



The use of Socio-Economic Instruments to capture the multidisciplinary character of Decision Processes in Natural Hazard Management

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Decisions for protective measures against natural hazards are multidisciplinary in nature. Stakeholders from experts over politicians and the public are among the affected parties in making and dealing with the consequences of such decisions. In order to capture the complexity that arises when incorporating the varieties of interests, transparent and multidisciplinary decision support systems and tools are needed. This paper looks at how Cost Benefit Analysis (CBA), a tool already applied to decisions concerning protective measures, and Multi Criteria Analysis (MCA), even though new to the field as such but already successfully practiced in other environmental areas, perform according to the abovementioned criteria.

CBA includes a systematic cataloguing of impacts as benefits (pros) and costs (cons), values them in a monetary way and then determines the net benefits of the alternatives in relation to the status quo. Therefore it can be used to evaluate and compare all consequences (positive and negative, tangible and intangible) of possible decisions in the public sector considering the area of natural hazards, such as protective measures. In short, MCA is a tool that can incorporate various preferences of people that hold stakes in a decision process like protection measures against natural hazards. Through establishing a set of criteria against which alternative protection measures can be evaluated from multidisciplinary viewpoints, MCA can help finding compromise solutions

for the creation of protection measures against natural hazards.

The emphasis of this paper lies in the notion that the outlined instruments seek their legitimisation in supporting decisions. Their aim is to provide decision makers with the best possible information, acknowledging the fact that this does not induce the final decision but provides objective judgments of the alternative choices. CBA's information input for decisions is based on economic valuation methods and is therefore not multidisciplinary as such. The outcome constitutes of a ranking of alternative options based on net benefits. Since it does acknowledge the fact that information is needed from other experts (i.e. estimation of the probability of occurrence) to reach a wide spectrum of judgment for decision makers, it does not exclude the fact that multidisciplinary work is needed in natural hazards. MCA on the other hand serves to provide a multidisciplinary approach by incorporating various stakeholders' preferences from the first step of its analysis to the final outcome where, according to stakeholders' weighted preferences, a ranking of the alternative options can be given as an information basis to the decision maker. The discussion of these two methodologies in the present paper will show that they depart from similar ideas and still deviate from each other. The main idea is though to present two instruments that can bring about more transparent, equitable and efficient decisions taken for protective measures against natural hazards.