



The Association of Geological Surveys of the European Union  
(EuroGeoSurveys)  
in their position as  
custodians to their national natural resources  
and  
guardians of their terrestrial environment  
present their contribution

**The Management of Natural Hazards and the Environment  
for the Sustainable Development of Europe**

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## CONSIDERING that :

The number of fatalities from natural disasters far outweighs those from major industrial hazards (95% of the total incidents reported in the period 1985-96). Natural hazards, such as earthquakes, landslides and even flooding are often more devastating, in terms of loss of life, financial and environmental damage, and also have the potential to precipitate technological accidents. **A global management of the human, environmental and properties' impact of natural hazards is necessary at European level.** Community cooperation in the field of Civil Protection to ensure better protection for citizens the people has been developed by the DG Environment<sup>1</sup> but a change of approach attitude is required. Natural disasters reduction is not just only a problem of emergencyies management but it needs to be integrated into everyday development planning. Risk prevention and response are not difficult essentially technical problems but they have to be seen as part of the interactions between human activities and natural systems throughout the EU and the Accession countries. Natural disaster reduction They should be integrated into the European Spatial Development Perspective (ESDP)<sup>2</sup>, managed by the Regional Policy DG and should also ,but they have to be considered too has as part of a Global Environment Management Policy. The imminent context of enlargement to the candidate Central and Eastern European countries and with the partners in the Mediterranean region partners will demand needs even more initiatives in this field because of these regions' high incidence of natural hazards.

**Increasing demographic pressure is causing causes** faster environmental deterioration: deforestation, soil, water and air pollution, depletion of natural resources, not counting climatic fluctuations and a rise in extreme phenomena. It is also causes causing the growing occupation greater use of fragile sites and areas exposed to natural hazards. These pressures generate All this is cultivating new instabilities, the intensification of natural hazard effects and the growing vulnerability of people, the environment and property. They are it is reflected by increased losses due to it natural disaster impacts during the last decades.

**Urbanisation**, which accelerated in the second half of the 20th century, is one of the major problems of coming decades. Half of the world's population is already concentrated in urban areas (80% in the EU). The damage to an environment subjected to growing urban pressure is a cause for concern. Plains prone to flooding and unstable hillsides are often inhabited illicitly or in an uncontrolled manner. The major problem is the protection of millions of people living in zones at risk and in fragile structures, especially in the candidates countries. The growing vulnerability of modern societies is, to a large extent, a consequence of urbanisation.

Nevertheless, **understanding of the problems and practices and means for taking action are growing fast is improving rapidly.** Engineering, earth and climatic sciences have developed significantly. The last decade has seen too, a greater contribution by social sciences and the assessment of human aspects in issues of vulnerability, crises and preventive mechanisms. **Computers, Internet links and planetary observation technologies** to ensure environmental security and climatic, oceanic and continental monitoring systems are booming. Appropriate and sustainable systems for land-use planning and crisis management in real time are now accessible. Some EU Members States have procedures in place for taking into account of the risks of flooding, avalanches, landslides and earthquakes in their planning and development processes. However, it does not appear that these procedures have yet resulted in adequate responses to natural disasters in practice. The impact on humans, the environment and the local economy has not been mitigated. An overall approach has been investigated within the IDNDR<sup>3</sup> initiatives. The experience of EuroGeoSurveys members can support new approaches of preventive planning in European zones prone to natural disasters.

Natural and man-made disasters (a, this distinction which is getting less and less relevant) are real brakes on economic and social development. **There can be no sustainable development if they are not taken into account.** Solutions must be adapted to local practices and defined with all of the players concerned (experts, political leaders, local and regional institutions, lifeline services and the population).

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<sup>1</sup> Resolutions adopted since 1987 : OJ C 176, p 1; OJ C 44, p 3; OJ C 315, p 1; OJ C 313, p 1. Council decision of 19 December 1997 : OJ L8, 14/01/1998, p 20 - Community action programme in the field of civil protection established for the period 1/01/2000-31/12/2004, OJ C 28, p 28.

<sup>2</sup> Informal European Council of EU ministers responsible for Spatial Planning in Potsdam on the 10-11 May 1999.

<sup>3</sup> International Decade for Natural Disasters Reduction (UN, 1990-1999)

The Association of **EuroGeoSurveys** therefore **RECOMMENDS** that :

the following considerations are made fundamental goals for the coming decade :

### **1. Combination of prevention, sustainable development and land-use planning**

We recommend that **prevention measures be combined with land-use planning and development measures (e.g. within the ESDP)** for sustainable management of human settlements and the environment, taking into account their growing vulnerability and the interdependence of territories. We recommend, in particular, that **sustainable development instruments** such as the **ESDP**, local Agenda 21s, impact studies and environmental assessments of projects **systematically incorporate natural risks**.

### **2. European, transnational, national, regional, local and citizen responsibilities**

We recommend that the natural risk prevention policies be harmoniously integrated into a **continuous chain continuum of responsibility** among European, transnational, national, regional and local levels, and ~~the politics,~~ **politicians, economists** and individuals. **The effectiveness** of these policies should be regularly **evaluated assessed**, especially **with in** regard to co-operation between the different institutions, the mobilisation of stakeholders, central-level support to local leaders and grass-roots initiatives. **Scientists, political leaders and local players should co-operate much more closely** to encourage initiatives and the local ownership of prevention projects for a sustainable spatial and environmental development.

We also recommend that these measures :

- **Take into account relatively rare events**, with their potentially serious consequences ;
- **Disseminate acquired knowledge** of the risks and their possible prevention to the populations ;
- **Provide appropriate funds** to facilitate preventive actions.

### **3. Risk reduction and the sustainable development of urban areas (towns, cities and large conurbations)**

We recommend that complementary urban prevention actions should be undertaken, notably :

- Draw up an **inventory** of physical features, hazards, exposure and land use in urban areas ;
- Develop **prospective growth and crisis scenarios** by mobilising urban players and the population ;
- **Reduce the vulnerability** of what is already in place (habitat, infrastructure, essential and strategic services, cultural heritage) as part of medium- and long-term Spatial Development policies and Urban Development measures ;
- **Use awareness-raising programmes** to provide citizens with **information and education**, and familiarise decision-makers and stakeholders on natural risks and prevention, as well as appropriate **standard** conduct **procedures** in times of crisis ;
- Continue and extend the **co-operation programmes between towns** through regional networks like those implemented during the IDNDR at international level (such as the Earthquake and Megacities Initiative, RADIUS and GEMITIS) so as to overcome local obstacles and promote further exchanges of experience and co-operation between towns **at risk from similar natural hazards**.

### **4. Rural environment, environments at risk and protected environments : spatial development**

We recommend that natural hazard be taken into account in environmental and rural management, and in spatial development policies, and to this end :

- Asserting that **vulnerability reduction of urban areas needs to be integrated with the territorial management** of natural and rural environments (including mountain areas) ;
- Defining and **advertising appropriate land-use functions** (production, protection and leisure) in the natural and rural environments, based on **knowledge of their** topography, soils, hazards, etc. ;
- Developing spatial management adapted to the **sustainability of the functions** of these environments and attaining the means to fund the implementation of this approach ;
- Identifying, at all levels, the **responsible financial institutions** (local, regional, national and European) ;
- Guaranteeing the necessary upkeep of the environment by means **of regulations and suitable taxation** ;
- Creating a **sustainable network of practitioners** providing the link between the relevant parties (politicians, administrators, researchers, educators and citizens).

### **5. History, feedback on experience (lessons learnt) and outlook**

We recommend that the analysis of disasters should be supported, their **historic context memory** maintained at all levels and taken into account during elaboration of management plans. We also recommend the **establishment of European co-operation to build easily accessible data bases** to be as comprehensive as possible.

- ASKS FOR :

**A. The definition and implementation of a targeted policy on Natural Disasters Reduction and Sustainable Development at European level :**

**Natural disasters reduction and management** is not only a national or local problem, which has to be implemented in a logic of subsidiarity. It **has a European dimension** through crisis management cooperation, disasters reconstruction aid, **management of** large extent phenomena (earthquakes, flood plains, mining subsidence, climatic changes, etc.) and spatial development. A Community action programme in the field of Civil Protection<sup>4</sup> is important but not sufficient. **EU needs a preventive policy in spatial management, land-use and development planning, to insure the sustainable development of its member states.** This policy should be supported by the analysis and characterisation of natural hazards and correlative risk assessment at European level. The context of enlargement to the candidate Central and Eastern European countries and with the partners in the Mediterranean region needs even more initiatives in this field.

- OFFERS :

**B. A sustainable Public Interest Service on Natural Hazards assessment and Disasters Prevention at European level, including :**

**Data bases and information banks** (for ~~the~~ decision makers, risk managers, planners and the public), monitoring, major risks identification through prospective scenarios, expertise for adequate preparedness to crisis management, **building/construction codes and best practices**, territorial management and land-use planning, scientific **evaluation** missions after disasters, pooling of experiences, etc. All these actions can be implemented through a Public Service **carried out done** by the Association of EuroGeoSurveys with its **17 48** national Geological Surveys (**6000 7 000** specialists in applied Geosciences).

Dr Philippe Masure, BRGM (France)<sup>5</sup>  
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<sup>4</sup> established for the period 1/01/2000-31/12/2004, OJ C 28, p 28.

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