



## **Environmental legislation as the legal framework for mitigating natural hazards in Spain**

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In Spain, the socioeconomic losses due to natural hazards (floods, earthquakes or landslides) are considerable, and the indirect costs associated with them are rarely considered because they are very difficult to evaluate. The prevention of losses due to natural hazards is more economic and efficient through legislation and spatial planning rather than through structural measures, such as walls, anchorages or structural reinforcements. However, there isn't a Spanish natural hazards law and national and regional sector legislation make only sparse mention of them. After 1978, when the Spanish Constitution was enacted, the Autonomous Communities (Spanish regions) were able to legislate according to the different competences (urban planning, environment or civil protection), which were established in the Constitution. In the 1990's, the Civil Protection legislation (national law and regional civil protection tools) dealt specifically with natural hazards (floods, earthquakes and volcanoes), but this was before any soil, seismic or hydrological studies were recommended in the national sector legislation. On the other hand, some Autonomous Communities referred to natural hazards in the Environmental Impact Assessment legislation (EIA) and also in the spatial and urban planning legislation and tools. The National Land Act, enacted in 1998, established, for the first time, that those lands exposed to natural hazards should be classified as non-developable. The Spanish recast text of the Land Act, enacted by Royal Legislative Decree 2/2008, requires that a natural hazards map be included in the Environmental Sustainability Report (ESR), which is compulsory for all master plans, according to the provisions set out by Act 9/2006, known as Spanish Strategic Environmental Assessment (SEA). Consequently, the environmental legislation, after the aforementioned transposition of the SEA European Directive 2001/42/EC, is the legal framework to prevent losses due to natural hazards through land use planning. However, most of the Spanish master plans approved after 2008 don't include a natural hazards map or/and don't classify the areas exposed to natural hazards as non-developable. Restrictions or prohibitions for building in natural hazard-prone areas are not usually established in the master plans. According to the jurisprudence, the environmental legislation prevails over spatial and urban planning regulations. On the other hand, the precedence of the national competence in public security would allow reclassification of the land, independently of the political or economic motivations of the municipal government. Despite of the technical building code or the seismic building code where some recommendations for avoiding "geotechnical" or seismic hazards are established, there are not compulsory guidelines to do technical studies/hazard maps for floods or landslides. The current legislation should be improved, under a technical point of view, and some mechanisms for enforcing the law should be also considered.