DRM

world institute for
disaster risk management

BOARD OF THE SWISS
FEDERAL INSTITUTES
OF TECHNOLOGY

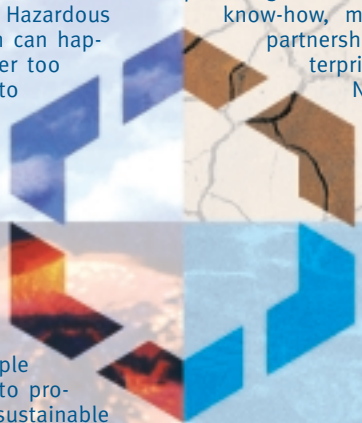
Virginia Tech

***DRM** is a network for applied research, implementation, and dissemination in the field of disaster risk management. It is an initiative of the Board of the Swiss Federal Institutes of Technology and Virginia Polytechnic Institute and State University in conjunction with the ProVention Consortium of the World Bank.*

Every managing executive in the public or private sector has a duty to ensure appropriate risk management in his area of responsibility. Hazardous events of natural or technological origin can happen anywhere and at any time. It's never too early to integrate risk management into corporate governance - but it may often be too late.

DRM marshals resources for collaborative activities in applied research, research applications, and professional practice to reduce disaster risks in vulnerable communities throughout the world.

The objective of DRM is to enable people to anticipate disasters and take action to protect life and property, and to ensure sustainable social and economic development. Its activities include supporting the pursuit of an optimal balance between disaster risk reduction, risk-sharing mechanisms, and management of residual risks in the face of limited resources.



DRM achieves its aims by filling knowledge gaps, providing a clearing-house for information, building know-how, mobilizing resources, and forging partnerships with governments, private enterprises, international agencies, and NGOs.

DRM works with a wide range of international organizations and institutions whose common objective is disaster risk reduction for public safety and sustainable development.

Even when reliable and cost-effective technologies are available for early warning, disaster prevention and mitigation, many governments, especially in developing countries, lack an adequate institutional framework in which to apply them.

Natural and technological disasters often cause substantial damage to life and property, infrastructures, cultural heritage, and the ecological basis of life. Indirect losses in terms of business interruption, loss of production, and loss of services often exceed losses due to direct physical damage. Developing countries are affected more severely, often suffering a dramatic decline in GNP.

Increased losses from disasters
Disaster losses have increased dramatically over the past two decades. This has resulted from changes in the pattern of hazard occurrence and from increased vulnerability of a growing population. With greater pressure to exploit marginal lands and accommodate more people in urban areas, the potential for future disasters continues to expand. To develop effective and efficient tools and strategies for disaster risk assessment and risk reduction, it is necessary to understand the factors contributing to those risks. Natural hazard events often precipitate subsequent technological failures, and dependency on tightly coupled technological systems can increase the potential for catastrophic failure and disaster. Natural and technological disasters also threaten the ecological basis of life through long-term environmental damage.

Decline in financial support
"Aid continues to fall. From US$ 55.4 billion in 1996, global humanitarian assistance plunged to US$ 48.3 billion in 1997. Aid now amounts to little more than 0.2% of donor GNP – the lowest ever. The Organization for Economic Cooperation and Development's (OECD) Development Assistance Committee (DAC) has described the decline as discouraging and frustrating. DAC donors allocate 1.4% of government spending to aid. In 1992 when overseas development assistance (ODA) peaked, the average spent on aid was more than 2% of government budgets, and over the period 1975 to 1985, the figure remained steady at an average of 1.8%." (International Federation of Red Cross and Red Crescent Societies: World Disasters Report 1999.)

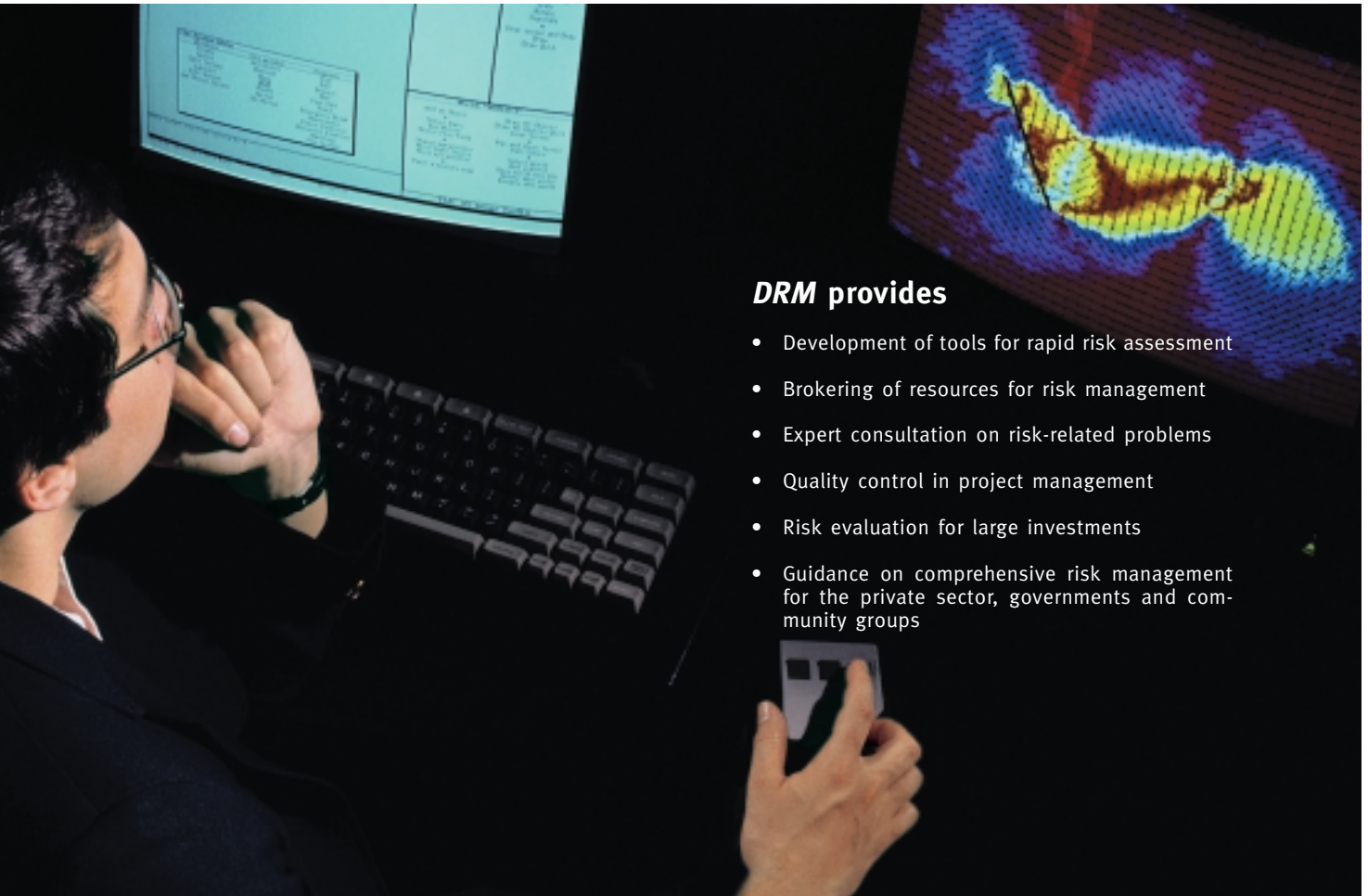
The integration of knowledge, policy and finance is necessary to meet the challenge of natural and technological hazards.
***DRM** brings together key institutions of the governmental sector, the private sector, civil society, and the research community to reduce global disaster risks.*

Every DRM project will involve organizations and institutions of the disaster-prone countries in order to strengthen local capabilities.

DRM will cooperate extensively with government agencies such as the Swiss Agency for Development and Cooperation (DEZA) and the public agencies of disaster-prone countries. DRM will also work actively with non-governmental organizations and the private sector. From the private sector, Swiss Re has undertaken to support the DRM initiative.

DRM *provides interdisciplinary and intersectoral support for prevention strategies, implementation techniques, education, and know-how dissemination in relation to man-made technological risks and to natural disasters.*

Required: implementation techniques
A great deal of technical know-how is available. The main need is for integration of sectoral results and modeling into multidisciplinary systems and implementation-oriented approaches and tools. The vast body of knowledge distributed around the world (dissemination is increasingly being performed by institutes in developing countries) needs to be gathered together in an open network.

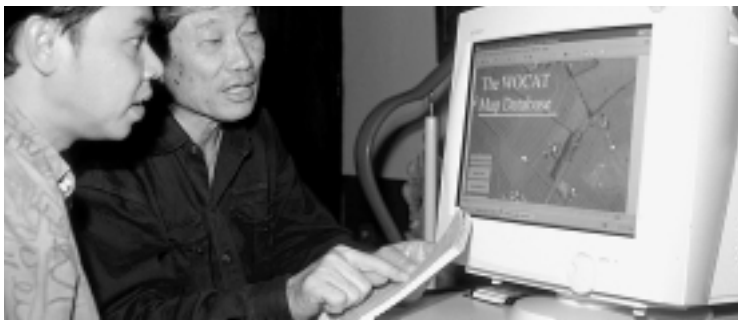


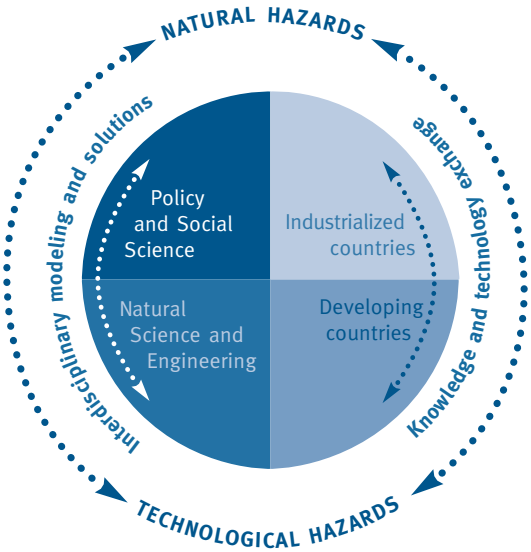
DRM provides

- Development of tools for rapid risk assessment
- Brokering of resources for risk management
- Expert consultation on risk-related problems
- Quality control in project management
- Risk evaluation for large investments
- Guidance on comprehensive risk management for the private sector, governments and community groups

The devastating consequences of recent disasters are an indicator of the need to improve the development and implementation of technologies and methods for disaster prevention and preparedness.

Decentralization
Although local capabilities in developing countries have substantially increased within recent years, a great deal of knowledge and experience on disaster risk reduction has been accumulated in the developed countries. The fact that it has not been widely applied to developing countries indicates a severe problem in the transfer and application of science and technology. The disaster risk reduction program by DRM will develop regional relations and strategies for disaster prevention in a larger context. DRM will channel support for building mitigation research and implementation capacity in local institutions in disaster-prone developing countries.





Disaster Risk Management and Development Planning
The DRM will take an active role in the ProVention Consortium on Natural and Technological Catastrophes of the Disaster Management Facility of the World Bank. DRM will focus resources on the priority areas of the Consortium:

- poverty and vulnerability
- environmental services to reduce disasters
- expansion of access to mechanisms for risk transfer and financing

DRM will strive to advance the knowledge base and develop tools for the effective application of disaster risk management in development planning and investment.

Education
Just as in other environmental programs, the cost recovery and benefits of disaster risk reduction are not immediately obvious, nor are links to sustainability. A significant effort needs to be made to address education and training needs. DRM will contribute to a joint training network.

The Swiss Federal Institutes of Technology and the Swiss universities and institutes of applied science form a well established network. These research centers have outstanding expertise and extensive international experience.

Swiss Federal Institutes of Technology (ETH)
The six institutions of the ETH domain include two research centers operating in the fields of natural and man-made risk management: CENAT and KOVERS. Both centers rely in addition on Swiss universities and institutes of applied science. CENAT will coordinate contacts between the Swiss research community and DRM.

Natural risks: CENAT
The Natural Hazards Competence Center CENAT was founded by the ETH Board in 1996 to bring together existing potentials in natural science, engineering science and socio-economic science within the ETH domain and the Swiss universities and institutes of applied science. It is also associated with the Pôle Grenobloise d'Etudes et de Recherche pour la Prévention des Risques Naturels. The pooled resources of these institutes cover a wide field of hazard and risk management:

Hazard assessment, physical process studies, event triggering, hazard mapping, numerical simulation, event probability studies, GIS (Geographic Information Systems) techniques
- Institute of Cartography, ETH Zurich
- Swiss Federal Institute for Snow and Avalanche Research, SLF, Davos
- Institute of Geography, University of Berne

Seismic behavior, earthquake-resistant construction, retrofitting, building codes (buildings, bridges, dams)
- Institute of Structural Engineering, Earthquake Engineering and Structural Dynamics, ETH Zurich
- Institute for Reinforced and Prestressed Concrete, ETH Lausanne
- Institute of Geophysics, Swiss Earthquake Center, ETH Zurich
- Centre d'Etude des Risques Géologiques (CERG-UNIGE), University of Geneva