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Original article

# Giving space to multicriteria analysis for complex cultural heritage systems: The case of the castles in Valle D'Aosta Region, Italy



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## ABSTRACT

When dealing with cultural built heritage, the enhancement strategies are generally rooted on the history and based on the embedded values of cultural goods themselves, rather than on the multiplicity of their tangible and intangible values. Furthermore, the current state of the art in cultural heritage management lacks of an appropriate legislation and adequate instruments to be used by decision makers in order to achieve a holistic vision of the problem. Traditionally, decisions are made just by allocating resources case by case and by adopting policies based on simplifications of reality. In addition to dissipation of resources and unsuccessful results, this approach highlights the need of using an evaluative framework starting from the early stages of the decision-making processes. In the above perspective, the paper explores the use of multicriteria-spatial decision support systems (MC-SDSS) in order to define enhancement strategies for cultural built heritage. The integration among different evaluation methodologies (SWOT analysis and analytic network process) and tools with spatial analysis strengthens the explorative role of this kind of approaches. In this research the MC-SDSS has been applied to a system of thirteen castles in a mountainous region in the North of Italy. The study has been carried out with a special attention to the mutual relationship among this system of goods and the surroundings, according to a multidimensional structure of analysis.

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## 1. Research aims

The paper aims at exploring how multicriteria-spatial decision support systems (MC-SDSS) can support the definition of enhancement strategies for cultural built heritage. Differently from the traditional analysis, the use of such an integrated approach allows decision maker to consider the spatial features of each development option and to evaluate simultaneously their multi-dimensional impacts.

In this study MC-SDSS has been applied to the system of castles owned by the Region Valle d'Aosta in the North of Italy. The focus of the research is not the definition of strategies, quite the process of structuring the decisional problem in order to point out

opportunities and the risks, before the definition of future actions. Two main challenges has been faced: on one hand the construction of an integrated knowledge of the territory at a regional scale; on the other, the spatial analysis of both tangible (accessibility, supply of services, land use) and intangible aspects (local identity, social and cultural vitality, economic resources).

## 2. Introduction

Enhancing cultural heritage in mountain regions is a crosscutting topic: environmental and landscape protection, social and cultural promotion and economic development have the same relevance and require to find a durable balance among them. Alpine areas bear geographic and permanent disadvantages [1]. These include physical factors, such as morphology, climate, hydro-geologic risk, and human geography weaknesses, such as the low density, which prevents agglomeration economies, the isolation of local communities and the limited accessibility. Moreover, a large number of traditional economic activities of mountain areas can be performed only in certain seasons during the year.

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The opportunities for strengthen the territorial development by enhancing cultural heritage are not always consensual. Conflicts between preservation of tangible and intangible cultural values for local communities and the heritage marketing according to consumers' needs often arise.

In this context, the paper explores the potentials of a MC-SDSS in one of the most advanced of Alpine regions. Given the general institutional framework and heritage characteristics of Italy, Valle d'Aosta can be seen as a peculiar laboratory for experimenting new decision making solutions. At the same time, the analysis and the re-framing of the management policies for preserving and promoting a set of castles in the Autonomous Region of Valle d'Aosta seems relevant for the international debate. The density of heritage castles here is generally high due to the presence of borders between Italian and French states and the local political history. In addition, the set of Valle d'Aosta castles is articulated at the regional scale and entails significant relationships with a mountain landscape and economy. These aspects can be found in other areas around the frontiers in Europe and constitute a relevant case for comparative purposes.

From a methodological perspective, the value-focused thinking approach [2] highlights the potentials of the constructive and explorative use of evaluation, which enables decision makers to catch opportunities instead of simply analyzing/selecting existing options.

### 3. Cultural heritage and local development processes

In the recent regional development theory cultural capital can be thought as one of the components of what can be labelled as territorial capital. This definition, coming from an OECD study [3], encompasses all those assets, which are embedded in the territory and act as determinants of territorial growth and well-being.

Following this conception, cultural heritage can hence also be thought as one important asset of territorial development and, rather than being just a service for people to enjoy, it has been recognized an important input of economic growth [4]. One traditional channel for this to happen lies in the fact that, by investing in cultural heritage, local bodies can improve the attractiveness of their assets to tourists, and in this way increment the influx of people who spend time (and money) to visit the area [5]. Cultural heritage has been more and more interpreted as a central matter for urban regeneration and revitalization [6]. However, cultural goods can also be integrated into normal products, through a process of "culturalization", which improves their symbolic sign-value [7].

More recently, summing up concepts coming from a large number of different but interconnected strands of literature, the elements of territorial capital have been conceptualized and classified according to two main dimensions, namely the materiality and the rivalry [8]. Materiality refers to the tangibility of goods, with goods ranging from the most hard and tangible ones to the intangible and softest ones. Rivalry refers to the well-known economic taxonomization of economic goods, which can be private (i.e. rival and excludable) on an extreme and public on the other.

All the factors of territorial development can be classified within this categorization, for example the endowment of human capital, which is currently recognized as one of the most important ones is a private and intangible good, while institutions and social capital are intangible and public, infrastructure are hard and public and, finally, private capital is private and hard.

Other territorial assets, however, are intermediate in terms of rivalry and materiality. In the classification by Camagni [9] cultural heritage is mostly a tangible good and an impure public good. In fact, although cultural heritage, in its many aspects, is often freely available or publicly owned, opportunistic behaviours,

unsustainable uses and congestion can make its fruition not completely un-rival.

## 4. Methodological framework

### 4.1. Spatial multicriteria analysis

In the context of decision-making processes and sustainability assessments, a fundamental support is played by spatial multicriteria analysis [10], which combines geographic information systems and multicriteria decision aiding [11]. In particular, spatial multicriteria analysis transforms and integrates geographic data (map criteria) and stakeholders' preferences and uncertainties (value judgments) in order to obtain information for decision-making and an overall assessment of the decision alternatives. In recent years, there has been a growing interest towards the development and application of spatial multicriteria analysis across many scientific fields for solving different decision problem typologies [12,13]. The ability of this integrated approach to both generate alternatives during the strategic planning phase and to compare them during the evaluation phase makes this tool suitable to deal with complex territorial problems, as the one illustrated in the present paper.

With specific reference to the planning and decision-making process, the steps needed for the development of a spatial multicriteria analysis model are summarized in Fig. 1 [14].

### 4.2. MC-SDSS and cultural heritage: state of the art

As it has emerged from the previous general overview, MC-SDSS find a wide range of applications to decision and evaluation problems. Cultural heritage enhancement and conservation can be considered as a field where problems are not well structured, because of the wide range of interests and values to be considered. Choices about what and how to conserve for representing us and our past to future generations reveal that many different – and sometimes divergent – are the values (economic, aesthetic, cultural, educational, political) subject of discussion [15]. Under the cultural economic perspective there is a clear difference among goal values, that stress the importance of preserving cultural heritage, and instrumental values, namely the means for its sustenance [16]. Since the notion of total economic value encompasses both intrinsic and instrumental values, decisions about the future of cultural heritage and the allocation of resources should be based on use and non-use criteria. In addition to the duality of cultural significance

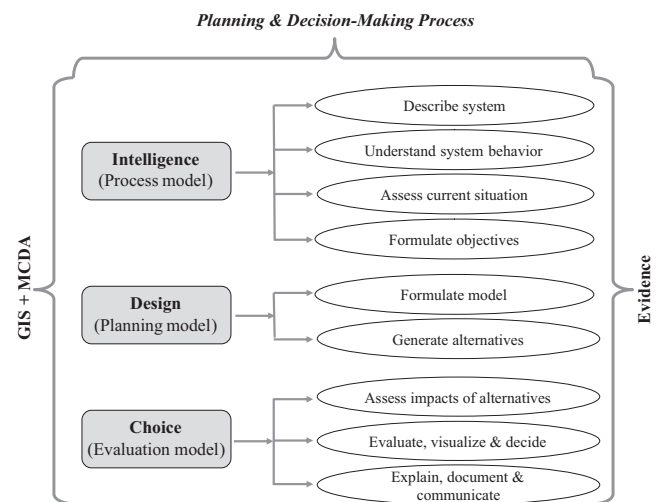


Fig. 1. Framework for planning and decision-making process. Adapted from Sharifi and Retsios, 2004.

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