

EIA: web based tools for a participatory approach

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ABSTRACT

EIA and SIA are designed to predict and evaluate the likely environmental and socio-economic consequences of major projects or policies using a pro-active approach and precautionary principles. While reliable data and models to predict impacts are obvious requirements, formal methods to integrate the necessarily subjective elements of perceptions, beliefs, and preferences into a public and participatory impact assessment process are equally necessary. Formal tools to elicit and analyse preference structures for the assessment in terms of criteria, objectives and constraints must ultimately translate qualitative concepts of policy and social sciences into quantitative engineering concepts and numbers.

Based on the experience from several international RTD projects funded by the EU Commission, involving a number of major cities (addressing problems of urban transportation and air quality) and river basins (assessment of water resources development projects and policies), a set of fully integrated web-based tools for an innovative participatory approach to impact assessment implementing concepts of eGovernment is presented. This combines on-line data bases to describe projects and their environments, institutions, issues, and available instruments, with tools for structured stakeholder involvement including interactive questionnaires together with more traditional workshops. The central tool is a set of integrated simulation and multi-criteria optimization models embedded in a rule-based assessment framework using expert system technology and an adaptive, interactive checklist method.

All tools and data sets are easily accessible on the Internet providing a common, shared information basis and communication infrastructure for an informed and interactive assessment and decision making process. This is designed to give due weight to both the scientific-technical and the socio-political aspects of impact assessment for broad participation and thus ownership, shared responsibility, and acceptance.