

O.R. Applications

A conflict analysis approach for illuminating distributional issues in sustainability policy

Giuseppe Munda *

*European Commission-Joint Research Centre (EC-JRC), Econometrics and Applied Statistics Unit (G-09),
Institute for the Protection and Security of the Citizen (IPSC), TP 361, 21020 Ispra, VA, Italy
Universitat Autònoma de Barcelona, Department of Economics and Economic History, Building B, 08193 Bellaterra, Barcelona, Spain*

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Abstract

In the area of environmental and resource management and in policies aiming at sustainable development, conflicting issues and interests are the normal state of affairs. Mathematical approaches cannot of course be a *panacea* able to resolve all real-world conflicts; but they can help to provide more insight into the nature of these conflicts by providing systematic information. Moreover mathematical models are very useful in helping at finding potential social compromises by making a complex situation more transparent to policy-makers and lay people. This is the main objective of the conflict analysis procedure developed here. Distributional issues are taken into consideration by means of an eclectic approach using concepts from land-use planning, fuzzy cluster analysis and social choice. All the various properties presented by the proposed approach are made explicit thus allowing its evaluation on theoretical and empirical grounds. Possible relationships of complementarity or conflictuality with other existing approaches are also discussed briefly. A real-world illustrative example is presented too.

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1. Introduction

One of the most interesting research directions in modern public economic policy is the explicit attempt to take political constraints, interest groups and collusion effects into account. The issue of “distributional coalitions” has been considered of key importance in determining growth factors (Olson, 1982). In the framework of sustainability policies, the need to deal with conflicts among various social actors is even more unavoidable. Ecosystems are used in several ways at the same time by a number of different users. Such situations almost always lead to conflicts of interest and damage to the environment. Any social decision problem

is characterized by conflict between competing values and interests and the different groups and communities that represent them. In sustainability policies, biodiversity goals, landscape objectives, the direct functioning of different environments as resources, the historical and cultural meanings that places have for communities, the recreational options environments provide are a constant source of conflict (Martinez-Alier et al., 1998). Any policy option always implies winners and losers, thus it is imperative to check if a policy option seems preferable just because some dimensions (e.g. the environmental) or some social actors (e.g. the lower income groups) have not been taken into account. This is what was defined in Munda (2004) as the social incommensurability issue.

Historically, the classical evaluation tool for publicly provided goods is cost-benefit analysis. It is generally considered that cost-benefit analysis focuses on efficiency criteria;

* Tel.: +39 0332 789572.

E-mail address: giuseppe.munda@jrc.it