



Application of Multi-Criteria Analysis in shaping strategies aiming to reduce eutrophication for the Po Catchment-North Adriatic area.

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The eutrophication of the North Adriatic (NA) Sea is strongly related to environmental pressures i.e. nutrients loads originating in the Po Basin Area and transported by the Po River in Coastal Zone. In order to achieve the Sustainable Development by reducing the impact of anthropogenic activities, it is necessary to select among different possibilities (scenarios) the appropriate strategies that should keep a balance among economic, environmental and social factors. The aim of this work is to apply the Multi-Criteria Analysis (MCA) to identify optimal strategies capable of reducing eutrophication in the North Adriatic Sea. In this work, the MCA is a useful tool that allow to identify the most cost-effective strategies aimed to achieve water quality targets as required by the EU-Water Framework Directive (2000/60/EC). MCA was performed with DEFINITE (DEcisions on a DEFINITE set of alternatives) model. DEFINITE is a decision support tool that has been developed to improve the quality of environmental decision making; it includes MCA methods, as well as Cost-Benefit and Cost-Effectiveness analysis. Moreover, DEFINITE allow to perform the related procedures such as weight assessment, standardization, discounting and a large variety of methods for sensitivity analysis are also available. Analysing socio-economic scenarios it is possible to identify the most appropriate management strategies for the case study. Using the DEFINITE model three different types of scenario were studied i.e. Business as Usual (BAU), Policy Target (POT) and Deep Green (DG). For each scenario economic, environmental and social perspectives were analysed. Results from the economic perspective are relevant for BAU scenario. The social perspective shows consistent results for POT scenarios, while the environmental perspective shows good results for DG scenario.