Geophysical Research Abstracts,
Vol. 10, EGU2008-A-07075, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-07075
EGU General Assembly 2008

Inventory of landslide risk assessment methodologies in Europe.

J.-P. Malet (1,2), A. Thénot (2), O. Maquaire (2), C.L. van Beek (3), O. Oenema (3)

(1) CNRS UMR 7516, School and Observatory of Earth Sciences, University Louis Pasteur, Strasbourg, France, (2) CNRS UMR 6554, University of Caen Basse-Normandie, Caen, France, (3) Alterra, Soil Science Center, Wageningen, The Netherlands (jeanphilippe.malet@eost.u-strasbg.fr / Phone: +33-390-240-036)

With the development of the EU soil strategy and the likely implementation of an EU soil framework directive, the question has risen to what extent different methodologies to assess risk for soil degradation differ, and to what extent it would be possible to harmonize these risk assessment methodologies (RAMs).

The objective of this work is to present the results of an inventory of landslide RAMs performed at the scale of the EU27 member states, to highlight their main differences and limitations, and to identify some possible options for harmonization.

Questionnaires were sent out to several contacts in the EU27 to obtain information about the characteristics and the implementation of the landslide RAMs. Among 76 questionnaires sent, 32 questionnaires were fulfilled and stored in a database which is available on the web (www.ramsoil.eu). The analysis of the questionnaires was completed by an analysis of reference documents (research papers, internal reports) sent by the contact persons in each EU member state. This allowed to assess the status of landslide RAMs for 24 member states of the EU27, as well as for Switzerland because of its pioneering work in landslide hazard and risk assessment.

First, the EU member states have been categorized according to (1) the use in practice of an national landslide RAM, (2) the use of a RAM still in development and (3) the absence of landslide RAM.

Second, the characteristics of each available landslide RAM are outlined in terms

of the authorities in charge of the assessment, the method (qualitative, quantitative, model-based) and the data used for the assessment, the techniques (heuristic, statistical, process-based) used for the assessment, and the characteristics of the outputs documents (scale, zonation characteristics). The landslide RAMs may deviate considerably between the different EU member states in terms of scale, and may use information from e.g. field observations, remote sensing, GIS and/or laboratory analysis.

Finally, options for harmonization of landslide RAMs are proposed. The potential for harmonization is defined as the degree (scale) to which harmonization can possibly be achieved, going from converting results to ultimately standardization of methods and procedures.

The landslide RAMs appeared to be best developed compared to the other soil threats considered in the Ramsoil Project (erosion, compaction, salinization, soil organic matter decline). In part this is due to the nature of most of the landslide types which most of the time are yes/no events, as well as to the potential consequence of landslides which are almost always catastrophic.