



ENCORA 1st Thematic Network Conference
**INTEGRATED COASTAL ZONE MANAGEMENT
AND VALUATION OF SOCIO-ECONOMIC IMPACTS**

12 – 13 March 2007 Centro Culturale Don Orione Artigianelli, Venice, Italy

11:30 – 13:00

SESSION 2: *Economic Valuation of Coastal Zones*

Chair: Kurt FEDRA – *Environmental Software and Services GmbH, Austria*

Valuation of Marine Ecosystem Threshold Effects: Theory and Practice in relation to Algal Bloom in the North Sea

Alberto Longo¹, Tim Taylor^{2*}, Marta Petrucci², Anil Markandya^{2,3}, Walter Hecq⁴ and Veronique Choquette⁴

¹ Queen's University, Belfast, UK, ² Department of Economics and International Development, University of Bath, UK, ³ FEEM, Italy, ⁴ ULB, Belgium, *corresponding author: ecstjt@bath.ac.uk

Abstract

Threshold effects in marine ecosystems present particular issues in relation to valuation and inclusion in policy making. This paper presents a theoretical basis for the inclusion of threshold effects in economic analysis, focusing on the particular case of algal blooms. Choice experiment techniques are then used to derive estimates of values placed on algal bloom in the North Sea coast of Belgium.

Methodological economic assessment of Tsunamis impact in the Mediterranean area

G rard Mondello,
CREDECO-UMR 6227, GREDEG, 250 rue Albert Einstein, 06560, Sophia Antipolis, mondello@idefi.cnrs.fr

Abstract

This paper is an attempt to show how may be linked an interdisciplinary assessment of the impact of Tsunami between geophysical approaches and economics. It aims at showing how should be avoided preconceived ideas of what should be a tsunami from an economic viewpoint. Consequently, this paper is a cautious attempt to bring together physical data and scientific laws and economic approach is so as to build an economic assessment of coastal infrastructure under the threat of catastrophic events as Tsunami. This step is essential to assess how much financial means should be devoted to prevention. We have focused the analysis to the probabilistic part of the analysis, however, this study has to be



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extended to the Geographical Information System of the considered coastal area to take fully into account the potential impact of a Tsunami.

However, once the methodology is clearly expressed it may be extended to other natural hazards as floods, storms, etc. In spite of its apparently applied concerns, the whole approach is quite theoretical because it needs a reappraisal of the real option theory to the case of extreme events.

Multi-functionality Valuation through Geo-referenced Environmental Accounts: the Case of the island of St.Erasmo in the Lagoon of Venice

Alessandra La Notte (University of Turin), Margherita Turvani (University of Venice-IUAV), and Mauro Manfrin (University of Venice-IUAV) *

Abstract.

The valuation of an ecosystem poses several theoretical and practical difficulties, starting with the definition of the concept of value: in this paper we refer to environmental accounting and Total Economic Value as the outcome of the valuation process. This study shows, by utilizing georeferenced databases and by fully integrating the spatial dimension in the valuation processes, how is possible to account for a notion of value that considers indicators of integrity of the ecosystem.

In this study, the environmental accounts are supported by geo-referenced databases and GIS tools in order to include the spatial dimension in the economic valuation. GIS takes into account the heterogeneity of space and the related variety in ecosystem functions, attaching a vast array of information to a single unit of analysis and thus providing a multidimensional image and valuation of the ecosystem's multifunctionality. The aim of this paper is to assess the opening of actual stock in some specific areas, in order to monitor changes over time, in both physical and monetary terms and consistently with the EEA and Eurostat environmental accounting frameworks. The area under examination is the island of St.Erasmo, located in the Lagoon of Venice and arriving to the TEV through the application of GIS in the valuation process is calculated.



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Keywords: Multi-functionality Valuation, Total Economic Value, GIS, Environmental Accounts, Land use

JEL Classification: Q57 (Ecosystem Services) Q56 (Environmental Accounting), Q01 Sustainable Development) R14 (land use patterns)