

Enforcing a holistic approach to economic valuation of rural landscape to support landscape planning and policy making

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Outline

- Preliminary remarks
- Final objective of the research
- The integration of landscape issues in European policies
- The holistic approach for a sustainable landscape
- An overview on the proposed research project
- Conclusive remarks

Preliminary remarks ^{1/3}

The effectiveness of incentives for rural landscape conservation and management relies mainly on whether they provide a real economic convenience for agents in making sustainable choices in territorial resources use

Preliminary remarks ^{2/3}

The real value of landscape to community derives from the complex interaction of objective (related to environmental and spatial attributes) and subjective (related to cultural, social and individual attributes) components and can be eventually captured only if all these components are taken into account in the economic valuation procedure.

Preliminary remarks ^{3/3}

- The valuation methodology here presented integrates analytical tools and methods developed by landscape ecology for the description and representation of landscape spatial components with non-market valuation methodologies used in individual's preferences analysis.
- The issue of linking together objective and subjective valuation criteria is tackled by using Geographical Information Systems (GIS)

Final objective

To estimate an economic value for rural landscape closer to its real social value that might represent a reliable reference for incentives design

The integration of landscape issues in European policies ^{1/2}

European Convention of Landscape (Council of Europe 2000) has been adopted as the general framework for landscape planning.

- Landscape quality affects people's quality of life everywhere
- Landscape is what and how people perceive it
- Landscape protection must be integrated in all economic policies

The integration of landscape issues in European policies ^{2/2}

- Several major reforms introduced and gradually enlarged in terms of objectives and financial support agro-environment schemes
- Reg.1968/2005 (EAFRD), art.36: measures for land management and landscape upkeep are mainly in form of payments to farmers (subsidies and incentives)

The holistic approach for a sustainable landscape ^{1/4}

- Sciences are asked to play a more active role in operationalizing sustainability principles in planning and management
- More effort is needed towards development of effective common frameworks at landscape level (*'closer to the centre of the triangle' **)
- Economists are needed to support a better understanding of human sphere and individual's preferences about landscape

The holistic approach for a sustainable landscape ^{2/4}

This research project is aimed at organizing some interesting ideas emerged in an integrate framework to give contribution towards more operative methodologies and to provide feasible economic values for incentives to rural landscape protection within the agricultural policy framework.

The holistic approach for a sustainable landscape ^{3/4}

GIS environment

Landscape ecology
(GIS-based analysis &
FRAGSTATS-based
calculation of metrics)

+

Individual's preference
analysis
(RP and SP methods
combined)

holistic approach to landscape analysis

The holistic approach for a sustainable landscape 4/4

- Empirical models treat the effects of open space as either a single type or few general categories
- The adoption of an explicit spatial analysis in the practice of economic valuation has been quite slow
- Ignoring spatial structure effects can raise estimation problems in non-market valuation

The proposed research project 1/10

1. Definition of landscape



What we mean by
landscape

- holistic approach



Object of analysis

- borders of maps and aerial photos available
- rural settlements and relations with different settlements

The proposed research project 2/10

2. Maps and data collection

Appropriate data must be collected on the specific area

(Maps – Digital elevation models – Technical base maps – Aerial photos – Urban planning and programming documents, economic and social sources)

The proposed research project 3/10

3. GIS-based analysis

Spatial analysis on data collected

- Aim: identify and characterize homogeneous units (on the base of some variables).

Units are used as aggregating areas for metrics calculation

The proposed research project 4/10

4. FRAGSTATS*-based analysis

Analysis of the homogeneous units for the calculation of landscape ecology metrics

- Aim: quantify attributes characterizing each unit by metrics

Metrics are quantitative indices describing the spatial structure of landscape at a set point in time

Crucial point: selection of the appropriate metrics

The proposed research project 5/10

5. Experimental design

Choice set: actual and hypothetical landscape alternatives

The same attributes of actual scenarios will be considered in setting the hypothetical scenarios.

RP and SP models can be then combined

The proposed research project 6/10

6. Pictures elaboration

- Actual scenarios (homogeneous units)
- Hypothetical scenarios (altered attributes)

The proposed research project 7/10

7. Identification of stakeholders

Sampling design: what stakeholders are involved in landscape planning in the study case area?

- how and where to withdraw

The proposed research project 8/10

8. Questionnaire design

Two main parts:

- Choice scenario
- Socio-economic questions

The property market is used for the valuation of the rural landscape

RP: actual rent or value

SP: choice of alternative

The proposed research project 9/10

9. Survey and data collection

- Face-to-face interviews through the property market of the study case area
- Specific databases or face-to-face interviews local estate agents

The proposed research project 10/10

10. Data analysis

Econometric analysis of data with the most appropriate CMs' specification.

- Final results: economic value of landscape attributes/settlements

Conclusive remarks ^{1/2}

The research project aims at proposing an integrated methodology for rural landscape economic valuation. The steps of such methodology are outlined for further discussion.

In future perspective, economists and social scientists are expected to play a more active role for the integration of subjective components in landscape analysis

Conclusive remarks ^{2/2}

In this context, the proposed methodology offers a common framework for collaboration between landscape ecologists and resource economists to respond to the increasing request from sustainability science and society for operative tools and solutions to rural landscape degradation.