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Round Table Geomorphological Hazards: a European Strategy

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FOREWORD

In its broadest sense geological and geomorphological hazard are constant and gradual phenomena over time which occasionally undergo sudden changes of gear, sometimes ending in catastrophe and tragedy.

Perception of natural risk as such, possibly as a cultural legacy or possibly for historical or biblical reasons, is still a mixed bag of fascination and fear in which terms such as unpredictability, powerlessness and chance readily arise.

While it is true that these factors do indeed play a greater or lesser role it is also true that this role is influenced and can be influenced by the type of approach used to address these problems.

While hydrological and geomorphological hazards are in absolute terms the most numerically frequent in Europe, the approach to such a delicate subject still needs to be defined. What approach to take to problems too often seen as merely local phenomena when very often the origin is down to complex global processes whose impacts are even more difficult to pin down? What kind of cultural, operational, administrative or technical approach where there are enormous differences between the various systems and between the various players?

Finding answers to these questions, is no easy matter given the seemingly greater incidence of the these phenomena and their increasingly powerful impact on the lives of Europeans. The current debate thus centres on finding a common forum between the various interested parties and deciding on which route to take. It is reasonable to assume that research can and should be the common point of departure, the basket in which to put all the different requirements for mutual and interactive comparison, especially in a European context which presents similarities and makes the most of differences and peculiarities. On the one hand, requirements and needs for which many, at least partial answers are already provided in the publications of researchers; on the other, operative needs that scientists cannot do without, as otherwise their work will be too abstract and it will be impossible to link pure and applied research. Results and knowledge which companies and firms operating in the sector cannot ignore for fear of losing competitiveness in a bigger and bigger deregulated market.

Research, therefore, as a forum for interdisciplinary comparison and dialogue between the various players and as an instrument, which can produce the harmony needed to define a land use policy, which mediates between the different demands and possibilities and clearly addresses what must be the ultimate objective of safeguarding the territory, which now has to be taken as meaning that complex of public assets made up of environmental, industrial, civil and human property. Research as an area for qualitative and quantitative comparison which can take on the role of support system for decision-making and, while not replacing it, can help to increase transparency and efficiency. The dissemination of results, the application of the new technologies already available and the proper use of their potential together with development of that potential and its underlying methodologies along with basic training at all levels will certainly take us beyond the actual emergency stage. This is where the Commission comes in and these are the main objectives pursued by the Community research programmes.

For some years now the European Commission has been supporting research in this sector by way of a series of specific, successive programmes: Climatology and Natural Hazards (1986-90), EPOCH (1989-92), Environment (1991-94) through to the present Environment and Climate Programme (1994-98) as part of the fourth framework programme.

Over this period, as stated, awareness of these subjects has increased appreciably among the most varied sectors of European society, a fact which has helped to shift the focus from post-catastrophe emergency action to the most

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advanced concepts of prediction and prevention. An emergency culture has thus given way to the concept of planning, a difficult and anything continuing shift in which the help of research has definitely been of fundamental importance in guaranteeing the requisite scientific and methodological bases. The greater focus on problems such as landslides has gone hand in hand with an increase in the financial resources made available by the Commission for research in this sector. As a natural consequence this has led to a marked rise in the number of research projects from EPOCH to Environment . This in turn has resulted in the emergence of new needs such as greater coordination between research projects in the same sector and above all greater integration between the different sectors. The aim would appear to be to correlate completely different subjects such as meteorology and geomorphology, but in fact the idea is to cover the various phases of the hydrological cycle and try to find balanced, non-sectoral answers, to help reduce the hazard and to improve emergency management: from global circulation models to the prediction and determination of rainfall in real time, to the introduction of such data into hydrological models, to the definition of warning systems and correct hydraulic parameters and to the identification of risk thresholds for erosion phenomena and landslides.

These aims may be ambitious but they have to be if we are to avoid any pointless and harmful overlapping and above all if we are to make optimum use of the results of studies, disseminate the results and make applications possible from them.

One of the other objectives of this round table was to stress the need to analyse results of the research projects as well as the identification of future research needs. This is extremely important for the EC Services fully ingaged in the definition of the objectives of the future 5th Framework Programme.