Heritage-Led Regeneration and Multidimensional Impact Assessment in a Historic Coastal City: The Case of the Community Cooperative *"Identity and Beauty"* in Sciacca, Sicily (Italy)

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Abstract. Historic small and medium-sized cities are increasingly recognised as strategic laboratories for place-based regeneration, particularly when cultural heritage is activated through community-led initiatives. However, evaluation frameworks capable of assessing the multidimensional impacts of heritage-led tourism remain limited, especially in peripheral and fragile territories. This paper addresses this gap through the case of Sciacca, a historic coastal city in southern Sicily, where the Community Cooperative Identità e Bellezza ("Identity and Beauty") developed the Museo Diffuso dei 5 Sensi ("Widespread Museum of the 5 Senses") as a model of community-based, heritage-led regeneration.

The initiative mobilises local cultural, social, and environmental resources through experiential tourism, adaptive reuse, storytelling, and collaborative governance, coherently with the Heritage Community approach promoted by the Faro Convention. The paper adopts the Circular Cultural Tourism Dashboard developed within the Horizon 2020 Be.CULTOUR project as a multidimensional and multicriteria assessment framework structured around six dimensions: cultural, social and human, environmental, economic, man-made, and institutional.

The Sciacca pilot demonstrates how multidimensional indicators can capture not only tourism-related outcomes, but also processes of community activation, heritage reuse, local entrepreneurship, socio-cultural reinvestment, and governance innovation. The findings highlight the emergence of a regenerative territorial metabolism in which cultural heritage acts as enabling infrastructure for local development. Finally, the paper discusses methodological challenges related to data availability, mixed qualitative-quantitative evidence, and the need for longitudinal monitoring, arguing for evaluation as an adaptive and participatory governance tool supporting circular and inclusive regeneration trajectories.

Keywords: Heritage-Led Regeneration · Community-Based Tourism · Multidimensional Impact Assessment

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1 Introduction

Historic small and medium-sized cities, as well as peripheral and less accessible territories, are increasingly recognised as strategic laboratories for place-based development because of their capacity to combine cultural identity, social embeddedness and environmental resources within locally grounded regeneration trajectories. At the same time, many of these territories are affected by demographic decline, marginal accessibility, fragile service systems, underused heritage assets and limited institutional capacity, conditions that often constrain their ability to transform heritage resources into long-term development opportunities [1–3]. In such contexts, the regeneration of cultural heritage cannot be reduced to conservation alone; rather, it must be linked to broader processes of community empowerment, economic diversification, social cohesion and environmental responsibility.

Within this debate, cultural tourism has increasingly been interpreted as a possible lever for territorial regeneration, particularly when it is rooted in local identity, intangible heritage, creative production and active community participation [4–7]. However, the relationship between cultural tourism and local development remains ambivalent. While heritage tourism may enhance visibility, diversify local economies and reactivate underused cultural assets, it may also generate commodification, seasonal dependence, selective valorisation and new forms of socio-spatial pressure if not supported by adequate governance and monitoring tools [8–10]. For this reason, heritage-led development requires evaluation frameworks capable of capturing both positive and negative effects across multiple dimensions and scales.

This paper contributes to this discussion by focusing on the case of Sciacca, in Sicily, where the Community Cooperative *Identità e Bellezza (Identity and Beauty)* has developed the *Museo Diffuso dei 5 Sensi (The Widespread Museum of the 5 Senses)*, an emblematic experience of community-based, heritage-led regeneration. The initiative is particularly relevant because it transforms local inhabitants from passive users into active co-producers of cultural value, tourist experiences, and care practices for abandoned or underused heritage places [11–15]. This approach resonates with the concept of Heritage Community introduced by the Faro Convention, according to which heritage value is generated and transmitted through the active involvement of people who identify with specific cultural resources and wish to sustain them for present and future generations.

The paper adopts a multicriteria and multidimensional impact assessment perspective, using the Circular Cultural Tourism Dashboard developed in the Horizon 2020 Be.CULTOUR project [16]. The main research question is the following: how can multidimensional indicators support the assessment of heritage-led, community-based regeneration processes in peripheral historic cities? A second question concerns the governance role of evaluation itself: can assessment function as a co-learning and co-decision tool for local actors, rather than merely as a technical reporting exercise?

Beyond documenting a local case, the paper contributes to the current debate in three ways. First, it operationalises the concept of Heritage Community through a structured set of multidimensional indicators, moving from a normative and interpretive notion towards an evaluative one [17]. Second, it shows how circular cultural tourism can be understood not merely as a sectoral tourism strategy, but as a regenerative territorial approach in which heritage, local entrepreneurship, social activation and care practices

are mutually reinforcing [18, 19]. Third, it tests the usefulness of a multidimensional and multicriteria impact assessment framework for interpreting complex place-based transformations in a small historic city where quantitative and qualitative evidence must be combined rather than artificially separated.

The paper argues that the Sciacca case shows the relevance of a multidimensional evaluation architecture capable of capturing cultural vibrancy, community commitment, entrepreneurship, adaptive reuse, and institutional innovation as interconnected outcomes of a circular and regenerative tourism strategy.

2 Heritage Communities, Circular Cultural Tourism and the Need for Multicriteria Assessment

The growing literature on sustainable, inclusive and regenerative tourism has highlighted the limits of conventional tourism models based predominantly on visitor growth, destination competitiveness and short-term economic returns. More recent approaches emphasise instead the importance of territorial identity, local value chains, social inclusion, environmental responsibility and transformative experiences, arguing that tourism should not simply consume places, but contribute to regenerating them [6, 7, 20, 21]. This shift is particularly relevant in peripheral and heritage-rich territories, where tourism may function not only as an economic sector, but also as a catalyst for local mobilisation, social innovation and new narratives of territorial futures [10, 22, 23].

At the same time, the heritage field has progressively moved from monument-centred conservation towards people-centred and community-centred paradigms. In this perspective, cultural heritage is increasingly understood as a living resource that enables collective memory, place attachment, creativity and local development, rather than as a static asset to be preserved in isolation. The concept of Heritage Community introduced by the Faro Convention is particularly relevant here, as it frames heritage value as something generated and transmitted through the active involvement of people who identify with specific cultural resources and wish to sustain them for present and future generations [17]. This perspective is especially useful for interpreting community-led regeneration processes in which local actors become co-producers of heritage value, tourism experiences and stewardship practices, rather than passive beneficiaries of top-down policies [24, 25].

Within this broader framework, the concept of circular cultural tourism is especially relevant because it extends circularity beyond resource efficiency alone. Circularity in tourism should be interpreted in an expanded sense, including not only the circular use of material resources but also the regeneration of social, cultural and relational assets. In this perspective, heritage reuse, local entrepreneurship, skill activation, digital mediation, community care and collaborative governance all become part of a circular territorial metabolism [18, 19]. Yet this broader understanding of circularity generates a methodological challenge: it cannot be measured through single-sector indicators alone. Existing tourism indicator systems provide important tools for sustainability monitoring, but they rarely capture the combined effects of heritage valorisation, community activation, adaptive reuse, local identity and regenerative circular development in less-known destinations [26, 27].

A multidimensional and place-based evaluation is crucial to address the complex relationship between tourism and historic centres, particularly in fragile and inner areas where standardized tourism-led enhancement processes may negatively affect local identities, community dynamics, and long-term territorial sustainability [28].

In this perspective, the evaluation of circular tourism impact should be conducted through multiple criteria and dimensions. including different meanings, weights and temporalities. Cultural vitality, social cohesion, entrepreneurship, governance capacity and environmental responsibility do not evolve in linear or fully commensurable ways; rather, they require a framework capable of recognising trade-offs, synergies and differentiated priorities [29, 30]. For heritage-led regeneration processes, evaluation should therefore support diagnosis, collective learning and governance, functioning as an embedded and adaptive component of the regeneration process itself.

3 The Case Study: Sciacca and the Community Cooperative *"Identity and Beauty"*

Sciacca is a historic coastal city located in the province of Agrigento, on the south-western coast of Sicily. Despite its rich stratification of tangible and intangible heritage, artisanal traditions, cultural landscapes, thermal resources, and maritime identity, Sciacca can still be regarded as a peripheral destination in infrastructural and tourism terms. Its heritage potential has long been only partially activated, with several places suffering from underuse, weak accessibility, and limited integration into broader local development strategies.

Within this context, the Community Cooperative *Identità e Bellezza* ("Identity and Beauty"), established in 2020, has developed an innovative model of local activation that can be regarded as one of the most significant community-based heritage regeneration experiences in Sicily. Its flagship initiative, the Museo Diffuso dei 5 Sensi ("Widespread Museum of the 5 Senses"), frames the city as an open and relational heritage system, in which local stories, crafts, food knowledge, neighbourhoods and cultural sites are reconnected through participatory experiences and distributed forms of stewardship. Residents are not external to the project; rather, they act as narrators, hosts, organisers and co-producers of value, while visitors are invited to engage with the city as temporary citizens rather than detached consumers. In this sense, Sciacca can be interpreted as a Heritage Community in action, where cultural heritage operates not only as a symbolic resource, but also as an enabling infrastructure for local development, community mobilisation and adaptive reuse [17, 22, 24, 25]. The cooperative does not merely promote attractions; it activates a social ecosystem of stewardship, in which heritage enhancement is linked to local entrepreneurship, collaborative storytelling, adaptive reuse, distributed visitor services, and community care. The project also contributes to reconnecting scattered cultural assets through a relational model instead of relying on large-scale infrastructural investment. In this sense, Sciacca offers a valuable case for examining how community-led heritage activation can produce multidimensional impacts.

4 Methodology: The Circular Cultural Tourism Dashboard as a Multidimensional Assessment Tool

The paper uses the Circular Cultural Tourism Dashboard developed within the Be.CULTOUR project as the main assessment framework. The dashboard was conceived as an operational self-assessment tool to support stakeholders and decision-makers in evaluating tourism strategies aimed at transforming less-known destinations into sustainable, circular and human-centred ones. The dashboard is structured around six dimensions: cultural, human and social, environmental, economic, man-made, and institutional.

The adoption of this framework is also justified in relation to the broader landscape of tourism and cultural indicator systems. International frameworks such as the UNWTO indicators for sustainable tourism, the UNEP-WTO guide for policy-making, the ETIS toolkit and the GSTC destination criteria have significantly advanced destination monitoring, but they tend to remain either too general, too management-oriented, or insufficiently focused on the specific interplay between heritage, circularity, community participation and regenerative local development [26, 27, 31]. At the same time, cultural monitoring systems such as the Cultural and Creative Cities Monitor provide valuable insights into cultural vibrancy and enabling conditions, yet they are not specifically designed to assess heritage-led community-based tourism transformations in less-known destinations [29]. The Be.CULTOUR dashboard is therefore used here as a more context-sensitive framework for evaluating circular cultural tourism in a peripheral heritage setting.

The choice of this framework is particularly appropriate for the Sciacca case because it allows impacts to be read not as isolated outputs but as interconnected effects distributed across multiple domains. It also accommodates mixed methods, combining surveys, checklists, mapping activities, statistical evidence, and qualitative notes. This is crucial in community-based heritage projects, where many relevant effects - such as sense of belonging, care practices, partnership density, and symbolic recognition - cannot be fully captured through quantitative metrics alone. Following this logic, the application of the framework to Sciacca can be described through four phases:

Literature-Based Framework Definition. The first phase, documented in previous research, consisted of reviewing the main tourism sustainability and cultural tourism indicator systems, identifying a gap in relation to circular, human-centred, and heritage-led tourism in peripheral areas. This phase justified the adoption of the Be.CULTOUR dashboard as a more suitable multidimensional architecture [32, 33].

Co-selection of Relevant Indicators. The co-selection phase consisted of a focus group involving three representatives of the Sciacca cooperative, who acted as key informants. Not all dashboard indicators are equally relevant to every local context. In Sciacca, the most pertinent indicators were selected through interaction with local actors and project collaborators, with the aim of focusing on those dimensions that best reflect the cooperative's actual strategy and impacts. This step is methodologically important because it transforms assessment from a top-down checklist into a context-sensitive multicriteria selection process. More specifically, indicator selection was guided by four criteria: relevance to the local regeneration strategy, data availability, sensitivity to short- and

medium-term change, and capacity to represent both tangible and intangible effects. This filtering process made it possible to prioritise indicators that were meaningful for the Sciacca pilot while preserving the multidimensional coherence of the dashboard. In this sense, the multicriteria nature of the assessment lies not only in the interpretation of results, but also in the prior selection and calibration of the indicators themselves, consistently with the broader literature on composite and multidimensional evaluation systems [29, 30]. The indicators initially proposed are those included in the Be.CULTOUR Dashboard [16]. A subset of indicators was selected and is presented in Table 1 (Sect. 5).

Co-collection of Evidence. The third phase involved collecting available data through different instruments. Some indicators were directly quantified, while others were reconstructed through descriptive evidence, proxy variables, and qualitative data. This reflects a realistic situation in local pilot contexts, where evaluation often progresses through partial but meaningful evidence rather than through fully standardised datasets. The collected dimensions refer to the engagement of multiple informants for the identification of data sources, while for some indicators more than one organization was involved in the data collection process when necessary. To collect information from multiple organizations and sources, shared datasheets were employed. Thus, the assessment should not be interpreted as a fully standardised impact measurement exercise, but as a robust exploratory framework for structured comparison, iterative monitoring and informed local decision-making, especially in contexts where meaningful change is only partially visible through conventional sectoral metrics [18, 26, 27].

Co-Evaluation and Co-reflection. Finally, the results were interpreted through an initial co-evaluation perspective that could be further improved and implemented over time. The initial phase involved members of the cooperative *Identità e Bellezza* ("Identity and Beauty") through a final focus group in which the relevant, reliability, effectiveness and replicability of the impacts assessment process was discussed. This phase, if further implemented, can successfully supports collective reflection, comparison over time, benchmarking with other places or best practices, and comparison across scales between organizations micro-level action and the broader urban contexts. In this sense, evaluation becomes a key component of governance process.

5 Results: Multidimensional Impacts of the Sciacca Pilot

The Sciacca pilot provides relevant evidence of a heritage-led regeneration trajectory whose impacts are distributed across several dimensions.

The Circular Cultural Tourism Dashboard was developed based on the indicator framework structured within the Horizon 2020 Be.CULTOUR project [16]. Figure 1 shows the dimensions and criteria of the Dashboard. In particular, the data collected in the Dashboard are categorized into six dimensions. Based on the selection criteria mentioned above, the representatives of the Sciacca cooperative identified the indicators considered most relevant for the activities carried out in the city of Sciacca. Beyond their role as monitoring and ex post impact assessment tools, the indicators can also support impact planning through the Theory of Change (ToC), as discussed in previous studies [16, 32].

In this case, since the analysis represents an ex-post evaluation exercise, it mainly assumes a monitoring and overall assessment function, aimed at supporting the revision of objectives and strategies towards a circular cultural tourism model in the city of Sciacca. More specifically, the assessment process helps identify positive results and effective actions, as well as less effective actions that may require revision during implementation. In this sense, evaluation triggers and enables a critical assessment of results and therefore supports strategic planning and decision-making processes towards a fully circular cultural tourism economy in the case study.

Moreover, a clear understanding of actual results and impacts by the involved communities enables a less subjective and biased self-assessment process, potentially supporting more informed decisions, particularly within participatory arenas. Clearly, impact assessment processes and tools alone are not sufficient to ensure successful participatory decision-making, which depends on multiple factors, including the formation and consolidation of the heritage community itself. However, the lack of evaluation capacity supported by coherent and reliable data may seriously undermine the effectiveness of participatory processes [34].

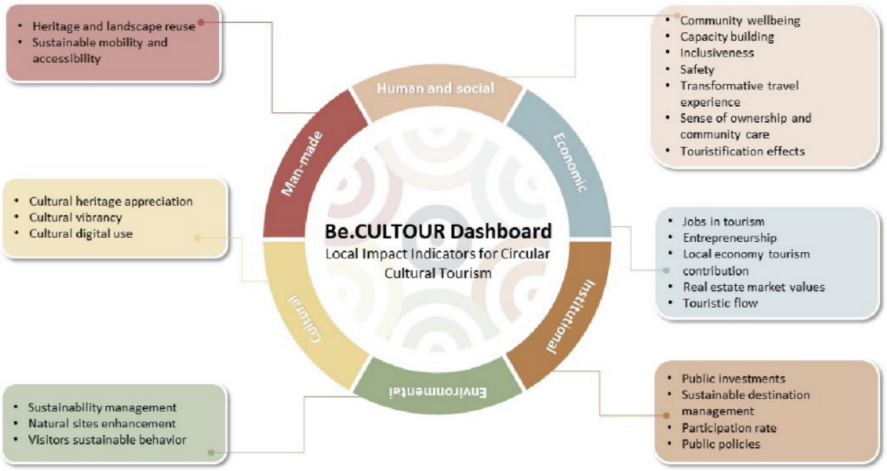

Fig. 1. Dimensions and criteria of the evaluation framework.

Based on the Dashboard, the relevant indicators were selected as described above. The list of selected indicators is reported in Table 1. Data are referred to the 2023.

According to indicators selected, a shared datasheet was established, enabling the members of cooperative to fill in the relevant data, highlighting data sources trough hyperlinks or other references. If needed, a specific section with general "notes" was provided, allowing further explanation or qualitative information. The resulting data set was used as the base for the assessment of impacts.

5.1 Cultural Impacts

The cultural dimension reveals a significant enhancement of local heritage attractiveness and cultural vibrancy. The dataset records 9 international awards and labels obtained over the last decade, indicating strong external recognition of the local heritage-based

Table 1. Selected multidimensional indicators of the evaluation framework.

Dimension	Criteria	Indicators	Units of Measure	Data collected
———Cultural dimension	Cultural heritage appreciation	Number of international awards/labels recognised to local tangible and intangible cultural heritage in the past 10 years	No. in the past 10 years	9
	——Cultural vibrancy	Number of cultural facilities open and accessible	No.	17
		Number of people visiting cultural sites per year	No./year	6.600
		Number of people participating in cultural experiences per year	No./year	922
		Number of cultural experiences for the enhancement of local tangible and intangible cultural heritage per year	No./year	45
		Number of cultural experiences for the enhancement of local tangible and intangible cultural heritage per year	No./year	4.628
Environmental dimension	Natural sites enhancement	Number of experiences to reconnect people and nature per year	No./year	4

(*continued*)

Table 1. (*continued*)

Dimension	Criteria	Indicators	Units of Measure	Data collected
——Human and Social dimension	—Sense of ownership and community care	Number of partnership activated for the care and valorizzation of cultural and natural heritage per year	No./year	5
		Volume of donations received for the management, enhancement, preservation and valorization on tangible and intangible cultural heritage per year	€/year	20.000
		Number of partnership activated for the care and valorizzation of cultural and natural heritage per year	No./year	65
	–Inclusiveness	Number of accommodations, culture and tourism structures offering supporting tools and services to breaking down language barriers	No.	9 info points with audio guides
		Number of women, youth, people with special needs and minority cultures included in enterprises	No./years	8

(*continued*)

Table 1. (*continued*)

Dimension	Criteria	Indicators	Units of Measure	Data collected
Economic dimension	Entrepreneurship	Number of new touristic enterprises in the last three year	No./3 years	5
Man-made dimension	Heritage and landscape reuse	Number of heritage/historic sites reused for cultural and tourist activities in the last five years	No. in 5 year	Via Perollo Grotte Vaporose
Institutional dimension	Public policies	Presence of policies to regulate the overcrowding	Yes/No	Yes

strategy. The city counts 17 cultural facilities, with the cooperative directly managing or activating a subset of heritage sites over time. The dataset also reports 6,600 visitors to cultural sites per year, 922 participants in cultural experiences in 2023 compared with 792 in 2022, and 45 cultural experiences dedicated to the enhancement of tangible and intangible heritage. These include food heritage workshops, craft experiences, wine and olive oil activities, carnival-related initiatives, coral traditions, and other experiential formats rooted in local identity.

These figures suggest that the cooperative's strategy is not centred on a single flagship monument, but on the creation of a distributed cultural ecosystem. This is consistent with the very idea of a diffuse museum and with the Heritage Community perspective, where value is generated through participation, interpretation, and local transmission rather than through passive consumption of heritage.

The cultural dimension also includes digital mediation. The dataset reports 4,628 downloads/views of digital audio-guide contents in 2023, after 8,788 in 2022. Rather than reading this only as a decline, it may be interpreted as a signal that digital tools need to be monitored longitudinally and contextualized in relation to changing visitor profiles, platform dynamics, and hybrid physical-digital experience design. Even so, the existence of 16 audio-guides confirms the relevance of digital infrastructure in expanding accessibility and narrative reach.

5.2 Human and Social Impacts

The human and social dimension is perhaps the most distinctive in the Sciacca case. The project is explicitly based on the activation of residents as narrators, hosts, volunteers, craftspeople, and partners. Although some social indicators still lack complete numerical standardisation, the available evidence clearly documents processes of community commitment, inclusion, and social learning.

A particularly emblematic case is the regeneration of Via Perollo, described in the dataset as a formerly marginal and weakly frequented street in the historic centre, transformed through ceramic installations, plants, and collective care practices. The notes report that the intervention involved 27 ceramic pots, 57 ceramic tiles, and 9 ceramic craftsman from the cooperative. Also, the additional qualitative notes highlight some little but relevant social outcomes: residents now water the plants, keep the street clean, and show a stronger sense of ownership, for example by contributing to the beaty of the street with additional ceramics provided by the community. This is a classic example of how a heritage-led micro-intervention can reactivate community stewardship and transform symbolic perception of place.

The dataset also reports 5 partnerships activated in 2023 within the relevant indicator, while the notes mention a much broader network including public-private agreements, educational programmes, school pathways, and internships. Likewise, donation-related indicators show a substantial capacity for collective mobilisation, with €20,000 reported under the volume of donations, alongside crowdfunding and sponsorship experiences. These elements confirm that social capital is not a background condition in Sciacca; it is one of the key outputs of the regeneration process.

5.3 Economic Impacts

The economic dimension indicates that the project is contributing to local entrepreneurship and heritage-based value creation. The dataset records 5 new tourism enterprises in the last three years, including language mediation services. Data referred to Via Perollo describes local business effects, with a reported +30% turnover for a tobacco shop and + 20% turnover for a ceramic workshop after the regeneration of the street.

While these figures are localized and not yet sufficient for a full economic impact model, they are highly relevant from a multicriteria perspective because they show how heritage enhancement can generate micro-economic spillovers through improved attractiveness, public realm quality, and storytelling value. The notes also mention increased real estate value and the emergence of new holiday homes, which suggests the need for future monitoring of both positive revitalisation effects and possible early touristification dynamics.

5.4 Built Environment and Spatial Impacts

The man-made dimension is captured above all through adaptive reuse and public space reactivation. In the dataset, Via Perollo again emerges as a paradigmatic example of heritage reuse for cultural and tourist purposes. Its transformation has produced a new urban scene, one of the most photographed places in town, and a venue for cultural and theatrical itineraries. The importance of this result lies not only in the physical upgrade of space, but in the fact that adaptive reuse here operates as a spatial mediator of social and economic regeneration.

5.5 Environmental Impacts

Although environmental evidence is less systematically available than cultural, social and economic data, the Sciacca case still suggests some relevant environmental implications of heritage-led regeneration. First, the distributed and proximity-based nature of the Museo Diffuso dei 5 Sensi ("Widespread Museum of the 5 Senses") promotes forms of slow, walkable and experience-based tourism that are potentially less resource-intensive than conventional destination consumption models, especially in a historic coastal city where cultural and everyday spaces are closely intertwined [35]. Second, the adaptive reuse of existing cultural assets and public spaces reflects a regenerative logic based on the valorisation of what already exists, thereby limiting the need for new material consumption and contributing indirectly to more sustainable place management [19]. Third, community-led actions of care and beautification, such as those observed in regenerated public spaces, contribute to a more liveable and environmentally attentive urban environment. At the same time, this dimension remains underdeveloped in the current assessment and points to the need for future monitoring through more specific indicators, such as sustainable mobility patterns, waste reduction practices, energy performance of reused spaces and environmental awareness generated through tourism experiences.

Among the six dimensions, the environmental one currently remains the least empirically consolidated and should therefore be interpreted as a preliminary field for future indicator refinement rather than as a fully measured impact domain.

5.6 Institutional Impacts

The institutional dimension highlights the role of governance arrangements and management tools. The data collected indicates the presence of mechanisms for regulating tourist flows, including audio-guides, reservation systems and ad hoc schedules, suggesting a proactive attempt to avoid congestion and manage visitor experience. This is particularly relevant because it demonstrates that even in a small historic city, heritage-led tourism can be accompanied by elementary but meaningful governance tools rather than left to spontaneous growth alone.

6 Discussion

The Sciacca case offers at least three broader insights for the debate on multicriteria impact assessment of heritage-led regeneration. These findings contribute to the literature by showing that, in small and medium-sized historic cities, heritage-led regeneration should not be evaluated through isolated sectoral indicators alone. Rather, it should be understood as a place-based transition process in which heritage operates as a connective infrastructure linking cultural production, social mobilisation, economic experimentation and institutional learning.

First, the case highlights the interdependence among impact dimensions. Cultural vitality supports entrepreneurship; adaptive reuse strengthens social ownership; digital tools expand access; partnerships reinforce governance capacity. A single-dimension indicators approach would fail to capture these relationships. The multidimensional and

multicriteria structure of the dashboard is therefore not only methodologically useful but conceptually necessary. In this respect, the Sciacca case confirms several insights emerging from recent studies on inclusive tourism, collective tourism entrepreneurship and circular cultural tourism, while also extending them by demonstrating how these dynamics can be operationalised through a multidimensional evaluation framework in a peripheral coastal city [18, 22, 25].

Second, the case confirms that impacts evaluation should be participatory and adaptive. In community-led projects, many relevant impacts are emergent, relational, and qualitative. Co-selection and co-interpretation of indicators increase the relevance of the framework and make assessment itself part of the regeneration process. In this sense, evaluation becomes a form of co-governance, fully coherent with the Heritage Community approach.

Third, the evidence from Sciacca suggests that circularity in heritage-led tourism should be interpreted in expanded territorial terms. The most significant effects do not concern only waste reduction or resource efficiency, but also the circulation of stories, trust, skills, care practices, and local economic benefits. This broader understanding of circularity is particularly suitable for historic villages, coastal towns and rural territories where intangible assets and community relations are central development resources.

The Sciacca case also suggests that experiential and digitally mediated heritage interpretation, for example through digital audio guides and itineraries, may strengthen the quality and memorability of visitor engagement while broadening access to distributed cultural assets. In line with the literature on visitor experience and human-centred tourism, the combination of storytelling, local participation and digital mediation can enhance not only satisfaction, but also emotional connection and sense-making, thereby reinforcing the regenerative potential of heritage-led tourism [20, 21, 36].

The multicriteria value of the framework lies in its capacity to interpret uneven evidence across dimensions, not by reducing them to a single aggregate score, but by supporting the comparative reading of dimensions with different levels of visibility, relevance and maturity.

More specifically, the Sciacca case both confirms and advances current scholarships. It confirms the importance of community-based tourism and collective entrepreneurship as mechanisms for mobilising local resources, enhancing social participation and generating more inclusive forms of territorial development [22, 25]. At the same time, it advances this literature by showing that, in heritage-rich small and medium-sized cities, these dynamics can be embedded within a more explicitly heritage-led regeneration logic, in which cultural heritage acts as a connective infrastructure linking identity, stewardship, adaptive reuse and local economic experimentation. Finally, the case contributes methodologically by showing that evaluation can play a role that goes beyond impact measurement alone. When organised through a multidimensional and multicriteria framework, assessment can support co-governance, reveal uneven and relational effects across domains, and help orient future decisions in complex place-based regeneration processes [18].

Overall, the results confirm that Sciacca's regeneration process is not reducible to a tourism promotion initiative. It is better understood as a multi-actor territorial strategy in which heritage functions as a platform for community activation, distributed entrepreneurship, place care, and governance innovation.

Taken together, these findings show that the strongest impacts of the Sciacca pilot emerge in the cultural and human-social dimensions, followed by significant effects in the economic, spatial and institutional spheres. The environmental dimension is currently less measurable, yet it is conceptually embedded in the project's regenerative logic through adaptive reuse, proximity-based tourism and collective care practices. This uneven distribution of evidence further confirms the usefulness of a multicriteria reading, since different dimensions display different levels of maturity, visibility and measurability.

At the same time, the case also reveals some limitations. Not all indicators are complete or directly measurable; several depend on surveys or local collaboration; some results rely on qualitative data rather than standardised time series. In the case of Sciacca, specific surveys were designed but not yet implemented thus this limited the selection of some indicators, especially those referring to citizens and tourists' perception and satisfaction. Moreover, the available evidence is stronger on activation outputs and proximate effects than on long-term outcomes such as demographic stabilization, housing affordability, or structural employment transformation. For this reason, the framework should be understood not as a closed measurement system, but as an adaptive evaluative architecture open to refinement, comparison and progressive data consolidation. Moreover, the interpretation of qualitative but also quantitative data, can be influenced by subjective bias, which was not possible to assess in the case of Sciacca as relevant benchmarks were not available for the specified indicators. The continue use of the proposed indicators framework could however address this limitation through future research and application in other case studies, collecting more information over time and possibly comparing it through available datasets and official sources where possible.

Finally, the transferability of the Sciacca experience to other contexts should be considered with caution. The effectiveness of community-based heritage regeneration depends on local leadership, social capital, heritage density, place identity and institutional openness, conditions that cannot be mechanically replicated elsewhere [10]. Nevertheless, the evaluative architecture proposed here may be adapted to other historic villages, coastal heritage cities and rural territories as a flexible framework for context-sensitive comparison, especially where conventional tourism metrics fail to capture the relational and regenerative nature of local development processes.

7 Conclusions

This paper has examined the case of Sciacca as an example of heritage-led regeneration driven by a local Heritage Community and assessed through a multidimensional multicriteria framework. The experience of the Community Cooperative *Identità e Bellezza* ("Identity and Beauty") and the *Museo Diffuso dei 5 Sensi* ("Widespread Museum of the 5 Senses") demonstrates how cultural heritage can become the nucleus of a wider

regenerative process, capable of activating local actors, reusing underused spaces, diversifying tourism experiences, strengthening territorial identity, and generating economic and social value.

The adoption of the Circular Cultural Tourism Dashboard proved especially useful because it enabled the interpretation of impacts across six dimensions and supported a mixed-method approach combining quantitative indicators and qualitative evidence. The results show that the Sciacca pilot has generated visible advances in cultural vibrancy, community engagement, partnerships, local entrepreneurship, adaptive reuse, and heritage recognition. At the same time, the case confirms that assessment must remain open, participatory and longitudinal, especially when dealing with complex community-based transformations.

From a policy and research perspective, the main implication is that evaluation should be embedded into regeneration processes from the outset. In peripheral historic cities, where resources are limited and change is often incremental, multidimensional indicators can help actors identify where value is being created, where risks are emerging, and how strategies may be adjusted over time. Rather than serving only as ex-post verification, multicriteria impact assessment can function as a strategic device for guiding circular, inclusive and heritage-led local development.

In this respect, the Sciacca case suggests that multidimensional and multicriteria assessment can play a strategic role not only in measuring change, but also in enabling it. When embedded into local decision-making, evaluation becomes a governance device capable of making visible the relational, place-specific and often intangible effects of heritage-led regeneration. This is precisely the kind of evaluative approach needed for the circular regeneration of historic villages, landscapes and rural territories, where development outcomes are distributed across cultural, social, economic, spatial, environmental and institutional domains and cannot be adequately understood through conventional sectoral metrics alone [18, 19, 27].

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