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## METHODS

# Ecological economics as a policy science: rhetoric or commitment towards an improved decision-making process on sustainability

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### Abstract

With sustainability issues currently attracting increasing political and policy attention, this paper examines the impact of the rise of ecological economics in the policy world and its potential influence on the decision-making process. This study emphasises that ecological economics development is coevolved with, and modified to fit, specific social, economic, political and cultural contexts. As a policy science, ecological economics is context-sensitive and action-oriented. Explaining why it is so, and what to do about it, has become imperative for ecological economists. This paper attempts to address the questions such as: What are the macroeconomic conditions and political processes that make the formulation and implementation of ecological economic policy possible? How should this alternative social reality engage with the dominant decision-making process? Does ecological economics provide the necessary means for prescribing policy measures to achieve sustainable development? Endeavouring to understand these dimensions of ecological economics has been a dynamic social process, and understanding this complex process might provide an opportunity to bridge the divide between policy rhetoric and reality in practice rather than maintain the status quo. In order to achieve an improved decision-making process on sustainability, it highlights the imperative to explicitly study the institutional setting through which sustainable development policy discourse is mediated.

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*Keywords:* Ecological economics; Policy science; Political economy; Decision-making process; Sustainability

*The philosophers have only interpreted the world, the point however is to change it.* Karl Marx

### 1. Introduction

As the default vision of continued, unlimited economic growth was increasingly questioned in the light of the rapid depletion of natural resources and

degradation of the environment, the search for absolute, or near absolute, ‘truth’ was gradually replaced by the more pragmatic goal of producing ‘reliable’ knowledge (Daston and Galison, 1992). The emerging field of ecological economics has shifted the focus of the debate on natural resource scarcity from limits to economic growth to sustainable development (Hussein, 2000), which reflects an epistemological change from a belief in the objectivity and certainty of the scientific truth to the recognition of the limits of human knowledge, the need for a contextual view of reality and the need for dealing with uncertainties (Naveh, 2000). All knowledge, scientific or otherwise,

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is produced within a particular culture and set of social arrangements. Members of a society are bound together by shared intellectual orientations, values and perceptions; in most cases they also have common material interests. In this sense, the production of knowledge has become, even more than in the past, a social activity (Nowotny et al., 2001). “By proposing that the various positions within the environmental debate are narratives or stories within a discourse, ‘meaning’ is then not subject to a fixed and final interpretation, but can instead be understood as culturally derived and context dependent” (Meppem and Bourke, 1999, p. 391). As an attempt to integrate the perspectives and methods of social and natural sciences, ecological economics has unfortunately taken its cue more from the natural science end of the spectrum as in thermodynamics and the analysis of material flows. In this regard, Jacobs (1996, p. 14) has termed ecological economics as ‘socioecological economics’ and argued that “economics must be more than ecological. It must be socioecological. That is, not only must the biophysical bases of economic activity be understood, but so must the sociological and political. Economic activity involves the transformation of physical materials and energy, but this occurs through the medium of socioecological structures, the understanding of which is equally important to economic analysis”.

Sustainability issues are currently attracting more and more political and policy attention throughout the world. Sustainability requires clearly understanding the way people and their institutions interact with ecosystems, and it has meaning only in the context of specific temporal and spatial scales (Costanza et al., 2001). Ecological economics has provided an alternative perspective (i.e., to view economy and humans as subsystems of ecosystems) on human–natural interactions. This is an important first step towards effective policies for sustainability. Although the importance of this perspective has been addressed in ecological economics, its implications for policy-making remain elusive. It is important to recognise that the evolution of ecological economics is inseparable from matters such as ideology, institution, culture and society. Current policies developed by a society for sustainable development have reflected the distribution of political–economic power of interest groups within that society. Having a

broad understanding of the political economy nature of this policy process becomes an essential prerequisite for the development of ecological economics as a policy science towards improved decision-making on sustainability. With this in mind, this paper attempts to outline some general ideas on the impact of ecological economics on the contemporary policy world and its potential influence on the decision-making process in a world of evolving and coevolving systems and uncertainty.

## 2. Limits to the current scientific and policy process

### 2.1. *Blurring of the line between scientific inquiry and political intervention*

Scientists and politicians more often than not hold divergent views on the role of science. Some scientists value scientific research for its own sake. This curiosity-driven orientation has often been interpreted as indifference to a society’s urgent need to find answers to pressing problems. On the contrary, politicians value science in terms of its tangible benefit for solving identified problems in society (Ford, 2000). This divergence reflects underlying differences in the methods and goals of scientists and politicians. Feminist discussion of epistemology and standpoint theory suggests that this dualistic thinking about science and society can and should be replaced with a fuller picture of human identity and knowledge (e.g., Harding, 1986; Ferber and Nelson, 1993; Nelson, 1997). In addition, constructivist epistemology recognises that scientific inquiry is value-bound (Tacconi, 1998). It would be mistaken to view individual undertakings as somehow beyond the influence of the strong social context in which they operate. As Kenny (1994, p. 17) has emphasised that “there is no value free, objective interpretation of society, and that all intellectual, practical and personal actions are guided by values and interests”. The culture-value-political-free science exists only in what Kuhn called ‘text-book science’. In reality, scientific inquiry is not wholly objective but is partly shaped by the social context in which it is conducted. There are two dimensions, internal and external, to the qualifications of science. ‘Internal’ criteria reflect the structure of a

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