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Article

Cultural Heritage and Sustainable Development Targets: A Possible Harmonisation? Insights from the European Perspective

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Abstract: The Agenda 2030 includes a set of targets that need to be achieved by 2030. Although none of the 17 Sustainable Development Goals (SDGs) focuses exclusively on cultural heritage, the resulting Agenda includes explicit reference to heritage in SDG 11.4 and indirect reference to other Goals. Achievement of international targets shall happen at local and national level, and therefore, it is crucial to understand how interventions on local heritage are monitored nationally, therefore feeding into the sustainable development framework. This paper is focused on gauging the implementation of the Sustainable Development Goals with reference to cultural heritage, by interrogating the current way of classifying it (and consequently monitoring). In fact, there is no common dataset associated with monitoring SDGs, and the field of heritage is extremely complex and diversified. The purpose for the paper is to understand if the taxonomy used by different national databases allows consistency in the classification and valuing of the different assets categories. The European case study has been chosen as field of investigation, in order to pilot a methodology that can be expanded in further research. A cross-comparison of a selected sample of publicly accessible national cultural heritage databases has been conducted. As a result, this study confirms the existence of general harmonisation of data towards the achievement of the SDGs with a broad agreement of the conceptualisation of cultural heritage with international frameworks, thus confirming that consistency exists in the classification and valuing of the different assets categories. However, diverse challenges of achieving a consistent and coherent approach to integrating culture in sustainability remains problematic. The findings allow concluding that it could be possible to mainstream across different databases those indicators, which could lead to depicting the overall level of attainment of the Agenda 2030 targets on heritage. However, more research is needed in developing a robust correlation between national datasets and international targets.

Keywords: cultural heritage; Sustainable Development Goals; SDG 11; heritage database; heritage value; heritage classification

1. Introduction

All United Nations (UN) member states unanimously adopted the Sustainable Development Goals (SDGs) in 2015. This resulted in a comprehensive set of 17 goals and 169 targets aimed at reducing poverty and advancing health and wellbeing for all by 2030, Agenda 2030 [1]. The compelling need for action to create inclusive cities has been recognised in commitments and recommendations set out in the Sustainable Development Goals, World Humanitarian Summit and the New Urban Agenda from Habitat III (2016). The Millennium Development Goals (MDG) era came to an end in December 2015,

and the global community decided to look back at the value of a unifying agenda underpinned by goals and targets and use the lessons learnt to effectively implement the Sustainable Development Goals (SDGs) from 2016 to 2030. The SDGs, otherwise known as the Global Goals, build on the Millennium Development Goals (MDGs), eight antipoverty targets that the world committed to achieving by 2015. The lack of focus on urban areas and disaggregation is addressed at an international level through the introduction of the SDGs [2]. Successful global campaigning by a network of civil society, cities and the United Nations was a campaign that recently culminated in a New Urban Agenda [1] and a specifically Urban Sustainable Development Goal (USDG) as part of the United Nations 2030 Agenda for Sustainable Development. The SDGs were intended to redress many of the shortfalls of the MDGs. While the MDGs committed governments and international agencies to reducing the number of people living in poverty or lacking access to essential services and infrastructure, the SDGs commit these actors to poverty eradication and universal access to these services and infrastructure. The SDGs are a United Nations-sponsored effort to create a common set of development goals for all communities in every country, with a deadline for attainment of 2030. The idea is to get governments, aid organisations, foundations and NGOs on the same page about what global problems most urgently need to be solved and how to measure progress and solutions.

While these efforts symbolise an important start, similar to the UN system, the platform lacks any data on indicators related to cultural heritage. Consequently, reflecting the challenges in attaining adequate data and developing systematic methodologies on cultural heritage is needed to realise the SDGs [3]. In this paper, we argue that the availability and harmonisation of data from member states is central to localising SDG 11.4.

The purpose of this study is to better understand if the taxonomy used by different databases allows consistency in the classification and valorisation of the different assets categories. In this context, the potential for a common approach to the protection and safeguarding of European heritage [4] is explored with the aim to feed into a methodological framework for the calculation of the 11.4 target. In order to do this, national heritage databases and inventories are identified for a cross-comparison review of what these states recognise as heritage and how they assign value to it. There are an increasing number of studies investigating the development of harmonised data in order to successfully achieve the SDGs [5–8]. Similarly, there is an established discourse on the documentation of cultural heritage and the development of heritage databases in implementing sustainable development for urban and rural areas [9–13]. However, there is a paucity of studies that have explored the development of a heritage database in Europe with the aim of harmonising data for the achievement of the SDGs. This paper argues that the way in which cultural heritage is perceived and conceptualised by national and local government and heritage stakeholders has a direct effect on the way it is managed, interpreted and understood. Consequently, this impacts how local communities associate themselves with heritage and value it. Acknowledging the crucial role of enforcing and monitoring the implementation of the legal heritage framework, it is also important to understand how common frameworks designed to protect and safeguard cultural heritage have translated into the local management practice of heritage assets and databases. It is anticipated that this review has two possible applications: (1) supporting national authorities in finding a suitable conceptual framework and methodology for the development of SDG culture indicators and (2) supporting the UN in understanding inconsistencies that may arise from different system of calculations of heritage-related targets according to different databases in Europe.

This paper is structured into six broad sections. Section 1 introduces the background of the paper, while Section 2 discusses the overall methodology used for developing this paper. Section 3 explores the classification of cultural heritage, culture in the Sustainable Development Goals, current heritage indicators and efforts to move beyond it through the development of heritage indicators. This is followed by the results in Section 4, which is divided into four thematic areas: (1) cultural heritage's multidimensional impact; (2) safeguarding built cultural heritage; (3) safeguarding intangible heritage; and (4) culture and environmental sustainability. Section 5 discusses these areas, and Section 6 concludes the paper.

2. Methodology

Based on this paper's research aim to develop an understanding on the role of culture in sustainable development its implementation of the Sustainable Development Goals with reference to cultural heritage, the methodology of this paper can be understood in three parts: (1) scientific discourse analysis; (2) database cross-comparison analysis; and (3) a heritage expert informal online survey.

2.1. Discourse Analysis

In order to facilitate the exploration of the conceptualisation and the role of culture in sustainable development with a focus on countries in the European region, an academic and policy discourse analysis was conducted. A document analysis was conducted of documents linked to the databases found on the national authoritative agency website. The main aim of this analysis was to provide a broad picture of cultural sustainability in the context of Europe and the challenges of integrating culture in sustainable development. Targeted internet searches were conducted for documents through snowballing, identifying publications in reference lists and through expert recommendations. NVivo 10, a well-known qualitative data analysis software tool, was used to help the systematic storing, retrieval, evaluation and interpretation of the texts.

2.2. Database Cross-Comparison Analysis

As a first step for this analysis, known websites of national agencies responsible for the management of cultural heritage in Europe were explored and searched to determine the existence of heritage databases. Other websites were also used for this initial search, such as UNESCO, COE and ICOMOS. Any noteworthy details related to the conceptualisation of heritage were tracked and archived. As a second step to support add accuracy, the HEREIN database was used to identify and verify sources for heritage databases, information and management. HEREIN is a European Cultural Heritage Information Network developed in 2014 within the Council of Europe, which brings together European public administrations in charge of national cultural heritage policies and strategies to form a unique co-operation network in the domain of Cultural Heritage [14]. A comprehensive search for the details of the authoritative database was conducted of the heritage national report submitted from European members. The national reports on cultural heritage are based on information collected by HEREIN Coordinators among resource persons in all ministries and cultural heritage entities as well as additional experts in the field. Each national heritage report contains information about the inventories and databases developed by the nation state, including details about the content and level of detail. The search was supported by information from country profiles from the monitoring system, Compendium of Cultural Policies and Trends [15]. Each national report (29) and country profile (44) was reviewed for details about the national database and the classification and value system used. Searches were carried out in the language of the report aided by translation. The key search words included "inventory", "database", "Classification", "Values". "Repository", "Data", and "Geoportal". Resulting from this search, 20 countries were identified with national inventories and databases that were publicly accessible. Following this, we accessed each database and navigated with more detail through the site and the documents found on the site. We began this review by specifying important attributes to ensure comparability. Four attributes for the review of heritage databases were prioritised that would be essential for this methodology as highlighted below:

1. Publicly accessible online, freely available and having the ease of retrieval of information in English;
2. Searchable by keywords and user friendly;
3. Regularly updated;
4. Having a broad scope (including intangible heritage where possible)

According to the above criteria, we eliminated results that were ineligible for comparability, such as those that (1) were inaccessible due to permissions or site issues or other reasons and (2) lacked

comprehensive information to support the purpose of the paper. After this review, 16 national heritage databases were found to be meeting the criteria as represented in Figure 1. These 16 online databases have been chosen to contain information to different extents of the conceptualisation of cultural heritage. As part of the analysis, a search for the classification and conceptualisation used in the database was conducted by analysing the list of heritage and categorisation used. Details concerning tangible and intangible heritage were identified. The values, significance and interest used for the listed cultural heritage in the database was explored in parallel to the step detailed above. Additionally, the inclusion of the public in determining the database was noted where mentioned. Other details include the access to a geoportal and spatial data. The databases were assessed against the conceptualisation of cultural heritage used by the UIS UNESCO Framework for Cultural Statistics for the SDG 11.4 target: “artefacts, monuments, and groups of buildings and sites that have a diversity of values including symbolic, historic, artistic, aesthetic, ethnological or anthropological, scientific and social significance.”

No	1	2	3	4	5	6	7	8
Country	England	Scotland	Ireland	France	Italy	Sweden	Netherlands	Denmark
Name of Database	The National Heritage List for England (NHLE)	Heritage register (combined)	National Inventory of Architectural Heritage & Architectural Heritage Garden Survey	Base Mérimée: Immeubles protégés au titre des Monuments Historiques	Catalogo Generale dei Beni Culturali	Building Registry - BeBR	National Monument Register	Buildings register
No	9	10	11	12	13	14	15	16
Country	Estonia	Finland	Portugal	Czech Republic	Poland	Slovenia	Ukraine	Lithuania
Name of Database	National Register of Cultural Monuments	Nationally Constructed Cultural Environments (RKY) inventories	Lista de património edificado em Portugal	National Heritage Institute	Heritage board of Poland	Register of Slovene cultural heritage	State Register of Real Estate	The Ministry of Culture of The Republic of Lithuania Register

Figure 1. Heritage databases.

2.3. Heritage Expert Informal Online Survey

Additionally, an informal online survey was sent to representatives of institutions working in the field of culture and heritage, academics and organisations' employees. They were encouraged to fill in the online questionnaire. A total of 10 experts in the field of heritage conservation in local governments for 10 European member states responded to the survey. The online survey was based on 8 open questions, asking for opinions on the conceptualisation of cultural heritage, value and impact of heritage, classification of cultural heritage in Europe and the recommendations to integrate culture in sustainable development.

3. Positioning Culture within Sustainable Development

3.1. Classifying Cultural Heritage

International standards of classification and heritage documentation are created by international organisations such as UNESCO and the Council of Europe. International heritage charters, conventions and recommendations have encouraged the development of inventories and current databases of heritage. This includes the Athens Charter, the UNESCO World Heritage Convention, the UNESCO recommendation concerning the protection, at national level, of the cultural and natural heritage, the ICOMOS (1996) principles for the recording of monuments, groups of buildings and sites, the UNESCO (2001) convention on the protection of underwater cultural heritage, the UNESCO (2003) convention for the safeguarding of the intangible cultural heritage, the ICOMOS (2008, 2011) charter on cultural routes and the Valletta principles for the safeguarding and management of historic cities, towns and urban areas. The identification of cultural heritage to be protected and inventoried is further recognised in European regional heritage norms, such as the Council of Europe's (1985, 1992) Convention for the Protection of the Architectural Heritage of Europe, known as the Granada Convention, and the European convention on the protection of the archaeological heritage. Aligned with the international

policy landscape is the current social, economic and political crises, particularly prevalent in the Arab region. The prominent attacks on cultural heritage have stirred the urgent need to study and explore imminent risks to cultural heritage. A comparison of the international and European ratification status of different EU countries is illustrated in Figure 2. This context emphasises the need for the development of accurate databases in protecting heritage from threats to the urban fabric and spaces of heritage value and interest through the documentation of the state of conservation and the condition of the urban fabric. As a result, UNESCO has continued to place increasing scrutiny on the immaterial and material representations of heritage. This eventually led to a formal acknowledgment of the deeply rooted interdependence between the intangible and the tangible heritage through the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage [16]. The Convention emphasises the crucial role of intangible cultural heritage as a mainspring of cultural diversity and a guarantee of sustainable development. Traditional knowledge and social practices and processes contribute to addressing fundamental needs and social issues leading to the achievement of inclusive social development [17,18]. In particular, among other measures of safeguarding in the Convention, it is recommended that the role of state parties is to identify and define the various elements of the intangible and draw up, in a manner geared to its own situation, one or more inventories of the intangible cultural heritage present in its territory (articles 11 and 12) [16].

No	1	2	3	4	5	6	7	8
Country	England	Scotland	Ireland	France	Italy	Sweden	Netherlands	Denmark
UNESCO								
World Heritage Convention of 1972	29/05/1984	29/05/1984	16/09/1991	27/06/1975	23/06/1978	22/01/1985	26/08/1992	25/07/1979
Convention for the Safeguarding of the Intangible Heritage of 2003			22/12/2015	11/07/2006	30/10/2007	26/01/2011	15/05/2012	30/10/2009
Council of Europe								
Granada Convention for the Protection of the Architectural Heritage of 1985	13/11/1987	13/11/1987	10/01/1997	17/03/1987	05/04/2006	05/10/1990	15/02/1994	23/07/1987
Valletta Convention for the Protection of the Archaeological Heritage (revised) of 1992	19/09/2000	19/09/2000	18/03/1997	10/07/1995	30/06/2015	11/10/1995	11/06/2007	16/11/2005
Florence European Landscape Convention of 2000	21/11/2006	21/11/2006	22/03/2002	17/03/2006	04/05/2006	05/01/2011	27/07/2005	20/03/2003
Faro Convention on the Value of Cultural Heritage for Society of 2011					27/02/2013 (signature)			
No	9	10	11	12	13	14	15	16
Country	Estonia	Finland	Portugal	Czech Republic	Poland	Slovenia	Ukraine	Lithuania
UNESCO								
World Heritage Convention of 1972	27/10/1995	04/03/1987	30/09/1980	26/03/1993	29/06/1976	05/11/1992	12/10/1988	31/03/1992
Convention for the Safeguarding of the Intangible Heritage of 2003	27/01/2006	21/02/2013	21/05/2008	18/02/2009	16/05/2011	18/09/2008	27/05/2008	21/01/2005
Council of Europe								
Granada Convention for the Protection of the Architectural Heritage of 1985	15/11/1996	17/10/1991	27/03/1991	06/04/2000	22/11/2011	02/07/1992	21/12/2006	07/12/1999
Valletta Convention for the Protection of the Archaeological Heritage (revised) of 1992	15/11/1996	15/09/1994	05/08/1998	22/03/2000	30/01/1996	07/05/1999	26/02/2004	07/12/1999
Florence European Landscape Convention of 2000	08/02/2018	16/12/2005	29/03/2005	03/06/2004	27/09/2004	25/09/2003	10/03/2006	13/11/2002
Faro Convention on the Value of Cultural Heritage for Society of 2011		31/05/2018	28/08/2009			17/09/2008	09/01/2014	

Figure 2. Comparison of international and European ratification status.

The 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict classifies cultural property according to the identification of three typological categories: (1) movable or immovable property of great importance to the cultural heritage of every people; (2) buildings that contain cultural objects, such as museums, libraries and archives; and (3) historical centres containing monuments [19]. UNESCO broadens this classification of cultural heritage through the World Heritage Convention. The World Convention reconciles previous definitions of cultural heritage and presents immovable cultural heritage within three categories: (1) monuments, (2) groups of buildings and (3) sites as illustrated in Figure 3 below. Intangible heritage is conceptualised into five categories

focused on traditional social practices and processes, craftsmanship, rituals and arts. The protection of moveable cultural heritage is foregrounded through key legislation such as the 1970 UNESCO Convention on the means of prohibiting and preventing the illicit import, export and transfer of ownership of cultural property and at a later point, the 1995 UNIDROIT Convention on stolen or illegally exported cultural objects.

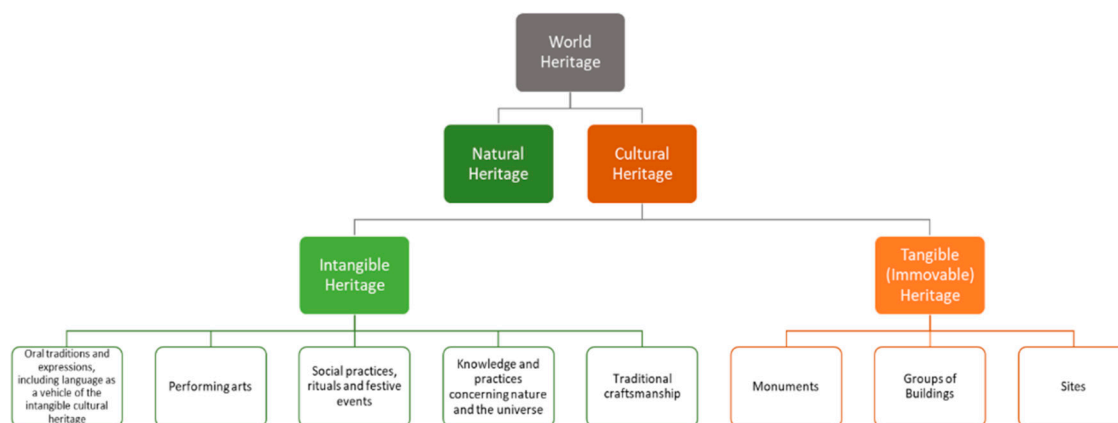


Figure 3. UNESCO cultural heritage classification.

3.2. Towards achieving the SDG 11.4: Strengthening efforts to protect and safeguard the world's cultural and natural heritage

Of the 17 finalised SDGs, one of those, Goal 11, centres on a pledge to “make cities and human settlement inclusive, safe, resilient and sustainable” and includes a series of 11 targets, each with politically negotiated indicators [2]. That goal is backed by specific targets and indicators (currently under negotiation), such as eliminating slum-like conditions, reducing urban sprawl and ensuring universal access to safe and sustainable urban transit. Goal 11 marks the United Nations’ strongest expression ever of the critical role that cities will play in the world’s future. Although none of the 17 SDGs focuses exclusively on culture, the resulting Agenda includes several explicit references to cultural aspects (Figure 4). Under goal 11 is an important indicator for cultural heritage: target 11.4 “Strengthen efforts to protect and safeguard the world cultural and natural heritage” [20]. Other references include target 4.7, which focuses on promoting knowledge and skills and the appreciation of cultural diversity; targets 8.9 and 12.b, which promote sustainable tourism and local culture aligned with target 14.7, promoting the sustainable use of aquaculture and tourism; targets 16.3, 16.8 and 16B promote the enforcement of the rule of law and strengthening global governance [20]. All targets have specific implications in the field of culture. These targets give light to the role that local heritage (that determines the cultural heritage) can play in this sustainable development framework. Indeed, SDGs are supported by international instruments and actions such as the establishment and mandate for a new special procedure entitled “independent expert in the field of cultural rights” through the Human Rights Council, resolution 10/23 [21]. In this context, cultural heritage is centralised in the enjoyment of human rights and in combating fundamentalism and extremism. While national governments of UN member states have set the USDG, the goal and its targets will need to be realised at the local scale. The USDG thus raises the question of the relationship and coordination between cities and other subnational as well as national governments in relation to the implementation of the goals and monitoring. What is uncertain is how another set of goals and targets will enable the appropriation of urban heritage at a local level.



Figure 4. Culture in the Sustainable Development Goals.

The SDGs focus explicitly on heritage in one specific goal and indicator: Goal 11, target number 11.4. As illustrated in Figure 5, the indicator is concerned with developing a global picture of financial actions to safeguard cultural and natural heritage made by organisations in the private sector and public authorities at local and national levels. By identifying the spending of public authorities and private expenditure related to heritage, comparisons between countries can be made at a global scale to provide a complementary measure of the level of development and capacity of a nation [20]. Disaggregation for the indicator includes the type of heritage, World Heritage designation; level of government and type of private funding. Therefore, several sources of information are required for the assessment of this indicator. No internationally established methodology or standards are yet available for the indicator, but methodology and standards are being developed; therefore, this indicator is classed as Tier 3 [22]. According to the agency in charge, the UNESCO Institute for Statistics (UIS), work for the development of this indicator began in 2016 [23]. The first step toward the development of a global data collection instrument was to collect information about the availability of data through a completed survey by each country in 2017. The survey response rate varied greatly between global regions [22]. The majority of the results came from Europe and North America (59%) followed by Northern and Western Africa (38%). The results revealed a limitation in the provision of private expenditure and great variations in the level of detail for public expenditure. Initial results show that 71% of responding countries had at least one source of public heritage expenditure data, and 29% of countries had a least one source of private heritage expenditure data [23]. In addition, the UIS SDG 11.4.1 Heritage Statistics Pilot Survey was launched in October 2017 and sent to 14 National Statistical Offices around the world to test and assess the proposed data collection instrument, as well as the data collection process and response burden on countries. Based on the results of the UIS SDG 11.4.1 Metadata and Pilot Surveys undertaken in 2017, UIS is designing a detailed global data collection tool that matches the needs of the indicator. Thus, the conceptual accounting treatment of heritage assets faces many challenges [22].

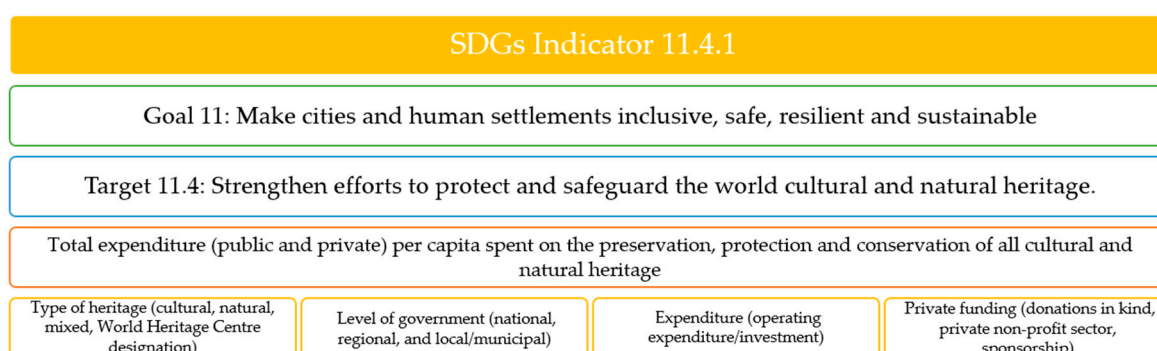


Figure 5. Decomposition of SDG 11.4.

Indeed, there are some existing definitional challenges with the indicator and the development of a methodology. The UIS uses the UNESCO 2000 Framework for Cultural Statistics cultural definitions which define Cultural Heritage as including “artefacts, monuments, and groups of buildings and sites that have a diversity of values including symbolic, historic, artistic, aesthetic, ethnological

or anthropological, scientific and social significance” [23]. This definition is fundamental to the identification and calculation of heritage expenditure for achieving the SDG 11.4. There is a need, therefore, to identify if classifications of cultural heritage in different nations align with this definition and according to what values. This determines what type of cultural heritage public authorities and private organisations will dedicate to protect and conserve and also why this is done. The UNESCO Framework for Cultural Statistics used for the methodology of SDG 11.4 defines Cultural Heritage as having a diversity of values, including “symbolic, historic, artistic, aesthetic, ethnological or anthropological, scientific and social significance.” The articulation of heritage values allows for the consideration of the decision to give a “heritage status and significance”, and therefore, the assessment of these values attributed to heritage is a very important activity for the achievement of the SDGs. The Australia ICOMOS (1979) Burra Charter introduced the concept of cultural value-based approaches by defining cultural significance as aesthetic, historic, scientific, social or spiritual value for past, present or future generations [24].

3.3. European Heritage Indicators

At a European level, Eurostat collects statistical data for culture from member states. It compiles databases with information on the main developments for culture-related education, cultural employment, cultural enterprises, international trade in cultural goods, cultural participation, the use of information and communication technology (ICT) for cultural purposes, as well as household and government expenditure on culture for all European Union member states. There are challenges related to the compilation of data on culture from all member states. This includes challenges related to the conceptualisation and definition of culture and cultural heritage as well as methodological and infrastructural challenges [25]. Furthermore, the exact culture indicators used for each country are difficult to obtain [26]. Recent culture statistics 2019 include statistics on the economic dimensions of culture (employment, enterprises and international trade) and cultural participation (from the perspective of individuals) [25]. Although the data give a more detailed picture of the impact of culture in member states, they remain purely quantitative and inconsistent in many cases. This focus on the economic dimension positions culture as having a significant economic impact on society, thereby justifying public expenditure for culture on the grounds of the advantages it can bring to a nation [26]. This can be in the form of socioeconomic factors related to urban regeneration, wealth and job creation and even an increase in cultural participation that can lead to social cohesion and community development. Figure 6 illustrates the percentage total share of expenditure that was devoted to cultural services for the selected countries (Depending on data availability for each country. Source: Eurostat online) in 2017 (Figure 1). The highest percentages are in countries such as Lithuania (2%) and Poland (1.7%), and the lowest countries below the European country average include Portugal (0.5%), Italy (0.6%) and the United Kingdom (0.6%). Public sector expenditure demonstrates the public investment and priorities made. With the growing constraints of the public sector, achieving SDGs requires public-private alliances, and therefore, data should be made available that reflect these joint strategies of action.

Increased employment possibilities, job creation in other sectors and even social belonging and cohesion can all be an indirect consequence of the historic environment [27]. In 2018, there were 8.7 million (3.8%) people across the 28 countries of the European Union working in a cultural activity or a cultural occupation [25]. Figure 7 shows the total number of people working in a cultural activity or a cultural occupation in 2018 in selected countries. Several countries are above average in cultural service employment, including Estonia (5.6%), Slovenia (4.7%) and all of the Nordic countries. The challenge in assessing the scale of employment requires various means of data collection and their categorisation in different countries. Therefore, these numbers should be treated only as indicative.

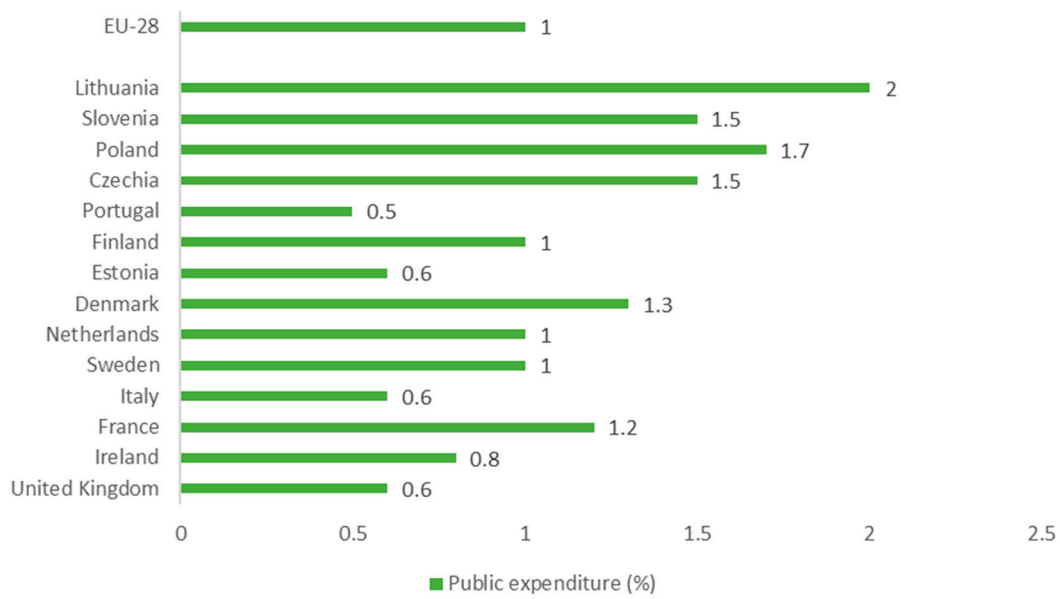


Figure 6. Percentage share of public expenditure (2017).

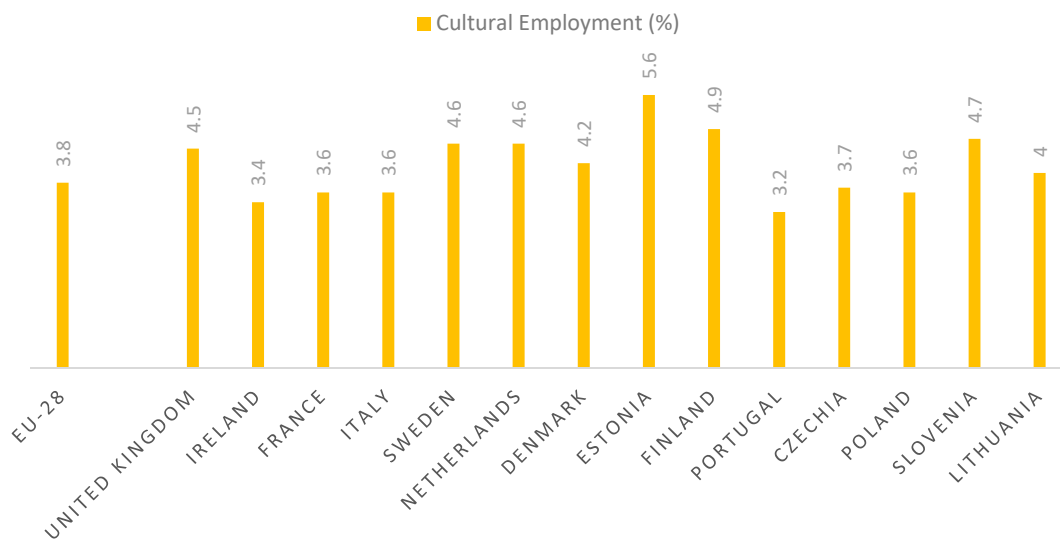


Figure 7. Percentage share of cultural employment (2018).

Figure 8 below illustrates the frequency of participation in cultural activities (cinema, live performances or cultural sites) for over 16-year-olds based on the results of a 2015 survey on social and cultural participation that formed part of EU statistics on income and living conditions (EU-SILC) [25]. The results show that more than half of the adult populations in the selected countries, except, surprisingly, for Italy, participated in cultural activities. Cultural participation can translate to an increase in civic awareness, the knowledge of tradition and history, the awareness of identity and local belonging, as well as influencing the development of other tourism-related activities, such as restaurants and hotel businesses [27,28].

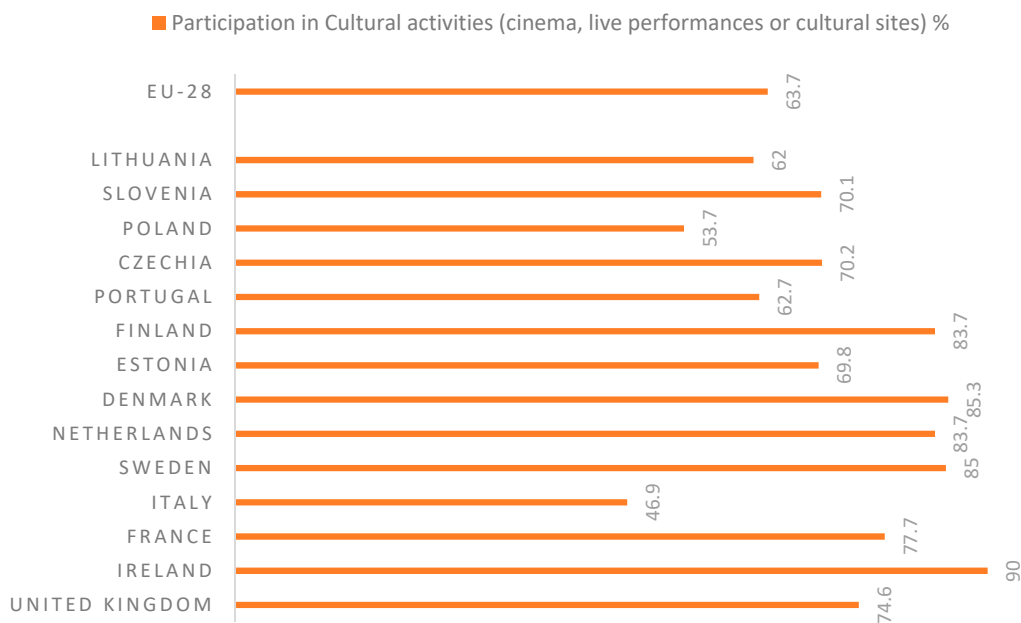


Figure 8. Percentage share of participation in cultural activities (cinema, live performances or cultural sites) (2015).

A frequently used indicator is the number of visitors to cultural sites, often referring to tourism demand and supply [29]. An example of this is the European Group on Museum Statistics (EGMUS), which has maintained a database that contains statistics on museums in Europe. Figure 9 below presents data on the total number of admissions from the five most visited museums in 2018. The highest numbers are found in the United Kingdom, France, Italy and Poland, indicating high levels of tourism interest. Nordic countries such as Denmark and Finland have lower numbers, although the statistics do not give further detail about visits from local and international visitors. Within this context is an acknowledgment of the central role that cultural heritage plays in heritage tourism and sustainable development [17,30–32]. The promotion of tourism results in economic impacts as well as contributing to the wellbeing of local communities [26]. However, the limited mention of the relationship between tourism, heritage and climate change in academic discourse suggests an absence of exploration of the full impacts of cultural tourism. Nocca [29] suggests that there is a double relationship between the tourism sector and climate change where, firstly, climate change represents a threat to cultural heritage, and consequently for cultural tourism (e.g., reducing attractiveness of places) and secondly, the increase of global CO2 emissions and global warming is a result of tourism (e.g., flights to visit cultural sites), therefore arguing for further development of cultural indicators related to tourism and subsequently accurate data that can support this.

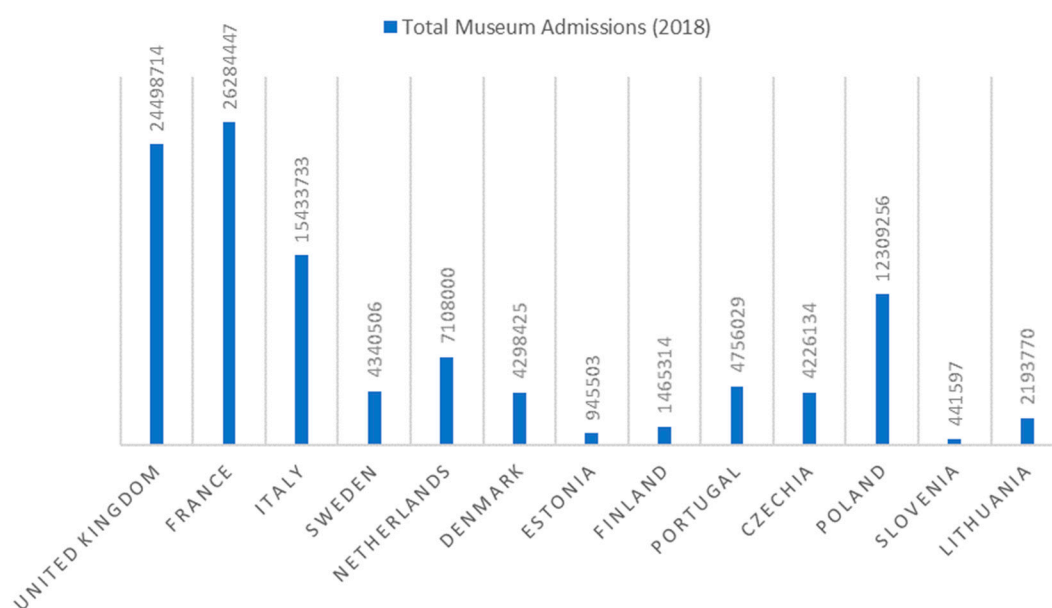


Figure 9. Total number of admissions from the five most visited museums.

3.4. Beyond SDG 11.4: Developing Harmonised Heritage Data in Europe

There is a growing discourse on contextualising the SDGs and ensuring that an international agenda can be translated at a local, community level [3,29,33]. For attempts to answer these questions and achieve Agenda 2030, local governments, heritage stakeholders and institutions must have sufficient data concerning their tangible and intangible heritage assets and the ability to infrastructure to monitor. In an effort to capture the progress of member states toward achieving the SDGs, the UN developed a global SDG Indicators Database. This database is regularly updated and is only limited to the country/area level and not the local level. Furthermore, the number of indicators represented in the database is limited. Notably, all the indicators explicitly mentioning culture as illustrated in Figure 5 lack any data. Another monitoring system is the World Bank Development Indicators platform, which allows users to explore the data for the targets and selected indicators.

Therefore, several initiatives and projects have been introduced to build evidence-based indicators that will help to build a multidimensional, coherent and strong narrative on culture and development. One of these projects is the UNESCO Culture 2030 Agenda for Sustainable Development Indicators initiative. This project deals with the integration of culture in the implementation of the 2030 Agenda [7]. Its aims to establish a methodology and conceptual framework for countries and cities to assess the contribution of culture to the SDGs as part of the existing implementation mechanisms of the 2030 Agenda at the national or local level. Responses from UNESCO member states in the European region challenge the achievability of these indicators, as illustrated from the member state survey which was launched in May 2019 to develop the framework of thematic indicators. There is unified agreement on the importance of measuring culture and the development of indicators to support and enhance the role of culture in their countries' efforts to implement the 2030 Agenda. However, responses emphasised that the "role and influence of culture is quite difficult to measure" (Estonia) with undeveloped understanding of the "interlinks between culture and human development and their possible undisclosed potential" (Portugal). Furthermore, harmonisation of data is perceived as logistically problematic, requiring "a consensus on a consistent approach so that the different agencies and institutions speak essentially the same language . . . it is a compromise result of long-term negotiations" (Czechia). A response from the Netherlands describes the harmonisation and integration of data on culture as "time (and money) consuming . . . it needs a central player with a clear mandate to make progress" (Netherlands). Member states such as Latvia and Portugal emphasised the need for qualitative data to give adequate insight on culture's impact on sustainability.

4. Results

This section discusses the results from the analyses in four interdependent thematic areas: (1) cultural heritage's multidimensional impact; (2) safeguarding built cultural heritage; (3) safeguarding intangible heritage; and (4) culture and environmental sustainability. The discourse and the analysed databases demonstrate that culture plays a crucial and diverse role in the sustainable development of urban and rural environments. There is general harmonisation of the conceptualisation and classification of cultural heritage with international frameworks. These results are supported by Figure 10; Figure 11, which illustrate the classification and values of heritage. The responses from the expert informal survey support this finding, with 90% of respondents agreeing that assets, values and instruments in their country reflect the international and European framework of cultural heritage. The safeguarding of built cultural heritage is a central focus in the databases, although the association with intangible heritage is not yet established. Databases for intangible heritage have been developed according to international standards and created from collaboration with local citizens. Evidence of spatial mapping of cultural heritage emerged during the analysis with GIS-based geoportals and the accessibility of spatial data for the public. This last thematic area also explores the relationship between environmental and cultural processes and practices within the area of sustainability.

4.1. Cultural Heritage's Multidimensional Impact

The analysis revealed a strong focus on both tangible and intangible cultural heritage as independent and interdependent concepts. Articles included in the analysis presented cultural heritage as evolving, complex and multifaceted. What cultural heritage means and how it has been presented, represented, developed and protected, set against a backdrop of demands and motivations, is depicted as multidimensional [26,29]. Similarly, all the databases used a broad and diverse categorisation of heritage as illustrated in Figures 10 and 11. Built heritage (historical buildings, monuments, etc.) dominates the databases, whereas the academic discourse covers a broader representation of cultural heritage often associated with social aspects of sustainability. The significance of a place embraces the diverse cultural and natural heritage values that people associate with it, or which prompt them to respond to it [34]. The emphasis of layered values is further emphasised in the definition of urban heritage by UNESCO, "urban heritage is for humanity a social, cultural and economic asset, defined by an historic layering of values that have been produced by successive and existing cultures and an accumulation of traditions and experiences, recognized as such in their diversity" [35]. Valuing heritage has become a popular method for the conservation of tangible and intangible heritage in recent years. An alternative definition given by Gravari-Barbas, Bourdeau and Robinson [36] is that value relates to the material being of a site with emphasis upon issues such as integrity and authenticity. In order to make decisions on the preservation of cultural heritage, often undertaken by governments and public administrations, an evaluation of the value of the type of heritage is required [37]. Value-based approaches have been adopted in European countries for an increasing range of categories of cultural heritage, including archaeological and historic objects and sites [24,38,39], historic buildings [40] and urban and rural landscapes [34,41,42]. Often, predominance is given to what Michael Petzet [43] refers to as classical values. This emphasis is illustrated in value typologies used for the databases such as: "architectonic and urbanistic" (Czech Republic); "archaeological" (Poland, Scotland, Ireland, Italy, Estonia, Portugal); "historical" (England, Scotland, Ireland, France, Italy, Estonia, Portugal, Czech Republic); and "cultural-historical" (Belgium, Sweden, Ireland, Denmark, Czech Republic). The academic discourse rather demonstrates a move beyond the material bias of 19th and 20th century practitioners to a more holistic view of interpreting cultural heritage [31]. Values of cultural heritage are considered plural [44] due to the fact that heritage is considered significant for multiple reasons. This is reflected in other value types included in the design for the databases: "environmental" (Denmark); "artistic" (Scotland, Poland, Ireland, Italy, Portugal); "Evidential" and "communal" (England); "social" (Scotland, Ireland, Portugal); "traditional" (Scotland); "technical" (Ireland, Portugal); Demo-ethno-anthropological (Italy); "Scientific and Technological"

(Italy), “civilizational” (Slovenia) and “creative” (Ukraine). This representation aligns with the cultural heritage storyline described in the scientific analysis work of Soini and Birkeland [45]. It demonstrates heritage as temporally and spatially embedded, emphasising the importance for the future. Supporting this perspective is the work of Nocca [29], who demonstrates the multidimensional role that cultural heritage plays, including contributing to community wellbeing and social cohesion. Although stating that this impact is poorly considered, the author identifies an indicator from analysis which includes the engagement and participation in cultural activities. Participating in creative and cultural activities may have a considerable impact on strengthening mutual understanding, an individual’s quality of life, contributing towards overall wellbeing and enhancing the sense of belonging within society [25].

In introducing the notion of interpretation [32] in this view of culture, the concept of heritage can be broadened into notions of local identity, ethnicity, nationalism, liveability of urban areas and social cohesion. Such an example is given in the context of the sustainability of Lithuanian towns and cities [46] and the sustainable development of Scottish towns [47]. Considering urban planning and development policies, the literature confirms that the holistic integration of cultural heritage is still relatively immature in many European countries. For example, Axelsson et al. [6] showed that more work needs to be done in Sweden to identify cultural indicators and target levels to support the inclusion of cultural values in a planning context. Some of the challenges of this integration from a case study of Slovenia [48] are described as inadequate public participation that relies on conventional strategies instead of bottom-up, direct involvement of users in the spatial planning process. The value of cultural heritage is often constructed through processes of selection criteria appropriated internationally or nationally and [29] then objectified to become worthy of political, economic and tourist attention and conservation. There is therefore a need to safeguard and respect the inherited values and significance of cultural heritage in cities. Analysis of cultural practice in the context of sustainable tourism shed some empirical light on its relevance and utility. The examination of the integration of cultural sustainability in Denmark [49], particular in areas of material and nonmaterial wellbeing, equitable relationships between host communities and tourists and quality of life concludes that cultural practice is not only a useful mechanism for successful competence development but a legitimate and integral part of sustainable tourism.

4.2. Safeguarding Built Cultural Heritage

Preserving and protecting built heritage is revealed as a central focus in the analysis. In particular, all the databases showed a significant effort in developing and maintaining monuments and protected historic buildings of national importance and significance. This is often supervised and updated by national Government ministries or Government-funded agencies. Countries such as Italy, France and England lead in the availability of data pertaining to cultural heritage. This is largely because these countries own a noteworthy number of world cultural heritage sites listed by UNESCO under the Convention concerning the protection of the world cultural and natural heritage as ratified in 1972 (Figure 2) [50]. In fact, Italy has a comprehensive database catalogue called SIGECweb which contains over 2,700,000 records of archaeological, architectural, historical heritage and intangible assets. In England, The National Heritage List for England (NHLE) is the only official, up to date, spatial database of all nationally protected historic buildings and sites in England led by Historic England, the UK Government-funded agency for heritage in England. The statutory list is a public platform that is continuously updated and holds over 400,000 entries which allows for both text and map-based searching. The lists were proposed to support the enactment of the Ancient Monuments Protection Acts of 1882 and 1900 by providing definitive lists of buildings and monuments that could be used to identify those most worthy of protection [10]. Scotland has a similar categorisation of heritage within their monument register, created and maintained by Historic Environment Scotland. The classification of heritage resembles England’s with the exception of historic marine protection areas and conservation areas. Historic Environment Scotland maintains a schedule (a list) of monuments of national importance. The classification of cultural heritage in France is quite different to that of other

European countries. The databases are managed by the Department of studies, and documentation and inventory and assisted by the General Inventory of Cultural Heritage, Historical Monuments and the Media Library of Architecture and Heritage in maintaining them. Firstly, the database categorises “Architecture” (Mérimée), which lists buildings in which movable heritage such as Furniture (Palissy) can also be found. Further categories include “Images” (Memory), which contains still images, and “Bibliography” (Archidoc), which contains bibliographic records which can also be related to the records of Mérimée and Palissy.

Building surveys and registers are used in some countries to act as a publicly accessible national inventory of buildings worth national importance and protection. This is the case in Denmark, Sweden and the Netherlands. In Sweden, the National Heritage Board is the authority that is responsible for issues concerning cultural heritage and cultural environments. The Buildings Register (BeBR) contains information on the built cultural heritage. The information comes from regional museums, the Swedish Church, county administrative boards, municipalities, universities and colleges in collaboration with the National Heritage Board. The information in the Settlement Register is updated continuously. The building typologies used are wide-ranging and include industrial sites, sites of agriculture and sites related to folk movement. In the Netherlands, The National Service for Cultural Heritage manages the national monument register. This website contains data on all real estate in the Netherlands that are a national monument, because they are of national significance. These categories range from administrative buildings, farms and mills to animal enclosures and mooring provisions. In Denmark, the FBB is a building register which contains information for approximately 9000 protected buildings and approximately 355,000 buildings whose conservation value has been assessed. In some cases, basic information is provided for buildings which have historical value and are not nationally protected. For example, the Denmark building and housing register has listings of more than 4 million buildings.

Other countries such as Portugal, the Netherlands, Ukraine, Lithuania and Poland have developed databases using the UNESCO framework as a significant catalyst. The cultural heritage database in Portugal is managed by the DGPC (Direcao-Geral do Patrimonio Cultural/Directorate-General for Cultural Heritage) in Portugal. The DCPC is the heritage authority that ensures the management, safeguarding, enhancement, conservation and restoration of assets. Similarly, the database in Poland uses the same language found within the UNESCO Heritage definition. According to the Monument Protection Act of 2003, three types of register of monuments: A (architecture and construction), B (movable monuments) and C (archaeological monuments) are used in the geoportal. Subcategories of immovable monuments include: cultural landscape, small architectural forms, spatial layout, sacred, defensive, industrial, park and garden, residential, public, utility, site of remembrance, cemetery and other. Although, in this classification, there is a certain freedom and for example, immovable archaeological monuments included modern earth bastion fortifications, and in the group of movable monuments, there were some roadside shrines or monuments. The Republic of Lithuania distinguishes between immovable and movable cultural heritage and is inscribed in the Register of Cultural Property, which is a state database.

The analysis showed that built heritage databases are populated from multiple sources and require cooperation from different departments. Estonia’s national register of cultural monuments is linked to several other databases and registers, including the population and land registers, the database of the rural architectural heritage and the register of shipwrecks and external registers, such as the burial site register and war graves register. The Finnish Heritage Agency developed the built cultural environment database through cooperation and consultation with municipalities, regional environment centres, regional museums and the Regional Councils. The database is included among the national land-use objective inventories defined in the Land-Use and Building Act, forming the foundation for the land-use planning. The online database provides a free download of spatial data and research reports on the sites.

4.3. Safeguarding Intangible Heritage

The interdependent relationship between tangible and intangible cultural heritage and its crucial position in sustainability is established in the results from the discourse analysis. Indeed, intangible heritage is often represented as being materialised and constructed by tangible heritage as well as playing a vital role in creating tangible heritage itself [17,18,51–53]. When considering the databases, the inclusion of intangible heritage assets is inconsistent in the approaches. UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage gives recommendations for signatories to develop a database of national intangible cultural heritage (Figure 2). The classification used the databases reflects the UNESCO classification of intangible cultural heritage (Figures 10 and 11) and includes diverse categories such as: oral tradition and folk literature, performances, customs and habits, knowledge of nature and the environment, economic knowledge and skills, traditional physical practices and games. In some cases, intangible heritage is classified and included in the main heritage database to be viewed and understood as a holistic representation of cultural heritage. This is the case for the PACI Integrated Project for Intangible Cultural Heritage and Cultural Diversity in Italy, which maintains over 300 intangible heritage entities integrated in the General Information System of the SIGECweb Catalog. This database has developed into a collaborative platform for the cataloguing of archaeological, architectural and landscape, demo-ethno-anthropological, photographic, musical, naturalistic, numismatic, scientific and technological, historical and artistic assets. In France, the Directorate General of Heritage maintains the online intangible cultural heritage databases made available on the website of the Ministry of Culture linked to the main built heritage database. In most other cases, intangible heritage assets are represented as seemingly separate from Government departments and national databases. This can be seen as a means to allow the public to engage and contribute to the development of the database. For example, Scotland has a separate database for its intangible cultural heritage, populated by contributions made by anyone and assessed by the Museums Galleries Scotland. Collaboration and participation in the development of the site is promoted through social networks and platforms. Another database is through the Netherlands Intangible Heritage Network and Register of Inspiring Examples of Heritage. Communities and individuals can register intangible heritage with the Intangible Heritage Network, showing the variety of cultural expressions through which heritage is recognised locally. The Register of Inspiring Examples of Heritage illustrates examples developed by heritage communities, groups or individuals. Similar local participation approaches can be found in Slovenia, Sweden, Denmark, Poland, Finland and Estonia. There is an absence of intangible heritage data included in any publicly accessible database for countries such as Ukraine, Ireland and England.

4.4. Culture and Environmental Sustainability

Findings from the discourse analysis suggest that the cultural aspects (social and spatial) are increasingly being considered in achieving environmental sustainability. Discourse suggests that the concept of landscapes has an identity that has historical, geomorphological, cultural and other aspects that are complementary to ecological aspects [54]. Sustainability is therefore achieved through intentional interaction with cultural aspects such as in the case study of sustainable rural development of a high mountain national park in France. Thompson [55] describes the careful balance needed to take actions to conserve the built environment and advance public awareness of cultural heritage and achieving ecological sustainability in a national park of high tourist interest. Intangible living practices and traditional knowledge are increasingly valued in the sustainable development of forest and woodland practices. However, this integration and the systems that can support it are being threatened. This is the case in Ukraine's mountain villages which are experiencing socioeconomic and technological changes in agriculture, industrial forestry and natural resource management [56]. In a place transitioning from socialism to market economy, the traditional village system based on sociocultural values is at risk. The authors argue for further evaluation of local and regional concepts that satisfy economic, ecological and cultural dimensions of sustainable landscapes. However, there

is little mention of the impact of climate change and its relationship with culture within the context of sustainability. The impact of climate change on heritage has wide consequences ranging from structural damage, atmospheric moisture and temperature changes, new interactions between natural and anthropogenic factors to more socioeconomic factors, such as tourism demand and supply, as mentioned earlier in this paper.

Many of the databases analysed developed or are in the process of developing geoportals that use geographic information systems (GIS). The National Heritage Institute (NHI), as part of the Ministry of Culture of the Czech Republic, organises and manages cultural heritage in the Czech Republic. In 2015, a new geoportal was developed to ensure the availability of map services and geodata of the NHI from one single platform. The geoportal combines several map applications, including the historical catalogue for the Czech Republic and interests of monument care in terms of the current legal status of protection, and particularly relevant for risk management is the information for monuments threatened by natural and anthropogenic influences. Similar GIS-based heritage maps include databases from England, Scotland, Sweden and the Netherland register, which can be searched online and downloaded as GIS software packages free of charge for the public. Portugal's ATLAS database integrates the country's immovable, movable and intangible cultural heritage and constantly updates the ATLAS of classified heritage. The ATLAS can perform georeferencing searches of immovable heritage with spatial information about the exact location of the monuments and sites as well as general searches. The information in the geodatabases is structured based on the INSPIRE (Infrastructure for Spatial Information in Europe) Directive 2007, which produced further guidelines for heritage assets in 2017, "INSPIRE data specification on Protected Sites—Technical Guidelines". In accordance with the Inspire Directive, the Member States of the European Union should provide spatial geographic data according to consistent standardised format. INSPIRE aims to develop "interoperability" across the European Community, which is the possibility to combine spatial data and services from different European countries in a singular way. However, much of the focus on research and development from INSPIRE is upon the management of natural environmental and security/asset information. Although there is a clear mandate for increased information to be published under INSPIRE, the relevance of information about built heritage is still largely ambiguous [57].

Systematic geographical positioning of cultural heritage can assist in effectively manage risk and contributing to the sustainability of urban and rural landscapes. The application of GIS allows for the integration of different data from multiple sources at an early point in planning processes that can allow for allowing for increased understanding and participation from stakeholders through planning and development conflicts. Furthermore, data on climate change can be incorporated with information about the historic environment. The overlay of spatial maps of vulnerable heritage and risk factors can communicate in a simple and effective manner, the overall scale of the problems presented by climate change. To successfully utilise the potential of GIS in achieving sustainability, there must be a reliable knowledge of European cultural heritage stock [58], and this includes, for example, a technical description of the materials and structures applied, or any information about its current state, all of which is decisive for its vulnerability to adverse natural actions. Furthermore, challenges are present—a lack of availability, quality, organisation, accessibility and sharing of spatial information is common to a large number of policies and activities and experienced across the various levels of public authority in Europe.

No	Country	Architectural heritage, listed buildings	Historical Monuments	Archaeological Heritage/sites	Protected Wrecks	Landscapes, Parks and Gardens	Battlefields	Religious/sacred sites/places of worship	Defensive/Military	Utility	Commercial and Industrial	Sites of remembrance	Cemetery/burial	Conservation areas	Urban planning/complex	Underwater	cultural landscape/social and community
1	England	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
2	Scotland	X	X	X	X	X	X	X	X	X	X	X	X	X			X
3	Ireland	X	X	X	X	X		X	X		X	X	X	X			
4	France	X	X	X	X	X		X	X			X	X	X			
5	Italy	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
6	Sweden	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
7	Netherlands	X	X	X		X		X	X	X	X	X	X		X		X
8	Denmark	X	X	X		X		X	X			X	X	X			
9	Estonia	X	X	X		X			X					X			
10	Finland	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	Portugal	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
12	Czech Republic	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
13	Poland	X	X	X		X		X	X	X	X	X	X				
14	Slovenia	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
15	Ukraine	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16	Lithuania	X	X	X	X	X	X	X		X	X	X	X	X	X	X	

Figure 10. Cross-comparative review of classification used in databases.

No	Country	Heritage Legislation	Name of Database	Ethnologic al/Anthro pological								Intangible Cultural heritage		
				Symbolic	Historic	Artistic	Aesthetic	Scientific	Social	Other	Database	Geoportal		
1	England	The National Planning Policy Framework 2012; Planning (Listed Buildings and Conservation Areas) Act 1990	The National Heritage List for England (NHLE)		X		X		X	X		Special architectural interest, Evidential value	X	
2	Scotland	Scottish Historic Environment Policy; Planning (Listed Buildings and Conservation Areas) Scotland Act 1997	Heritage register (combined)		X	X			X	X		Archaeological, architectural, traditional	X	X
3	Ireland	Heritage Act 1995; Planning and Development Regulations (amended 2002)	National Inventory of Architectural Heritage & National Inventory of Architectural Heritage Garden Survey		X	X			X	X		Architectural, Archaeological, Cultural, Technical	X	
4	France	Heritage Code 2004	Base Mérimée : Immeubles protégés au titre des Monuments Historiques		X	X	X		X			Archaeological, technical value	X	X
5	Italy	1940 no 1089 "Tutela delle cose d'interesse Artistico o Storico" (Preservation of material assets of artistic or historical interest); 1939 no 1497 "Protezione delle bellezze naturali" (Protection of natural beauty assets)	Catálogo Generale dei Beni Culturali		X	X		X	X			Archaeological, Architectural, Photographic, Musical, Naturalistic, Technological,	X	X
6	Sweden	Heritage Conservation Act (1988:950)	Building Registry - BeBR		X							Cultural-historical value:	X	X
7	Netherlands	New Heritage Act (entered in force on 1 July 2016)	National Monument Register		X							Cultural-historical character	X	X
8	Denmark	Act N. 332 on Protection of cultural assets in Denmark 1986	Buildings register		X							Architectural, cultural, environmental value	X	X
9	Estonia	Heritage Conservation Act 2015	National Register of Cultural Monuments		X							Architectural and archaeological	X	X
10	Finland	National Cultural Environment Strategy 2014-2020	Finnish Heritage Agency	X	X	X	X	X	X	X		Architectural and archaeological	X	X
11	Portugal	Law 107/01 on Cultural Heritage 2001	Lista de património edificado em Portugal		X	X			X	X		Archaeological, technical value	X	
12	Czech Republic	Act on State Monument Preservation	National Heritage Institute		X							Architectonic, urbanistic, impact on landscape, natural, cultural	X	
13	Poland	The Act of 23 July 2003 on the protection and the care of monuments	Heritage board of Poland		X	X						Architectural, archaeological	X	X
14	Slovenia	Cultural Heritage Protection Act 1999; Rules on the Register of Cultural Heritage (Official Gazette RS, No. 66/2009); Rules on Lists of Species of Heritage and Conservation Policies (Official Gazette of the Republic of Slovenia, No. 102/10)	Cultural Heritage Directorate, Ministry of Culture	X	X	X		X	X	X		Archaeological, civilisational	X	X
15	Ukraine	The Law of Ukraine on the Protection of Cultural Heritage (2000)	State register of real estate monuments of Ukraine		X	X	X	X	X			Archaeological, creative	X	X
16	Lithuania	Republic of Lithuania (1993, 2001); The Law on Immovable Cultural Property Values Protection of the Republic of Lithuania (1994); The Law on Movable Cultural Property Values	Register of Cultural Property	X	X	X		X	X	X		Architectural	X	X

Figure 11. Cross-comparative review of value typologies used in databases.

5. Discussion

There is consensus in the culture-focused discourse of the transformative role culture plays in the economic, social and environmental dimensions of development. However, this contribution is yet to be truly visible and tangible in broader sustainability discourses. Cultural sustainability as a concept is still hidden within the agenda of social sustainability and often viewed in tandem. Part of this invisibility is due to the paucity and fragmentation of cultural data and evidence-based research [7,26] that can be used for advocacy of culture in sustainability as well as for integration into development plans and policies at the national and urban levels.

This cross-comparison study of national heritage databases has highlighted that heritage conceptualisations in their broad context are generally aligned with the international framework built by organisations such as UNESCO, ICOMOS and the Council of Europe. However, some differences in approach are reflected in how significance and value is assigned to cultural heritage and what classification is used. The results suggest that certain heritage assets that have significant attached values have been left out of government efforts to raise awareness and promote heritage. There is a larger focus on tangible heritage with historic value and architectural and/or artistic values. This is generally a traditional focus based on the articulation by experts' analysis of heritage. The cross-comparison demonstrates how states are embracing other sociocultural, less visible factors such as the ethnological, anthropological and community values. None of the databases analysed for this paper included the "symbolic" value in their approach as mentioned in the FCS definition, although "cultural" significance is integrated into most of the approaches. The scope of values illustrates the diversity of values used in the heritage conservation management and planning processes, thereby encouraging the widening of the circle of stakeholders involved in value assessment for heritage projects. Consequently, this recognition of multidimensional and interdependent values improves both the process and the outcome. Therefore, based on the results, this paper proposes the integration of a typology of values embracing this diversity in values as a means to facilitate the assessment and integration of different heritage values for the planning and management of tangible and intangible heritage. Multilayered and interdependent values may not be appropriate for all heritage sites and situations. However, it is an attempt to facilitate discussions and understanding of the different valuing processes at play in heritage conservation toward the development of methodological approaches for the SDG indicators, thus bringing new considerations to the discussions about what to conserve, how to conserve it, where to set priorities and how to handle conflicting interests. The working assumption is that these value types encompass most of the heritage values that shape decision making and must be considered within the context of tangible and intangible heritage. The values overlap and are interconnected and therefore should be viewed as different because they correspond to different ways of conceptualising the value of the heritage to different stakeholder groups [29,41].

Indeed, the benefits as discussed earlier from cultural heritage conservation are wide-ranging [29]. The issue of the protection of cultural heritage when considering the contribution to sustainable development is due to the fragmentation and inconsistency of existing national databases, which do not contain some data that are essential. Moreover, they are not standardised, harmonised or coordinated for effective exploitation [59].

Cultural heritage is making a growing contribution to urban economies globally, although a significant limitation is the availability and accessibility of data which varies from country to country. A comprehensive, publicly accessible database on heritage assets for each member state would provide an essential resource to support the SDG monitoring and achievement of the goals. These databases allow for the compilation of heritage in one place, but more importantly, they reflect the classification and valorisation used by the member state. Therefore, the details provided can be used as a comparative tool and data source for analysis. The findings demonstrate broad classification of tangible heritage within the reviewed national databases. These databases are the underpinning for establishing mechanisms for protection. In this regard, databases of local tangible and intangible cultural heritage are critical tools for the management of these resources. They are a key component of cultural management plans and critical in order to know, protect and preserve what is found in a specific area. Documentation and analysis of local knowledge systems, sociocultural practices and values must be documented and analysed as a means to achieve a comprehensive understanding of urban realities.

In the last decade, numerous organisations, meetings and research projects have turned their attention on various aspects related to protecting cultural heritage in Europe and the improvement of methods. Organisations such as ICOMOS (International Council on Monuments and Sites) and ICCROM (International Centre for the Study of Preservation and Restoration of Cultural Property) recommend strengthening the enabling framework for heritage protection through numerous measures,

such as the improvement of databases at local, regional, provincial, national and international levels. From as early as the 1980s, the European Commission and the Council of Europe has been supporting documentation on architectural heritage, with the Direction du Patrimoine (France), the Nantes Colloquy on Inventory and documentation methods. Its purpose was to determine practical forms of co-operation between heritage documentation centres throughout Europe and to prepare a definition of common standards on the basis of comparing the inventory methods used in different countries [60]. As part of a funded project by the Getty Conservation Institute, Myers [12] described six characteristics of effective heritage database and management systems. The first characteristic is accuracy; records should have accurate information (such as location and significance/designation status) in order to make decisions and manage risk affecting heritage sites. The second is comprehensiveness; to aim to safeguard all heritage at risk within a particular area, there should be wide-ranging information about the geographic area, as gaps in coverage could significantly increase the risk on heritage. Thirdly, databases need to have up-to-date and current information. The fourth characteristic is authoritativeness; databases and inventory systems should be a definitive system of record for that context. Controlled accessibility is the fifth characteristic, which refers to information from that database that needs to be accessible, such as including data export functionality and expanded search tools. Security of information from corruption or intentional damage is the sixth characteristic. However, spatial content in databases is largely restricted to generalised locational data rather than representing the spatial extents of records.

The sustainability of cultural heritage and its management is strongly dependent on the national, regional and local government and the participation and support from local communities. Involving local communities includes reconciling international and local values of heritage which can sometimes be contested. The involvement of the public in developing the intangible inventories as described in many of the cases reflects the increasing focus on identifying, recognising and valuing the local community as a key actor in the process of sustainable heritage management. Local authorities play a crucial role in enabling this dialogue. Indeed, the local government in many cases, such as in England, acts as a landowner of historic buildings, a facilitator for growth and development and an advocate for heritage. Often set within the context of constrained public finances, the local government must ensure that heritage assets are managed in a sustainable manner in order that the benefits they can be provided be realised.

6. Conclusions

The findings allow concluding that it could be possible to mainstream those indicators across different databases, which could lead to depicting the overall level of attainment of the Agenda 2030 targets on heritage. However, more research is needed to develop a robust correlation between national datasets and international targets. This study confirms the existence of harmonisation of data toward the achievement of the SDGs. The cross-comparison review of the databases identified a broad agreement of the conceptualisation of cultural heritage with international frameworks. The value approaches and classification confirm that states are diversifying in their recognition and documentation of cultural heritage, thereby recognising cultural heritage as an important resource for sustainable urban development, although some inconsistencies still exist when considering the harmonisation of heritage data, such as the use of sociocultural values in assessing heritage and the classification used in identifying tangible heritage. Based on the results from this cross-comparison, the statistical definition of heritage from the UIS UNESCO Framework for Cultural Statistics for the SDG 11.4 target is limiting. It does not fully reflect the conceptualisation that is used across different countries. The current SDG 11.4 indicator is inadequate in representing the challenges and opportunities of cultural heritage within the context of sustainable development. To enhance the comparability of heritage data across cities and countries, there is a crucial requirement for standardised methods for perceiving, valuing, measuring and monitoring heritage. Therefore, national and local capacity development is needed to ensure the sustainability of national and local processes. The harmonisation of these processes using similar

standards and conceptualisation can allow for the comparison of data among countries toward the achievement of the SDGs.

A limitation of the methods used in this paper is that this can only be considered as a “snapshot”, as the databases are constantly updated and changed. Therefore, not all information will be available publicly, and this is not a complete reflection of the processes and information that are available. The authors selected a small sample of countries in the European region intended to illustrate the level of harmonisation. It is important to highlight the contextualisation of these areas and the differences that exist between the countries in this region. This could not be covered sufficiently in this paper. Furthermore, this paper did not use national statistics data for culture in its entirety due to the lack of comparable data, particularly qualitative data, for multiple European countries. However, this cross-comparison acts as an indication of the gaps and possible harmonisation that exists within European cultural heritage practices and processes.

Future research is recommended into the pluralistic values and impact of cultural heritage in achieving sustainable development. There are many emerging studies and projects that present various aspects of the vital role of heritage and the development of heritage indicators. However, many of these are concerned with only selected aspects of the potential impact of cultural heritage and tend to lack evidence. Future research development can therefore include the development of evidence-based indicators for European countries with emphasis on highlighting the multifaceted role of cultural heritage in sustainable development. This paper also acknowledges that future findings from heritage-related research projects such as those funded through the current Horizon 2020 research programme [60] will fill gaps of knowledge. The continuous development of cultural data and the international efforts towards data interoperability open up possibilities for new research and unique comparisons of the impact of culture between European countries. In conclusion, the evaluation of cultural heritage at multi-levels to the achievement of sustainable development as emerging from the analysis requires the recognition that the benefits from cultural heritage conservation are multivalent, pluralistic and layered from state to state, thus calling for national, regional and local government and heritage stakeholders to carefully integrate of these aspects into the development of multidimensional SDG indicators.

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