The Risk Concept

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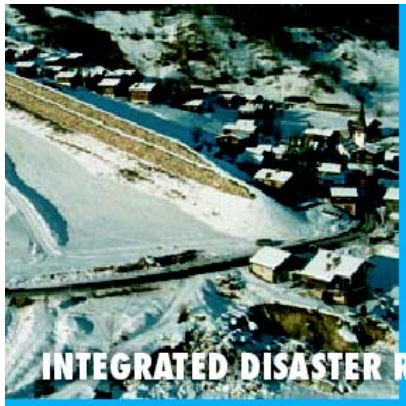
Workshop Mountainous Regions



INTEGRATED DISASTER REDUCTION APPROACH

Natural disasters are increasingly causing human suffering and hampering economic development. Countries in the south are particularly affected. An efficient and effective disaster risk reduction is urgently required. On country or community level the integrated disaster reduction approach:

- addresses all hazards, vulnerabilities and risks
- considers the disaster cycle
- includes all stakeholders in the process
- takes into account the principles of sustainability
- is based on international solidarity

The Risk Concept

Swiss experience with an integrated approach and lessons learnt for international cooperation.

World Conference on Disaster Reduction (WCDR), Kobe 2005

Basic Questions

The Risk Concept may serve as a conceptual frame to address natural hazards and risks. Three basic questions have to be answered:

The term “risk”

Definition (ISDR)

"The probability of harmful consequences, or expected losses resulting from interactions between natural or human-induced hazards and vulnerable conditions."

Conventionally risk is expressed by the notation

Risk = Hazards x Vulnerability

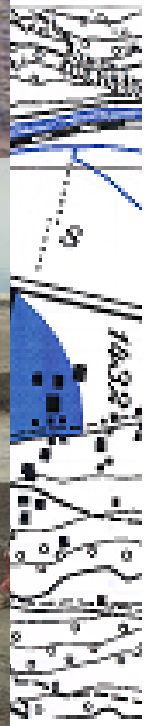
frequency, magnitude **exposure, value, susceptibility**

⇨ To focus on the notion of risk constitutes a shift from hazard-orientated actions to more risk-based approaches.

Analysis of risks

The question "what can happen" covers:

1. Magnitude and frequency of hazards
2. Economic, social and physical vulnerability



⇨ Hazard and risk maps are a
instruments to visualize loc
particularly in mountainous
They are, for instance, an e
land-use planning or emerg
management.

Evaluation of risks

The question “what is acceptable to happen” addresses ...

… socio-economic, cultural and political aspects. It is evaluated how much risk a particular society or community is able and willing to carry. The risk evaluation, therefore, is based on livelihood conditions, values and beliefs and personal or community experience.

⇨ In Switzerland particular protection goals and targets are defined for flood-prone areas. Such goals need to be adapted to local context.

Planning of Measures

The question “what needs to be done” considers the risk circle and equally addresses ...

Recovery mechanisms

Use risk transfer schemes to effectively recover from a possible disasters

Prevention/mitigation mechanisms

Prevent further growth of vulnerability and risks and reduce existing risks

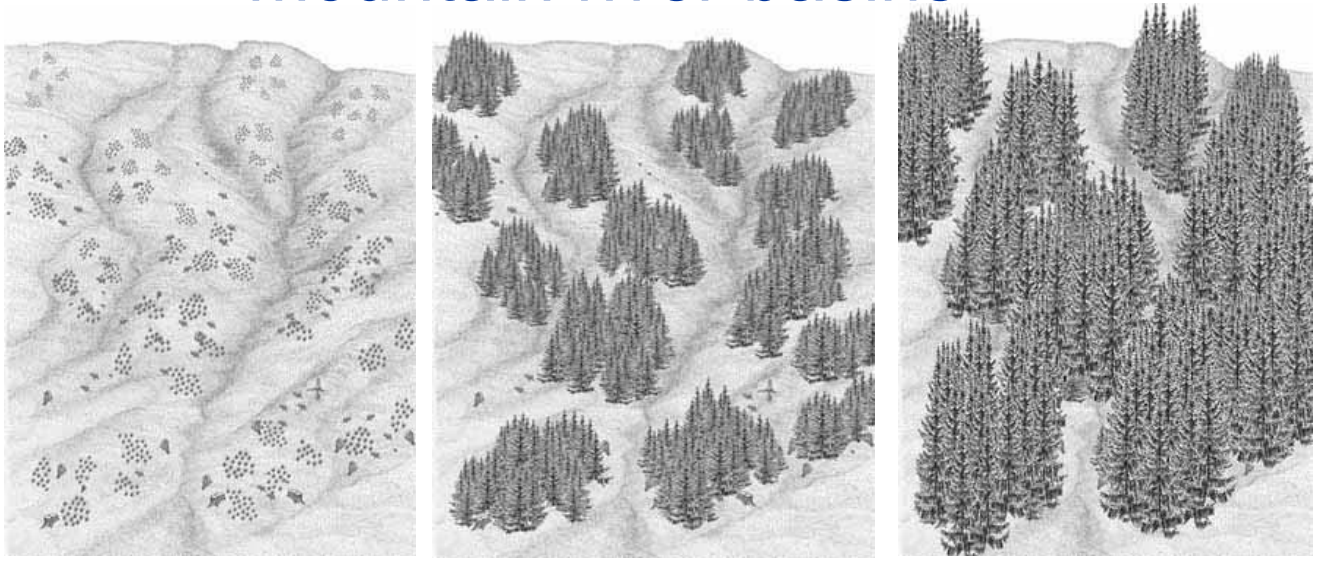
Response mechanisms

Carry existing risks and prepare for disasters

Mitigation

For instance ...

Reforestation in
mountain river basins



⇨ Land management and land-use planning, whether in the source or the impact area of natural processes, are efficient measures to reduce hazards and the growth of vulnerability in mountainous communities.

Response

For instance ...

Emergency Management Unit

for coordinated response during and after a disaster

⇨ Communities in mountainous areas require well-established emergency management units which operate quickly and independently.

Recovery

For instance ...

Risk Transfer

as an important mechanism for the recovery of a disaster-affected area

Instruments:

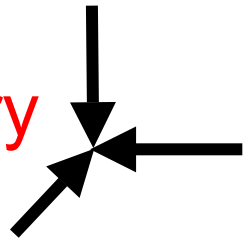
- Social networks
- Village fund
- Micro-credits
- Insurance

⇨ The recovery of a disaster-affected area needs to consider the lessons learnt from the past disaster to prevent the further construction of new risks.

Lessons Learnt

An integrated approach is based on the risk concept. It requires ...

- ⇨ The assessment of existing and future risks. This is an indispensable step for the planning of any risk reduction measure.
- ⇨ An balanced implementation of prevention, response and recovery mechanisms.



Sustainability and risk management

Next speaker: **Walter J. Ammann**

Head of the Swiss Federal Institute for Snow and Avalanche Research SLF, Davos