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Multidimensional Evaluation Framework for Assessing Cultural Heritage Adaptive Reuse Projects: The Case of the Seminary in Sant'Agata de' Goti (Italy)

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Abstract: As climate change accelerates, urban areas are becoming increasingly inhospitable, with rising heat island effects and overall unhealthy environmental conditions. In this context, historic villages, due to their proximity to nature and lower population density, can represent a valuable alternative to unsustainable urban areas, providing better quality of life (i.e., through healthier environment, better work–life balance). They are "populated" by historic buildings characterized by high cultural value but are often in a state of abandonment. Nowadays, the adaptive reuse of cultural heritage represents an efficient strategy to adapt it to new needs/requirements and, at the same time, to preserve its historical and intrinsic values for present and future generations. In this framework, this study proposes a multidimensional evaluation framework for assessing cultural heritage adaptive reuse projects, covering all sustainability dimensions and capturing both tangible and intangible values. This framework, consisting of multiple criteria and multidimensional indicators, has been applied to evaluate alternative scenarios related to the regeneration of the abandoned Seminary in Sant'Agata de' Goti (historic village), Benevento, Italy. In particular, three different scenarios have been evaluated by the SOCRATES (SOcial multi Criteria Assessment of European policies) method, a multicriteria decision method developed by the Joint Research Center (JRC) of the European Commission.

Keywords: cultural heritage adaptive reuse; circular economy; multi-criteria decision analysis (MCDA); impact indicators

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1. Introduction

As climate change accelerates, urban areas are becoming increasingly inhospitable, with rising heat island effects and overall unhealthy environmental conditions [1–4]. Simultaneously, social inequalities are exacerbated, often linked to substandard housing. Cities, hosting half of the world's population despite occupying a mere 3% of the global land area, are responsible for generating 50% of the world's waste, consuming 75% of natural resources, and contributing to 80% of greenhouse gas emissions [5]. This further highlights their central role in promoting or hindering sustainable development. Cities stand as crucial focal points for implementing initiatives that accelerate the shift towards sustainable development, mend the strained relationship between human beings and nature, and address contemporary challenges. Various documents have been issued to encourage and support measures aimed at fostering sustainability within cities and communities (i.e., Agenda 2030, New Urban Agenda, Amsterdam Pact, European Green Deal, Circular Economy Action Plan, National Resilience and Recovery Plans (NRRPs), New European Bauhaus) [6]. Among the initiatives of the New European Bauhaus [7], the Bauhaus Euroace Villages for the Future Report (2023) [8], published by ICLEI, pointed out that the problem of overcrowding in urban areas could be solved by appropriate regeneration projects in historic

villages close to cities. Historic villages are a category of cultural heritage, composed of groups of ancient elements and structures (streets, buildings, squares, vegetation, etc.), characterized by significant values, such as historical, artistic, cultural, aesthetic, functional, social, environmental values [9–11].

They are a valuable resource reflecting historical culture and social development embodying "traditional culture, folk customs, and architectural arts". Their morphology is the result of layering changes due to human actions overtime [12]. Due to their aforementioned intrinsic character, their efficient preservation and management is important for socio-economic development [9,13–15].

Investing in historic villages development projects could be a strategic effective investment, not only because it would promote the revitalization of these areas, but also because it would simultaneously reduce the problems of overcrowding in cities [8]. Rather than fostering the "passivity" and dependency of historic villages as being "second-best" to cities, regeneration projects should strive to empower individuals and communities, recognizing the potential of villages to contribute to their own improvement and wellbeing. So, development policies for urban areas should take greater account of neighboring historic villages.

Furthermore, the proliferation of digital tools and the adoption of remote work practices are facilitating greater access to education, training, and employment opportunities beyond major cities. In this context, historic villages have the potential to become more appealing: they could provide a healthier environment, larger and better housing, better work–life balance, and access to healthy food, along with a distinctive cultural identity. The effective leveraging of this potential hinges on the development of essential digital, social, cultural, energy, and transportation services.

Historic villages, due to their proximity to nature and lower population density, can represent a "refuge" from the frenetic urban lifestyle, which is a valuable alternative to unsustainable urban areas, providing better quality of life. They are characterized by valuable cultural heritage and are often abandoned/underutilized, which can be an effective trigger point for circular regeneration processes [8]. Their reuse/regeneration contributes to preserving the architectural heritage, but also to the realization of multifunctional spaces that foster economic growth and social cohesion in the former villages, without producing negative environmental impacts from new construction.

European rural regions comprise over 341 million hectares, constituting 83% of the total EU area. These rural areas are divided into 165.5 million ha of areas away from cities and 176.6 million ha of near-urban sites [16]. Among European rural areas, Italy counts more than 5000 abandoned villages of which 3000 are at risk of total extinction. "Ghost towns" account for 72% of all Italian municipalities. Old villages, with their historic buildings, face environmental and anthropogenic risks, posing challenges related to potential landslides, flooding, and soil instability. Therefore, analyses aimed at predicting the consequences that natural and anthropogenic phenomena produce on the built environment play a key role in risk management activities. Among them, there are landslides and earthquakes, which are widespread in geological settings around the world and can generate significant damage to existing heritage. In detail, it has been estimated that out of the more than 213,000 architectural, monumental, and archaeological assets in Italy, over 12,500 are located in high and very high hazard areas susceptible to landslides. The total number increases to 38,000 if assets in less hazardous areas are also included [8,17].

Furthermore, in response to the repercussions of the COVID-19 pandemic, various European countries have implemented "National Resilience and Recovery Plans (NRRP)" [6]. These plans encompass a range of initiatives, including substantial investments in the overall built heritage and cultural assets, such as cultural buildings, villages, and historic gardens. In particular, a significant portion of NRRP funds is allocated to improving and optimizing the energy efficiency of existing buildings [18].

NRRP-specific actions for historic villages are in line with the guidelines of the European Green Deal, which addresses the prevailing problems of aging, energy-intensive,

and inadequately maintained structures in accordance with the principles of the circular economy, aiming to decouple economic growth from resource use and environmental impact (through the closure of the loops) [19,20].

The cultural and natural heritage of historic villages holds significant attractiveness and value, representing the identity and shared roots of communities. Historic villages in Italy, with their rich cultural and natural heritage, can represent trigger points for ecological and cultural regeneration, stimulating cooperation and collaboration relationships [21]. They offer promising opportunities, particularly for the younger, creative, and digital generations seeking spaces to develop new ideas, innovative entrepreneurial projects, and healthy lifestyles at affordable costs [8].

The aim of the paper is to propose a multidimensional evaluation framework (consisting of multiple criteria and indicators) for assessing cultural heritage adaptive reuse projects, covering all sustainability dimensions and capturing both tangible and intangible values. After this introduction (Section 1) outlining the context in which the proposal is placed, in Section 2 ta literature review about cultural heritage adaptive reuses and evaluation tools for assessing them is analyzed. The proposal of the evaluation framework is then described (Section 3) and tested (Section 4) in a case study, which is the Seminary adjacent to the Santa Maria of Montevergine Church (from now only referred to as "Seminary") in Sant'Agata de' Goti historic village, in the Campania region (Italy). Then, the results are discussed (Section 6) and possible future research steps are outlined (Section 7).

2. Literature Review

The concept of "cultural heritage" has changed considerably over the years, particularly in recent decades, moving from a concept more related to monuments and sites of cultural interest [22] to a broader concept that includes entire urban areas [23]. UNESCO, in fact, in 2011 defined the Historic Urban Landscape as "the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of "historic centre" or "ensemble" to include the broader urban context and its geographical setting" [23].

Cultural heritage is the result of the interaction of people and places, as highlighted also by the Council of Europe that defined it as "resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time" [21].

This broadening of perspective also widens the concept of cultural heritage to include intangible cultural heritage related to the practices and values that characterize a society, its diversity, and identity. More precisely, intangible cultural heritage "means the practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities, groups and, in some cases, individuals recognize as part of their cultural heritage" [24]. This intangible cultural heritage, passed down through generations, is continually recreated by communities and groups as they interact with their environment and history. It fosters a sense of identity and continuity, promoting appreciation for cultural diversity and human creativity.

The United Nations acknowledges cultural heritage, including both tangible and intangible, as an enabler and driver for sustainable development and urban regeneration. It plays a key role in improving urban quality of life while preserving urban identity. UNESCO also recognizes the key role of cultural heritage/landscape in sustainable development. Furthermore, in 2014 the Council of European Union, considering cultural heritage as common wealth, defined guidelines "Towards an integrated approach to cultural heritage for Europe" recognizing cultural heritage as a "valuable resource for economic growth, employment and social cohesion" [25]. It represents an important economic resource in global competition.

There are some cultural heritage assets characterized by Outstanding Universal Value (OUV) (UNESCO acknowledgement), that is, characterized by international recognition.

Differently, nationally recognized heritage reflects the national value of cultural heritage assets within a specific country. Both represent significant aspects of the diversity and richness of global and national cultural heritage.

A multidimensional evaluation approach to the conservation of such cultural heritages, although characterized by different obligations, constraints, and responsibilities for conservation and management, is necessary and valid in both cases. The multiple dimensions of sustainable development (environmental, economic, social, cultural) should be considered and all values, both tangible and intangible, that characterize cultural heritage should be included in the decision-making process, regardless of national or international recognition.

2.1. Cultural Heritage Adaptive Reuse

Urban buildings can have a lifespan of up to hundreds of years. When a cultural building can no longer fulfill its original function, it needs to be adapted to new needs, and the identification of a new function is inevitable to preserve it. Within this framework, adaptive reuse is an efficient strategy to keep cultural heritage alive and, at the same time, adapt it to new community needs without constructing new buildings.

According to Douglas, adaptive reuse is "any building work and intervention aimed at changing its capacity, function or performance to adjust, reuse or upgrade a building to suit new conditions or requirements" [11], which allows for conserving the different values of cultural heritage: both the use value and the intrinsic one. Adaptive reuse "extends the building's [or properties] physical and social functions by giving the building a new purpose while conserving its historic and cultural significance" [26]. It enables the extension of a building's life cycle, aligning with the principles of the circular economy, which aim to prolong the lifetime of resources for as long as possible and avoid resource consumption.

According to the Leeuwarden Declaration, "new functions are thus brought together with heritage values in an active and meaningful dialogue" [27]. A suitable new use for an abandoned or underutilized historic building effectively respects its intrinsic value while also addressing the needs of the local community, thereby enhancing the quality of life in the area [28,29]. When heritage buildings are repurposed for new functions, it is essential to preserve as much of the originality and architectural features of the building as possible [30], thus identifying boundaries in the management of change. This new use has to be appropriate in terms of conserving its cultural significance and intrinsic value [31,32]. The restoration, rehabilitation, and adaptive reuse of cultural heritage are consistent with the circular economy principles. Adaptive reuse differs from that of the linear model, both in terms of design, and operational and management terms [33].

Furthermore, the World Bank recognizes cultural heritage as a key factor in fighting climate change, recognizing investment in it to reduce CO2 emissions. Furthermore, it can contribute to the climate change challenges "through the protection and revitalization of the huge amount of embedded energy in the historic building stock" [34]. Moreover, adaptive reuse, rather than new construction, contributes to the reduction in waste and greenhouse gas emissions by avoiding the resource-intensive processes involved in constructing new buildings. ICOMOS has also recognized in the 19GA 2017/30 Resolutions the contribution of cultural heritage to the fight against climate change, reducing negative environmental impacts [35,36]. Lastly, it is important to emphasize that cultural heritage can contribute to good health through its wise design features. Effective orientation and physical characteristics, such as the thickness of walls, help maintain more stable temperatures inside and outside buildings, thus enhancing overall microclimatic conditions.

So, in this framework, adaptive reuse becomes essential to fight the various challenges of our time (social inequality, economic crisis, environmental crisis).

2.2. Evaluation Tools for Cultural Heritage Adaptive Reuse

Evaluation tools play a crucial role in assessing the effectiveness and efficiency of cultural heritage adaptive reuse projects, which is evaluating the positive and/or negative multidimensional impacts that they are able to produce.

As emerges from a lot of research and concrete experiences, the adaptive reuse of cultural heritage produces significant economic, environmental, social, and cultural impacts. Many authors highlight these multidimensional impacts, focusing in particular on the environmental benefits [11,37–43]. Additionally, in economic terms, reusing cultural heritage buildings can be more cost-effective compared to demolishing and constructing new ones [44–46], except in some cases where the building necessitates the reconstruction of its structural elements [47]. The regeneration of a historic asset demonstrates itself to be a cheaper alternative, demanding less time and incurring lower costs than constructing a new building with equivalent features [48]. Costs are further diminished since a majority of the structural elements are already constructed, and the necessary raw materials for a potential reconstruction are readily available on-site, thereby reducing the project timeline [47]. Research indicates that the preservation of cultural heritage through renovation or repurposing leads to an overall increase in property values, benefiting both the asset itself and neighboring ones [28,49]. Furthermore, Baker et al. (2017) [50] contend that the renovation/reuse of cultural heritage holds significant importance for the local community as it revitalizes a symbol of its identity.

To date, there is no officially recognized comprehensive evaluation framework for cultural heritage adaptive reuse projects and sectoral approaches are the predominant ones. An established tool for assessing cultural heritage projects is the heritage impact assessment (HIA) introduced firstly by ICOMOS (2011) [51] and then updated with the "Guidance and Toolkit for Impact Assessment in a World Heritage Context" developed by ICCROM, IUCN, ICOMOS, and the World Heritage Centre of UNESCO [52]. Furthermore, previous practices in cultural heritage assessments were largely expert-driven, while contemporary evaluations aim for inclusiveness by recognizing the community as a key stakeholder and increasingly involving it in decision-making processes [52].

In particular, a literature review through the Scopus platform was conducted here to understand what the main evaluation methods used to assess the multidimensional impacts of cultural heritage adaptive reuse projects are. To perform the Scopus search, the following keywords were entered into the search database: cultural heritage, adaptive reuse, evaluation framework. Nineteen relevant papers published in international scientific journals (from 2017 to 2023) were found from the search.

Among the analyzed papers, only Bosone et al. (2021) [53] carry out a study to identify which evaluation methods are most widely used to support cultural heritage adaptive reuse projects, also analyzing contributions from the "grey literature". In their paper, they argue that appropriate evaluation techniques help to find a balance between developing cultural assets (to meet the changing needs of the community) while conserving them [53]. Bosone et al. point out that in the evaluation of adaptive reuse projects of cultural heritage, scarce consideration is given to the close and intertwined relationship between cultural, economic, social, and environmental aspects [53].

There are some authors that propose multi-criteria evaluation methods to support cultural heritage reuse projects in the ex ante design phase.

Della Spina (2023) [54] proposes a multi-methodological, multi-scale, multi-stakeholder, and multi-disciplinary approach, for supporting decisions on cultural heritage adaptive reuse interventions (in the ex ante phase), as they present considerable complexity due to the multiple interests at stake. This tool aims to support policy and private decision makers in dealing with the complexity and uncertainty associated with decision-making processes related to underutilized and abandoned cultural heritage. Given market uncertainty and the ongoing financial crisis, it has become crucial to define effective evaluation tools that identify the optimal use of limited economic resources and develop sustainable strategies at the local level, maximizing social and territorial benefits and minimizing costs [54]. Through this assessment framework, decision makers can make informed decisions, supported by a strong knowledge base and geared toward promoting sustainable development that benefits the local economy.

Moreover, Della Spina (2021) [55] proposes a hybrid multilevel evaluation method (ex ante phase), which can support decision makers in optimizing investment choices for the rehabilitation and adaptation of unused historic public assets. This evaluation model is characterized by the combination of two methods: a multicriteria analysis to identify the most appropriate use among alternative reuse scenarios and a discounted cash flow analysis to support the verification of the financial feasibility of the investment, assuming a redevelopment concession in a public–private partnership. The results of the study demonstrate that hybrid approaches are a promising line of research in the field of cultural-led urban projects. Oppio and Bottero (2017) [56] also argue that appropriate multi-criteria evaluation methods are necessary to ensure the preservation of physical features and intangible values of cultural heritage. They propose the use of a multi-methodological approach (starting from the NAIADE evaluation method) based on Choice Experiments and Social Multicriteria Evaluation to support a case study of adaptive reuse projects. The NAIADE approach allows decision makers to consider both socio-economic and technical dimensions within the same evaluation framework.

Capolongo et al. (2019) [57], given the complexity of the topic, state that the assessment process to evaluate the impacts of cultural heritage reuse projects should be structured by combining several methodologies: Stakeholder Analysis, to identify the stakeholders involved (social sustainability); Nara Grid for eliciting the values of built cultural heritage (cultural and environmental sustainability); and the subsequent definition of different sustainable scenarios assessed by discounted cash flow analysis (economic sustainability) [57]. They also argue that multi-criteria methods (MCAs) are necessary to define the most balanced design choices to be fielded, considering the preservation of heritage significance. Bottero et al. (2019) [58] propose a multi-criteria decision-aid approach to rank adaptive reuse strategies of cultural heritage, through the PROMETHEE method capable of organizing preference rankings to support the design and implementation of adaptive reuse strategies for abandoned industrial heritage in vulnerable contexts and evaluate their tangible and intangible effects. Furthermore, Masoud and Gharipour (2022) [59] propose an evaluation framework that integrates the Analytic Network Process (ANP) Fuzzy DEMATEL (Decision-Making trial and evaluation laboratory) based on a review of values of cultural heritage in order to analyze and correlate them during the planning processes to meet preservation goals [59].

Instead, Firzan et al. (2023) [60] suggest a framework for the ex post evaluation of the adaptive reuse of the built heritage within UNESCO world heritage sites, testing it on museums in George Town (Malaysia). They involve stakeholders and experts through the Delphi method and identify three evaluation criteria: physical appropriateness, functional effectiveness, and financial efficiency.

Nocca et al. (2021) [61] develop a set of indicators for evaluating the effectiveness of cultural heritage adaptive reuse projects, emphasizing the contribution to human wellbeing. They propose adapting the Level(s) indicators introduced by the European Commission [62] to assess the impacts of cultural heritage reuse within a circular economy framework. Additionally, they suggested enhancing the Level(s) tool by integrating ecological, economic, and technological dimensions with the social and cultural ones [6,61]. This study highlights that the Life Cycle Assessment (LCA) emerges as one of the most commonly employed evaluation tools, capable of assessing diverse impacts, including CO_2 and other greenhouse gas (GHG) emissions, throughout the entire lifespan of a product [6].

All of the above-mentioned authors propose evaluation frameworks to be used to evaluate adaptive reuse projects of cultural heritage, recognizing that there are few official tools to conduct this type of evaluation. The analysis of the literature review reveals that several authors propose various integrated assessment frameworks to evaluate the impacts of cultural heritage reuse projects. However, there is no officially recognized evaluation framework, except for the heritage impact assessment (HIA) proposed by ICOMOS, which is considered somewhat sectoral and not comprehensive.

However, the choice of evaluation method to be adopted to assess the impacts of cultural heritage adaptive reuse projects depends on many variables (goals, contexts, etc.) of the decision-making process. The integration of multiple methods can provide a more comprehensive understanding of the overall project impact. In fact, several authors propose the hybridization of existing evaluation methods to address the complexity of the decision-making problem associated with evaluating cultural heritage adaptive reuse projects.

As the literature review also suggests, heritage buildings subject to adaptive reuse are various (religious buildings, abandoned industrial buildings, former theaters, etc.) and consequently have different requirements due to their characteristics, such as structural, historical, and functional features related to their original use. Heritage categories also have different internal spatial distributions (more or less flexible) that necessarily influence the adaptive reuse project. In addition, regulations and constraints related to the diverse uses of the various heritage categories affect design orientations, as well as architectural features and decorative details. The difference between buildings for public and private use also impacts design choices, for example, in terms of accessibility and public safety.

3. Methodology

The development of the proposed multidimensional evaluation framework takes as its starting point the Social Platform for Holistic Impact Heritage Assessment (SOPHIA) project [63], the result of a 24-month-long 2020 European project that aims to promote collective reflection within the cultural and political sector in Europe on the impact assessment and quality of interventions in the European historical environment and cultural heritage at the urban level. The SOPHIA project proposes a holistic heritage impact assessment model in reference to four domains (social, cultural, environmental, economic), six themes, and 28 subthemes (Figure 1).

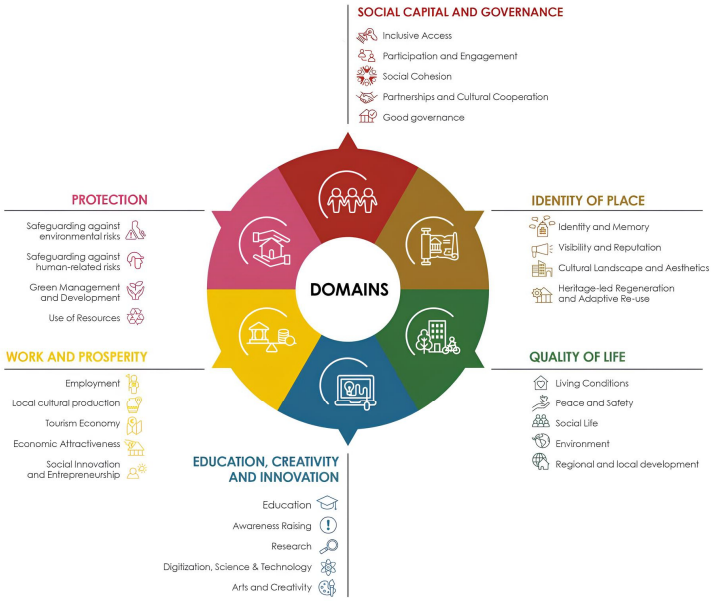


Figure 1. SOPHIA holistic heritage impact assessment model. Source: SOPHIA—deliverable D2.3 Final version of the SOPHIA impact. Assessment model [40,63].

The six themes, covering the four dimensions of sustainable development, are referred to as follows: social capital and governance, identity of place, quality of life, education creativity and innovation, work and prosperity, and protection. These categories of themes were maintained in the proposed evaluation framework as evaluation criteria describing core areas of impact. For each category (that is for each criterion), the most significant indicators for assessing the performance referring to each category were then identified and selected.

The indicators proposed in the present study are partly deduced from the SOPHIA indicators [63] and partly from previous studies on multidimensional indicators for the assessment of the adaptive reuse of cultural heritage from the circular economy perspective [64]. The latter aspects are derived from analysis of the scientific literature, official reports, and good practices, also being integrated with internationally recognized assessment tools, such as the Level(s) (in its revised version) [6,61] and the ICOMOS heritage impact assessment [51]. In brief, the proposed set of indicators is deduced from both theoretical studies and empirical evidence. The set of indicators resulting from this process is shown in Table 1.

Table 1. Evaluation framework for heritage impact assessment.

Category	Indicator	Unit of Measurement	Source
1. Social Capital and Governance	1.1 Annual visitors flow	No. of tourists per year or Likert Scale	[49,63,64]
	1.2 Number of activities involved third sector resulting from AR project	No.	[63]
	1.3 Annually participant in cultural event	No. of participants per year or Likert Scale	[49,64]
	1.4 Area intended for cultural events as result of the AR project	Mq	[49,64]
	1.5 Collaborative initiatives within and across sectors, policy areas and geographical scope	No. of initiatives per year or Likert Scale	[63]
2. Identity of Place	2.1 Area intended for safeguarding the historic and cultural meanings and activities of remembrance	Mq	[63]
	2.2 Compatibility of destination use and settlement benefits	Likert Scale	[64]
	2.3 Conservation of the geometric features	Likert Scale	[6,61,64]
	2.4 Recognizability and acceptability of the transformations	Likert Scale	[6,61,64]
	2.5 Area designated for the transmission of traditional tangible and intangible culture (Traditional skills)	Mq	[64]
3. Quality of life	3.1 Capacity of the space to be adapted to different functions (Space flexibility)	Likert Scale	[64]
	3.2 Area intended for social interaction	Mq	[63]
	3.3 Area for hosting cultural events	Mq	[49,63]
	3.4 Green areas	Mq	[61,62,64]
	3.5 Built transformations to fit new functions	Likert Scale	[61,62,64]
4. Education, Creativity and Innovation	4.1 Area intended for educational programs/activities	Mq	[63,64]
	4.2 Annual number of educational exhibits/initiatives relating to issues of sustainable development and the SDGs	No. per year	[63]
	4.3 Area intended for research programs/activities	Mq	[63]
	4.4 Number of innovative ICT tools aiming at increasing access to intervention	No.	[63]
	4.5 Annually number of opportunities/programs fostering creativity related to the intervention area	No. per year	[63]
	4.6 Capacity to involve different age groups	Likert Scale	[63]
5. Work and Prosperity	5.1 Average income of those employed in cultural heritage following the AR project	Euros per year	[63]
	5.2 Capacity to produce new permanent jobs	No. of new jobs or Likert Scale	[6,49,61,63,64]
	5.3 Area intended for associations	Mq	[6,49,61,63]
	5.4 Area intended for library	Mq	[49,63]
	5.5 Area designated for craft production	Mq	[49,63,64]
	5.6 Capacity of the project to attract tourist spending	Euros per year or Likert Scale	[49,64]
	5.7 Capacity of the project to attract new investments	Likert Scale	[64]
	5.8 Area for commercial unites	Mq	[64]
	5.9 Number of new social entrepreneurs (before and after the intervention in 5, 10, 20 years)	No.	[63]
	5.10 Start-up survival rate	%	[63]

Table 1. *Cont.*

Category	Indicator	Unit of Measurement	Source
6. Protection	6.1 Total expenditure taken to safeguard against human-related risks through the intervention	Euros	[63]
	6.2 Percentage of funding for projects/actions promoting circular and local economic practices	%	[64]
	6.3 Functions compatibility with local vocations: integration of new functions with existing functions in the neighborhood	Likert Scale	[63]

The indicators included in the proposed matrix are intended to assess the impacts produced by cultural heritage adaptive reuse projects on the different values characterizing the cultural heritage itself and the context in which it is located.

In particular, the category "Social Capital and Governance" includes indicators intended to assess impacts on social capital. Cultural heritage plays a crucial role in building social capital and cohesion by fostering synergies and generating/re-generating bonds and collaborative relationships [34,65], as well as offering a context for participation, engagement, and integration [32,34,66–69]. It also stimulates the rise of associations and new forms of economy, such as crowdfunding and municipal bonds, which contribute to the local economy. In addition, in this category of indicators the role of institutions and good governance is highlighted. Participatory and transparent institutions contribute to the "building" of social capital. The involvement of different stakeholders (and in particular of the community) helps reduce conflict and possible negative perception of the intervention. Furthermore, the capacity of cultural heritage to contribute to social inclusion also depends on its accessibility. From this perspective, the number of visitors/tourists can represent a significant indicator for this category.

The "identity of place" category aims to assess the contribution of cultural heritage to the sense of identity and belonging of different communities. Regenerating cultural heritage is crucial for safeguarding the community's identity, reinforcing it, and aiding future generations in understanding their roots. Conservation efforts extend beyond material preservation to encompass intangible values, acknowledging the cultural significance that heritage holds across generations and diverse social groups. So, indicators referring to activities and interventions aimed at generating and re-generating these values are identified in this category. Among these values, the "intrinsic value" [70], which is the value "in and for itself", linked to the spirit of places, plays a significant role. It is not an economic value; it is linked to history and collective memory, which have to be safeguarded so that they can also be enjoyed by future generations. The intrinsic value can provide a guide for identifying the use and management of assets. It can represent the basis for integrating new functions (or a combination thereof) into a new project or strategy. The intrinsic value offers the "insuperable" limit in the "management of change" [71].

This category is also cross-linked with the "education, creativity and innovation" category. The theme of education, in fact, is closely linked to knowledge as well as to the passing on of different cultural heritage values. Conservation of the geometric features and recognizability of the transformations can help preserve the intrinsic value of cultural heritage.

As recognized by many institutions and organizations (i.e., the United Nations, European Commission, ICOMOS, UNESCO), culture can be a driver in improving the quality of life (category "Quality of life"). Many case studies demonstrate that "engaging with culture (visiting, attending, and participation) significantly increases overall life satisfaction" [48] Cultural heritage can contribute in different ways to the quality of life providing employment (investigated in the "Work and prosperity" category), opportunities for social relationships (investigated in the "Social capital and governance" category), and relations with our past and collective cultural memory. Furthermore, it provides services for the community. However, if not well managed, it can produce negative impacts, such as overtourism, gentrification, and an increase in pollution due to the increase in tourist/visitor flows.

In addition, it is important that the heritage regeneration project be respectful of the surrounding environment and contribute to its improvement, as its condition impacts quality of life. For this reason, this category includes indicators that address the provision of green outdoor spaces (where possible) and recreational spaces following the implementation of the project. In this category, indicators concerning aspects that can contribute to the improvement of quality of life (i.e., realization of green areas, organization of cultural events) are included.

With reference to the category "Education, Creativity and Innovation", as highlighted in the SOPHIA project, education (both formal and informal) refers to three dimensions: knowledge, skills, and attitudes. "Engagement with cultural heritage can be a learning experience" with reference to all three of these dimensions [63].

As also highlighted by the European Commission, ICT tools contribute to increased cultural participation, facilitating access for people and thus contributing to inclusiveness. In this context, the indicators within this category are closely connected to those within the "Social Capital and Governance" category regarding the concept of social inclusion. In addition, ICT encourages innovation, revitalizing the traditional approach to culture and the creative industries. Therefore, indicators related to education and the use of ICT to support the enjoyment of cultural heritage are included in this category.

The category "Work and prosperity" focuses mainly on the economic impacts produced by cultural heritage regeneration projects in context. Investing in it has impacts on local economic dynamics, for example, in terms of income and employment. It can generate new jobs in the short, medium, and long terms, linked in particular to local production. In addition, it can become attractive for investment by triggering economic–financial flows and activating forms of cooperation between the public, private, and third sectors.

However, indicators about employment are strictly linked to the "social inclusion" and "quality of life" aspects. In fact, "work" contributes both to people "feeling good" and also to the construction of a bridge between individuals and society. So, indicators about employment are very significant in social terms. Furthermore, it is important to highlight that this sense of wellbeing derived from work then turns into economic productivity, given that an individual's productivity tends to increase with their level of wellbeing (circular perspective) [72].

The "Protection" category refers to the safeguarding of cultural heritage in order to preserve its integrity, which is highly threatened by human-related actions. Differently from the evaluation framework proposed by the SOPHIA project, this category is interpreted here not only in terms of the protection of natural heritage but also of cultural heritage itself, including indicators about its state of conservation. In fact, reducing the integrity and authenticity of cultural heritage would damage and deprive the community of one of its "symbols", both tangible and intangible.

Cultural heritage reflects the customs, traditions, and spiritual beliefs of societies. Indicators within this group pertain to the physical state of the asset and, consequently, to its functional value. Preserving cultural heritage allows for the preservation of our collective memory and, consequently, our sense of identity (relation with "identity of place").

Therefore, by preserving the cultural heritage we have inherited, we can address the threat of identity loss during these times of significant globalization, while also guaranteeing its passage to future generations.

As already emphasized, the categories identified are cross-cutting and closely related to each other. Different indicators can assess project performance with reference to multiple categories. For example, the indicator referring to employment covered by the category "work and prosperity", also contributes to that of "Quality of Life", as well as to the enhancement of "Social Capital". Compared to the indicators proposed by the SOPHIA project, some adjustments (and integration) have been made in order to make the indicators clearer and unambiguously interpretable, without generating ambiguity. In addition, some indicators have been disaggregated into multiple indicators so that they can be

representative of a single phenomenon (e.g., the indicator "Number and size of green spaces, public parks with public sports and recreational facilities").

4. The Case Study: The Seminary in Sant'Agata de' Goti (Italy)

The proposed methodology has been tested in the case study of Seminary, an abandoned Seminary dating back to the 14th century, in Sant'Agata de' Goti, a historic village in the province of Benevento, Campania region, Italy.

Sant'Agata de' Goti covers an area of approximately 63 square kilometers and is populated by approximately 10,305 inhabitants in 2022; data decreased compared to in 2011 (11,310) [73]. Sant'Agata de' Goti is a place of memory and is part of the network "I Borghi più belli d'Italia" (network promoted by the association within the Tourism Board of the National Association of Italian Municipalities) [74]. The village is a winner of the "Orange Flag" certification (confirmed for the three-year period of 2024–2026). The latter is a certification (part of a program that in turn has won several awards, including the SKAL Ecotourism Award in the "Cities and villages" category) awarded by the Italian Touring Club to small "human scale" localities distributed throughout Italy, places that are an expression of great excellence in terms of environmental, cultural, food and wine, hospitality, and social innovation. With this certification, municipalities gain access to a network of support for the enhancement of local resources, the development of the culture of hospitality, the stimulation of handicrafts and typical productions, the impulse to local entrepreneurship, and the strengthening of local identity. This historic village is recognized as a valuable cultural heritage, as all these data show. In addition, it is important to highlight that Sant'Agata de' Goti is very close to the UNESCO Site of the Royal Palace of Caserta and San Leucio Belvedere (UNESCO Site), the Campania amphitheater of Santa Maria Capua Vetere, the Telese thermal baths, the ancient village of Caserta Vecchia, and the Royal Site of Carditello (Figure 2).

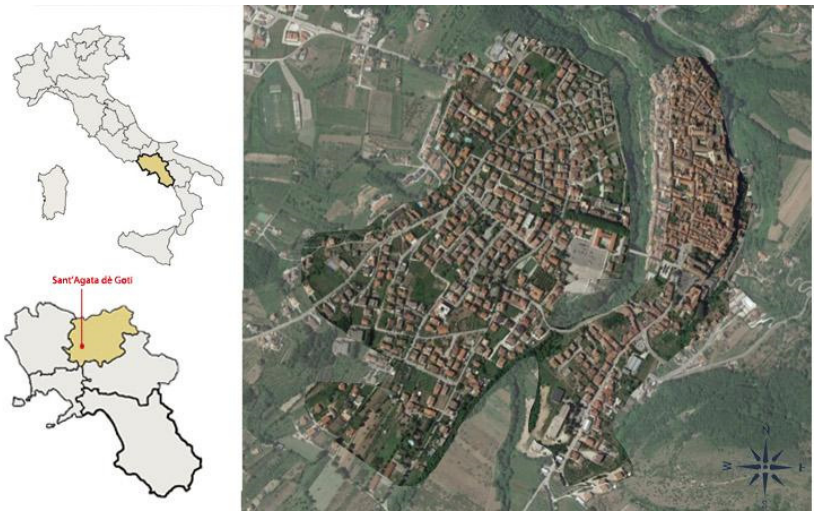


Figure 2. Territorial framework of Sant'Agata de' Goti: Italy, Campania region, with metropolitan area of Benevento, Sant'Agata de' Goti historic center. Source: author's elaboration based on Google Earth.

The village of S. Agata de' Goti is characterized by a strong relationship between the subsoil and the surrounding landscape, a character linked to the identity between the material that makes up the nature and architecture of the site. In fact, the ancient constructors had extracted the material useful for surface constructions directly from underground. Under the foundations of the buildings, hypogeal rooms were found that were often used as cellars, animal shelters, and pathways to the torrents [75,76].

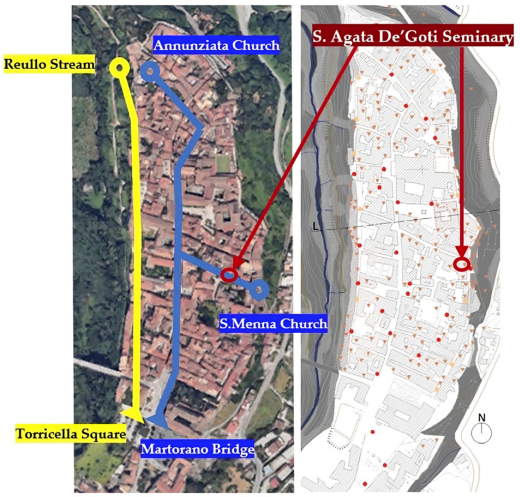
The medieval historic center, which is located on a tuffaceous rocky plateau of approximately 14,000 square meters, is characterized by rooms dug out of the tuff, sometimes

hypogean, sometimes with small overlooks, with systems of pillars and arches supporting overhanging buildings, and stairs molded into the tuff to climb the ridge.

Over time, various projects have been promoted to safeguard and restore the historic center in order to reduce impending dangers due to landslides and hydrogeological instability. Among them, there is the TISMA (Innovative and Smart Technologies and Methodologies for the Monitoring of Historic Villages Threatened by Environmental and Anthropogenic Risks) research project, a two-year-long project funded by the Campania region in 2018. The project was conducted by Partner Sirfin S.p.A. (leader partner), Marigentech s.r.l., Techno Center S.p.A, Energreenup s.r.l., Fondazione Italiani, and Pegaso Telematic University [76,77]. The project aimed to create an integrated monitoring platform of historic centers equipped with a high artistic and cultural value to protect them from anthropogenic risk, through specific actions aimed at protecting and securing historic villages.

The TISMA project idea stems, primarily, from some closely related considerations. Among them, historic villages, due to their cultural vocation and attraction, represent an invaluable heritage that has generated an increase in tourist flows. In many cases, they are subject to neglect and, consequently, at risk of abandonment if appropriate value- and place-based regeneration projects are not defined. This project included the active participation of the municipality, through the stipulation of a partnership aimed at the implementation of social, cultural, and scientific initiatives.

Within the TISMA project, along with the local community, the most relevant historical routes within the village have been identified with the aim to recover them in their entirety and to valorize them also from the tourism point of view: the "Historical-naturalistic walk on the Martorano bridge", the "Historical-religious walk Bridge-Duomo", and the "Historical Food and Wine Walk". The first route begins with a sequence of churches, passes through a municipal villa, passes by the monastery, and culminates at the Santa Maria of Montevergine church along with the adjoining Seminary, situated within the historical heart of the village. The second walk consists of narrow paths through tunnels and caves, all serving as places of contemplation and prayer. The last route is located beneath the tuffaceous tunnels, excavated during the late Roman Empire. These cavities were used in the early medieval era as repositories, serving as both storage facilities and shelters for essential provisions in times of fortress siege, or as water cisterns (Figure 3). Today, these spaces are employed by agritourism for the preservation of locally produced food and wine in St. Agata.



(**a**) (**b**)

Figure 3. "Historical-naturalistic walk on the Martorano Bridge" (in orange, in (**a**)), the "Historical-religious walk Bridge-Duomo" (in blue, in (**a**)), and the "Historical Food and Wine Walk" (orange triangles, in (**b**)).

A series of architecturally significant historical buildings are located within these pathways, including the Santa Maria of Montevergine church (built in 1267) and its adjacent Seminary. The Seminary was chosen as the case study of the present research for its strategic position, as the final step of the walk "Historical-naturalistic walk on the Martorano bridge" and an important step within the "Historical-religious walk Bridge-Duomo". The Seminary is located in the "Historic-artistic homogeneous zone" of the General Regulatory Plan, which includes the entire historic center, characterized by artistic-environmental values of exceptional interest, which require rigorous preservation and enhancement.

4.1. The Seminary

The Seminary dates back to the 14th century as a monastery of monks. In 1500, the building was extended. Following the 1688 earthquake, a new Seminary was built on the ruins of the previous one. From the 1700s to the present, only a few punctual and occasional restoration works have been carried out. At the end of the 1970s, the Seminary was transferred to the Municipality of Cerreto Sannita (Benevento, Italy) and the building became the venue of a classical high school until 2006, the year in which it was declared unfit for use due to structural subsidence. The building, with a surface area of about 1530 square meters, of which 225 square meters represent the central court, has three levels aboveground and a fourth partially underground.

Today, it is in a state of abandonment, although it is rarely used by the Curia, only on the ground floor, as storage space (Figure 4).

Figure 4. Seminary Sant'Agata de' Goti. Source: TISMA research project.

The Seminary (a place of memory that, together with the adjacent Church, bears witness to the passage of St. Francis of Assisi in the village), in addition to being a pilot case of the aforementioned TISMA research and innovation project financed by the Campania region, is part of a broader discussion that is the subject of a memorandum of understanding signed between the Superintendency of Archaeology, Fine Arts and Landscape for the provinces of Caserta and Benevento, and the Diocese of Cerreto Sannita-Telese-Sant'Agata de' Goti. This protocol provides for the enhancement and promotion of the historical, artistic, and architectural heritage for the creation of an itinerary of art, culture, and religion in the historic center.

In addition, the attention of the municipality on that Seminary, as well as on other assets owned by the Diocese of archaeological and religious interest that are located in the village, is high because these assets can represent a driver of growth and development of the territory and the communities insisting on it. So, it is the willingness of the municipality and the Superintendence to cooperate with the Diocese, through the Memorandum of Understanding, in a path aimed at the recovery of the entire monumental site, encouraging territorial tourism development.

This study can provide support to policymakers for the regeneration of Sant'Agata de' Goti, which won funding in 2023 under the NRRP boroughs and will therefore see, in the coming years, the design and implementation of numerous urban regeneration interventions.

4.2. The Definition of Project Scenarios

Considering the different stakeholders, and thus the interests and values at stake (often conflictual), a participative process was found to be necessary in order to define

project scenarios. This process supported the knowledge phase of the Seminary and its context, in order to orient project choices to be more consistent with the context, satisfying the needs and requirements (also in terms of functions) of the community.

Therefore, in order to deepen the knowledge of the study area and guide the design choices, a participatory process has been activated. Stakeholders were identified from both expert and common knowledge representatives to include multiple and diverse points of view and interests. Stakeholders were identified purposively and opportunistically [78] by the Pegaso University research team in collaboration with the municipality. To ensure a multi-disciplinary discussion, stakeholders from different backgrounds in terms of skills, experiences and professions were identified.

A total of 42 people participated in the one-day roundtable discussion, supported by four facilitators. They represented different organizations and institutions. Most participants were representatives of the public sector, i.e., Municipality of Sant'Agata de' Goti; researchers, tourism organizations, small entrepreneurs, and local associations also attended.

The stakeholders discussed their knowledge of the Seminary and its context and, starting from a number of weaknesses and potentialities that emerged, discussed possible scenarios for the transformation of the Seminary. The participatory process was implemented with the awareness that co-constructing the knowledge framework and co-designing alternative design scenarios lead to the development of a bottom-up project that can be characterized by greater consensus and capable of reducing conflicts between different interests and points of view.

Starting from a critical–interpretive approach of the knowledge phase of the Seminary and the context in which it is located, three different design alternatives were identified reflecting the needs and requirements of the local context (for example, the lack of aggregation spaces and spaces for cultural activities). The knowledge phase revealed a shortage of meeting spaces in which activities centered on culture could take place.

These design alternatives have different predominant vocations and uses. Specifically, they refer to the transformation of the old Seminary from its current function (classical high school) into a Cultural Hub, Enogastronomic Hub, and Tourism Hub was assumed.

The first design scenario involves the transformation of the Seminary into a "Cultural Hub" (becoming a stop on the "Historical, naturalistic walk on the Martorano bridge" and the "Historical-religious walk Bridge-Duomo"), with the aim of including functions that can strengthen the cultural identity of the area. As described in the previous paragraphs, the medieval borgo of Sant'Agata de' Goti has the connotation of a strong cultural identity, due to its history and that of the nearby city of Caserta (Reggia di Caserta UNESCO Site, the borgo of San Leucio UNESCO Site, the Campania amphitheater of Santa Maria Capua Vetere, the thermal baths of Telese, the ancient borgo of Caserta Vecchia, the Royal Site of Carditello). For this reason, the purpose of this first design alternative is to produce a place that can function as a hub for the promotion and enjoyment of cultural and artistic activities. The latter aspects aim to enhance community vitality by providing avenues for cultural engagement and interaction.

The functions of the Cultural Hub located in the Seminary are as follows:

- The basement is intended to house exhibition spaces, both for works produced within the hub (from those who attend courses or workshops the center may host) and for exhibitions organized by external subjects;
- The ground floor includes a hall, a small theater where both workshop activities and theater performances can be held, a small toy library, and a café. In addition, there are rooms for offices and services;
- The first floor has a reading room, a library, two classrooms for lectures, a multimedia room, and a relaxation area. In addition, there are also rooms for offices and services here;
- The second floor hosts creative art, painting, ceramic, and music workshops and co-working spaces. Furthermore, there are some service rooms such as storage and ceramic firing, locker rooms, and services.

The second project alternative foresees the realization of an "Enogastronomic Hub" (as a stop of the "Historical Food and Wine Walk"), in line with the historical food and wine vocation of the historic village and the neighboring area, renowned for the production of wine, oil, fruit, and cheese products. This project scenario involves the active participation of the third sector, and in particular of local associations. Their contribution to the reuse projects of historic buildings is very important, because they promote regeneration perspectives oriented to the "common good", actively involving local communities, contributing to the cultural and social valorization of the area. Therefore, the regeneration project is articulated as follows:

- The basement floor is intended entirely for a wine cellar for wine storage and exposition;
- The ground floor includes stores for selling of wine, typical local products, a bar, and restrooms;
- The first floor is intended to have an exhibition area, spaces for associations, a projection room, and a recreation area. Space for services is also provided;
- The second floor houses cooking laboratories, educational classrooms (intended for lessons related to food and wine culture), and a restaurant (including necessary facilities such as storage rooms, bathrooms, and a kitchen).

Finally, the third design alternative is to transform the Seminary into a "Tourist Hub" (with the aim to enhance the "Historical Food and Wine Walk"). The decision to develop a tourism hub is based on the strategic vision of developing an attractive and multifunctional hub capable of stimulating the local economy, fostering the growth of the tourism sector, and offering an integrated experience that enhances the cultural heritage and landscape of Sant'Agata.

The functions are thus allocated to the different floors:

- The basement floor is intended in its entirety for a wellness center, for the use of both guests staying in the hotel and the external community. Its architectural conformation with the construction of the arched roof is suitable for the transformation of the space into real wellness caves;
- The ground floor is intended for a restaurant, small stores, and a conference room. An area designated for services is also planned;
- The first and second floors are intended for tourist accommodation, as well as a common area and small storage rooms.

Finally, all design alternatives include the equipping of the inner courtyard (partly paved and partly green) to serve the functions housed in the building.

5. Multicriteria Evaluation of the Alternative Project Scenarios

The four project scenarios (three design alternatives and the status quo) were analyzed and evaluated based on the proposed evaluation framework in order to identify the "preferable alternative", namely the highest performing reuse project of the Seminar, from a cultural, social, economic, and environmental point of view.

Considering the multidimensional nature of the decision-making problem, a multicriteria assessment was developed to compare the alternative scenarios. Social Multicriteria evaluation methods make it possible to compare scenarios by considering different dimensions (environmental, cultural, economic, and social) and also include the different points of view of stakeholders. Therefore, it has been considered adequate for the evaluation of alternative scenarios of adaptive reuse, an activity that affects the different dimensions and includes different values and points of view. These tools are appropriate for supporting decision-makers in complex and multi-value decision contexts, considering opinions from both a technical and social side.

In this study, the evaluation was carried out by the SOCRATES (SOcial multi CRiteria AssessmenT of European policieS) evaluation method, developed by the Joint Research Centre (JRC), the European Commission's science and knowledge service. Three main components constitute the core of SOCRATES: multi-criteria, equity, and sensitivity analyses.

It is a tool designed specifically for addressing ex ante impact assessment (IA) challenges using multiple criteria. The impact matrix may include quantitative (also including stochastic and/or fuzzy uncertainty) and qualitative (ordinal and/or linguistic) indicators for assessing the performance of an alternative with respect to an evaluation criterion. It supplies a ranking of the alternatives according to the set of evaluation criteria by using a non-compensatory mathematical aggregation rule [79].

Criteria and indicators were selected, starting from those in Table 1. In order to reduce the complexity of the decision-making process, they were selected on the basis of their relevance to the case study, their adequacy to the level of depth of the project, the availability of data to populate them, and the elimination of any redundancies of information.

Once the evaluation criteria, indicators, and project alternatives were defined, the performance of the alternatives was calculated. A value was assigned to each alternative in reference to each specific indicator (impact matrix) (Table 2). The impact matrix includes both quantitative and qualitative data. Furthermore, aspects that are significant but cannot be quantified due to the level of depth of the project (strategic level) were populated with qualitative data (using the Likert Scale) to indicate the intensity of the phenomenon described.

Table 2. Impact matrix.

Category	Indicator	Unit of Measurement	Scenario 0 Status Quo	Scenario 1 Cultural Hub	Scenario 2 Enogastronomic Hub	Scenario 3 Tourism Hub
1. Social Capital and Governance	1.1 Annual visitors flow	Likert Scale	Very Bad	Very Good	Very Good	Very Good
	1.2 Number of activities involved third sector resulting from AR project	No.	0	6	5	1
	1.3 Annually participant in cultural event	Likert Scale	Very Bad	Very Good	Good	Fairly Bad
	1.4 Area intended for cultural events as result of the AR project	Mq	0	982	410	122
	1.5 Collaborative initiatives within and across sectors, policy areas and geographical scope	Likert Scale	Bad	Very Good	Very Good	Fairly Bad
2. Identity of Place	2.1 Area intended for safeguarding the historic and cultural meanings and activities of remembrance	Mq	0	313	112	82
	2.2 Compatibility of destination use and settlement++ benefits	Likert Scale	Very bad	Very Good	Very Good	Very Good
	2.3 Conservation of the geometric features	Likert Scale	Very Good	Very Good	Very Good	Fairly Good
	2.4 Recognizability and acceptability of the transformations	Likert Scale	Neutral	Very Good	Good	Very Good
	2.5 Area designated for the transmission of traditional tangible and intangible culture (Traditional skills)	Mq	0	1169	700	122
3. Quality of life	3.1 Capacity of the space to be adapted to different functions (Space flexibility)	Likert Scale	Good	Very Good	Good	Fairly Bad
	3.2 Area intended for social interaction	Mq	0	478	360	122
	3.3 Area for hosting cultural events	Mq	0	882	882	122
	3.4 Green areas	Mq	0	220	110	110
	3.5 Built transformations to fit new functions	Likert Scale	Neutral	Very Good	Good	Bad
4. Education, Creativity and Innovation	4.1 Area intended for educational programs/activities	Mq	0	590	390	0
	4.2 Area intended for research programs/activities	Mq	0	430	0	0
	4.3. Capacity to involve different age groups	Likert Scale	Very Bad	Very Good	Fairly Good	Good
5. Work and Prosperity	5.1 Capacity to produce new permanent jobs	Likert Scale	Very Bad	Good	Good	Very Good
	5.2 Area intended for associations	Mq	0	669	157	0
	5.3 Area intended for library	Mq	0	103	0	0
	5.4 Area designated for craft production	Mq	0	253	203	0
	5.5 Capacity of the project to attract tourist spending	Likert Scale	Bad	Good	Good	Very good
	5.6 Area for commercial unites	Mq	0	82	531	296
6. Protection	6.1 Functions compatibility with local vocations: integration of new functions with existing functions in the neighborhood	Likert Scale	Very bad	Very good	Very good	Good

The Socrates method allows for the assignment of weights to individual criteria (or indicators), that is, to assign different importance to them. However, in the present experimentation, an equal weight [79,80] was attached to the different criteria according to the results of the public consultations and the meeting with the municipality: they were all considered to be of equal relevance from a sustainable regeneration perspective.

Then, the application of mathematical aggregation rules on the information contained in the impact matrix generated the final ranking of the alternatives (the compromise solution). The final ranking obtained (under the assumption that all criteria have the same weight) is discussed in the following paragraph (Figure 5).

Dimensions - Criteria summary

	1°	2°	3°	4°
Original ranking	🏆 Cultural hub	Enogastronomic hub	Tourism hub	Status quo

	1° place	2° place	3° place	4° place
Status quo	0 (0.00%)	0 (0.00%)	0 (0.00%)	40 (100.00%)
Cultural hub	38 (95.00%)	2 (5.00%)	0 (0.00%)	0 (0.00%)
Enogastronomic hub	1 (2.50%)	37 (92.50%)	2 (5.00%)	0 (0.00%)
Tourism hub	1 (2.50%)	1 (2.50%)	38 (95.00%)	0 (0.00%)

Figure 5. Sensitivity analysis: dimension–criteria summary.

6. Discussion of Results

From the analysis of the results of the multicriteria evaluation, it emerges that the "Cultural Hub" alternative is the most performing solution for the adaptive reuse of the Seminary. Excluding the status quo, transforming the Seminary into a "Tourist Hub" is, instead, the worst performing alternative. The "Enogastronomic" scenario is less performing than the "Cultural Hub", but more performing than the "Tourism Hub".

This ranking, with the "Cultural Hub" in first place, comes from the will/desire, which also emerged during the participation process, to preserve and valorize the historical and cultural heritage of the place, thus contributing to the conservation of the collective memory of the community. The "Cultural Hub", by offering opportunities for the participation and involvement of the community in cultural activities, contributes to generate/increase the sense of belonging and identity.

Local identity is also promoted through exhibitions, cultural events, and educational activities that "tell" the history of the place, for which the "Cultural Hub" provides specifically designated spaces. Furthermore, cultural functions are able to continuously attract visitors over time, thus contributing to the economic vitality of the area, not linked to seasonality and/or the short term.

The "Enogastronomic Hub" is a relevant scenario, albeit less preferable compared to the "Cultural Hub". It offers strong economic potential through the promotion of local products, restaurants, and activities related to the food and wine sector, thus contributing to the local economy. Additionally, it represents a tourist attraction for visitors interested in unique and authentic culinary experiences linked to local tradition.

This alternative also contributes to the valorization of local resources, such as typical food products and wines, promoting the local gastronomic culture. The "Enogastronomic Hub" generates direct and indirect job opportunities in the food and restaurant sector, thus contributing to the economic dynamics of the community.

In summary, assigning the second place to the "Enogastronomic Hub" suggests that, although the cultural aspect has been considered a priority, the enogastronomic aspect (however strictly linked to the local cultural) is still considered relevant and potentially beneficial for the development and vitality of the historic rural village.

The "Tourism Hub" is the least preferable alternative among those identified. Despite the ability of these functions to produce impacts, especially economic ones in the short term, the final ranking highlights a greater preference for aspects related to the conservation of tangible and intangible cultural values.

While the "Enogastronomic Hub" and "Tourism Hub" have economic impact primarily in the short term, the preference for a "Cultural Hub" is driven by a long-term vision that takes into account social, cultural, environmental, and economic benefits in the short, medium, and long term.

After obtaining the final ranking of the alternatives, the sensitivity analysis was carried out. The aim of sensitivity analysis is to assess the stability of the ranking and identify which input parameters affect the model output. The Socrates evaluation method allows for both local and global sensitivity analyses.

Local sensitivity analysis examines how results are sensitive to the following: the exclusion or inclusion of different criteria and dimensions, changes in the weights of dimensions, criteria, or social actors. Each parameter is altered one at a time. Global sensitivity analysis, instead, focuses on all the possible combinations of criterion weights; all weights are changed simultaneously and extreme values are considered too.

However, considering that in this experimentation all assigned weights are equal, the local sensitivity analysis was conducted. All parameters were modified one at a time. Therefore, one dimension/criterion was eliminated at a time, and the ranking was deduced based on this elimination. The results of the sensitivity analysis show how many times each alternative appears in each ranking position and the percentage of each ranking position occupied by each individual option.

Specifically, from the sensitivity analysis related to dimensions, it emerges that the "Cultural Hub" is always the preferable alternative, except in the ranking that considers only the criterion of "work and prosperity", which sees the "Tourism hub" as the preferable alternative, and the ranking that considers only the criterion of "protection", which sees the "Enogastronomic Hub" as the winner. Therefore, there is an almost stable ranking. Such stability also emerges in the local sensitivity analysis related to the criteria.

Regarding the "dimensions—criteria summary" analysis, it emerges that the "Cultural Hub" occupies the first position in the ranking 38 times, which is 95%, while the "Enogastronomic Hub" and "Tourism Hub" each rank the first position only once. Additionally, the "Enogastronomic Hub" is in the second position 37 times, which is 92.50%, and the "Tourism Hub" in the third position 38 times, which is 95%. Obviously, the "Status quo" is placed in the last position in this ranking 40 times, which is 100%. Therefore, even concerning the dimensions, the ranking appears to be rather stable.

As can be observed, the sensitivity analysis confirms the outputs emerged from the final ranking. In fact, the "Cultural Hub" alternative is the preferable alternative in almost all the rankings emerging from the "dimension—criteria summary".

7. Conclusions

Often, historic villages today "are populated" by abandoned historic buildings whose regeneration could represent a starting point for triggering virtuous circles of value creation across the entire territory.

The adaptive reuse of cultural heritage represents an effective strategy to give "new life" to these abandoned assets. However, it is a complex process because it involves multiple tangible and intangible values, as well as multiple interests and points of view, often conflicting [81]. In order to address this complexity, participatory processes (involving different stakeholder in co-designing and co-planning) are necessary, in order to include different interests in the decision-making process and thus to reduce the aforementioned conflicts [82]. To this end, multicriteria evaluation methods are necessary. The identification of new functions for cultural heritage should be the result of a multidisciplinary investigation that considers many criteria, sub-criteria, and indicators. It is important for representing the interests and needs of the different stakeholders involved, safeguarding, at the same time, the historical and cultural value of the heritage.

In this context, the present study has proposed an evaluation framework, based on both quantitative and qualitative indicators, to support decision-makers in the field of the adaptive reuse of cultural heritage, considering all the sustainability dimensions (environmental, socio-cultural, and economic). This evaluation framework has been tested in this study for assessing design alternatives for the adaptive reuse of the Seminary in Sant'Agata de' Goti (Italy), using the SOCRATES multicriteria evaluation method.

The application conducted in this case study confirmed the advantages of implementing a multi-criteria evaluation for supporting decision-makers in decisions characterized by a high level of complexity. It enables decision-makers to make informed and sustainable decisions, in order to mitigate the negative impacts and enhance the positive aspects of the regeneration project. A limitation of this study is that the different criteria are given

equal weights. This decision was made during public consultations, but the involvement of additional categories of stakeholders would probably lead to a differentiation in weights, making the assessment even more inclusive.

In the assessment of subjective–perceptual aspects related to the heritage under study, future studies can include aspects that help guide and support design choices (and which are a limitation in this study). Finally, among the criteria of the multi-criteria evaluation, the economic–financial one can be included, capable of capturing aspects ranging from the intervention costs of the different scenarios to the analysis of costs and revenues related to the functions established, as well as the project's ability to self-finance. In addition, the proposed evaluation framework can be further expanded to include indicators related to the impacts that the adaptive reuse project may have on the context in which the building is located.

Finally, the study of alternative functions to the original ones opens a fruitful perspective related to possible management models for these spaces, based on possible public–private agreements and the concept of heritage as a common good [83].

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