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Co-designing the solution space for rural regeneration in a new World Heritage site: A Choice Experiments approach

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ABSTRACT

This study develops a participatory multi-methodology intervention designed and deployed to support planning and management of a new World Heritage site, the vineyard landscape of Langhe, Roero and Monferrato, in Northern Italy. The purpose of the study was to support community involvement in the design phase of urban regeneration alternatives. The ultimate objective was to propose practical recommendations for a sustainable regeneration strategy to the Municipal Authority of La Morra, one of the villages located within the core area of the World Heritage site.

The analysis context represents a complex territorial system and a challenging decision-making environment due to the presence of: (i) conflicting needs co-existing in the same geographical area, i.e., preservation needs of the World Heritage on one side, and new development needs on the other, (ii) many stakeholders (i.e., residents, tourists, territorial authorities, tourism associations and environmental advocates), and (iii) presence of marginalized communities that are at risk due to the strong trend towards the abandonment of rural areas for big cities. Within this context, the authors propose the use of Stakeholders' Analysis and Choice Experiments to co-design, together with stakeholders and the local community, feasible strategies for the regeneration of the abandoned rural buildings scattered across the core World Heritage Site. Indeed, the community issue of abandoned rural heritage emerged as both an important weakness of the territorial system under analysis and as an interesting opportunity for rural regeneration.

The results obtained illustrate the importance of integrated approaches for the development of accountable public decision processes and consensus policy alternatives.

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1. Introduction

The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. This is embodied in an international treaty called the Convention Concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972. What makes the concept of World Heritage exceptional is its universal application: World Heritage sites belong to all the peoples of the world, irrespective of the territory on which they are located (UNESCO, 2017).

There are several types of dangers for both natural and cultural properties which can threaten the conservation of World Heritage Sites, such as the serious decline in the population of an

endangered species caused by human activities, the deterioration of materials, structure, ornaments or architectural coherence, the abandonment of buildings, development projects, armed conflicts, insufficient management systems or changes in the legal protective status of the properties, to name just a few examples.

Monitoring the presence of abandoned buildings and infrastructures within these areas of outstanding universal value is thus of crucial importance to increase international awareness of threats and to encourage counteractive measures.

Indeed, abandoned buildings may represent an important aesthetic, cultural and economic resource and provide available spaces for new activities, supporting sustainable local development and regeneration processes (e.g., Ferretti & Degioanni, 2017; Shipley, Utz, & Parsons, 2006; Zavadskas & Antucheviciene, 2007). Their reuse is thus worldwide increasingly seen as an important means for reducing the consumption of land and natural resources.

Within this context, the identification and evaluation of feasible alternatives for the requalification of disused buildings represents a complex decision making problem. Indeed, reusing abandoned

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buildings means dealing with partially conflicting goals of maximizing land value, minimizing remediation costs, preserving the buildings characteristics for historical and aesthetic reasons and fostering urban and rural regeneration.

Within this context, an approach that has recently emerged as particularly promising is Community-Based Operational Research (CBOR, Johnson, 2012), a new sub-discipline within Operational Research (OR) and Management Sciences (MS). CBOR and related mixed-methods approaches within OR/MS synthesize previous practice and research traditions within OR/MS to address problems in the public sector that are often of a localized nature, address the concerns of disadvantaged populations, and are solved using diverse qualitative and quantitative methods. The closest antecedents of CBOR are the well-studied fields of Community Operational Research (Midgley, et al., 2017; Midgley & Ochoa-Arias, 2004), problem structuring methods (Rosenhead & Mingers, 2001), and soft systems methodologies (Checkland & Poulter, 2006).

Methods in CBOR may vary widely, from traditional instances of prescriptive math models to a combination of qualitative and quantitative methods that may have much in common with related disciplines such as community planning, public health, and criminology.

In common with Community OR (Midgley & Ochoa-Arias, 2004), CBOR benefits from multi-method, cross-disciplinary, comparative approaches and appropriate technology rooted in OR/MS (Johnson, 2012).

The recent trend in quantitative and prescriptive modeling called analytics (French, Rios Insua, & Ruggeri, 2007; Libertore & Luo, 2010; Tsoukiàs, Montibeller, Lucertini, & Belton, 2013) represents a substantial contribution to CBOR as it supports a notion of generalized insight into problems of operations, uses a wide variety of quantitative methods, and is intended to support changes in policy and practice (Johnson, 2012).

This paper discusses a multi-methodology intervention deployed to support planning and management in a new World Heritage site. In particular, the discussion will focus on the design phase of alternative regeneration strategies for abandoned rural heritage within the UNESCO area of Langhe, Roero and Monferrato in the Piedmont Region of Italy, taking into account the preferences and expectations of the local communities through a collaborative process.

The research outlined in this paper contributes to the debate about how to design innovative alternative solutions (Colorni & Tsoukiàs, 2013), by proposing and implementing a tool for co-designing alternatives together with the local community.

The remainder of the manuscript is organized as follows: Section 2 discusses the state of the art of the research in the field of alternatives generation and design and provides the rationale for selecting Choice Experiments in the present intervention, while Section 3 illustrates how the proposed tools have been applied to support planning and management in the UNESCO area of Langhe, Roero and Monferrato. Section 4 concludes by discussing insights and implications for policy and practice.

2. Designing the solution space in public policy making

Recent international trends have recognized that a key challenge for policy making and decision theory refers to the design of alternative options (Colorni & Tsoukiàs, 2013). Indeed, no matter how good and sophisticated the evaluation is, if all the options under analysis are weak, the result will be a recommendation for a weak option.

Most emphasis in the operational research and decision analysis streams has indeed been on evaluation of alternatives, resulting in the development of guidelines for public policy evaluation at different levels (e.g., the Green and Magenta Books of the

UK Government¹ and the Public Policy Assessment Book of the UK Government²), but with limited consideration to support policy design (Ferretti, Pluchinotta, & Tsoukiàs, under review). Surprisingly, most decision problems discussed in the literature consider the set of alternatives as “given”, although in practice such a set frequently needs to be constructed. There is little in the literature addressing this problem (see Belton & Stewart, 2002 for a brief overview), despite the awareness of it (for example, Goodwin & Wright, 1998; Keeney, 1996; Keller & Ho, 1988; Newstead, Thompson, & Handley, 2002). Simon (1955) discussed this cognitive activity in his seminal work, but without providing operational and/or formal methods for addressing it. There have also been suggestions for value-focused brainstorming of decision alternatives (e.g., Keeney, 1996), an approach which is resonant with Corner, Buchanan, and Henig (2001) dynamic decision problem structuring. Finally, insights on how to understand and structure a decision-making problem together with its possible strategic directions have been developed within the stream of Soft System Methodologies (e.g., Eden, 2004).

A first attempt to identify common points between design theory and decision aiding has been developed by Lue (2015). Indeed, both the design and OR communities faced a crisis linked to the application of systematic mathematical methods to real world problems. The two communities reacted in different ways, because of the expertise and background of their respective researchers and practitioners. However, they share the same underlying challenge, i.e., designing or aiding decisions in problems which are, by definition, wicked (or ill-defined, or messy). Moreover, a need for formalized methods to aid the design process seems to have emerged in the design community and at the same time a need for “innovative” tools outside the usual toolbox of the OR practitioner seems to have been highlighted in OR community (Lue, 2015).

Preliminary investigations are currently being conducted to understand which tools can be used to support alternatives design in public policy making, which work better and when. Ferretti (2016a) has identified three promising approaches for alternatives design in policy making. The first one is Spatial multicriteria evaluation (Ferretti, 2013; Malczewski, 2006): by overlaying spatial maps for each indicator, it enables the discovery of suitable areas for the location of a new “object” (i.e., areas with high concentration of positive scores across adjacent cells), as well as unsuitable areas (i.e., areas with high concentration of negative scores across adjacent cells). The second tool is Choice-based conjoint analysis (Lancaster, 1966): by decomposing a good or service into attributes with different levels and asking users to choose between different combinations of attributes’ levels, it enables the discovery of the most important characteristics on which to focus the attention in the design of the new product or service (e.g., Ferretti, 2016b). The third approach is Value-focused thinking design (Keeney, 1996): by focusing on the values that should be guiding the decision situation, it removes the anchor on narrowly defined alternatives and makes the search for new alternatives a creative and productive exercise.

Among the aforementioned tools, this paper proposes the use of Choice-based conjoint analysis to co-design, together with the local community, sustainable strategies for the regeneration of the abandoned buildings located in a new World Heritage site in Italy. The reasons for the selection of this approach in the present study can be summarized as follows: (i) the need for the regeneration of abandoned buildings emerged as a community issue in the geographical area under analysis, thus prompting for the development

¹ http://www.hm-treasury.gov.uk/d/green_book_complete.pdf; http://www.hm-treasury.gov.uk/d/magenta_book_combined.pdf.

² <http://www.bis.gov.uk/assets/biscore/better-regulation/docs/11-1111-impact-assessment-guidance.pdf>.

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