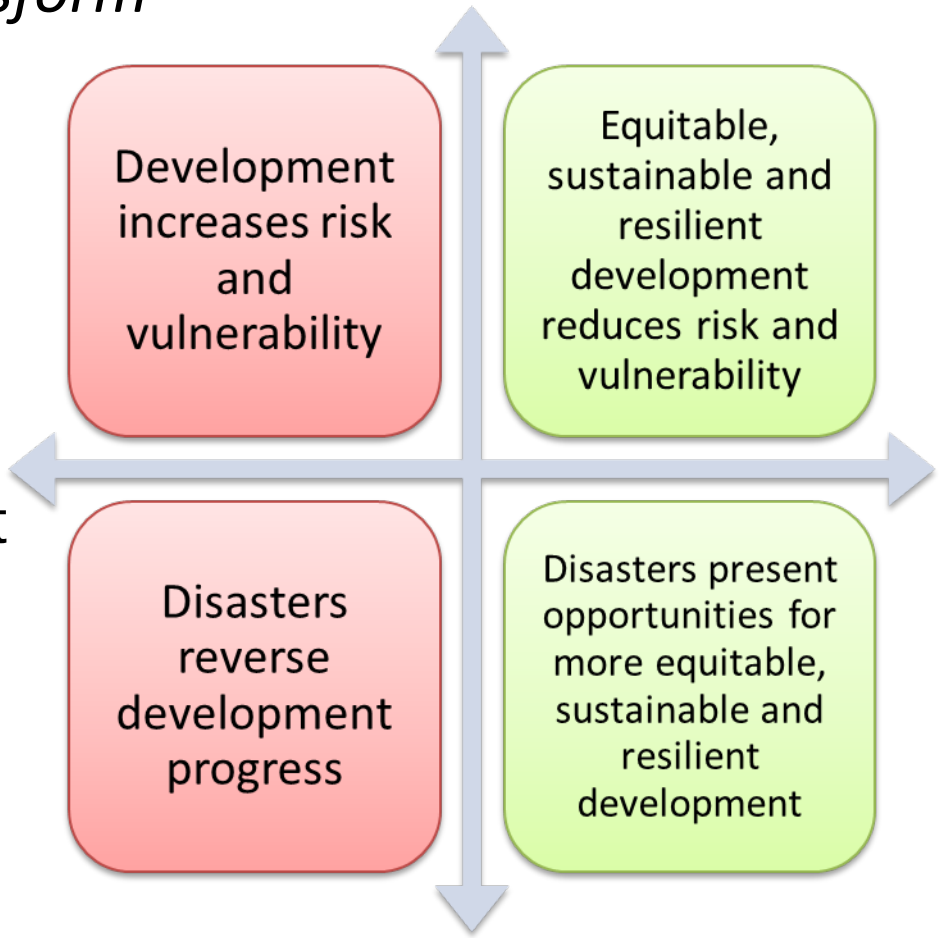
1. A failure to adequately understand the complexity of vulnerability creation;
2. A failure to be scale-appropriate and apply what is known to the scale at which change is required; and
3. A fixation on the goal of "reducing" risk rather than understanding trade-offs that underpin decision-making processes at all levels.

TDDR Principles

The relationship between development and disaster risk needs to transform

TDDR, taking a systems approach:

- Seeks to improve understanding of risk creation and accumulation;
- Aims to better integrate disaster risk reduction (DRR) with equitable, sustainable and resilient development;
- With the goal of transforming the relationship between development and DRR.



Adapted from Stephenson (1994). Disasters and Development.

TDDR Policy objectives

- To contribute scientific insights, guidelines and recommendations that underpin key international and regional policy processes in DRR and development, and to place not only physical but also socio-cultural aspects of resilience to natural hazards as a central focus for human development.
- To facilitate the co-production of knowledge and social/institutional learning by contributing to vertical and horizontal multi-stakeholder processes that aim to facilitate the exchange of knowledge and experience between stakeholders and to be more inclusive of marginalized people or groups.
- To monitor and assess progress in DRR during the first 2 years of implementation of SFDRR, to provide critical reflections on project experiences, lessons learnt and good practice, and to identify opportunities, challenges and limits in building equitable social-ecological resilience.

TDDR Research

To work towards achieving a transformation in the relationship between development and disaster risk, TDDR research is organised as follows –

1. Understanding development and disaster risk reduction
2. Understanding equitable social-ecological resilience
3. Understanding adaptive processes for governance of social-ecological systems
4. Understanding transformative processes in development and disaster risk contexts
5. Communicating research to policy-makers and the DRR community.

Crews search through the rubble after the Nepal earthquake in April 2015.