


THE DRH EUROPE / AFRICA NODE

**-Its Functionalities and some new
disaster reduction measures from
Europe and Africa-**

Stefan Scheer

Joint Research Centre (JRC) IPSC - Institute for the Protection and Security of the Citizen
Ispra – Italy



- **Current status of the DRH Europe/Africa node (<http://drh-europe.jrc.it>)**
- **Main functionalities**
- **Main contents**
- **Example: different perspectives on floods**
-  **a universal approach for tsunami evacuation plan generation**

- **10 measures originating from Europe**
- **2 measures originating from Africa**
- **9 links to measures published on DRH-Asia**

- **General information on DRH project (scope, rationale, history, etc.)**
- **Specific information on various hazards**



- **<http://drh-europe.jrc.it>**

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Overview

General

The Disaster Reduction Hyperbase project aims at providing sufficient information on any kind of disaster reduction practices in order to help mitigating the effects of natural disasters.

Launched as a Japanese action for implementing the Hyogo Framework for Action 2005 - 2015 "Building on the resilience of nations and communities to disasters", the ultimate goal of this project is to realize a global web-based facility capable of disseminating disaster reduction technologies with a solid notion of implementation strategies. Special emphasis is given to practices which will help developing countries to increase their disaster reduction capabilities.

Rationale and Purpose

It seems that many disaster reduction techniques exist in the world; many of them are applied only locally or within specific contexts; some of them may even be known to local

News

Small revisions in the layout done
18 Sep 2009

Three disaster photos added
21 Jul 2009

Second Africa-related DR measure added
24 Jun 2009

Creation of restricted collections
24 Jun 2009

- Floods
 - Storms
 - Tsunamis
- [Manage portlets](#)

Specific information on various hazards



mudslide along slope protection (Varese 2009) - courtesy of Varese news (photo by Pierangelo Scotti)

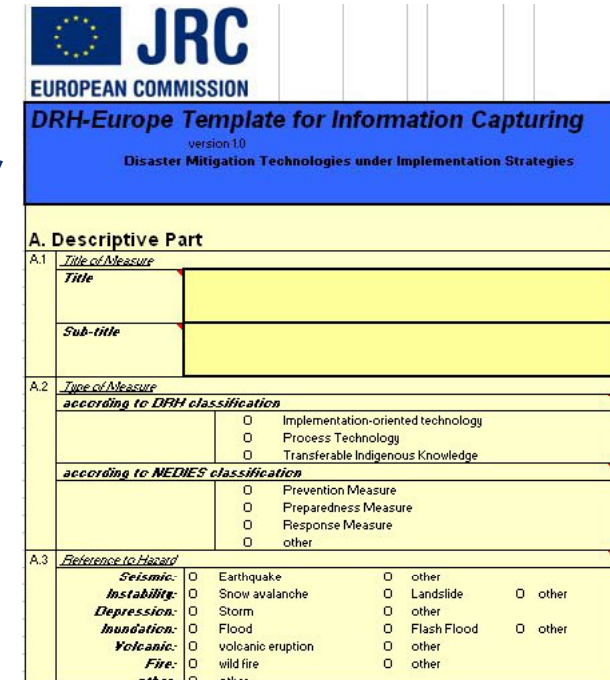


destroyed high-voltage line hit by a snow avalanche (Zwischbergen valley, Switzerland) - photo by Stefan Scheer (JRC)

Collection-type approach:

- “Europe-related”, “Africa-related”, “all”
- Hazard-related (“all earthquake-related measures”, etc.)
- More collections in future

Measure: as structured text *and/or* as template



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DRH-Europe Template for Information Capturing
version 1.0
Disaster Mitigation Technologies under Implementation Strategies

A. Descriptive Part

A.1 *Title of Measure*

<i>Title</i>	
<i>Sub-title</i>	

A.2 *Type of Measure according to DRH classification*

	<input type="checkbox"/> Implementation-oriented technology
	<input type="checkbox"/> Process Technology
	<input type="checkbox"/> Transferable Indigenous Knowledge

according to MEDNES classification

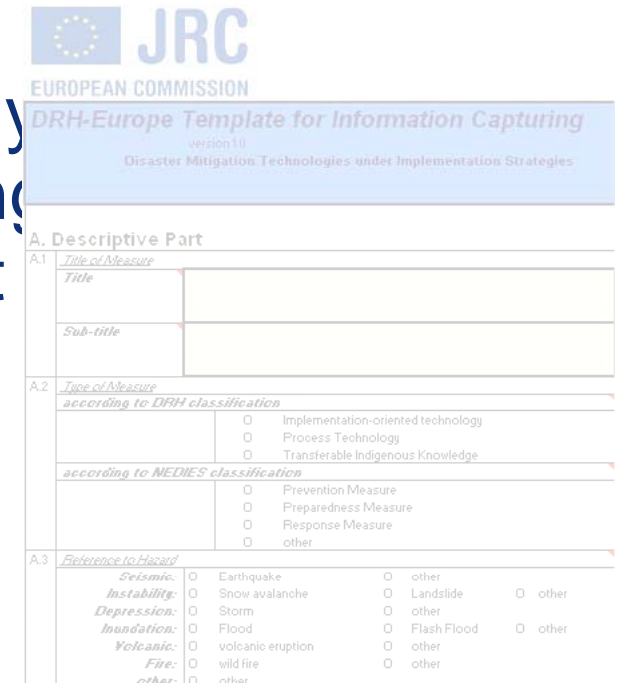
	<input type="checkbox"/> Prevention Measure
	<input type="checkbox"/> Preparedness Measure
	<input type="checkbox"/> Response Measure
	<input type="checkbox"/> other

A.3 *Reference to Hazard*

<i>Seismic:</i>	<input type="checkbox"/> Earthquake	<input type="checkbox"/> other	
<i>Instability:</i>	<input type="checkbox"/> Snow avalanche	<input type="checkbox"/> Landslide	<input type="checkbox"/> other
<i>Depression:</i>	<input type="checkbox"/> Storm	<input type="checkbox"/> other	
<i>Inundation:</i>	<input type="checkbox"/> Flood	<input type="checkbox"/> Flash Flood	<input type="checkbox"/> other
<i>Volcanic:</i>	<input type="checkbox"/> volcanic eruption	<input type="checkbox"/> other	
<i>Fire:</i>	<input type="checkbox"/> wild fire	<input type="checkbox"/> other	
<i>other:</i>	<input type="checkbox"/> other		

What's inside a measure?

- Further structuring
 - Availability (how to get it? Copyrights, references, success stories, ...)
 - Applicability (is it the right measure for me? Context, costs, ...)
 - Usability (how to make it run in my ... Costs, training, equipment, running ...)
 - Implementation (how actually is it ...)
- Information exchange
 - knowledge dissemination
 - re-use



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<i>other:</i>	<input type="checkbox"/> other	

Every measure has a header:

Flexibility towards classification

Flexibility towards approval (scientific acknowledgement)

Flexibility towards structuring (template)

Seismic Zonation

— filed under: [Europe](#), [green flagged](#), [seismic](#), [prevention](#)

Seismic zonation is a process of estimation of the maximum expected magnitude of possible shaking caused by earthquakes which make an impact on a certain area. Assessment results in seismic zonation map compilation, which reflects territorial distribution of the seismic hazard.

<i>Hazard</i>	<i>Seismic</i>
Sub-type	---

<i>DRR Measure</i>	
Type	PV
DRH-Asia type	---
Submitter	Boyko Rangelov, Bulgaria
Approval Flag	green
Template	Seismic Zonation

Flexibility towards different versioning (best practices) [in future]

- **21 risk reduction measures in total (10 from Europe, 2 from Africa, 9 links to DRH-Asia (by September 2009))**
- **11 seismic measures**
- **5 flood measures**

- **DRH-Europe: focus on seismic, storm and flood hazards**

- *[future] Best Practices approach: choose the most suitable measure for a specific problem, indicate the best version of a particular measure, link with “neighbouring” measures*

Mozambique: flood alert system: simple and effective decision matrix for local people

Europe: flood disaster system: flood level dependent decision – action system to secure highly vulnerable areas

Europe: glacial lake drainage system: specific solution(s) to avoid flash floods

Different perspectives on floods:

Vulnerability:	lives, assets, lifelines
Periodicity:	regular, ...
Education:	illiterates, ...
Surface model:	detailed, ...
Alert time:	short, long
Background:	climate change

...

Constructional intervention → hardware technique

“Construction of a drainage gallery”

Functions: guaranteed & controlled water outflow

Achievements: significant flood risk reduction

Advantages: works all year around

Limitations: movements of the glacier

Constructional intervention → hardware technique & experience

“Construction of high-temperature vertical drainage channels”

Functions: rather controlled water outflow linked with the glacier’s natural underground outflow

Achievements: flood risk mitigation

Limitations: movements of the glacier; frequent renewal; difficulties in installing

Organisational intervention → process technique

“Generation of flood catastasters”

**Parameters: lake level increase; precipitation/time;
critical infrastructure & assets; evacuation of
population**

**Achievements: ready-made plans; enhance
preparedness, advanced resource planning;
priority setting**

Behavioural intervention → instruction technique

“Installation of simple but effective EWS”

**Parameters: illiterates; lives and assets at stake;
precipitation/time, rising river level**

**Functions: regularly measure precipitation and
river level and find relevant symbol in a decision
matrix (alert state; escape state)**

Limitations: one responsible person needed



SCHEMA is a FP6 - Space Priority project, developed through a consortium of 11 partners from 8 countries including 4 SMEs

Main objective of the project

To design, develop and validate a stand alone generic methodology to assess the potential impacts of combined phenomena involving tsunamis and provide information to assist local authorities to prepare evacuation plans and crisis management.

Key ambition: To demonstrate that Earth Observation data allows defining generic rules to produce vulnerability maps.

End-users

- Civil Protections
- rescue planners
- public safety policy makers
- land management planners
- insurance companies

www.schemaproject.org



Development of a methodology for generation of tsunami evacuation plan

- Applicable by anybody and anywhere
- With tools or without tools
- With skills or without skills



Iterative and nested approach:

- An initiation phase: creation of the plan according to parameters (wave height, terrain, population, etc.)
- A mid-term phase: periodic review of plan, maintenance of plan, training etc.
- At long-term: adjustments to legal and social requests, adjustments to change of parameters



Initiation and inner loop:

- Knowledge about expected wave height and expected warning time
- Terrain maps; inundation maps; population density maps
- Identify horizontal shelters
- Identify vertical (additional) shelters
- Identify and create escape routes
- Organize organizers ...



Middle or mid-term loop:

- Integrate within regional EWS
- periodic review of overall plan
- Maintenance of escape routes
- Maintenance of shelters
- Organize training
- Instruct, update and train responsables



Outer or long-term loop:

- Review basic tsunami parameters and adjust overall plan
- adjustments to legal and social requests
- Adjustments to change of regional EWS

DRH Europe/Africa on its way ...



**Create our own
DR measures**

Elicit from partners
Elicit from internet
Elicit from publications

Don't forget ...





**THANK YOU FOR YOUR
ATTENTION**