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A participatory approach for Integrated River Basin Management in the Elbe catchment

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Abstract

This paper presents a qualitative analysis of a series of in-depth interviews with governmental and non-governmental institutions (NGOs). Within the EUROCAT[1] project this methodology of participatory approach, aiming to scope the present perceptions about environmental issues and possible strategies for environmental improvement, is applied to the study of the Elbe catchment for the first time. In this frame, an Advisory Board (AB) was created, with the aim of giving insights into conflicting interests in the river catchment and guidelines for river basin management. Focus of the Elbe case study is the issue of nutrient enrichment (from the catchment) and the induced eutrophication of the coastal waters (the German Bight). Specifically, regarding this topic, the possible reduction of eutrophication in the German Bight by a (policy driven) decrease in nutrient inputs from the catchment area is analysed. Different measures for reducing the input of nutrients from the catchment, and ultimately preventing eutrophication of the coastal waters are considered. In this context, the members of the AB were asked about the efficiency and feasibility of different measures and the criteria for choosing 'better' management solutions among the possible ones.

Although there is a general agreement about the necessity of reducing nutrient emissions, some members of the AB perceive other environmental issues (e.g. altered morphodynamics) as more relevant than nutrient enrichment. Voluntary cooperation, eco-efficiency and 'trans-sectoral' communication are the key concepts mentioned as being indispensable for integrated management. The (public) acceptance of measures for nutrient reduction have to find its way through compromises and social equity, allowing for win–win solutions among different groups of interests and balanced spatial division of costs and benefits.

Keywords: participatory approach; group of interest; eutrophication; nutrient reduction measure; Integrated River Basin Management (IRBM); Integrated Coastal Zone Management (ICZM); Elbe River; North Sea; German Bight

1. Introduction

This paper has its origin in the Elbe catchment study, which is one of the eight catchments designated for study in EUROCAT, a three-year European research project funded by the European Commission. The overall goal of the project is to couple Integrated River Basin Management (IRBM) with Integrated Coastal Zone Management (ICZM), as targeted in the Water Framework Directive (WFD). Thus the first step towards the coupling is the identification of inland anthropogenic activities (e.g. land use and anthropogenicly induced matter fluxes) influencing (through river systems) the ecological quality and the socio-economic service functions of adjacent coastal zones. The Advisory Board (AB) set up for the Elbe case study involved governmental and non-governmental institutions having some interest in the issue of river basin management, either because of their activities in the study area or

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[1] *EURO*pean *CAT*chments, Project N° EVK1-CT-2000-00044 (http://www.iia-cnr.unical.it/EUROCAT/project.htm).

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because of their interest or involvement in the issue of nutrient reduction, although not directly related with the area.

The participatory approach ongoing for the Elbe catchment represents a first attempt to determine the present perceptions of selected groups of interest, especially regarding concern about environmental issues, (use-) conflicts in the catchment area, and the measures considered feasible for nutrient emission reduction. Particularly, the early scoping of stakes and conflicting interests regarding the issue of nutrient emission reduction can inform future decision-making, thus facilitating the way towards win–win solutions and integrated management. It is worth noticing, however, that the current perceptions as reported in this paper might be different in the future, thus emphasising the importance of incorporating socio-economic scenarios in integrated projects (e.g. Nunneri and Hofmann, 2002; Nunneri et al., 2002; Ledoux et al., 2002).

1.1. The DPSIR methodological framework

The DPSIR-approach of the European Environment Agency (EEA, 1999) is the analytical tool selected to handle complex human–ecosystem interactions. Those interactions can be observed by dividing them into five variables: (1) Drivers and (2) Pressures resulting by socio-economic development; (3) State of and (4) Impact on the environment and finally (5) Societal Response (policy measures) to such unwanted impacts. The causal chain represented in the DPSIR scheme (Fig. 1) links socio-economic development, represented by Drivers and Pressures, with the induced changes of the State of the environment and the resulting Impacts. Then the DPSIR feedback loop is closed by societal Responses to impacts, i.e. the effort made by politicians and decision-makers to find management measures able to prevent or mitigate unwanted environmental changes.

Societal Responses can result in measures preventing or reducing impacts at different levels and the reasons behind the choice of Responses of a certain kind have ultimately to do with nature and environmental risk perceptions (e.g. Levy et al., 2000).

In Fig. 1 the role of the AB in completing the approach by a multi-perspective point of view is emphasised. In this paper especially three points will be touched upon (slashed arrows): perceived environmental problems (impact), conflicting land-uses and interests in the catchment (socio-economic drivers), suggested policy for IRBM and policy measures for reducing nutrient emissions (response).

1.2. The Elbe case study

The Elbe case study focuses on coastal eutrophication of the North Sea, which is related to nutrient emissions in the catchment. Since the analysis is based on inland–coastal zone interactions, the study area comprises both the catchment and the coastal zone (as identified in

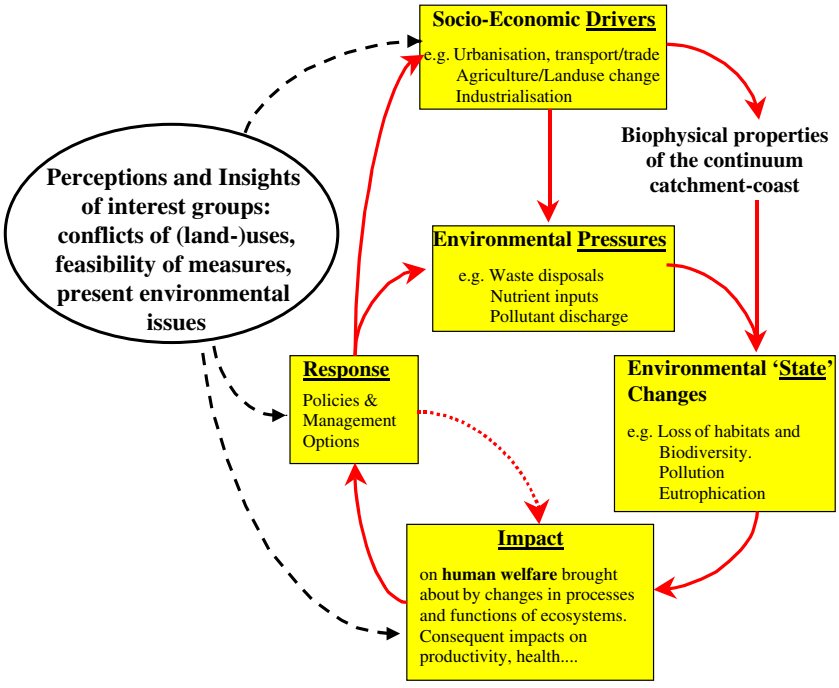

Fig. 1. The DPSIR approach, linking social and environmental processes adapted to the Elbe catchment. The participatory approach functions are summarised in the oval, the slashed arrows represent the role of the Advisory Board for the operationalisation of the scheme.