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COURSE OF TERRITORIAL, URBAN, ENVIRONMENTAL
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Abstract

**The need of a holistic approach for effective flood risk
management**

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Floods represent one of the most dangerous natural phenomenon which man has to face. Several studies show that the frequency of these events is going to increase as a result of climate changes affecting our planet. Many cities and communities are dangerously exposed to these phenomena. However, disasters are not exclusively caused by climate factors. Conversely, disasters are the result of a combination of both natural phenomena and other factors like: the close localization of urban areas to rivers, the excessive increase of built-up land, the wrong planning of structural measures.

As a result of the past flood events, the European Commission published the Directive 2007/60/EC. The directive, aiming at reducing and managing the flood risk, is particularly innovative, because it is based on the idea that man cannot control, neither economically sustain the effects of a natural phenomenon only by means of a set of structural measures. It is therefore necessary the implementation of non-structural measures, which might decrease the individuals' vulnerability. It is worth pointing out that what has just been said, certainly doesn't mean that structural measures are unnecessary, but which, if flanked by the non-structural measures, will help to achieve a further reduction of flood risk, as well as its effective management. This results could be achieved thanks to new strategies, no longer exclusively aimed at reducing the hazard factor, but also the vulnerability factor.

However, today risk assessment is still carried out on a engineering approach. Experts focalize their attention on the study of hazard and possible physical effects and the identification of appropriate structural measures, neglecting the vulnerability factor. The latter, considered constant and independent from the hazard factor, is also expressed exclusively in terms of physical losses without any reference to the concepts of social vulnerability and resilience. In this way, the evaluation is partial. Based on the assumptions that vulnerability is negatively influenced by an inappropriate and inconsistent community development, experts state that its generation is caused not only by the physical, but also social, economic and cultural frailty.

Natural disasters should be considered as "**development problems**", since they are the result of the interrelationships that exist between nature and society. Hence the need for a holistic approach to risk assessment and risk management. Through the combination of knowledge from both the engineering approach, as well as social, we will be able to understand an effective vulnerability. Up today, it is necessary to deepen studies on vulnerability and its reduction by the adoption of non-structural measures. The combination of both structural and non – structural measures will lead to a further reduction of flood risk.